

## Ad Repetition and Variation in a Competitive Ad Context

This study explores ad repetition and variation effects for a new brand in a competitive ad context in which ads for the leading brand in the same category are present. In the presence of competitive interference, ad repetition significantly increases ad recognition. Ad repetition also encourages subjects to take product beliefs into account in making product judgments. In addition, brand attitudes, brand interest ratings and purchase intent are improved with two ad exposures over one ad exposure. The number of product attributes has also been shown to moderate ad repetition effects. Moreover, two ad variation strategies are distinguished, i.e., substantive/cosmetic variation and cosmetic variation. The relative effectiveness of the two variation strategies on ad recognition and ad campaign perception is examined.

Usually, ads appear in cluttered environments. It is common for television ads to be embedded in commercial pods containing ads for competing brands from the same product category. It is even more common for print ads to be inserted into magazines with multiple ads from the same product category containing similar messages. What concerns advertisers then, are the negative impacts of competitive interference on ad recall or even brand evaluations. Advertisers' worries are indeed well justified. Research has demonstrated that, as the number of ads present in the ad processing environment increases, recall of brand information declines (Keller, 1991; Pillai, 1990; Webb & Ray, 1979). Moreover, brand evaluations for a target brand are reduced when multiple competing ads are present, as opposed to when no competing ads are in the context (e.g., Keller, 1991). Clutter effects on brand evaluations are most serious when the competing ads are from the same product category as the target brand (e.g., Baumgardner, et al., 1983).

In light of competitive interference research, a natural question follows, "how can advertisers reduce the negative impacts of competitive interference?" Ad repetition may be one of the answers. Research exploring the relationship between media spending and ad effectiveness is concerned with determining what quantity of ad repetition will maximize advertising effects (e.g., Batra & Ray, 1986; Calder & Sternthal, 1980; Hawkins, Hoch, & Meyers-Levy, 2001; Ray, Sawyer, & Strong, 1971; Rethans, Swasy & Marks, 1986). In general, in terms of increasing ad recall and brand recall, repetition has been shown to generate positive effects (e.g., Batra & Ray, 1986; Burke & Srull, 1988). When brand evaluations are considered, it has been demonstrated that, at lower levels of repetition, brand evaluations improve. However, when the number of ad exposures reaches a relatively higher level, brand evaluations deteriorate (e.g., Rethans, et al., 1986). All of the findings seem to suggest that ad repetition, up to a certain level, may reverse the negative interference of competing ad messages.

Nevertheless, there has been a notable lack of attention paid to ad repetition effects in competitive ad contexts. Therefore, this study's main concern is: can repetition counteract the negative impact of competitive interference on ad recall and brand evaluations? Past research has indicated that it is more meaningful to explore the effectiveness of ad repetition within a competitive context (e.g. Geiger, 1974). In line with this argument, this study will explore whether ad repetition is an effective technique in overcoming competitive interference for a new product. Blair (2000) has demonstrated that sales persuasiveness for a new product can be accurately measured even with a single exposure. Therefore, examination of a new product in a competitive ad context may have direct implications for advertisers. The primary objectives of this study are to (1) explore the effectiveness of ad repetition in comparison to no ad repetition and (2) compare two variation strategies, i.e., substantive/cosmetic variation and cosmetic variation. The former refers to strategies that vary both product attribute content and execution, whereas the latter refers to strategies that involve variations in ad execution only, not in product attribute content.

Specifically, this study argues that, in the presence of competitive interference, ad repetition at low levels, as opposed to single ad exposure, will significantly improve ad recognition and enhance the salience of featured product attributes, which will further increase the likelihood that product beliefs will be taken into account when subjects develop product judgments. In addition, ad repetition will have positive impacts on brand attitudes and brand interest ratings, as well as purchase intent. Additionally, how ad messages are repeated will also be examined. The focus will be on the relative effectiveness of different ad variation strategies on ad recognition and perceptions of the ad campaign.

### Ad Repetition Effects

Repetition is an important advertising tactic and has drawn a considerable amount of

research attention. It has been well established that the effectiveness of an ad is a function of how often it has been presented (see Pechmann & Stewart, 1989, for a review). In terms of message recall, research has shown that one efficient way to counteract recall interference is to provide a sufficient amount of ad exposure. For example, Burke and Srull (1988) have demonstrated that ad repetition significantly increases ad recall. Batra and Ray (1986) have indicated that ad recall rises from one exposure to four exposures. In short, findings regarding message repetition on ad recall are unanimous. One important explanation is that message repetition enhances memory effects by strengthening message encoding and increasing associations, which make later message retrieval much more likely (Lautman & Dean, 1983).

When brand evaluations are considered, evidence as to the effectiveness of ad repetition is contradictory. Some research indicates that there is a linear relationship between message repetition and brand evaluations (e.g., Batra & Ray, 1986). Other research argues that there appears to be an inverted U relationship between ad repetition and brand evaluations (Rethans, et al., 1986). That is, multiple exposures of the same ad will first lead to increased effectiveness, but after a certain number of exposures, the effectiveness of the same ad will decline. Two-factor theory has been introduced to explain this inverted U-shaped relationship between ad repetition and brand evaluations. On the one hand, message exposure reduces uncertainty and generates more positive responses. On the other hand, tedium sets in with message exposures and leads to negative evaluations.

