

Competitive Interference Effects in Consumer Memory for Advertising: The Role of Brand Familiarity

Although consumers often encounter ads for familiar brands, previous advertising interference studies have used ads for low-familiarity brands. The authors focus on brand familiarity's role in increasing ad memorability and moderating competitive interference. They conducted a factorial experiment varying the familiarity of brands featured in test and competing ads. With differences in ad executions, prior exposure, processing objectives, and exposure time experimentally controlled, subjects displayed substantially better recall of new product information for familiar brands. Their findings suggest that established brands have important advantages in advertising: Consumers should be more likely to recall ad information, and their memory should be less affected by exposure to competitors' ads. The authors conclude with implications for the marketing of new and mature brands.

It is commonly expected that advertising effects will be diluted when consumers encounter ads for competing brands (cf. Burke and Srull 1988; Keller 1991; Mandese 1991). Consequently, advertisers attempt to avoid competitors' ads when buying media. For example, Procter & Gamble purchases product class exclusivity during cable television programs (Fahey 1992), and General Motors uses data on competitive clutter to negotiate for enhanced protection from competitors' ads (Mandese 1992).

Recent findings appear to justify advertisers' concern over the effects of competitive clutter. In pioneering studies of memory for advertising, Burke and Srull (1988) and Keller (1987, 1991) observed a negative association between the number of print ads for competing brands seen and claim recall scores. As Keller (1991, p. 473) notes, the conclusion indicated by extant findings is that "the more competing brands advertising in the category, the lower recall of brand claims for a target ad is."

To control brand and target ad familiarity experimentally, previous competitive interference studies were conducted with ads for low-familiarity brands (cf. Burke and Srull 1988; Keller 1987, 1991). However, marketplace ads typically feature familiar brands (Stewart 1992). It has been suggested that advertising for mature and familiar brands may not work in the same way as advertising for unfamiliar brands (Machleit, Allen, and Madden 1993). Relative to information from ads for unfamiliar brands, information related to the more familiar brands advertised in the market-

place may be less susceptible to competitive interference (Kardes 1994; Kent and Allen 1993).

The general purpose of our research is to examine differences in competitive interference for high- versus low-familiarity brands (see Keller 1991). As McGrath and Brinberg (1983) and Wells (1993) vigorously advocate, we seek to replicate the findings of previous studies conducted with ads for unfamiliar brands and systematically assess their boundary conditions. More specifically, three research questions motivate our empirical work. First, will the memorability of an attribute claim made in one brand's print advertising be affected by exposure to ads for competing brands? Second, are claims for familiar versus unfamiliar brands equally susceptible to the memory interference that can be caused by proximal exposure to competitors' ads? And third, does the familiarity of the brands featured in competitive ads have an impact on the degree of memory interference that occurs?

We present an experiment in which we varied the familiarity of brands featured in target and competing ads and measured cued claim recall and brand-attribute confusions. This design allows for replication of previously examined experimental conditions (i.e., exposure to target and competing ads for unfamiliar brands), as well as tests of hypothesized differences in competitive interference under more typical marketplace conditions (i.e., when target and competing ads feature relatively familiar brands).

Conceptual Background and Hypotheses

Competitive Interference Research

Keller (1987, 1991) and Burke and Srull (1988) examine retrieval interference induced by exposure to ads for competing brands (retrieval interference can be contrasted with en-

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coding interference; see Smith and Buchholz 1991). Working from the perspective of associative network models of memory, these authors hypothesize that exposure to ads for competing brands results in retention of overlapping memory traces of ad content. This overlap can inhibit retrieval of distinctive ad information when sought elements become inaccessible or are confused with other information in contiguous storage (cf. Bettman 1979; Burke and Srull 1988; Keller 1987).

To avoid problems posed by differential levels of previous brand experience and/or prior ad exposure, ads for low-familiarity brands were used in previous ad interference research. For example, Burke and Srull (1988) used ads for brands found in pretesting to be "relatively unfamiliar" (p. 58), such as the Lada automobile, and Keller (1987, 1991) used ads for hypothetical brands, such as Colony cereal. In each study, competitive interference was observed in scores on ad claim recall measures cued with product class and brand name. For example, Burke and Srull (1988) observed that memory for target ads was inhibited by either prior or subsequent exposure to ads for competing brands. Similarly, Keller (1987, 1991) observed decreases in ad claim recall when additional ads for within-category brands were introduced.

