AD REPETITION EFFECTS: THE INFLUENCE OF AMOUNT AND TYPE OF ELABORATION

by

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ABSTRACT

Repetition of advertising is a ubiquitous and accepted facet of our consumption environment. Marketers repeat their messages because repeated exposure to the message, up to a certain point, leads to favourable impressions of the brand. This observation is based on the findings reported in several advertising studies. However, a surprisingly large number of published studies also fail to find such an effect of ad repetition. In this paper, we investigate the cause for this observation by examining variables that characterize the every-day settings in which consumers encounter these messages. Findings from two studies suggest that the effect of ad repetition on judgment is observed when the ad message receives two complementary types of elaboration – relational elaboration, which facilitates the generation of a comparison referent, and item-specific elaboration, which foster the representation of the message information in memory. When the ad context or the ad execution (e.g., ad copy) does not facilitate these two types of elaboration, the effect of ad repetition is not observed. These findings also clarify an important distinction between the amount of message elaboration and the type of elaboration it receives. The paper concludes by offering a “juke-box” model of advertising persuasion, which describes how these two dimensions of message elaboration, the amount and type, interact to produce persuasion.
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The effect of advertising repetition on product judgment is among the most widely investigated phenomena in consumer research (Anand and Sternthal 1990; Batra and Ray 1986; Cacioppo and Petty 1979; Calder and Sternthal 1980; Krugman 1972; Obermiller 1985; Pechmann and Stewart 1988; Sawyer 1981). The findings suggest that repetition is nonmonotonically related to message persuasion: Increasing message exposures from a low to a moderate level enhances its persuasive impact, whereas a further increase in exposures results in wearout, that is, a decline in the favorableness of judgments toward the message advocacy (Anand and Sternthal 1990; Cacioppo and Petty 1979,1985; Rethans, Swasy and Marks 1986).

The prevailing explanation for the effect of repeated exposures on message judgments is in terms of cognitive elaboration (Cacioppo and Petty 1979). Increasing message exposures from a low to a moderate level allows message recipients to allocate the resources necessary to engage in message elaboration. Representation of the message contents in memory makes the recipient more favorable toward the point of view expressed in the message. Beyond a certain point, additional exposures to the ad induce the allocation of more resources than are required to process the message. This resource surplus stimulates the generation of idiosyncratic thoughts that tend to be less positive than the arguments presented in the message. As a result, judgments become less favorable at high levels of message repetition and wearout is observed.

However, our understanding of how advertising repetition affects judgments is cast into doubt because there are a number of studies in which repeated exposures to a message do not affect judgments. Interestingly, this outcome has most often been reported in investigations where exposures to the target message are interspersed with programs, editorials, or non-target
ads (Batra and Ray 1986; Belch 1982; Burke and Srull 1988; Mitchell and Olson 1977; Ray and Sawyer 1971; Rethans et al. 1986). These findings also cast doubt on the ability of message repetition to persuade consumers when exposure occurs in every day settings, where ads are presented in the context of other information.

The purpose of this paper is to identify conditions where repeated exposure to a target ad is, or is not, likely to affect judgments of the message. In study 1, we examine two factors that characterize message exposure in every day settings: spaced presentation of target ad exposures and the contextual material that is interspersed between target ad exposures. In study 2, the effect of advertising copy execution as a moderating factor is also examined. These factors are examined as plausible moderators of repetition effects in terms of their effect on message elaboration.

EFFECT OF MESSAGE SPACING

The spaced presentation of target advertising exposures could possibly eliminate the impact that repetition has been shown to have on judgments. This outcome might occur if the passage of time between exposures were to cause prior exposures to a target ad not to be remembered. In effect, each spaced exposure to the message would be perceived as a first exposure. The result would be limited elaboration of the message contents and thus the impact of repetition on judgment would be diminished. Following this logic, massing repeated message exposures should give respondents the opportunity to learn different facets of its content, and be persuaded by it, a conclusion consistent with extant findings (Anand and Sternthal 1990; Cacioppo and Petty 1979).
As plausible as this scenario sounds, the assumption that spaced repetitions hinder message processing runs afoul of existing data. There is impressive evidence that spaced repetitions lead to greater rather than less stimulus learning compared to massed repetitions (Glenberg 1979; Greene 1989; Hintzman 1974, 1976; Singh, Mishra, Bendapudi and Linville 1994). Greene (1989) explains this outcome in perceptual terms by hypothesizing that the greater elapsed time between exposures to a target makes the target seem less familiar. In turn, this perceived lack of familiarity prompted by spaced repetitions induces the message recipient to allocate additional resources for processing the target stimulus and thereby enhances its elaboration. When exposures are massed, the target appears highly familiar, prompting the recipient to allocate fewer resources for processing and limiting the learning of target information. These observations imply it is unlikely that spacing of a target ad hinders its processing.

Research examining the effect of spacing on judgment offers additional cause to question whether spacing of target ad repetitions is responsible for the absence of a repetition effect on judgment. Malaviya and Sternthal (1997) report that increasing the number of exposures to a target ad enhanced the favorableness of its judgment when the stimulus was massed, whereas increasing the number of target exposures that were spaced led to wearout and less favorable judgments. These outcomes are consistent with the notion that spacing prompts the allocation of greater resources for message processing than massed exposures. Increasing the number of massed exposures presumably resulted in the allocation of resources that were adequate for message processing so that judgments became more favorable. In contrast, increasing the number of spaced exposures appears to have prompted the allocation of additional resources that
were in excess of those required to process the message, so that people activated
counterarguments and wearout occurred. In the present research, we attempt to replicate the
effect of increasing the number of exposures of massed and spaced target presentations on
message judgments. Formally stated, the hypothesis is:

**H1:** Increasing the number of massed target ad exposures will lead to more favorable
judgments of the target message, whereas increasing the number of spaced target ad
exposures will lead to less favorable judgments.

Support for this hypothesis would suggest that like message repetition, the spacing of
repeated target exposures enhances resource allocation to the processing task. It would also
imply that spaced exposures to advertising are not likely to explain the failure to observe a
repetition effect when a target is presented in the context of other material. With this in mind, we
examine whether the observation of the null effect of spaced exposures on judgment is
attributable to the contextual material that is presented between exposures to the target ad.

**EFFECT OF ADVERTISING CONTEXT**

Contextual material that is presented between spaced exposures could be a cause for the
failure to observe repetition effects in every day settings if the presence of these materials were to
interfere with message processing (Burke and Srull 1988; Kent and Allen 1994). Contextual
material could cause confusion about the target message contents and reduce the attention people
pay to the target message, thus diminishing the impact of message repetition. For instance, an
effect of message repetition might not be expected when a context contains advertising for
products that compete with the target, while such outcomes might be anticipated in a context
consisting of advertising for products that are unrelated to the target. This hypothesis is however,
not supported by prior research. Failure to obtain a repetition effect has been reported in both competing (e.g., Burke and Srull 1988) and unrelated contexts (e.g., Rethans et al. 1986), whereas repetition effects have been observed in the presence of other types of contexts (Batra and Ray 1986). These observations cast doubt on the possibility that the advertising context moderates the effect of repetition by influencing the amount of message elaboration.

An alternate possibility is suggested by research that shows that the advertising context could influence the persuasiveness of a message by affecting the type of elaboration of the message (Malaviya, Kisielius, and Sternthal 1996). This research suggests that a message is more likely to influence judgments when two complementary types of elaboration occur, but not when only one type of elaboration dominates (Malaviya et al. 1996). These observations raise the possibility that the effect of message repetition on judgments might reliably be observed when the context stimulates these required types of elaboration, but repetition effects may be less likely to obtain in contexts that do not induce these types of elaboration.

To clarify this possibility, consider the notion of type of elaboration and its likely influence on judgment formation. Research suggests that two types of elaboration can occur when people process a message (Einstein, McDaniel, Owen and Cote 1990; Meyers-Levy 1991). One type is item-specific elaboration, which in an advertising context would involve associating the attributes that are mentioned in an ad for the brand with the brand name. The other type of elaboration is relational, which involves elaborating on information pertaining to the categories in which the target brand holds membership.

