Research in Brief

What *Does* Familiarity Breed? Complexity as a Moderator of Repetition Effects in Advertisement Evaluation

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This article examines how consumers' attitudes toward advertisements are affected by their previous exposure to them. The results of our experiment suggest that the effects of exposure on ad attitudes may be moderated by the complexity of the advertisement: evaluations of complex ads become more positive with exposure, while those of simple ads do not. This finding may help explain why previous studies of ad exposure effects have yielded mixed results.

For years, advertising researchers have studied the effects of advertisement repetition on consumers' cognitive responses, such as attention (Grass and Wallace 1969), recall (Appel 1971), and brand evaluation (Batra and Ray 1986; Ray and Sawyer 1971). Recently, researchers have examined how repetition affects consumers' liking of the ad. This reflects the growing conviction of many advertising researchers that consumers' liking or disliking of an advertisement can influence the ad's effectiveness, affecting attention, recall, brand evaluations, and other responses (MacKenzie, Lutz, and Belch 1986; Silk and Vavra 1974). However, research on the relationship between ad repetition and ad liking has yielded mixed results. In this article, we will review this research, discuss the role that stimulus complexity may play in moderating the exposure-liking relationship, and present an experiment used to show how the effects of ad repetition on ad and brand liking may differ for complex and simple ads.

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LITERATURE REVIEW

Advertisement Exposure and Advertisement Liking

Few studies have examined how ad exposure affects ad liking, and their results have been mixed and inconclusive. An early study by Light (1967) showed that when slides of a magazine ad were repeated in a virtually uninterrupted sequence, subjects' liking of the ad slightly declined. However, when exposures to the ad were separated by additional filler slides, exposure had no effect on ad evaluations. In contrast, Messmer (1979) found that consumers' liking of a particular television ad increased significantly after one exposure, and only declined with later exposures. Calder and Sternthal (1980) found that consumers' liking of the ads for one product decreased with exposure. However, evaluations of the ads for another product remained essentially unchanged, and actually increased slightly when the ads for this product were varied in execution. Burke and Edell (1986) found that consumers who reported higher levels of exposure to particular television ads generally had more negative attitudes toward those ads, but that this effect varied from ad to ad. Finally, Rethans, Swasy, and Marks (1986) found no significant relationship between ad exposure and ad liking.

Thus, research findings concerning the relationship between ad exposure and ad liking are inconsistent,

possibly due in part to methodological differences among the studies. For example, the interval between exposures (found by Light 1967 to be a significant moderator of exposure effects) varies among these studies from a few seconds to a few days. However, these inconsistent findings also might be due in part to the particular ads to which subjects were exposed. Several researchers (e.g., Krugman 1962; Ray and Sawyer 1971; Weilbacher 1970) have noted that exposure effects vary from ad to ad. Krugman (1962) speculated that different ad styles (which he termed "hard sell" and "soft sell") might react differently to repetition. Subsequent studies have tested Krugman's thesis, tapping into some of the dimensions of the somewhat vague construct of hard sell/soft sell. For example, Ray and Sawyer (1971) found that "grabber" ads (described as "distinctive," "different," and having "intrusive uniqueness") benefited less from repetition than did "nongrabber" ads. Silk and Vavra (1974) found some evidence that a soothing/pleasant ad fared better with repetition than an irritating ad. However, one dimension of Krugman's soft sell/hard sell that has not been examined in depth is the ad's complexity. Krugman (1962, p. 628) states that soft sell ads are, among other things, more complex than hard sell ads, and therefore might be "attended by greater liking and learning effects with repetition." This aspect of the hard sell/soft sell construct is particularly interesting, since research in psychology indicates that complexity may moderate the effects of exposure on stimulus liking. A review of this research follows.

Stimulus Exposure, Liking, and Complexity

In 1968, Robert Zajonc reviewed a series of experiments in which repeated exposure to initially unfamiliar stimuli (such as Turkish words, Chinese characters, and human faces) increased subjects' evaluations of these stimuli. Several later studies confirmed this "mere exposure" effect (Harrison and Zajonc 1970; Matlin 1970). However, Zajonc himself suspected that it was not universal. In his 1968 monograph, he asked: "Are all attitudes enhanced by mere repeated exposure? . . . (Do exposure effects) vary systematically across attitude objects?"