The Role of Brand Familiarity in Competitive Interference

Brand familiarity is a continuous variable that reflects a consumer's level of direct and indirect experiences with a product (Alba and Hutchinson 1987). Researchers have suggested that the brands advertised in national media tend to be highly familiar (Kent and Allen 1993; Stewart 1992), which may alter ad effects. A pretest was conducted to empirically assess the familiarity levels of brands advertised in one type of national media.¹ The results indicate that the brands advertised in national magazines were highly familiar to the respondents. These data underscore the need for better knowledge of ad interference effects for familiar brands.

Theories from multiple research streams suggest that competitive interference will differ for familiar versus unfamiliar brands. For example, information organization models suggest that new attribute information for familiar brands will be stored beneath the brand's existing "node," which is presumed to be stored under the general product class (Peter and Olson 1987). However, information for unfamiliar brands can be stored with a familiar attribute under the product class and the new brand below the attribute (cf. Lynch and Srull 1982; Ostrom, Pryor, and Simpson 1980; Pryor and Ostrom 1981). Therefore, after exposure to test

¹A pretest was conducted to examine the familiarity levels of brands advertised in national magazines. Thirty-four undergraduate students observed 40 ads that were randomly chosen from recent editions of *Time*, *Sports Illustrated*, *Newsweek*, and *Rolling Stone*. After exposure, the subjects completed the brand familiarity scale from Machleit, Allen, and Madden (1993) for each brand. This scale requires subjects to respond to the prompt "Regarding the product _____, are you:" on three items (familiar/unfamiliar, inexperienced/experienced, knowledgeable/not knowledgeable) given in 7-point numeric format. The mean per-item brand familiarity score was 5.93 (of 7), indicating the subjects tended to have a high degree of familiarity with the brands advertised in these national magazines.

and competing ads for unfamiliar brands, links can be retained between the product class and attributes of the various brands. When the product class is activated in a retrieval attempt, these links should decrease the likelihood of successful retrieval of attribute information for any one specific brand (i.e., result in strong interference). However, new attribute information from a test ad for a familiar brand should be organized by brand under the product class. Thus, the attribute information will be linked only to the node of the relevant brand. Familiar brands therefore should be less prone to competitive interference in attribute recall.

A second research stream that would predict differences in interference effects for familiar versus unfamiliar brands emphasizes the development of brand "schemata." A brand's schema is the hierarchical network of associations to the brand (see Peter and Olson 1987). Higher levels of experience with a brand (i.e., familiarity) may lead to retention of a more developed schema, involving retention of stronger links between the product class and brand and between the brand and its attributes (cf. Alba and Hutchinson 1987; Hutchinson and Zenor 1986). These links should make attribute information easier to retrieve and may lessen susceptibility to competitive interference. This thinking is consistent with Keller's (1987, p. 329) assertion that "greater brand knowledge might produce stronger links in the ad memory trace and ... improve resistance to competitive interference effects."

A third area of research that suggests that ad interference may differ for familiar versus unfamiliar brands emphasizes the role of consumers' motivation to process brand information from ads (MacInnis, Moorman, and Jaworski 1991; Moorman 1990). Given the large number of ads they encounter, consumers attend to and elaborate on ad information in a highly selective manner. Consumers may have a greater willingness to allocate attention to product information in ads for familiar versus unfamiliar brands (e.g., because familiar brands are recognized as being available to them). This expectation about ad processing is similar to the assertion that "familiarity guides the consumer's attention to specific brands" at the point of purchase (Alba, Hutchinson, and Lynch 1991, p. 10). More extensive processing of ad information for familiar brands, in turn, could enhance claim memorability and reduce ad interference.