Both item-specific and relational elaboration is expected to influence judgments of the message because their simultaneous occurrence would facilitate the message recipient to identify
distinctive benefits of the target (Malaviya et al. 1996). Item-specific elaboration would serve to identify features that the advertised brand is advocated to possess. Next, the message recipient could compare these features to the typical features of a referent category, which would be made accessible by relational elaboration. Based on this comparison, the recipient would be able to draw inferences about the claims of superiority of the advertised brand and determine which benefits are uniquely associated with the target. A message that communicates several distinctive benefits is likely to be more persuasive (Petty and Cacioppo 1986).

For example, consider a recent ad for a Ricoh camera. This ad mentions that the brand is a SLR (single lens reflex) model, possesses a special extra-wide zoom lens, an external flash, and some other features. The elaboration of these features and their association with the Ricoh brand name would constitute item-specific elaboration. Further, consider that the target ad also receives relational elaboration that invokes the camera category. This category and the features associated with the category could serve as the referent against which the target is evaluated. For instance, one feature associated with the camera category might be that cameras typically possess fixed lenses, or lenses with limited zoom settings. In relation to this category feature, the target camera’s extra-wide lens might be perceived to be distinctive.

The possibility that the occurrence of two types of elaboration facilitates assessment of the message advocacy does not imply that the mere occurrence of item-specific and relational elaboration would lead to favorable judgments of the message. This is because the processes of item-specific and relational elaboration, and of elaborating on distinctive elements of the message, are presumably resource-demanding activities. An adequate level of cognitive resources would need to be allocated if these processes are to occur and facilitate evaluation of
the message. Repeated exposures to the target ad and the spacing of these exposures could serve as vehicles for providing these resources.

If exposure frequency is low and target exposures are massed, the resources available for processing might be sufficiently impoverished that the processes of invoking item-specific and relational elaboration and of assessing the message advocacy might not occur adequately. In this event, message persuasion would be limited. More moderate resource levels, which we anticipate with greater exposures to massed target presentations as well as with few exposures that are spaced, might facilitate the occurrence of adequate amounts of item-specific and relational elaboration and the process of scrutinizing the message advocacy, resulting in more favorable judgments. Still higher resource levels, anticipated when there are many exposures to a spaced target, would likely induce further item-specific and relational elaboration that might start to reveal less distinctive benefits, prompt counter-argumentation and reduce the favorableness of judgments. These predictions can be summarized as follows:

**H2:** If an ad message is presented in a context that facilitates the occurrence of both item-specific and relational elaboration, increasing the number of massed exposures to the message would lead to more favorable judgments, whereas increasing the number of spaced exposures would lead to less favorable judgments.

Research reported by Batra and Ray (1986) offers some support for this hypothesis and provides insight into what sort of advertising context might facilitate the occurrence of both types of elaboration. These investigators found a significant effect of ad repetition on judgments when research participants were exposed to ads for brands of instant coffee, instant chocolate and frozen pizza. These products are related in that they are all designed for convenient consumption. At the same time, each product is distinct from the other products in the context. Thus, it is possible that in a context that includes advertising that is related to, but that does not
compete with a target product, both item-specific and relational elaboration might be induced. The relatedness among the products would induce relational elaboration, whereas the differences between them would facilitate item-specific elaboration.

To clarify the process by which this might occur, consider that the Ricoh camera ad is presented along with ads for camera lenses, film, flash, and so on. These products are related to the general notion of photography and could be considered members of the “photographic equipment” category. Observation of this aspect would prompt relational processing. Further, because these products are distinct and share few features, they are unlikely to interfere with the elaboration of each product’s specific features. Thus, item-specific elaboration of the target Ricoh camera would be facilitated. Features associated with the Ricoh brand would probably be contrasted against those of cameras in general, because in a context consisting of several photographic equipments, a general camera category is likely to be evoked, and it is unlikely that in such a context would prompt the SLR camera sub-category. When compared to a typical camera as referent, several features of the Ricoh camera might be perceived as unique to it.

If in a context of related products both item-specific and relational elaboration occurs, it should facilitate assessment of the message by highlighting the unique claims for the product. Further, message repetition and spacing would provide the resources required for these judgment formation processes. Thus, in the related product context, the prediction is as follows:

**H 2(a):** In the context of related products, both item-specific and relational elaboration is expected to occur. Consequently, in this context ad repetition and spacing are expected to influence judgments of the target message.

While message repetition is expected to influence judgments in a context that prompts both types of elaboration, repetition effects are not anticipated in advertising contexts that induce
relational or item-specific elaboration alone. Consider a scenario in which the Ricoh camera ad is repeated in a context that includes ads for competitive brands, a procedure that was used in several repetition studies where a null effect on judgments was reported (e.g., Burke and Srull 1988; Mitchell and Olson 1977; Ray and Sawyer 1971). A context containing ads for competing products is expected to induce relational elaboration because the common features and benefits of these products are likely to be quite salient (Burns 1989; Malaviya et al. 1996). Further, the similarity between the products is likely to create confusion about the specific attributes of each brand, resulting in an inhibition of item-specific elaboration. Consequently, in a competing-brands context, relational elaboration of the target ad is likely to dominate, and the absence of substantial item-specific processing would limit elaboration of the message claims.

In a context that evokes primarily relational elaboration, ad repetition and spacing are not expected to influence judgments. For message repetition to influence judgment, these factors would have to induce the type of elaboration that is deficient in the context, which in this case would be item-specific. However, such elaboration is unlikely to occur because prior research suggests that message repetition and spacing would influence the amount of message elaboration that occurs (Cacioppo and Petty 1979; Greene 1989; Malaviya and Sternthal 1997), not the type. The specific type of elaboration that is prompted is expected to depend on the cues that are salient in the processing environment (Hunt, Ausley and Schultz 1986; Hunt and Seta 1984; Meyers-Levy 1991). In a competing brands context, the most salient cue is likely to be the target brand’s product category. Thus, increasing message exposures might prompt greater relational elaboration, but it is unlikely to solve the problem of lack of adequate item-specific elaboration.
Consequently, in a competing brands context, varying the frequency and spacing of target ad exposures is expected to have limited influence on judgment. Formally stated, the prediction is:

**H 2(b):** Ad repetition and spacing in the context of competing products is not expected to influence judgments, because primarily relational elaboration is expected to occur in this context.

Another context in which the persuasive impact of message repetition is expected to be limited is one that includes ads for products that are unrelated to each other and to the target ad, as seems to be the case in several repetition studies (e.g., Belch 1982; Rethans et al. 1986). Because an unrelated context involves the presentation of ads for products belonging to unique categories, it is likely to facilitate elaboration of the features of each product, and thus prompt item-specific elaboration. However, the absence of commonalties among the products would mean that there are few cues to prompt relational elaboration. The presence of item-specific, but not relational, elaboration would make it difficult to assess whether the features of the target product are distinctive to it. Increasing target repetition or spacing is unlikely to foster the required relational elaboration, because a context of unrelated products would offer few cues to induce such processing. Thus, the prediction in the unrelated products context is:

**H 2(c):** Ad repetition and spacing in the context of unrelated products is not expected to influence judgments, because primarily item-specific elaboration is expected to occur in this context.

Our explanation for the effects of ad repetition in encumbered contexts rests on assumptions regarding the influence of context on type of message elaboration. Support for our theorizing would be enhanced if it were possible to assess the type of elaboration that occurred in each context condition. For this purpose, the present research includes several memory measures
that have been found to be sensitive to the occurrence of each type of elaboration (Hunt and Einstein 1981; Kent and Machleit 1990; Meyers-Levy 1991).

Relational elaboration has typically been inferred from measures of clustering in recall, with more clustering implying greater relational elaboration (Hunt and Einstein 1981; Meyers-Levy 1991). Consequently, we would expect clustering in recall to be greater in the competing products and the related products contexts, than in the unrelated products context. The presence of item-specific elaboration has frequently been inferred from outcomes on measures of recognition because such elaboration can facilitate discrimination between stimulus features and foil items (Hunt and Einstein 1981; Meyers-Levy 1991). We expect the greatest recognition accuracy in the unrelated products context, and the least accuracy in the competing products context. Finally, recall of product features can also be used to determine the type of elaboration that a message receives (Malaviya et al. 1996). Specifically, accurate recall of the target product’s advertised features would be indicative of the operation of item-specific elaboration, while the presence of category and brand intrusions in recall would suggest that relational elaboration might have occurred. Thus, we would expect that in the related products context respondents would list both accurate features and intrusions, in the competing products context a substantial number of intrusions would be expected, and in the unrelated products context more accurate features and few intrusions should be listed.