Subsequently, researchers found some exceptions to this "mere exposure" phenomenon. For example, most stimuli experienced a saturation point at which additional exposure decreased evaluation (e.g., Miller 1976). Berlyne (1970) suggested that a novel stimulus initially may be too unfamiliar and arousing, and initial exposures make the stimulus more familiar, comfortable, and appealing. However, a point occurs where little new can be learned about the stimulus, and additional exposures create a "tedium factor," causing evaluation to drop. Some studies detected this tedium factor only after many exposures. But in other studies, even initial exposures decreased evaluation. For example, Cantor (1968) found that children's liking of geometric shapes dropped after one exposure.

In trying to reconcile the apparently contradictory findings of Zajonc and Cantor, Berlyne (1970) focused on differences in the stimuli in their respective experiments. He pointed out that Zajonc's stimuli (e.g., human faces and Chinese characters) had been fairly complex and may have elicited a fairly high initial level of uncertainty, and thus their evaluation benefited from exposure. Cantor's stimuli (geometric figures) were relatively simple, which may have allowed subjects to familiarize themselves with these stimuli on the first exposure, making the second exposure seem repetitive and boring.

To test this hypothesis, Berlyne (1970) exposed subjects to a variety of black and white pictures, some that were visually complex (e.g., "crowded canvases replete with a multitude of human figures and other details") and some that were simple ("single figures on a plain background"). As hypothesized, the liking of the complex stimuli tended to increase with exposure, while the liking of the simple stimuli tended to decrease. Berlyne also cited two unpublished studies with similar findings.

Two subsequent studies replicated Berlyne's results. Saegert and Jellison (1970) found that subjects' liking of simple brushstrokes declined after a small number of exposures, whereas the evaluations of complex stimuli increased. Smith and Dorfman (1975) obtained similar results using green and white grids of various levels of visual complexity.

These studies may help explain the inconsistent effects of exposure on consumer ad evaluations: whether an ad becomes more or less appealing with exposure may depend on the advertisement's complexity. Both Krugman (1962) and Sawyer (1981) have suggested that advertisement complexity may moderate exposure effects. However, this hypothesis has not been tested empirically, and the reality of consumer advertising exposure is far removed from experiments in which subjects watch slides of Chinese characters. As Obermiller (1985) notes, the stimuli in most exposure studies in psychology bear little resemblance to advertisements. Obermiller asserts that if advertising exposure research is "to go beyond speculation, the robustness of such processes must be tested in the presence of representative complexities from everyday life" (1985, p. 29).

The purpose of our study is to determine if the effect of ad exposure on ad liking is moderated by the complexity of the advertisement. The first hypothesis is:

H1: The effects of exposure on ad evaluation will be significantly more positive for complex

advertisements than for simple advertisements.

Several researchers (e.g., MacKenzie et al. 1986) have found that subjects' evaluations of an ad tend to influence their evaluations of the advertised brand through a process called "affect transfer." Thus, if complex ads experience an increased evaluation with exposure, one might expect some of this increase to transfer to the brand depicted in the complex ad. Therefore, a secondary hypothesis in this study is:

H2: The effects of exposure on brand evaluation will be significantly more positive when the brand is presented within a complex advertisement.

METHOD

Overview

We designed an experiment to help us examine how attitudes toward simple and complex advertisements change after initial exposure. Subjects received two exposures, one week apart, to an ad of either high or low complexity. None of the subjects had seen the ads prior to the experiment.

Subjects

We recruited 298 subjects from MBA classes at a large, Southwestern university. Fifty-eight subjects failed to complete major portions of the questionnaire, leaving an effective sample of 240 subjects. Most subjects worked full time and attended graduate school on a part-time basis. The subjects ranged in age from 21 to 62, with a median age of 26. There were slightly more men than women in the sample (55 percent versus 45 percent).