Despite these contradictory findings, little attention has been paid to ad repetition effects in ad contexts in which the target ad is embedded with competitors' ad messages. Past research has shown that it is more meaningful to explore the effectiveness of ad repetition within a competitive context than a non-competitive context. For example, Geiger (1974) has argued that the relationship between ad exposure and ad recall emerges when relative measures of

frequency are employed, but does not emerge when absolute measures of frequency are considered. In other words, the presence of competitive interference should be taken into account when exploring ad repetition effects.

### Ad Repetition Effects in a Competitive Ad Context

#### Repetition Effects on Ad Memory in a Competitive Ad Context

A number of studies have indicated that competing ads in the viewing environment cause memory interference. According to Percy and Rossiter (1980), interference characterizes the process through which individuals' learning or recall of a stimulus is impaired by their exposure to information about other stimuli. Keller (1987) has argued that recall interference effects can be attributed to retrieval failure. Drawing upon the associative network model of memory, Keller (1991) has reasoned that additional learned information spreads the associative network of memory. Due to the spreading effect, it becomes more difficult to activate corresponding nodes in the associative network of memory at the time of retrieval. In other words, as the number of links increases, the likelihood of retrieving each individual piece of associated information decreases.

It has generally been shown that, as the number of ads present in the ad processing environment increases, recall of brand information declines (Keller, 1991). For example, Burke and Srull (1988) have demonstrated that ads for competing brands in the same product category, as well as ads for the same product, but a different model, from the same manufacturer caused problems in recalling information about the target brand. Kumar (2000) has indicated that, even when ads are not for products in the same category, the increased similarity of ad visuals reduces subjects' ability to recall the brand name in the target advertisement. This line of research pertains to the interference of competing ads on message recall without considering the possible counteracting influence of ad repetition.

Burke and Srull (1988) have specifically explored ad repetition effects in a competitive ad-viewing context. Their findings indicate that, when the level of ad competition is not distinguished, ad repetition enhances ad recall. However, further analyses indicate that there is a significant interaction between ad repetition level and competition level. When there are no other ads, or only one other ad for competitive brands, ad repetition increases ad recall. However, in a context that is cluttered with ad messages for two or three other brands from the same product category, ad repetition does not enhance ad recall.

Burke and Srull (1988) have reasoned that recall interference does not simply result from a reduced ability to retrieve information over time, but also results from brand attribute confusion, a mismatching between brand names and remembered product attributes. Therefore, when the competition level is relatively low, ad repetition will enhance ad recall, whereas, when the viewing context is heavily cluttered with ads from competing brands, ad repetition cannot help ad recall significantly. The current study explores a relatively low-clutter ad context and will argue that ad repetition under this condition will help ad recognition.

Hypothesis 1: In a competitive ad context, ad that are repeated will generate more correct ad recognition than ads without repetition.

#### Ad Repetition on the Importance of Product Beliefs in Brand Evaluations

Petty and Cacioppo (1979, 1980) have proposed that the persuasion effects of message repetition are mediated by message elaboration. According to them, a moderate level of repetition encourages message perceivers to attend to and elaborate on messages. Calder and Sternthal (1980) have also shown that increased message exposures lead to more elaborations when the advertised product is not familiar to ad perceivers. In line with this argument, this study argues that moderate ad repetition for a new brand is more likely to provide opportunities for ad perceivers to attend to product attributes featured in the ads and encourage message

elaboration, which in turn will further encourage perceivers to take product beliefs into account when formulating brand judgments.

Wyer and Srull (1986) have posited that being recently or frequently activated can increase the accessibility of a construct/category. In their reasoning, a recently or frequently activated construct/category is more likely to be stored in working memory, and thus is more likely to exert an impact on judgments, which is generally referred to as priming. In line with Wyer and Srull's (1986) arguments, consumer research within the priming paradigm has specifically shown that recently or frequently activated product attributes in the viewing context determine how a brand is categorized, and even judged (Yi, 1990).

This study thus argues that ad repetition will increase the salience and accessibility of featured product attributes. As a result of the enhanced accessibility, ad perceivers will develop their brand attitudes on the basis of their ad liking, as well as their product beliefs. In clear contrast, in situations in which ad messages are not repeated, product beliefs will not account for significantly more variation of brand attitudes other than what has been explained by ad liking.

Hypothesis 2: In a competitive ad context, ad repetition will encourage subjects to take product attributes into account in developing brand attitudes

#### Ad Repetition on Brand Evaluations in a Competitive Ad Context

It has been acknowledged that the interference caused by ad competition is not limited to message retrieval failure. Another important concern is its possible influence on brand evaluations. Even though there is some research exploring the influence of competing ads on evaluations of the target ad or brand, unfortunately, the currently available evidence that bears on these speculations is relatively limited.