In summary, in this study we shall examine the effect of varying the amount and type of elaboration of an ad message. Following earlier research, we expect that varying the repetition and spacing of a target ad will affect the resources allocated to its processing. For this resource allocation to have an impact on judgments, it will have to prompt the occurrence of two types of
elaboration, item-specific and relational. When both types of elaboration occur, as we expect when the context is related to, but does not compete with a target ad, increasing resources by repeating and spacing target ad exposures will affect judgment. When item-specific elaboration is limited, as we expect in a competing brands context, or when relational elaboration is limited, as we expect in a unrelated products context, repetition and spacing of the target ad would have limited influence on judgment. We test these predictions in study 1.

STUDY 1

METHOD

Stimulus And Design.

Respondents were presented the stimulus in the form of a 19-page print magazine, which contained seven pages of editorial and 12 print advertisements that had appeared in various magazines. The advertising content of the magazine was varied to manipulate the amount and type of elaboration of a target ad, which respondents were later asked to evaluate. An ad for a SLR (single-lens reflex) camera was chosen as the target ad.

Several criteria lead to the selection of the target ad. To minimize the effects of pre-existing memory and evaluation, the target ad had to portray a brand that was generally unfamiliar to people. In addition, the contents of the target ad had to be such that if people based their judgments on the message they would evaluate it favorably.

A pretest was conducted to select the target ad. Thirteen respondents, drawn from the same population as was used in the main study, were shown ads for seven brands of cameras and were asked to perform two tasks. They ranked the seven cameras on the basis of how much they
liked each. This entailed assigning a number from one to seven for each brand, where one was the camera they liked most. This information was used to assess the extremity of brand disposition. Next, respondents indicated their familiarity with the ads by noting whether they had seen any of them prior to the study. Advertisements for two of the cameras were found to be familiar to ten respondents and these ads were eliminated to minimize the effects of prior knowledge. Of the remaining five ads, the one for the Ricoh SLR camera was selected as the target because it received the highest ranking and thus was likely to prompt a favorable evaluation if respondents processed the message contents.

In the main study, three independent variables were manipulated. The amount of elaboration of the selected target camera ad was varied in two ways. One was by varying the repetition frequency of the target ad, which was shown either two or four times. Prior research reported by Malaviya and Sternthal (1997) suggested that processing would be greater in response to four ad exposures than to two. The amount of ad processing was also manipulated by varying the spacing between two presentations of the target ad. Two levels of spacing were employed. In the massed condition, the target ad was repeated contiguously, while in the spaced condition, the repetitions were arranged with three pages of material separating target ad presentations (see Burke and Srull 1988, and Malaviya and Sternthal 1997 for similar organization of stimuli). Greater elaboration of the target ad was expected when repetitions were spaced compared to when they were massed.

The other factor manipulated in the study was the type of elaboration of the target ad. This was accomplished by varying four context ads that accompanied the target camera ad. Three context conditions were employed. In the related-products context, the target camera was
presented with ads that were related to the target, but did not compete with it, including ads for photographic lenses, films, flash, and an aim-and-shoot camera (the target was an SLR camera). Here both relational and item-specific elaboration was expected to occur. In the competing-brands context, the target camera ad appeared in the presence of ads for four brands of cameras. This context was expected to prompt relational elaboration and make common category features more accessible. At the same time, competitive interference from these ads was expected to hinder item-specific elaboration making it difficult to access specific features that were mentioned in the target ad. Finally, in the unrelated-products context the target camera ad was accompanied by ads from diverse product categories, including ads for specific brands of skin-care lotion, fitness machine, jewelry, and vacation place. In this condition, item-specific elaboration was expected to dominate and foster processing of specific product features, while significant relational elaboration was not expected to occur.

Thus, the experiment involved a 2x2x3 factorial design in which target ad repetition frequency (two or four), target ad repetition spacing (massed or spaced presentation), and advertising context (related, competing, or unrelated products) were manipulated. Based on this design, twelve versions of the magazine were assembled, one for each condition. The target ad appeared on pages 4, 5, 6 and 7 at four massed repetitions. For two repetitions in the massed condition, target ads on pages 6 and 7 were replaced by filler ads. In the spaced repetition conditions, four repetitions of the target ad appeared on pages 4, 8, 12 and 16. For two repetitions in the spaced condition, the ads on pages 12 and 16 were replaced by filler ads. The four context ads always appeared on pages 2, 10, 14 and 18. This method of presentation was adopted to encourage both proactive and retroactive effects on the target ad.
The remaining ads in the magazine were fillers that included three ads for cars, one for an airline, one for a telephone company, and one for a cellular phone. These fillers appeared on pages 6, 7, 8, 12, 16 and 19 when the target ad was massed and repeated twice. When four massed repetitions of the target ad were presented, the filler ads on pages 6 and 7 were excluded. When two spaced repetitions were presented, the filler ads occupied pages 5, 6, 7, 12, 16 and 19. For four spaced repetitions, the filler ads on pages 12 and 16 were excluded. The target ad and all the context ads were in color, while the filler ads were black-and-white. This was done to encourage respondents to notice and process the target and context ads more than the filler ads.

Seven pages of editorial material were spread throughout the magazine on pages 1, 3, 9, 11, 13, 15 and 17. One editorial piece was a single page article on photography that appeared on page 3. None of the other articles were related to photography. These other articles were designed to be representative, in that they only contained a heading and the first line from the article. This was done to complete the experimental guise, which was to evaluate a new magazine, and to make sure that respondents devoted most of their reading time to the advertising, rather than the editorial material.

Procedure.

One hundred and twenty-three undergraduate students were recruited as participants in response to an ad placed in the daily university newspaper. They were paid $6.00 for participating in the experiment that lasted about an hour.

Research participants were seated around a table in groups ranging in size from two to 12 people. They were given one set of stimulus material and were informed that a publisher was conducting a survey to find out the reaction of students to a new magazine that was to be
introduced. Participants were asked to read carefully the instructions on the first page of the
magazine. These instructions informed them to study the material that was presented and to
evaluate the suitability of the editorial and advertising content of the magazine for students.

Several steps were taken to ensure comparable exposure to the materials for all
participants. The instructions asked participants to go through the magazine in the order that the
material was presented, and not to flip back through it. While participants were encouraged to
read at their normal pace, they were also informed that prior research had shown that it takes ten
to fifteen minutes to read through all the material carefully. Further, they were told that the
survey would be handed out only when everyone finished reading their material. On average,
participants took 10 minutes to complete the task (range of eight to 17 minutes). When everyone
in a session had read the instructions and confirmed they understood them, participants were
asked to start reading the material in the magazine.

After examining the magazine, participants were asked to put it aside and were given a
questionnaire containing the dependent variables. To complete the guise of the study,
participants responded to questions pertaining to their memory and liking of the magazine’s
editorial contents. These measures helped to reduce any recency effects on the relevant
manipulation checks and dependent measures that followed, and also served as potential
covariates.³

Participants were first asked to recall all the brand names they could remember having
read in the magazine. Following this, participants evaluated the target camera on 10, seven-point
scale items. These items included: bad/good, dislike/like, not useful/useful, not
superior/superior, few/many unique features, difficult/easy to use, poor/good lens quality,
poor/good picture quality, low/high performance product, and lacks/offers important benefits. A cued recall task was administered next. Participants were given the product category and the brand name of the target camera, and were asked to list everything they could remember about the contents of the target camera ad. Then they were presented a list of 13 statements about the target camera. Four of these statements were from the target ad, while the others were foils either from the context ads they may have seen or material for other brands of cameras that were not included in the stimulus. Participants’ recognition was assessed by asking them to indicate the statements that accurately stated the target camera’s features.

Finally, a number of measures were administered to assess individual differences among respondents. These measures included questions assessing participants’ interest and knowledge about cameras as well as various demographic measures. It was anticipated that individual differences on these factors could influence responses to memory and evaluation measures. Inclusion of these measures as covariates in the analysis did not significantly alter the interpretation of the results. As such, they will not be discussed any further. No time limit was set for completing these measures, and participants completed them at their own pace.