Stimulus Materials

Eight print ads were designed for a fictional new soft drink product. Four of these ads were designed to be simple and four were designed to be complex, based on Berlyne and Lawrence's (1964) definition of stimulus complexity (having many heterogeneous elements, irregular in arrangement). Thus, the four complex ads all depicted a multitude of heterogeneous objects arranged across the page (e.g., a variety of recreational scenes in which cola might be consumed or the many tools of a wood worker). The four simple ads each depicted only one or two objects placed in the center of the page (e.g., a large glass of cola or a solid gold bar). Multiple ads for each level of complexity were used to increase the construct validity of this manipulation (Cook and Campbell 1979). All ads were high-quality, full-color magazine ads, professionally photographed and typeset. Each ad was headlined by the product's brand name, followed by copy emphasizing quality, refreshment, and taste. Pretests indicated that all eight ads were believable as soft drink ads.

Designing original ads allowed us to manipulate complexity while holding other factors as constant as possible. For example, all experimental ads were in color, and the product category, brand name, page size, letter type and size, and the photograph of the product were identical across these ads. Using original ads also guaranteed that subjects had not been exposed to the ads prior to the experiment per se. Zajonc has noted that experiments that expose subjects to already familiar stimuli simply add "one more occasion . . . to all the times (the stimulus) has been seen in the past" (1968, p. 15).

Ad complexity was pretested by asking five judges (all with graduate degrees in marketing) to examine 16 ads and identify the four most complex ads and the four least complex ads. Then, 34 graduate students evaluated the degree to which these eight ads were "complex" and "complicated" on nine-point Likert scales. This two-item summed scale had an inter-item reliability of 0.86. The average score of the expert-identified complex ads was significantly higher than that of the simple ads; all complex ads scored higher than any of the simple ads. This same two-item scale was also used as a manipulation check in the main study. See the Results section.

The ads also were tested to ensure that the complexity manipulation was not confounded by other constructs that also might moderate the exposure-liking relationship. One such construct was stimulus novelty. Zajonc (1968) reports several studies that suggest exposure particularly enhances subjects' evaluation of novel or unconventional stimuli. To assess whether the complexity manipulation was confounded by novelty, subjects rated the novelty of each ad. Another possible confound was the stimuli's initial likability. Grush (1976) suggests that initially liked stimuli tend to improve with exposure, whereas initially disliked stimuli decline. Thus, the initial liking of the stimuli was also measured.

One of the eight target advertisements was placed on the eighth page of a specially prepared magazine. The magazine also contained three other ads (two in black and white and one in color) and two short articles on exercise and fitness. Magazines were assigned randomly to subjects.

Procedure

The study was conducted in two sessions. During Session 1, subjects randomly were assigned a maga-

zine containing one of the eight target ads and told that the researchers wanted their reactions to a proposed new magazine. The subjects were given about five minutes to look through the booklet as they would normally examine a magazine. To more realistically simulate actual ad exposure, the target ad was not pinpointed for attention during this portion of Session 1. Subjects were then asked to close the magazine and answer a series of questions, including the manipulation check for perceived ad complexity, the confounding check for perceived novelty, and the evaluations of the advertisement and the advertised brand. Complexity was measured as previously discussed. Novelty was measured by asking subjects to report the degree to which an ad was unusual, original, and new, using nine-point Likert scales. These three adjectives formed a summed scale with a coefficient alpha of 0.77. Ad evaluation and brand evaluation were both assessed by nine-point scales (ranging from +4 to −4) anchored by bipolar adjectives (good/bad, pleasant/unpleasant, very likable/not very likable). The coefficient alphas for these summed measures were 0.90 and 0.94, respectively.

Session 2 was conducted one week later. Since Light (1967) found exposure effects to vary with interexposure time interval, it was important that this interval be realistic. A one-week interval seemed reasonable for a magazine advertisement. In Session 2, each subject was given a booklet containing copies of four advertisements, including the target advertisement to which that subject had been exposed in Session 1. Subjects were asked to indicate their liking of each advertisement and advertised brand using the scales discussed in the previous paragraph.