Most of the existing research concerns the number of competing ads on evaluations of the target ad. For example, Keller (1991) has demonstrated that brand evaluations for a target

brand are reduced when multiple competing ads are present, as opposed to when no competing ads are in the context. Baumgardner, et al.'s (1983) examination of the durability of brand evaluations in a cluttered viewing context has shown that brand deterioration is more serious when ads appear in the context of ad messages for twelve other brands in the same product category than in the context of ad messages for twelve brands in different product categories. What we can conclude from these findings is that, as the degree of ad clutter increases, evaluation of the target brand deteriorates, especially when the competing ads are for brands in the same category.

Given that a typical ad viewing context can be characterized by serious clutter from competing ads in the same product category and evaluation deterioration caused by competitive interference is likely to be serious, it is thus important to explore whether ad repetition can reduce the negative effects of ad clutter on brand evaluations. D'Souza and Rao (1995) have demonstrated a positive effect of repetition on brand evaluations in a cluttered context. Their study has indicated that, even in a mature market with competing brands, increasing repetition can generate relative brand preference. However, Burke and Srull (1988) have not found a significant impact of ad repetition on brand evaluations in a cluttered ad context. In sum, empirical evidence regarding the relationship between ad repetition and brand evaluation in a cluttered, competitive context is controversial and limited. Therefore, it is still necessary to further explore this topic.

In line with past research, this study argues that, with the interferences from competing brands, a new brand is likely to be evaluated in a relatively negative light. However, it is also important to note that, in this study, ad repetition does not involve repeating the exact same ad, but repeating similar ads for the same brand with different execution or content. Therefore, ad repetition is likely to build up familiarity without letting tedium set in. This study proposes that,

under this condition, ad repetition will help improve brand attitudes. Also, repetition with variation is likely to generate an enhanced sense of brand interest. Finally, in comparison to ads without repetition, ads with repetition are likely to increase purchase intent.

Hypothesis 3a: In a competitive ad context, ad repetition will generate more favorable brand attitudes than no ad repetition.

Hypothesis 3b: In a competitive ad context, ad repetition will generate higher ratings of brand interest than no ad repetition.

Hypothesis 3c: In a competitive ad context, ad repetition will generate higher purchase intent than no ad repetition.

#### The Interaction of Ad Repetition and Number of Featured Product Attributes

Message configuration has been shown to moderate the effectiveness of ad repetition. For example, Anand and Sternthal (1990) have demonstrated that the impacts of repeated ad exposures on brand evaluations are moderated by ease of message processing. Cox and Cox (1988) have shown that evaluations of brands featured in complex ads become more positive with repetition, whereas evaluations of brands featured in simple ads do not vary as a function of ad repetition.

Singh and Cole (1993) have also shown that the learning effect of 30-second commercials is more positive than that of 15-second commercials when there is only one message repetition. In clear contrast, the difference between 30-second commercials and 15-second commercials, in terms of learning, disappears when messages are repeated four or eight times. It is likely that, on the one hand, content provided in the 30-second commercials is of a greater amount than that contained in the 15-second commercials and therefore will generate more learning effects. On the other hand, processing 30-second commercials involves more cognitive capacity and subjects may be reluctant to repeatedly devote the same amount of attention and cognitive effort. As a

result, the learning effects gap between the 30-second commercials and the 15-second commercials closes up with repetition.

Similarly, this study argues that, when there are no repeated message exposures, featuring four product attributes will generate more positive brand attitudes than featuring two product attributes. One of the possible reasons is that at the initial exposure, ads addressing four product attributes are more likely to make the brand appear superior than ads featuring only two product attributes. However, at the same time, it involves more cognitive capacity and effort to process ad messages featuring four product attributes than ads featuring two product attributes. Therefore, when messages are repeated, tedium may more easily set in when processing ads with four attributes than ads with two attributes. Due to this negative driving force triggered by tedium, the advantage of featuring four attributes does not emerge in a multiple exposure setting. As a result, different impacts exerted by ads featuring four attributes, as opposed to ads featuring two attributes, on brand attitudes, brand interest ratings and purchase intent will not emerge.

Hypothesis 4a: When there is no ad repetition, ads featuring four product attributes will generate more positive brand attitudes than ads featuring two product attributes; however, when there is ad repetition, ads featuring four product attributes will not generate more positive brand attitudes than ads featuring two product attributes.

Hypothesis 4b: When there is no ad repetition, ads featuring four product attributes will generate more positive brand interest ratings than ads featuring two product attributes; however, when there is ad repetition, ads featuring four product attributes will not generate more positive brand interest ratings than ads featuring two product attributes.

Hypothesis 4c: When there is no ad repetition, ads featuring four product attributes will

generate higher purchase intent than ads featuring two product attributes; however, when there is ad repetition, ads featuring four product attributes will not generate higher purchase intent than ads featuring two product attributes.

### Impacts of Repetition Variation Strategies in a Competitive Viewing Context

#### Repetition Variation Strategies

Other than simply repeating the same ad messages with the same execution, there are other possible presentations of message repetition. According to MacKenzie (1986), in an advertising context, attribute repetitions can be delivered in two possible ways: (1) through repetition of a specific ad that features the attribute; (2) through presenting different advertisements that feature the same attribute. Schumann, Petty and Clemons (1990) have further distinguished two types of repetition strategies and specifically tested their relative effectiveness in different contexts.