RESULTS

Participants’ responses were analyzed using analysis of covariance. Respondents’ evaluation of the editorials included in the magazine that was presented to them served as the covariate. This measure involved having participants respond to three items on seven-point scales. The items included: well written/poorly written, interesting/dull, and relevant/irrelevant. An average score for these three items was calculated for each respondent, which served as the
covariate. The means and standard deviations for the dependent measures in the various
treatment conditions are reported in Table 1.

Table 1 about here

Product Evaluation.

Product evaluation was measured using a 10-item seven-point scale. Because factor
analysis revealed that these items loaded onto a single factor (α=.86), they were summed and
averaged to obtain a single evaluation score. Means and standard deviations for this score are
reported in Table 1. Ad repetition frequency and spacing were expected to influence evaluation,
but only in the related products context. This was because only in this context both item-specific
and relational elaboration were expected to occur and facilitate assessment of the merits of the
message advocacy by facilitating elaboration of the distinctive benefits of the target product.

Analysis of product evaluation revealed a significant interaction between repetition
frequency and spacing (F(1,110)=4.71, p < .03). This outcome was consistent with H1, although
not all the relevant cell contrasts reached an acceptable level of significance. When repetitions
were massed, increasing the frequency of exposures from two to four enhanced the favorableness
of evaluations (\(\bar{x}_{2\text{ reps}}=5.17; \bar{x}_{4\text{ reps}}=5.50; F(1,110)=3.47, p < .07\)). In contrast, when the exposures
were spaced, evaluations tended to be similar at both levels of repetition frequency (\(\bar{x}_{2\text{ reps}}=5.36; \bar{x}_{4\text{ reps}}=5.14; F(1,110)=1.46, p < .23\)). Further, at the two exposure level, evaluations tended to be
more favorable when the exposures were spaced than massed (F(1,110)=1.50, p < .22), while at
the four exposure level, evaluations tended to be more favorable for massed than spaced
repetition (F(1,110)=3.36, p < .07).
One reason why the repetition frequency and repetition spacing interaction was not clearly significant was that, as predicted, this interaction was moderated by the ad context in which the target ad was presented. Consistent with this expectation, an interaction between repetition frequency, repetition spacing and ad context reached significance (F(2,110)=3.04, p < .05). As indicated in Figure 1, this outcome occurred because the interaction between repetition frequency and spacing was highly significant only in the related-products context (F(1,110)=9.95, p < .002), but not in the competing-brands context (F(1,110)< 1), or the unrelated-products context (F(1,110)< 1).

In the related-products context, when target ad exposures were massed, evaluations became more favorable when exposures were increased from two (\(\bar{x}=4.85\)) to four (\(\bar{x}=5.79\); F(1,110)=7.16, p < .01). However, increasing spaced exposures from two (\(\bar{x}=5.44\)) to four (\(\bar{x}=4.87\)) lead to less favorable evaluations (F(1,110)=3.27, p < .07). Further, at two repetitions, evaluations were more favorable in the spaced rather than massed presentation condition (F(1,110)=3.98, p < .05), while at four repetitions, evaluations were more favorable when the presentation was massed rather than spaced (F(1,110)=6.05, p < .02).

Process Measures and Manipulation Checks.

The three context conditions were expected to differ in the extent to which they stimulated relational and item-specific elaboration. One hypothesis was that greater relational elaboration would occur in the related products and the competing brands context than in the
unrelated products context. Clustering in recall was employed to assess this prediction.
Respondents’ free recall of brand names for which they saw advertising was used to analyze clustering in recall.

The procedure employed for this purpose was similar to that used by Hunt and Einstein (1981). These authors presented their respondents with a list of words that were either from an obvious category (e.g., names of animals) or from an unusual category (e.g., things that are green). It is important to note that the words included in each list were different. Clustering in recall was assessed in terms of the extent of contiguous recall of words that had a priori been assigned by the researchers to the same category (obvious or unusual).

We used a similar procedure in the present research. In the competing brands context it was assumed that the context brands belonged to the camera category, in the related products contexts the context ads were thought to be members of the photographic equipment category, and in the unrelated products context the context ads, which did not have an obvious relationship, could potentially be related in that they were color copies of the original, unlike the filler ads that were black-and-white copies. Thus, in each ad context clustering was measured by assessing the contiguous recall of brand names from these assigned categories. The Adjusted Ratio of Clustering (ARC) score was used as the measure of clustering (Roenker, Thompson and Brown 1971). The ARC score ranges between positive one, which represents perfect clustering, to negative scores, which indicate clustering at below chance levels.

Clustering (ARC) revealed a main effect of context ($F(2,110)=4.82, p < .01$). Compared to the unrelated products context ($\bar{x}=0.10$), clustering was greater in the related products context ($\bar{x}=0.38; F(1,110)=7.01, p < .01$) and in the competing brands context ($\bar{x}=0.37; F(1,110)=7.29, p$
< .01). Clustering did not differ in the related products and competing brands contexts (F<1). This observation supports the view that compared to the unrelated products context, greater relational elaboration was prompted in the related products and competing brands contexts. In addition to the main effect of context, a context by spacing interaction approached significance (F(2,110)=2.91, p < .06). The results suggest that when message exposures are massed, the level of clustering in the three contexts was equivalent, whereas for spaced exposures, clustering was significantly less in the unrelated products context, compared to the other two contexts. No other effects reached significance (all p’s > .10).

Evidence for item-specific elaboration in the three contexts was assessed via recognition accuracy (Hunt and Einstein 1981; Malaviya et al. 1996; Meyers-Levy 1991), using the signal-detection measure, A’ (Snodgrass and Corwin 1988). A main effect of ad context was found (F(2,110)=5.96, p < .004): Recognition of target as contents was more accurate in the unrelated products context (A’ = 0.87) than in either the related products context (A’ = 0.81; F(1,110)=3.45, p < .07) or the competing brands context (A’ = 0.76; F(1,110)=11.88, p < .001). The related products and competing brands contexts did not differ in the level of recognition accuracy (p>.14). No other effects reached significance (all p’s > .27).

Further evidence for item-specific and relational elaboration was obtained by analyzing participants’ cued recall of the target ad’s contents. Participants’ listing of the attributes of the camera mentioned in the ad were coded by two judges unaware of the research hypotheses for specific feature recall (recall of target camera features mentioned in the target ad), category intrusions (recall of features accurate for the camera category, but not mentioned in the target ad),
and brand intrusions (recall of features that belonged to one of the context brands). Judges were in agreement in most cases (91%). Disagreements were resolved by discussions with the author.

Recall of specific features of the target camera was expected to be sensitive to the presence of item-specific elaboration, while category and brand intrusions were expected to occur in the presence of relational elaboration. In order to determine the relative amount of each type of elaboration in each ad context condition, a recall index was computed. This entailed taking the difference between recall that was attributable to item-specific elaboration (specific features recall) and recall that was attributable to relational elaboration (category intrusions and brand intrusions), and dividing this difference by the total cued recall for the subject. A score of +1 for this index would indicate that recall had been induced entirely by item-specific elaboration, a score of -1 would suggest recall was influenced by relational elaboration alone, while a score of 0 would indicate that recall resulted from an equivalent amount of each type of elaboration.

Analysis of this index of type of elaboration revealed only the presence of a main effect of ad context ($F(2,110)=10.37, p < .0001$). Specifically, the index of type of elaboration for the unrelated products context ($\bar{x}=0.33$) was significantly greater than the index for the related products context ($\bar{x}=-0.01; F(1,110)=6.82, p < .01$), and greater than the index for the competing brands context ($\bar{x}=-0.23; F(1,110)=20.50, p < .0001$). Also, the difference between the related products and competing brands contexts approached significance ($F(1,110)=3.09, p < .08$). The positive value of the index for the unrelated products context indicates that more item-specific than relational elaboration occurred in this condition, whereas the negative value of the index for the competing brands context suggests greater relational then item-specific elaboration in the competing brands context. The near-zero index value for the related products context suggests
that the two types of elaboration were nearly equivalent in that context. No other effects on the type of elaboration index reached significance (all p’s > .11).

Thus, the results for the various memory measures support our expectation that the three contexts prompt the two types of elaboration to a different extent. In the related products context both item-specific and relational elaboration seem to have been prompted, in the competing brands context greater relational elaboration appears to have occurred, and in the unrelated products context more item-specific elaboration was induced. These observations therefore, provide support for the process that was theorized to mediate the evaluation outcomes.