After participating in both sessions, a small sample (n = 25) of subjects was invited to guess the purpose of the study. None of these subjects came close to guessing the study's purpose, and none mentioned ad complexity in discussing either the study's purpose or their own criteria in rating the target ad. Two subjects speculated that the researchers were examining how subjects' evaluations of the ads changed over time, though they did not indicate the expected direction of this change. However, when asked how they evaluated the advertisement, neither subject mentioned repetition, citing instead the ad's "color," their "mood," or their "opinion."

RESULTS

Manipulation and Confounding Checks

Subjects' subjective complexity ratings were compared for the two sets of ads. The mean complexity rating ($\bar{X}$ = 9.53) of the complex ads was significantly greater than the mean rating ($\bar{X}$ = 5.88) of the simple ads (F = 7.65; df = 1, 6; $p < 0.05$). In addition, all four complex ads had higher means than any of the noncomplex ads.

The complexity manipulation was not confounded by either of the other constructs that the literature suggests may also moderate exposure effects. The mean novelty rating of the complex set of ads ($\bar{X}$ = 20.00) was not significantly different from that of the simple ads ($\bar{X}$ = 19.02). Similarly, the mean initial liking score for the complex ads ($\bar{X}$ = −0.62) was not significantly different from that of the simple ads ($\bar{X}$ = −1.57).

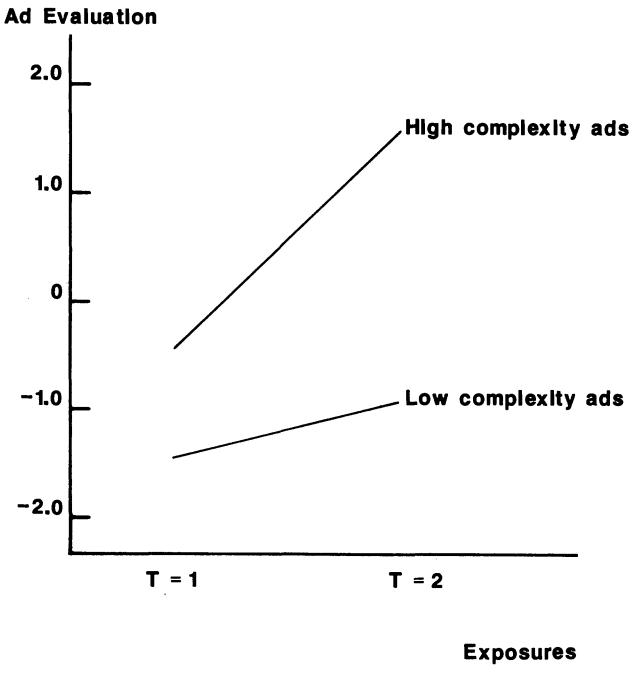
General Findings

In the primary analysis, we examined how subjects' liking of the target advertisements changed from the first exposure to the second. A within-subjects ANOVA revealed that the subjects' evaluations of the eight ads increased an average of 1.42 between sessions, which is significantly different from zero (F = 9.21; df = 1, 7; $p < 0.025$). However, as expected, the amount of increase differed between the two sets of ads. It was hypothesized that the effect of repetition on ad evaluation would be greater for complex ads than for simple ads. To test this hypothesis, an analysis of covariance was performed, examining the effects of ad complexity on ad liking at Exposure 2, using ad liking at Exposure 1 as a covariate. (See Cook and Campbell 1979 for a discussion of this method of analyzing group differences in change scores.) This analysis revealed that the liking of the complex ads increased significantly more than that of the simple ads (F = 3.91; df = 1, 6; $p < 0.05$), given a directional hypothesis. The denominator for this F statistic is the mean squared variance across ads within each level of complexity, with df = 4 + 4 − 2 = 6 (Keppel 1982, pp. 115–116, 257–265). The omega squared for this effect was 0.02. The mean increase in liking for the complex ads was 2.17, and 0.675 for the simple ads. These results are shown in the Figure.