One type of repetition strategy, termed cosmetic variation, pertains to message repetition with changing visuals. Basic product messages are kept intact but the insubstantial features of the ad are altered. Taking print advertising as an example, when advertisers adopt a cosmetic variation strategy, they may vary color, graphics, fonts or layouts for the ad but hold the product messages constant. The other type of repetition strategy is named substantive variation, which refers to changing the message content (i.e., arguments, attributes) over repeated ad presentations while keeping the cosmetic characteristics of the ads constant.

This study argues that it is also common for ads for the same brand to vary in terms of attribute content, as well as cosmetic characteristics. It seems less likely that ads will feature different product attributes without any cosmetic alterations, than that they will feature different product attributes with changing cosmetic characteristics, given that cosmetic characteristics usually vary as a function of featured attributes. This study will refer to the latter form of

repetition as the substantive/cosmetic variation strategy, involving both substantive variation and cosmetic variation, as illustrated in Table 1. Specifically, this study will explore the relative effectiveness of the substantive/cosmetic variation strategy in comparison to the cosmetic variation strategy.

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Table 1 about here  
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### Variation Strategies on Ad Memory

Multiple exposures to the same ad have been shown to be less effective than exposure to ads with varying executions (Unnava & Burnkrant, 1987; 1991). Unnava and Burnkrant (1991) have proposed two explanations to further our understanding of the possible underlying mechanism. First, they have reasoned that the encoding variability hypothesis can argue for the superiority of recall under varied ad contexts than under unvaried ad contexts. The encoding variability hypothesis suggests that presenting messages in varied contexts generates multiple retrieval routes to the remembered information. In contrast, repeating information without changing execution leaves only one contextual cue for later retrieval.

Secondly, they have proposed that the superiority of recall under varied ad contexts, in comparison to unvaried ad contexts, can be understood through the differential attention explanation, which suggests that, when exposed to identical information repeatedly, the level of attention allocated to later exposure decreases, whereas, when ad executions are varied, the second occurrence of the message will still draw a similar amount of attention.

Unnava and Burnkrant (1991) have found support for the encoding variability hypothesis. In the presence of competitive interference, Unnava and Sirdeshmukh (1994) have specifically shown that two contextual paths in memory help reduce the negative interference effects of

competing ad information. Within the encoding variability hypothesis, they have reasoned that the presence of more than one contextual path should make the brand name much more salient and retrievable, thus making it less susceptible to the influence of competitive interference.

This study primarily concerns the relative effectiveness of cosmetic variation and substantive/cosmetic variation. It is important to note that cosmetically varied ads repeat the same information across exposures. As the encoding variability hypothesis suggests, identical information that is presented in varied contexts should be memorable and enhance message retrieval. On the other hand, substantively/cosmetically varied ads change cosmetic content, as well as featured attributes, across ads. That is, neither ad content nor ad execution stays the same across different ad versions. Therefore, it is more likely to cause confusion and will lead to impaired ad recognition.

Hypothesis 5: In a competitive ad context, cosmetic ad variation will generate more correct ad recognition than substantive/cosmetic ad variation.

#### Variation Strategies on Ad Campaign Perceptions

Changes in ad execution have been shown to rekindle ad perceivers' interests in advertising (Gelb & Zinkhan, 1985). Therefore, the impacts of variation strategies should not be limited to ad or brand memory. Ad attitudes in general should also be enhanced when variation strategies are adopted for ad repetition. For example, Schumann, Petty and Clemons (1990) have indicated that for low product-relevant subjects, viewing four varied ads for the same product generates more favorable attitudes toward the ad campaign than viewing the same ad four times.

Haugtvedt, et al. (1994) have demonstrated that when subjects are exposed to cosmetically varied ad messages, they generate more ad feature recall in comparison to situations in which subjects are exposed to substantively varied ad messages. However, when subjects are exposed to substantively varied ad messages, they generate more product-related thoughts in comparison

to situations in which they are exposed to cosmetically varied ad messages. Haugtvedt, et al's findings suggest that the effectiveness of variation strategies may vary depending on which effectiveness measures are being considered.

As argued earlier for hypothesis five, ads with substantive/cosmetic variation may be less effective in terms of generating correct ad recognition than ads with cosmetic variation. However, this study suggests that, in terms of attitudes toward the ad campaign in general, the substantive/cosmetic variation strategy may be more effective than the cosmetic variation strategy. As explained earlier, ads with cosmetic variations feature the same attribute content but different cosmetic characteristics. In comparison, ads with substantive/cosmetic variations differ across ad attribute content and ad execution. That is, neither the content nor the execution is being repeated. Therefore, this study hypothesizes that, in comparison to cosmetic variation, repetition with substantive/cosmetic variation is more likely to rekindle a sense of interest, given that neither ad content nor ad executions is repeated. The onset of tedium will then be delayed due to changes in both ad content and ad execution.