DISCUSSION

The findings of study 1 offer support for our theorizing. It was hypothesized that ad repetition and ad spacing would influence evaluation of an advertising message only in the related-products context. Specifically, we had predicted that in the related products context, increasing repetition frequency of massed exposures would lead to more favorable evaluation, while increasing the frequency of spaced exposures would lead to less favorable evaluation. Results supported these predictions. Further, repetition frequency and spacing were not expected to affect evaluations in the other two contexts, which was also found to be the case. We theorized that these evaluation outcomes are mediated by the amount and type of elaboration that occurs in the different experimental conditions. The results of various memory measures offer support for the mediation process and the predicted nature of amount and type of elaboration.
STUDY 2

The purpose of study 2 was to test the robustness of our theorizing by providing converging evidence for the notion that when item-specific and relational processing complement each other, the effect of ad repetition on judgment is enhanced. In study 1 we found that target ad repetition did not influence brand judgments in the competing brands and the unrelated products contexts. Based on the theorizing presented thus far, a plausible reason for this outcome is that in these contexts the two types of elaboration did not complement each other. The evidence from study 1 suggested that in the competing brand context relational elaboration tended to dominate, whereas in the unrelated products context item-specific elaboration occurred predominantly. If this observation is accurate, inducing the deficient type of elaboration in the particular context should increase the extent to which relational and item-specific elaboration would complement each other. Further, when the two types of elaboration complement each other, the effect of ad repetition on judgment should be observed. For instance, if additional item-specific processing was induced in the competing brands context, which presumably naturally evokes relational elaboration, message recipients should have the opportunity to identify distinctive brand information. Increasing elaboration of such information, via message repetition, should make target judgments more favorable. This prediction would provide convergent support for our theorizing and is tested in study 2.

This study was also designed to explore the mediation processes that occurred when the two types of elaboration do not complement each other. In this regard, it is useful to consider a continuum on which the extent to which relational and item-specific elaboration complement each other varies. At one extreme, the two types of elaboration would be non-complementary.
This situation would arise when the opportunity for one type of elaboration is extensive and for
the other type is virtually absent. For instance, a context might invoke extensive item-specific
elaboration and facilitate learning of the message claims, but the message might receive minimal
relational elaboration if there are no cues in the environment to prompt such processing. A lack
of sufficient relational elaboration might make it difficult to access an appropriate comparison
referent, and as a result it would not be readily apparent to the message recipient if, and how,
some of the message features are distinctive. Prior research shows that when people are unable
to determine the distinctiveness of some information they are likely to elaborate on the
information by generating idiosyncratic associations to the message content (Petty and Cacioppo
1986). Such idiosyncratic associations are typically less favorable than message information
because messages are developed with the intent to persuade (Anand and Sternthal 1990;
Cacioppo and Petty 1979). Thus, the generation of idiosyncratic thoughts would likely result in
less favorable product judgments, leading to wearout (Pechmann and Stewart 1988).

In contrast to a situation where relational and item-specific elaboration are non-
complementary, in another context these two types of elaboration could be moderately
complementary. Here both item-specific and relational processing occur to a fair extent, but one
type occurs to a significantly greater extent than the other. In this situation, some amount of
item-specific and relational processing would complement each other. To the extent this occurs,
access to distinctive product information should be facilitated and its elaboration would enhance
the favorableness of product judgments. However, in these moderately complementary
situations, the excess amount of one type of elaboration would induce elaboration of
non-distinctive message information. Specifically, if item-specific elaboration is in excess,
people would learn certain features of the product but would be unable to determine their distinctiveness. Or, if the additional elaboration is relational, people may elaborate more on the non-distinctive category information. In either case, increasing elaboration of this non-distinctive product information would cause judgments to be less favorable. Consequently, in situations where the two types of elaboration are moderately complementary no effect of increasing the amount of elaboration on judgments is likely due to the opposing effect of elaborating on distinctive and non-distinctive product information. In study 2 we address these issues in an attempt to clarify the elaboration processes that occur in different ad context conditions.

STUDY OVERVIEW

The main focus of study 2 was to represent different levels at which relational and item-specific elaboration complement each other: complementary (both types occur and complement), moderately complementary (both types occur, but one type more than required to complement), and non-complementary (only one type dominant).

To accomplish these objectives, advertising copy was introduced as a variable for manipulating type of elaboration. An important reason for choosing this variable was that, unlike ad context, the ad copy gives the advertiser more control over the nature of message processing. The basis for the ad copy manipulation was research on connected discourse where participants are presented different prose passages for learning (Einstein, McDaniel, Owen and Cote 1990; McDaniel, Einstein, Dunay and Cobb 1986). In this research, some passages include a prominent schema and story structure (e.g., popular fairy tales) that could be readily grasped. Learning of
the passage was enhanced because the relational processing induced by the schema facilitated its retrieval. In another condition, the passage was a description of the features of an object (e.g., a mountain range). Here learning was enhanced in a manner consistent with the occurrence of item-specific processing.

Applying these observations to the present study, advertising copy was designed to induce different types of elaboration. Theoretical and practical considerations influenced our selection of the specific ad copy focus. From a theoretical perspective, we sought to represent the full spectrum of complementarity between types of elaboration. It was also felt that because print advertisements for a product such as a camera nearly always present some brand feature information, we would not use a copy that induced relational processing exclusively. Thus, two ad copies were created that included the same product features that were mentioned in the ad used in study 1, but their execution was varied to reflect different type of elaboration orientation. A professional copy-writer and graphic designer developed the new ads.

One version of the ad copy, labeled the item-only ad copy, was constructed so that it induced item-specific processing. This objective was achieved by emphasizing the features described in the original camera ad in greater detail and by elaborating on the benefits offered by some of the features. This presentation was expected to facilitate the association of specific features with the target brand name, i.e., prompt item-specific elaboration.

A second version of the copy, labeled the both-types ad copy, was constructed with the objective of introducing both relational and item-specific elements in the message. The relational aspect was introduced in two ways. First, the copy was written around a situational theme: a student’s graduation ceremony served as the backdrop and the target camera was
described as being used on that occasion. An association between the picture in the ad (it showed various shots of a turtle) and the copy was also introduced. In order to prompt item-specific processing, the copy highlighted the various features of the product by pointing out how each was beneficial at different occasions during the graduation ceremony. This was expected to associate these features to the target camera brand, thus inducing their item-specific elaboration.

As in study 1, the type of elaboration of the ad message was also manipulated by the ad context in which the target ad appeared. Two contexts were used: the competing brands context and the unrelated products context. In study 1, a null effect on judgment had been obtained in these contexts. Consequently, we sought to further examine the nature of processing in these conditions.

Based on our theorizing, we hypothesized that when subjects encounter the item-only copy (item-specific processing) in the competing brands context (relational processing), both types of elaboration would be induced and complement each other. Consequently, we would expect distinctive target camera features to become accessible for judgment formation. Increasing elaboration of this information, by target ad repetition, would be expected to enhance the favorableness of target product judgments. Thus, the prediction was:

**H 3(a):** Repetition of the item-only ad copy in the context of competing products is expected to lead to more favorable judgments, because the ad context and ad copy would prompt complementary types of message elaboration.

By contrast, when the both-types copy is presented in the competing brands context, the context would induce relational processing in addition to both types of elaboration that the ad copy would prompt. Thus, relational and item-specific processing were expected to be moderately complementary. To the extent the two types of elaboration complement each other,
distinctive product information would be generated. However, the additional relational processing induced by the ad context would make non-distinctive target information accessible. A similar outcome is expected when the both-types ad copy is presented in the unrelated products context, because the copy would induce both types of elaboration and the context would prompt additional item-specific processing. Increasing the amount of elaboration of both distinctive and non-distinctive information by target ad repetition is likely to have no effect on judgments because while elaborating on distinctive information would make judgments more favorable, elaborating on non-distinctive information would make judgments less favorable. Stated formally, the prediction is:

**H 3(b):** Repetition of the both-types ad copy in either ad context would have no effect on judgment, because the ad context and the ad copy would induce relational and item-specific elaboration that are moderately complementary.

Finally, when the item-only ad copy is presented in the unrelated products context, predominantly item-specific processing should be induced, creating a non-complementary situation. As a result, message recipients would mostly elaborate on target camera features without being able to ascertain their distinctiveness. Increasing elaboration of non-distinctive information is expected to make judgments less favorable, leading to wear-out.