The analysis also examined how evaluation of the brand depicted in the ads changed with exposure. An ANOVA revealed that subjects' evaluations of the brand improved an average of 2.41 between exposures, which was significantly different from zero (F = 21.29; df = 1, 7; $p < 0.01$). As predicted, the increase in brand evaluation was slightly greater among subjects exposed to the complex ads ($\bar{X}$ = 2.8) than among those viewing the simple ads ($\bar{X}$ = 2.02); however, an analysis of covariance (comparable to that used to analyze Hypothesis 1) revealed that this difference was not significant (F = 2.05; df = 1, 6; p = ns; ω^2 = 0.01). This small difference appears to reflect a transfer of affect from the ad to the brand. Ad and brand evaluations were highly correlated (r = 0.57), and when ad evaluation was introduced as an additional covariate, the effect of ad complexity on

FIGURE

EFFECTS OF EXPOSURE ON AD EVALUATION



brand evaluation virtually disappeared ($F = 0.202$; $df = 1, 6$; p = ns; $\omega^2 < 0.001$).

DISCUSSION

In this experiment, we examined the effects of exposure on the liking of complex and simple ads. The findings indicate that exposure has a strong positive effect on the evaluations of complex advertisements, and only a slight (and nonsignificant) effect on the evaluations of simple ads. These findings are consistent with psychological research that has shown exposure effects to be moderated by stimulus complexity (Berlyne 1970; Saegert and Jellison 1970; Smith and Dorfman 1975). These results are also consistent with "uncertainty reduction" explanations of exposure effects (Berlyne 1970; Obermiller 1985; Sawyer 1981): complex advertisements may have a high level of inherent uncertainty, or what Berlyne would call "arousal potential." Exposure allows a subject to become more familiar with these stimuli, which may reduce excess uncertainty and increase evaluation. Simple advertisements may have less inherent uncertainty, so their evaluation tends to benefit less from exposure. Although this explanation is plausible, and consistent with the data, further research is needed to explore alternative processes that might account for these findings.

The findings presented here also suggest that brand liking improves with exposure. This may occur because, as originally hypothesized, some of the increase in ad liking transfers to the brand depicted in the ad. However, this explanation would not account for the fact that brand liking increased substantially even for simple ads, but ad liking did not. This finding suggests that exposure may have had a direct effect on subjects' liking of the brand. Such an effect might result from "mere exposure" to the meaningless brand name; studies cited by Zajonc (1968) show that liking of nonsense syllables increases with exposure, a result that may apply to unfamiliar brand names (e.g., Miller, Mazis, and Wright 1971). However, advertisements also contain an informational component that distinguishes them from the meaningless stimuli typical of psychological exposure studies (Sawyer 1981). Thus, it is also possible that repetition may have enhanced brand attitudes by helping subjects learn the brand claims in the ad, or through some other process. Further research is needed to better understand the intervening processes that account for the findings reported in this study.

This study has several limitations that should be addressed in future research. First, it focuses only on the effects of the first two exposures to an ad. Although several researchers have observed that the first two or three ad exposures are most important in determining consumer response (e.g., Krugman 1972; Sawyer 1981, p. 249), the effects observed here should be tested over a wider range of exposures. In addition, because the subjects were graduate business students, they may have focused more on the advertisements than would a broader based audience. The within-subjects manipulation of exposure and the somewhat forced viewing conditions also may have sensitized subjects to the advertisement exposure. Finally, it should be noted that the interaction between complexity and exposure, although significant, accounted for a small percentage of the total variance in ad liking. Although this does not diminish the theoretical interest of this finding, further research will be needed to determine its practical importance.

Despite the limitations discussed, the results of this study shed some additional light on how consumers respond to ad repetition. Previous research has shown that ad repetition causes a variety of important changes in consumer response: changes in attention, brand awareness, recall, and liking of the ad and brand. This study has examined the role that one variable, ad complexity, plays in moderating the effects of repetition on liking of the ad and brand. Future research should continue to explore the factors that affect how consumers respond to ads over time.

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