Aaker and Stayman (1990) have proposed that ad perceivers' perceptions of advertising fall into different categories, such as "entertaining," "informative," "irritating," "dull," "warm," "lively," "familiar," "believable" and "confusing." Some categories seem to capture the affective dimensions of ad perceptions, whereas others reflect the cognitive dimensions of ad perceptions. Therefore, this study will distinguish the impacts of different variation strategies on the affective and cognitive dimensions of ad perceptions. Specifically, this study argues that the superior effects of the substantive/cosmetic variation strategy over the cosmetic variation strategy will be mainly limited to affective dimensions, such as ad liking and ad entertainment. In clear contrast, the superiority of the substantive/cosmetic strategy will not emerge when the cognitive dimensions of ad perceptions are concerned, such as ad informativeness and ad

diagnosticity, since ads with the two variation strategies contain the same amount of ad content.

Hypothesis 6: When repetition variation strategies are employed, the substantive/cosmetic variation strategy is more effective in terms of creating more favorable ad liking and ad entertainment ratings than the cosmetic variation strategy, yet the substantive/cosmetic variation strategy is not more effective in terms of ad informativeness and ad diagnosticity.

## Methodology

### Design

This was a two-factor experimental design (see Table 2). The two factors were: number of product attributes featured in the target ad (two levels: two product attributes versus four product attributes) and type of repetition (three levels: no repetition, repetition with cosmetic and substantive variation, repetition with cosmetic variation).

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Table 2 about here  
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### Selection of Products and Brands

Sneakers were selected as the product category in this experiment. Sperry, a brand that was not marketed in the area where the experiment was conducted, was selected to be the target brand. The competing brand was Nike, which was ranked top in market share in the area where the experiment was conducted.

### Subjects

This study recruited one hundred and twenty-six subjects from undergraduate classes at a university in Taiwan. The translation and translation back procedure suggested by Brislin (1987) was adopted to create the measures for this study. Only students who did not major in

advertising, marketing or psychology were allowed to participate. Fifty percent of the subjects were male.

### Stimuli

Stimuli ads were created by professionals working at Ogilvy & Mather Ad Agency (see Appendix A). Professional copywriters and creative people wrote ad messages to fit different conditions. To reduce confounding effects from using visuals that may generate different favorability ratings in different conditions, visuals were pretested before ad copy was inserted. ANOVA results indicated that the three visuals used in the experiment were rated equally in terms of liking ( $F(1, 19) = 2.03, p = .15$ ), good ( $F(1, 19) = 1.05, p = .36$ ), interesting ( $F(1, 19) = .04, p = .96$ ), attention drawing ( $F(1, 19) = .98, p = .38$ ), attractive ( $F(1, 19) = .44, p = .65$ ) and suitable for advertising sneakers ( $F(1, 19) = 1.19, p = .32$ ). To improve external validity, the stimuli ads were inserted between two genuine filler ads.

### Procedures

Subjects were told that the research was designed to understand how different layouts of printed ads impact viewers' information processing. Subjects then read brief instructions about the procedures and the purpose of the study. Then, depending on which condition they were assigned to, they were either asked to read a packet of four ads (one stimuli ad for Nike, one stimuli ad for Sperry and two filler ads) or a packet of five ads (one ad for Nike, two ads for Sperry and two filler ads) that were bound together as they would appear in magazines. For these two conditions, one filler ad was inserted in the first position and the other filler ad was inserted in the last position in the packet. After reading the ads, the moderators collected the stimuli packets and distributed questionnaires for subjects to complete. Subjects were first asked to rate fixed scales to capture their ad and brand responses. At the end of the questionnaire, subjects were asked what they thought was the purpose of the study. None of

them could correctly specify the purpose of the study. After the subjects finished, the coordinator conducted a short debriefing.

### Independent Variables

#### Number of Featured Attributes.

A pretest (N = 20) asked subjects, in an open-ended question, the attributes they would take into consideration when they purchased a pair of sneakers. Their responses were coded and ranked. The four attributes ranked at the top were selected. They were: comfortable fit, durability, lightweight and breathability. The condition that featured two product attributes only contained comfortable fit and lightweight. The condition that featured four product attributes included all four.

#### Type of Repetition

Type of repetition contained three levels: no repetition, repetition with substantive/cosmetic variation, repetition with cosmetic variation. For the no repetition condition, both the Nike ad and the Sperry ad were shown only once. The Sperry ad either featured two product attributes or four product attributes.

For the repetition with substantive/cosmetic variation condition, the two Sperry ads featured different visuals and different product attributes. Specifically, for the two-attribute condition, the first ad highlighted the first attribute and the second ad emphasized the second attribute. The cosmetic characteristics of the two ads also varied. For the four-attribute condition, each ad featured two of the four attributes. The first ad highlighted the first two attributes and the second ad emphasized the last two attributes. Similarly, the same two visuals used for the Sperry ads in the two-attribute condition were employed in the four-attribute condition to reduce the confounding influence of visual differences across the two conditions.

For the repetition with cosmetic variation, the two Sperry ads featured the same product attributes, yet different visuals. Specifically, for the two-attribute condition, both ads featured the same two attributes. On the other hand, for the four-attribute condition, both ads addressed all four attributes. Two different visual formats were used for each of the two ads.

The same Nike ad as in the no repetition condition was presented with the two Sperry ads in both the substantive/cosmetic variation condition and the cosmetic variation condition.

### Dependent Measures

#### Ad Recognition

Subjects were asked to check what had been presented in the ad from a list of eight product attributes.