**H 3(c):** Repetition of the item-only copy in the context of unrelated products is expected to lead to less favorable judgments, because the ad context and the ad copy would induce relational and item-specific elaboration that are non-complementary.

**METHOD**

*Stimulus and Design.*

The study had a 2x2x2 factorial design. The independent variables of the study were:
advertising copy (both-types copy and item-only copy), advertising context (competing or unrelated products), and target ad repetition frequency (two or four presentations). The target ad was repeated only in a massed manner. Unlike study 1, spaced presentation of the target ad was not included because the effect of message spacing had been clarified in study 1 and it was no longer of central concern. Based on this design, eight versions of the magazine were assembled. The layout of the magazine was identical to that in the massed repetition conditions of study 1.

Procedure.

Research participants were 80 undergraduate students, who were recruited from the same population as those in study 1. The students were paid $6.00 for their participation in the study, which lasted for about an hour. As in the previous study, participants were run in groups, ranging from two to eight. Participation was in a laboratory setting, where respondents were given a version of the magazine that included the experimental manipulations. The instructions were the same as in the previous study.

Responses were obtained on dependent measures identical to those in study 1, except for two changes. First, the category recall task was not included. In study 1, the category recall measure was used to distinguish between the product category that was activated by the related products (photographic equipment) and the competing brands contexts (cameras). Such a distinction is not required between the competing brands and the unrelated products contexts, which are the ad contexts used in the present study. The other change in the questionnaire was the addition of a thought-listing task. This measure was included to provide a convergent indicator of the cognitive processes that operate.4
RESULTS

As in study 1, analysis of covariance was performed with evaluation of the magazine serving as the covariate. The means and standard deviations for the dependent measures in the various treatment conditions are reported in Table 2.

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Table 2 about here
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Product Evaluation.

Product evaluation was assessed in two ways: using a 10-item product evaluation scale and thoughts about the target product. Factor analysis of the evaluation scale revealed that the items loaded on to a single factor (α=0.89). Consequently, these items were averaged to obtain a single product evaluation score.

Analysis of the product evaluation score supported our expectations. Results revealed a main effect of context (F(1,71)=7.19, p < .01), and an ad repetition by ad context interaction that approached significance (F(1,71)=3.76, p < .06). These effects were qualified by a three-way interaction between ad repetition, ad copy and ad context (F(1,71)=7.84, p < .01; Figure 2). As predicted, in the competing brands context, an effect of ad repetition was observed when the item-only copy was presented. Product evaluations were more favorable when the item-only copy was repeated four times (X̄=5.38) than twice (X̄=4.61; F(1,71)=6.14, p < .02). Repetition of the both-types copy in this context produced no effect on evaluations (F<1). Presumably, these outcomes occurred because repeating the item-only copy in the competing brands context induced a complementary level of both types of elaboration, whereas repeating the both-types copy in this context induced only a moderate level of balance between types of elaboration.
Further, as predicted, in the unrelated products context, evaluations exhibited wearout with repetition of the item-only copy. Evaluations were less favorable when the item-only copy was repeated four times ($\bar{X}=5.02$) than twice ($\bar{X}=5.71$; $F(1,71)=5.21, p < .03$). Repeating the both-types copy in this context had no effect on evaluations ($F<1$). These outcomes were observed presumably because repeating the item-only copy in the unrelated products context, prompted a highly non-complementary situation, whereas repetition of the both-types copy in this context induced relational and item-specific elaboration so that they were moderately complementary. These assumptions regarding the nature of the type of elaboration in different experimental conditions are examined in the next section where results for several memory and thought measures are reported.

Target product judgment was also analyzed by examining the thoughts participants listed. Participants listed two types of thoughts: those that pertained to the target product and those that pertained to the ad execution details. In the analysis of target product judgment, only the product related thoughts were considered. Two judges, who were unaware of the study hypotheses, coded these thoughts as being positive, negative or neutral to the target product. The judges were in agreement in 81% of the cases. Disagreements were resolved during discussions with the author. Analysis was done on a valence-thought index that was calculated by taking the difference between the positive and negative thoughts, and then dividing this value by the sum of positive and negative thoughts that participants generated. This index would equal +1 if all the valence thoughts a participant listed were positive, it would be -1 if all the valence thoughts were
negative, and it would be zero if an equal number of positive and negative thoughts were listed.

Analysis of the valence-thought index revealed an interaction effect between ad repetition, ad copy and ad context ($F(1,71)=7.28$, $p < .01$; Figure 3). Further analysis of the valence-thought index in each context condition revealed a pattern similar to that observed for product evaluation. In the competing brands context, the index increased with repetition of the item-only ad copy ($\overline{x}_{2\text{ reps}}=0.00; \overline{x}_{4\text{ reps}}=0.57; F(1,71)=4.76$, $p < .03$), while repetition of the both-types ad copy had no effect on the index ($F<1$). In the unrelated products context a different pattern of effects was observed. The valence-thought index decreased with repetition of the item-only ad copy ($\overline{x}_{2\text{ reps}}=0.53; \overline{x}_{4\text{ reps}}=-0.12; F(1,71)=5.23$, $p < .03$), while repetition of the both-types ad copy had no effect on the index ($F<1$).

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Figure 3 about here
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Process Measures and Manipulation Checks.

A number of memory and thought measures were analyzed to provide evidence for the nature of elaboration that was prompted in the various experimental conditions. It was expected that the competing brand context would prompt primarily relational elaboration, whereas the unrelated products context would induce mostly item-specific elaboration. Further, the item-only ad copy was designed to prompt item-specific elaboration, while the both-types ad copy was expected to evoke both types of elaboration.

Clustering in the recall of brand names, as measured by the Adjusted Ratio of Clustering (ARC), was used to assess the presence of relational processing. Greater clustering was observed in the competing brands context ($\overline{x} = 0.34$) than in the unrelated products context ($\overline{x} = -0.08$;
F(1,71)=4.79, p < .03), suggesting that more relational processing was induced in the competing brands context compared to the unrelated products context. The two ad copies did not differ on this measure (F < 1). This was expected because relational elaboration prompted by the ad copy would not influence clustering of brand names, but might reveal an effect on measures involving the target ad. No other effects on clustering reached significance (all p’s > .07).

Participants also responded to a measure of recognition of the contents of the focal ad. This was analyzed using the signal-detection measure, A’ (Snodgrass and Corwin 1988). A main effect of ad copy approached significance (F(1,71)=3.46, p < .07). Recognition accuracy was greater in the item-only ad copy (A’=0.85) than in the both-types ad copy (A’=0.78). A three-way interaction was also significant (F(1,71)=5.10, p < .03). The results revealed that in the unrelated products context, recognition accuracy was not affected by repetition of the item-only copy (F<1), but for the both-types copy accuracy was greater when it was repeated four times (A’=0.87) than when it was presented twice (A’=0.71; F(1,71)=4.84, p < .03). Further, while at four repetitions of the target ad recognition accuracy was the same for the two ad copies (F<1), at two repetitions accuracy was greater for the item-only copy (A=0.90) than the both-types ad copy (F(1,71)=6.81, p < .01). These outcomes suggest that when the ad context (unrelated products) and the ad copy (item-only) both induce item-specific processing, repetition of product information does not induce additional item-specific processing and therefore, does not improve recognition accuracy any further. However, when the ad copy induces both types of elaboration, ad repetition could induce additional item-specific processing. In the competing brands context, there was no effect of ad copy or repetition on recognition accuracy (all contrast p’s > .14), possibly because the relational processing induced by the context overwhelmed any effects of
item-specific processing that would be induced by the ad copies. No other effects reached significance (all p’s > .17).