#### Product Beliefs

Subjects were asked to rate how likely it was that the featured brand had the listed attributes. The four items were: “comfortable fit,” “durability,” “lightweight” and “breathability.”

#### Brand Attitudes

Brand attitudes were measured with a five-item seven-point Likert scale. The items were adopted from Mitchell and Olson (1981) and Holbrook and Batra (1987). They were: “good,” “like,” “pleasant,” “positive” and “good quality.” Cronbach’s reliability alpha for this scale was deemed satisfactory at .95.

#### Brand Interest

Subjects were asked to rate brand interest on a three-item seven-point Likert scale. The three items were: “interesting,” “fun,” and “in style.” Cronbach’s reliability alpha for this scale was deemed satisfactory at .92.

#### Purchase Intention

Subjects were asked to rate how likely they were to purchase the product in the future on a

three-item seven-point Likert scale. The three items were adopted from Zhang (1996). They were: "probably," "likely" and "possibly." Cronbach's reliability alpha for this scale was deemed satisfactory at .95.

#### Ad Liking

Subjects rated their liking of each ad on a five-item seven-point Likert scale. The five items were adopted from Madden, Allen, & Twible (1988) and Mitchell and Olson (1981). The items were: "interesting," "good," "likable," "favorable" and "pleasant." Cronbach's reliability alpha of ad liking was deemed satisfactory at .94. Ad liking for ads with repetition was calculated by summing and averaging ad liking for each ad.

#### Ad Entertainment

Subjects rated ad entertainment on a four-item seven-point Likert scale. The four items were adopted from Aaker and Bruzzone (1981, see also Aaker & Norris, 1982; Aaker & Stayman, 1990). The items were: "imaginative," "clever," "original" and "amusing." Cronbach's reliability alpha of ad entertainment was deemed satisfactory at .92. Ad entertainment for ads with repetition was calculated by summing and averaging ad entertainment ratings for each ad.

#### Ad Informativeness

Subjects rated ad informativeness on a two-item seven-point Likert scale. The two items were: "the ad is informative," and "the ad provides information that I do not know." The correlation of the two items was significant (Pearson's  $R = .85$ ,  $p = .01$ ). Ad informativeness for ads with repetition was calculated by summing and averaging ad informativeness ratings for each ad.

#### Ad Diagnosticity

Subjects rated ad diagnosticity on a three-item seven-point Likert scale. The three items were: "the ad is diagnostic," "the ad makes me confident of my choice," and "the ad helps me

tell the quality of the product.” Cronbach’s reliability alpha of ad diagnosticity was deemed satisfactory at .89. Ad diagnosticity for ads with repetition was calculated by summing and averaging ad diagnosticity ratings for each ad.

### Results and Analyses

Hypothesis 1 suggests that in a competitive ad context, ads with repetition will generate more accurate ad recognition than ads without repetition. ANOVA showed that type of ad repetition had a significant impact on correct ad recognition ( $F(1, 125) = 29.34, p = .01$ ). Helmert contrast analyses indicated that correct ad recognition in the no repetition condition was significantly different from the combined responses in the two repetition conditions ( $p = .01$ ). The means were in the expected directions ( $M_{\text{no repetition}} = 1.88, M_{\text{substantive/cosmetic}} = 1.96, M_{\text{cosmetic}} = 3.82$ ). Therefore, hypothesis 1 was supported.

Hypothesis 2 proposes that ad repetition will encourage subjects to take product attributes into account. Responses in the repetition condition were first analyzed. When product beliefs and ad liking were regressed upon brand attitudes, the impact of product beliefs ( $\beta = .39, t = 3.64, p = .01$ ) and ad liking ( $\beta = .35, t = 3.27, p = .01$ ) were both significant. In contrast, when responses in the no repetition condition were analyzed, the impact of ad liking was significant ( $\beta = .62, t = 4.73, p = .01$ ), yet the impact of product beliefs ( $\beta = .23, t = 1.71, p = .10$ ) was not. The findings suggest that ad repetition encouraged subjects to take product beliefs into account when subjects developed product judgments. Therefore, hypothesis 2 was supported.

Hypothesis 3a argues that ad repetition will generate more favorable brand attitudes than no ad repetition. Contrary to expectations, ANOVA indicated that type of ad repetition did not have a significant impact on brand attitudes ( $F(1, 125) = 1.24, p = .29$ ). Even though Helmert contrast analyses indicated that brand attitudes in the no repetition condition were not significantly different from the combined responses in the two repetition conditions ( $p = .21$ ), the

means were in the expected directions ( $\underline{M}_{\text{no repetition}} = 3.87$ ,  $\underline{M}_{\text{substantive/cosmetic}} = 4.26$ ,  $\underline{M}_{\text{cosmetic}} = 4.03$ ). Therefore, hypothesis 3a was not supported.

Hypothesis 3b suggests that ad repetition will generate higher ratings of brand interest than no ad repetition. ANOVA indicated that type of ad repetition had a significant impact on brand interest ratings ( $F(1, 125) = 3.24$ ,  $p = .03$ ). Helmert contrast analyses indicated that brand interest ratings in the no repetition condition were significantly different from the combined brand interest ratings in the two repetition conditions ( $p = .04$ ) and the means were in the expected directions ( $\underline{M}_{\text{no repetition}} = 3.16$ ,  $\underline{M}_{\text{substantive/cosmetic}} = 3.84$ ,  $\underline{M}_{\text{cosmetic}} = 3.44$ ). Therefore, hypothesis 3b was supported.