While these results are not inconsistent with our hypotheses regarding the type of elaboration induced by the ad context and ad copy, they do not provide unequivocal evidence for the hypothesized processes. Consequently, further analysis was conducted on the components of A’, namely the proportion of hits (i.e., number of true statements correctly identified as true) and the proportion of false alarms (i.e. number of foil statements incorrectly identified as accurate for the target camera) in recognition. The proportion of hits revealed a main effect of context (F(1,71)=3.88, p < .05): hits were greater in the unrelated products context (\(\bar{x} = 0.77\)) than in the competing brands context (\(\bar{x} = 0.67\)). A main effect of ad copy was also observed (F(1,71)=3.88, p < .05), with hits greater in the item-only copy (\(\bar{x} = 0.77\)) than in the both-types copy condition (\(\bar{x} = 0.67\)). No other effects were significant (all p’s > .14). Analysis of the false alarms in recognition of target ad contents revealed no significant effects (all p’s > .14). Thus, the results for target ad content recognition suggest that the unrelated products context prompts greater item-specific processing than the competing brands context, and the item-only copy prompts greater item-specific processing than the both-types copy.

Evidence for the type of elaboration induced by the ad context and ad copy conditions was also obtained by analyzing the cued recall of target ad contents. As in study 1, subjects’ listing of the attributes of the camera mentioned in the ad was coded for recall of target camera features (specific feature recall), recall of features accurate for the camera category, but not mentioned in the target ad (category intrusions), and recall of features that belonged to one of the context brands (brand intrusions). Recall of specific features of the target camera revealed an
interaction between ad context and ad copy \((F(1,71)=3.82, p < 0.05)\). Recall of specific features was greater when the both-types copy was presented in the unrelated products context \((\bar{x}=2.05)\) than in the competing brands context \((\bar{x}=1.10; F(1,71)=6.45, p < 0.01)\), presumably because the unrelated products context induced item-specific processing and fostered processing of the specific features of the target camera. By contrast, recall of specific features from the item-only copy was invariant across the unrelated products \((\bar{x}=1.10)\) and the competing brands contexts \((\bar{x}=1.10; F<1)\). Further, in the unrelated products context, recall of specific features was greater when the ad featured the both-types copy than the item-only copy \((F(1,71)=6.74, p < 0.01)\), while in the competing brands context the recall of specific features was the same for both ad copy versions \((F<1)\). No other effects reached significance \((all \ p's > .09)\).

Category intrusions in recall of target ad contents also revealed an interaction between ad context and ad copy \((F(1,71)=4.83, p < 0.03)\). Category intrusions in recall were greater when the both-types copy was presented in the competing brands context \((\bar{x}=2.4)\) than in the unrelated products context \((\bar{x}=1.6; F(1,71)=3.28, p < 0.07)\), presumably because the competing brands context induced relational processing and the generation of category-level features. By contrast, category intrusions in recall of the item-only copy were invariant in the competing brands \((\bar{x}=1.9)\) and the unrelated products contexts \((\bar{x}=1.4; F(1,71)=1.73, p > .18)\). Further, in the competing brands context, category intrusions in recall were greater when the ad featured the both-types copy than the item-only copy \((F(1,71)=5.48, p < 0.02)\), while in the unrelated products context category intrusions in recall did not differ for the two ad copies \((F<1)\). No other effects reached significance \((all \ p's > .18)\).

Finally, analysis of brand intrusions revealed only a three-way interaction between ad
repetition, ad context and ad copy that approached significance (F(1,71)=3.68, p < 0.06).

Examination of the data revealed that very few false intrusions were recorded in any treatment condition suggesting that the result was probably influenced by a floor-effect.

The results for recall of specific features, category intrusions and brand intrusions suggests that while the item-only copy induced primarily item-specific processing, the nature of elaboration induced by the both-types copy was affected by the context in which the ad appeared. Specifically, more item-specific processing than relational processing was induced when the both-types ad copy was presented in the unrelated products context, and more relational processing than item-specific processing was prompted in the competing brands context. This observation supports the expectation that the both-types ad copy would induce both types of elaboration.

Participants’ thoughts about the target camera were also examined for the presence of item-specific and relational elaboration. Item-specific elaboration would be revealed by thoughts about specific features of the target camera (e.g., "the camera has a nice zoom", "it has a built-in flash", "I liked that it could capture fast action"). Relational processing would manifest as thoughts about the camera’s categories (e.g., "A professional camera", "good for special occasions") and general category features that were not mentioned in the target ad ("what about red-eye reduction?"). Two judges, unaware of the research hypotheses, coded the thoughts participants listed into four categories: item-specific thoughts, relational thoughts, thoughts pertaining to elements of the target ad's execution (e.g., "the turtle was cute", "when is my graduation?"), and thoughts pertaining to the experimental procedures ("the ad was shown four times"). Judges were in agreement in most cases (74%), disagreements were resolved during
discussions with the author.

Analysis was done on the percentage of item-specific and relational thoughts. These were calculated by dividing the number of item-specific thoughts and the number of relational thoughts by the total number of thoughts participants listed to obtain an item-specific index and a relational index. Analysis of the item-specific index revealed a main effect of ad context (F(1,71)=9.79, p < .003), such that more item-specific thoughts were listed in the unrelated product context (\(\bar{x}=0.47\)) than in the competing brands context (\(\bar{x}=0.29\)). In addition, a main effect of ad copy was also observed (F(1,71)=7.83, p < .01), which revealed that more item-specific thoughts were listed for the item-only copy (\(\bar{x}=0.46\)) than for the both-types copy (\(\bar{x}=0.30\)). No other effects reached significance (all p’s > .22).

Analysis of the relational index revealed a pattern of results opposite to that observed for the item-specific index. A main effect of ad context (F(1,71)=3.92, p < .05) revealed more relational thoughts in the competing brands context (\(\bar{x}=0.42\)) than in the unrelated products context (\(\bar{x}=0.30\)), while a main effect of ad copy (F(1,71)=3.89, p < .05) showed more relational thoughts in the both-types ad copy (\(\bar{x}=0.42\)) than in the item-only ad copy (\(\bar{x}=0.30\)). No other effects reached significance (all p’s > .10).

Participants’ thoughts about the ad execution were also analyzed. Specifically, the generation of thoughts related to the graduation script and the picture-copy association introduced in the both-types ad copy, would provide evidence that the script was elaborated on and therefore, could have been a source of additional cues to induce relational processing of the ad content. Thus, we expected that more execution-related thoughts would be listed for the both-types copy than for the item-only copy. Results supported our expectation. Analysis was done
on the number of execution-related thoughts relative to the total number of thoughts participants listed. Analysis of this ratio revealed a main effect of ad copy ($F(1, 71) = 5.55, p < .02$). More execution-related thoughts were listed for the both-types copy ($\bar{x} = 0.19$) than for the item-only copy ($\bar{x} = 0.06$). No other effects reached significance (all $p$’s > .20).

Thus, the results on the process measures indicate that the unrelated products context prompts primarily item-specific processing and the competing brands context prompts primarily relational processing. Further, the both-types ad copy induces both relational and item-specific processing, while the item-only ad copy appears to prompt primarily item-specific processing. These outcomes offer support for the assumptions that had been made to explain the product evaluation outcomes, and thus offer support for our theorizing.

**DISCUSSION**

The present research makes a number of important theoretical and practical contributions to the advertising persuasion literature. The important theoretical contribution of this research is the finding that two aspects of message elaboration, amount and type, influence product judgments. The notion that elaboration has two dimensions, amount and type, and that both are implicated in the persuasive impact of a message suggests an interesting analogy for the persuasion process. Mandler, in 1962, used the analogy of a *juke-box* to describe the processes by which emotions might operate. This *juke-box* metaphor also appears to be an apt description of the elaboration process by which a persuasive message influences judgments and provides a useful analogy for understanding the mechanism by which the amount and type of message elaboration operate.
A juke box has two main mechanisms that determine its successful operation: we put in a coin to energize the system, and then we punch a number to select a recording. In the present research, advertising repetition and spacing act like the coin that “energizes” the elaboration process, and cues in the advertising context with regard to item-specific and/or relational elaboration act like the punching in of a number that directs the deployment of the system’s energy. Thus, like a juke-box, one mechanism in the persuasion process is the energizing unit, which governs the amount of resources that are allocated for message processing. Some level of resources is required for any elaboration to take place and for persuasion to have a chance to occur. And like the deployment unit of a juke-box, in the case of message persuasion, the contextual cues channel the available resources toward one or both types of elaboration.

This juke-box model of persuasion suggests that the persuasive impact of a message is maximized when an adequate level of resources is allocated and these resources are directed toward both item-specific and relational elaboration of the message. Thus, in the present research, when the two types of elaboration were induced by the ad context (related products context in study 1, and competing brand context + item-only ad copy in study 2), increasing the amount of message elaboration (by repetition frequency and/or spacing) influenced the favorableness of target camera judgments. In contrast, when item-specific and relational elaboration did not adequately complement each other, varying the amount of resources did not influence target judgments.

This conceptualization of the persuasion process offers a plausible account for the various effects of repetition observed in the literature. Repetition effects on judgment have not been reliably observed when the repeated exposures are presented along with other intervening
material. Our findings suggest that it is the nature of the contextual material that is likely to moderate this effect. Specifically, in conditions that do not invoke a complementary level of item-specific and relational elaboration, such as competing brands and unrelated products contexts, the effects of repeated exposures is diminished.

The results of study 1 also replicate the effect of message spacing on judgments (Malaviya and Sternthal 1997). Prior research suggests that spacing influences judgment by affecting the allocation of resources for message processing (Malaviya and Sternthal 1997). The results of study 1 are consistent with this notion, but they also indicate an important condition in which the effects of spacing on judgment are observed. Specifically, these effects are observed when both types of elaboration appear to have been prompted by the advertising context. Indeed, the description of the stimuli in the Malaviya and Sternthal (1997) study indicates that such a situation might have existed. Specifically, in that study the target ad for a fax machine was presented along with advertising for computers and copiers, among other products. These products could be thought of as being related in that they all represent different types of office equipment, while at the same time they share few specific features. In other words, these stimuli provide a conceptual replication of the related products context that was included in study 1. In these conditions, it is quite likely that both item-specific and relational elaboration of the target ad were prompted, and this provided the necessary types of elaboration for the effects of message repetition and spacing to be manifested.

Although our research implicates the two types of elaboration in the judgment formation process, several questions remain. One pertains to whether the induction of item-specific and relational elaboration is influenced by people’s processing goals. For instance, in the present
research we have assumed that the process of forming a judgment of a persuasive message requires the determination of unique associations to the target product, and that when this process breaks down, which appears to occur when item-specific and relational elaboration do not complement each other, the persuasive impact of the message is diminished. However, it is conceivable that if people are given sufficient time to process the information, they might eventually invoke the type of elaboration needed to assess the merits of the advocacy. That is, if a fairly large amount of resources are available for processing, people might generate the required types of elaboration to satisfy the demands of their task. When the amount of resources that can potentially become available is constrained, the type of elaboration people engage in is more likely to be a function of the contextual cues that are salient, as was observed here.

From a practical perspective, the paper points out the importance of assessing the nature of the advertising context that a particular medium imposes before selecting media. Presumably, a medium that has contextual material likely to enhance the effectiveness of advertising is desirable. The results of the present research would suggest that exposure to an ad message is likely to have the most influence when the medium has contextual material that is related to the target ad of interest, but does not compete with the advertised target product. However, as a practical matter, this criterion can often run afoul of other concerns practitioners may have, such as efficient reach of a specific consumer target.

Considering this, it would be beneficial if some other element of the advertising mix could be utilized to overcome the limitations in processing caused by the media that invoke primarily one type of elaboration. Prior research suggests that one such advertising variable is the picture that appears in a print ad, which can be manipulated to induce different types of
elaboration (Malaviya et al. 1996). This research adds another advertising variable to the arsenal of the marketing manager, which is advertising copy. Thus, in study 2 advertising copy that focused on the brands features and highlighted them rather pointedly induced more item-specific elaboration, whereas copy that elaborated on the products benefits by relating them to an occasion prompted more relational elaboration. Further, each type of ad copy was found to be more suitable in different contexts depending on the nature of elaboration that each prompted.

Another important practical implication of this research pertains to ad testing. The present research clearly indicates that the persuasive impact of an ad is influenced by the context in which the ad presented. This observation questions the procedure for ad testing that is adopted by many recognized testing services. Ad effectiveness testing services typically use a context in which advertising for unrelated products is presented (along with programming material). This scenario is likely to induce more item-specific than relational elaboration. As such, in this context the effectiveness of an ad is likely to be understated because the context did not prompt one type of elaboration. Alternatively, because this context would more likely prompt item-specific elaboration, it would produce a systematic bias in favor of ads that are deficient in this type of elaboration and could benefit from such processing. In contrast, ads that are deficient in relational elaboration would be unduly penalized by this system of ad testing, because the context does not prompt the required type of elaboration. At a minimum, these observations suggest that ad copy testing should take into consideration the media context in which the ad is likely to appear. In the absence of procedures that accommodate for the influence of advertising context on type of elaboration, the reliability of many ad testing methods will remain suspect.
FOOTNOTES

1 Judgment and persuasion are used to refer to the how favorable message recipients’ affect is toward the position advocated in an appeal.

2 Note that in the spaced repetition condition the first exposure to the target ad was held constant, while the last exposure varied depending on the number of repetitions. This procedure is a departure from the procedures used in studies examining the effect of spacing on learning. In these studies, it is usually the last exposure to a stimulus that is held constant. The reason for this nature of presentation is to avoid recency effects on memory. In the present research, product judgment, not memory, is the more important outcome. Because judgments are thought to be more susceptible to primacy than recency effects, it was felt that it is more important to control the occurrence of the first, rather than the last exposure, to the target ad.

3 Analysis was conducted on the number of editorial titles that participants could recall and their evaluation of the editorial content of the magazine. Recall of the number of editorial titles revealed an interaction between ad context and repetition spacing (F(2,110)=4.93, p < .01). An equal number of titles were recalled in all experimental conditions, except when target ad repetitions were spaced in the related products context, in which condition significantly fewer titles were recalled. Analysis of title recall also revealed a significant interaction between ad context, repetition frequency and repetition spacing (F(2,110)=5.36, p < .01). Further analysis indicated that the two-way interaction between ad context and repetition spacing was significant only when repetition frequency was two, but not when the target ad was repeated four times. Analysis of subject’s evaluation of the editorial content of magazine revealed a three-way interaction that approached significance (F(1,110)=2.63, p < .08). No other effects were significant (all p’s > .18). In order to determine and control for the effect of these responses on the main dependent measures, recall of editorial titles and editorial evaluation were entered as covariates in the subsequent analysis of our data. The interpretation of the results on the dependent measures was not affected when recall of editorial material was the covariate. Editorial evaluation turned out to be a significant covariate, and subsequent discussions of the results are based on this covariate analysis.

4 As in study 1, in order to complete the guise of the study participants responded to measures pertaining to their memory for the articles included in the magazine and their evaluation of the magazine’s contents. Analysis of the number of articles listed revealed no significant effects (all p’s > .14). Analysis of participant’s evaluation of the magazine revealed a main effect of repetition that approached significance (F(1,71)=3.24, p < .08), such that evaluations were greater at four than two repetitions of the target ad. No other effects reached significance (all p’s > .15).
<table>
<thead>
<tr>
<th>Dependent Measures</th>
<th>Competing Brands Context</th>
<th>Related Products Context</th>
<th>Unrelated Products Context</th>
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<td>Massed 2 Reps</td>
<td>Massed 4 Reps</td>
<td>Spaced 2 Reps</td>
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<td>Product Evaluation</td>
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<td>1.45 (1.75)</td>
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<td>Product Evaluation</td>
<td>5.71</td>
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<td>Total thoughts</td>
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<td>(1.06) (1.06) (1.71) (1.20)</td>
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<td>Item-specific thought index</td>
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<td>Specific feature recall</td>
<td>1.10</td>
<td>1.10</td>
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<td>Brand intrusions</td>
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<td>(0.67) (0.32) (0.32) (0.70)</td>
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<td>(0.29) (0.18) (0.21) (0.27)</td>
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<td>(0.19) (0.15) (0.19) (0.16)</td>
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<td>Clustering (ARC)</td>
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<td>(0.94) (0.97) (0.86) (0.95)</td>
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FIGURE 1

- Related Products Context
- Competing Brands Context
- Unrelated Products Context

Evaluation vs. Repetition for Massed and Spaced conditions.
FIGURE 2: PRODUCT EVALUATION

COMPEING BRANDS CONTEXT

EVALUATION

AD TYPE
ITEM-ONLY
BOTH-TYPES

REPETITION
R=2
R=4

EVALUATION

UNRELATED PRODUCTS CONTEXT

AD TYPE
ITEM-ONLY
BOTH-TYPES

REPETITION
R=2
R=4
REFERENCES