Hypothesis 3c proposes that ad repetition will generate higher purchase intent. ANOVA indicated that type of ad repetition had a significant impact on purchase intent ( $F(1, 125) = 3.63$ ,  $p = .03$ ). Helmert contrast analyses indicated that purchase intent in the no repetition condition was significantly different from the combined purchase intent in the two repetition conditions ( $p = .02$ ) and the means were in the expected directions ( $\underline{M}_{\text{no repetition}} = 2.28$ ,  $\underline{M}_{\text{substantive/cosmetic}} = 3.25$ ,  $\underline{M}_{\text{cosmetic}} = 3.80$ ). Therefore, hypothesis 3c was supported.

Hypothesis 4a proposes that, when there is no ad repetition, ads featuring four product attributes will generate more positive brand attitudes than ads featuring two product attributes; however, when there is ad repetition, ads featuring four product attributes will not generate more positive brand attitudes than ads featuring two product attributes. When responses to the two repetition conditions were combined and analyzed as one condition, ANOVA indicated that the interactions between ad repetition (with repetition vs. no repetition) and product attributes (two attributes vs. four attributes) on brand attitudes were significant ( $F(1, 125) = 11.87$ ,  $p = .01$ ). Further contrast analyses indicated that, when responses of ads without repetition were analyzed, ads with four product attributes generated significantly higher brand attitudes than ads with two

product attributes ( $F(1, 40) = 6.38, p = .02, M_{\text{two attributes}} = 3.51, M_{\text{four attributes}} = 4.34$ ). In clear contrast, when responses of ads with repetition were analyzed, ads with two product attributes generated significantly higher brand attitudes than ads with four product attributes ( $F(1, 83) = 4.73, p = .03, M_{\text{two attributes}} = 4.34, M_{\text{four attributes}} = 3.90$ ). Therefore, hypothesis 4a was mostly supported.

Hypothesis 4b suggests that, when there is no ad repetition, ads featuring four product attributes will generate more positive brand interest ratings than ads featuring two product attributes; however, when there is ad repetition, ads featuring four product attributes will not generate more positive brand interest ratings than ads featuring two product attributes. When responses to the two repetition conditions were combined and analyzed as one condition, ANOVA indicated that, as expected, the interactions between ad repetition (with repetition vs. no repetition) and product attributes (two attributes vs. four attributes) on brand attitudes were significant ( $F(1, 125) = 7.03, p = .01$ ). Further contrast analyses indicated that, when responses of ads without repetition were analyzed, the impact of product attribute number was significant ( $F(1, 41) = 4.67, p = .04, M_{\text{two attributes}} = 2.86, M_{\text{four attributes}} = 3.55$ ). When responses of ads with repetition were analyzed, the impact of product attribute number was not significant ( $F(1, 83) = 2.57, p = .11, M_{\text{two attributes}} = 3.81, M_{\text{four attributes}} = 3.43$ ). Therefore, hypothesis 4b was supported.

Hypothesis 4c proposes that when there is no ad repetition, ads featuring four product attributes will generate higher purchase intent than ads featuring two product attributes; however, when there is ad repetition, ads featuring four product attributes will not generate higher purchase intent than ads featuring two product attributes. When responses to the two repetition conditions were combined and analyzed as one condition, ANOVA indicated that the interactions between ad repetition (with repetition vs. no repetition) and product attributes (two attributes vs. four attributes) on brand attitudes approached significant levels ( $F(1, 125) = 2.80, p = .10$ ).

Further contrast analyses indicated that, when responses of ads without repetition were analyzed, the impact of product attribute number approached significant levels ( $F(1, 41) = 2.79, p = .10, M_{\text{two attributes}} = 1.92, M_{\text{four attributes}} = 2.66$ ). When responses of ads with repetition were analyzed, the impact of product attribute number was not significant ( $F(1, 83) = .52, p = .47, M_{\text{two attributes}} = 3.14, M_{\text{four attributes}} = 2.89$ ). Even though hypothesis 4c was not supported, the means were in the expected directions.

Hypothesis 5 argues that, in a competitive ad context, ads with cosmetic variation will generate more correct ad recognition than ads with substantive/cosmetic variation. When responses to the two ad repetition conditions were analyzed, ANOVA indicated that the impact of repetition variation had a significant impact on correct ad recognition and the means were in the expected directions ( $F(1, 83) = 31.84, p = .01, M_{\text{substantive/cosmetic}} = 1.96, M_{\text{cosmetic}} = 3.82$ ). Therefore, hypothesis 5 was supported.

Hypothesis 6 suggests that when repetition is used, ads with substantive/cosmetic variation are more effective in terms of creating more ad liking and higher ad entertainment ratings than ads with cosmetic variation, yet ads with substantive/cosmetic variation are not more effective in terms of ad informativeness and ad diagnosticity than ads with cosmetic variation. ANOVA indicated that the impact of repetition variation had a significant impact on ad liking ( $F(1, 83) = 4.10, p = .05, M_{\text{substantive}} = 4.16, M_{\text{cosmetic}} = 3.63$ ) and ad entertainment ratings ( $F(1, 83) = 4.98, p = .03, M_{\text{substantive}} = 4.02, M_{\text{cosmetic}} = 3.42$ ) but not on ad informativeness ( $F(1, 83) = .37, p = .55, M_{\text{substantive}} = 4.19, M_{\text{cosmetic}} = 4.00$ ) or ad diagnosticity ratings ( $F(1, 83) = .02, p = .88, M_{\text{substantive}} = 3.26, M_{\text{cosmetic}} = 3.22$ ). All the means were in the expected directions. Therefore, hypothesis 6 was supported.

## Discussion

Media spending accounts for a big proportion of advertising expenditure. How to allocate

media spending wisely in a cluttered context has always been an important concern for advertisers. Since the effectiveness of a specific ad campaign varies with different levels of repetition throughout the campaign period, to better understand how ads work in the real world, research should not only take competitive interference into account, but should also consider how ad repetition may reverse the negative impacts of competitive interference.

Findings of this study show that ad repetition increases ad recognition and brand evaluations. Other than the traditional effectiveness measures, such as brand attitudes, this study also explored the interest dimension of brand perceptions. As expected, ad repetition seems to delay the onset of tedium and rekindle a sense of brand interest. Additionally, consistent with Blair's (2000) argument that sales persuasiveness can emerge even with a single exposure, this study demonstrates that ad repetition had a positive effect on purchase intent. Along with the direct impacts of ad repetition, other indirect effects also emerged. Specifically, ad repetition appeared to increase the accessibility of featured product attributes. As a result, subjects were more likely to take their product beliefs into account when developing their brand attitudes.

Additionally, the moderating role of the number of featured product attributes has also been examined. Greater numbers of featured attributes led to more favorable brand judgments in terms of brand attitudes, brand interest ratings and purchase intent when there was only one message exposure. In clear contrast, when there were two message exposures, ads featuring four product attributes did not generate more positive brand interest ratings or higher levels of purchase intent than ads featuring two product attributes. Ads featuring two product attributes even generated significantly more positive brand attitudes under the repetition condition. It seems that processing ad messages featuring four product attributes repeatedly may involve more cognitive capacity and effort. Tedium may set in easily in a natural viewing context in which

subjects are not highly motivated to engage in message elaboration. Past studies have indicated that message configuration in terms of length and complexity moderates the effectiveness of message repetition. Therefore, it seems important for future research to take message configuration into account when examining ad repetition effects.

Different types of repetition variations were identified and their relative effectiveness was explored. Ads with cosmetic variation generated more correct ad recognition than ads with substantive/cosmetic variation, which is consistent with the encoding variation hypothesis, which suggests that encoding the same message with different contextual cues increases the likelihood that the piece of information will be retrieved. On the other hand, the effectiveness of repetition variation strategies on ad campaign perceptions was also investigated. This study specifically distinguished between the affective and cognitive dimensions of ad perceptions. Findings showed that ads with substantive/cosmetic variation appeared to add a sense of fun or cleverness to the ads and enhanced ad liking and ad entertainment ratings. Yet, in terms of ad informativeness and ad diagnosticity, as expected, the two variation strategies did not generate different effects, given ads with the two repetition strategies conveyed the same amount of product information.

Findings of this study have direct implications for marketers. This study shows that, in a competitive ad context, even one message repetition can enhance message effectiveness for a new brand in terms of generating more accurate ad recognition, and higher brand judgments and purchase intent. Therefore, media spending should be weighted more heavily toward the media in which competitive interference is serious. Especially for a new brand that is more subject to the negative influence of competing ad messages, to be visible to the target audience, repetition seems to be an important strategy. Secondly, how messages are repeated is also important. If the objective of an ad campaign is to increase awareness of product attributes, the cosmetic

variation strategy, which can improve ad recognition, seems to be an effective strategy. On the other hand, if the objective of an ad campaign is to improve brand image, employing a substantive/cosmetic variation strategy seems to be more effective in terms of generating a sense of brand interest. This may be of special importance for hedonic products that are purchased to maximize emotional satisfaction.

Findings of this study should be discussed within its limitations. Only one repetition was manipulated and, therefore, it is impossible to explore the curvilinear relationship between ad repetition and ad effectiveness measures, such as ad recall and brand evaluations. Secondly, ad repetition effects in the presence of competitive interference were not specifically compared to ad repetition effects in the absence of competitive interference. Therefore, the relative degrees of ad repetition effects with and without competing ads could not be established. Future explorations can specifically explore this research paradigm.

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Table 1. Variation strategies

		Attribute Variations	
		Different attributes	Same attributes
Visual Variations	Different visuals	Substantive/cosmetic variation	Cosmetic variations
	Same visuals	Substantive variations	Same ad

Table 2. Research design

Number of Product attributes	Type of Repetition	No. of Subjects
Four attributes	No repetition	21
	Substantive/cosmetic repetition	21
	Cosmetic repetition	21
Two attributes	No repetition	21
	Substantive/cosmetic repetition	21
	Cosmetic repetition	21

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