As described previously, research streams emphasizing information organization, schema development, and motivation to process ad information converge on the idea that familiar brands will be less affected by competitive interference:

H₁: Brand familiarity will moderate ad interference such that claim recall from ads for familiar brands will be less affected by competitive advertising than claim recall from ads for unfamiliar brands.

Information organization models also can be used to predict whether, when a target brand is unfamiliar, exposure to ads for familiar versus unfamiliar competing brands should produce a greater amount of interference. Organizational models suggest that information from a test ad for an unfamiliar brand will be stored with attribute information under

the product class and the brand under the attribute. Ad information for unfamiliar competing brands also should be organized in this manner. The resulting linkage of the attributes of multiple brands to the product class should produce strong interference (i.e., reductions in the likelihood of attribute recall for a specific brand). However, exposure to competing ads for familiar brands should lead to retention of new attributes organized under these competing brands' existing nodes. Therefore, ads for unfamiliar competing brands should produce more interference than ads for familiar competing brands:

H₂: With unfamiliar target brands, claim recall will be highest with no competitive advertising, lower with ads for familiar competing brands, and lowest with ads for unfamiliar competing brands.

The third hypothesis involves the number of brand-attribute confusions that can occur (i.e., instances in which a subject responds to a recall item with a claim from an ad for the wrong brand). Because the number of confusions should increase when the attributes of competing brands are linked to a common node, we anticipate the following:

H₃: With unfamiliar target brands, more brand-attribute confusions will be observed when subjects are exposed to ads for unfamiliar (versus familiar) competing brands.

Method

Overview

An experiment was conducted in a 2 × 3 between-subjects factorial design to test the hypotheses. One factor of the design involved a two-level manipulation of target brand familiarity (unfamiliar versus familiar); the second factor of the design involved three advertising interference conditions (no competing brands, unfamiliar competing brands, and familiar competing brands). The dependent variables were recall of ad claims and brand-attribute confusions.

Except where noted, the methodology used in this research is identical to that used by Keller (1987, 1991). Eighty-four students met in one of two sessions. Each subject received one of six booklets containing the experimental manipulations embedded in sets of print ads. The booklets differed only in the familiarity (unfamiliar versus familiar) of the brand featured in four predetermined target ads and the competitive ad environment (filler brands, unfamiliar competing brands, familiar competing brands). Test and competing ads were from the product classes used by Keller: cereals, toothpastes, pain relievers, and laundry detergents.

Ad Stimuli

As in Keller's studies, a pool of informational print ads was created. All ads were created in a common structure, with the headline featuring the brand name and product class and the body containing four or five sentences making one claim. The ads for competing brands made claims on different attributes, as in the Keller (1987, 1991) and Burke and Srull (1988) studies. Because pictures were not needed for a retrieval cue manipulation and the relevance of photos to

familiar brands might vary, pictures were not included in the ads. Thus, like the stimuli used by Burke and Srull, the ads contained only printed copy, which we enhanced with italicized headlines.

Test Brand Familiarity Manipulations

We manipulated brand familiarity by inserting hypothetical and well-known brand names into otherwise identical ads. Use of this procedure avoids any differences in subjects' prior exposure to the ads (all ads were completely unfamiliar) and rules out differences between the ad executions as a potential cause of effects. Ads for the target brands featured one claim from Keller's favorable ads. In the low familiarity condition, hypothetical brand names from Keller (1987) were inserted into the ads; in the high familiarity condition, names of actual brands were inserted into the ads.

A pretest was conducted to choose familiar brand names to pair with Keller's favorable claims to enact the brand familiarity manipulation. Several criteria were employed in selecting these brands. The first criterion was that the real brands chosen should be relatively familiar to student subjects. Second, to allow us to be confident that claim recall scores reflected retention from the target ads, we wished to identify brands for which subjects had had little exposure to ads making the experimental claim. The use of ads making unfamiliar claims provides a strong test of our hypothesis that competitive interference will not occur in claim recall when brands are familiar. This is because interference should be more likely to occur when new associations are formed or relatively weak associations are reinforced (rather than when ads reinforce well-known properties, as often happens in the marketplace). Finally, so that unusual cognitive responses or novelty would not be provoked, we wished to identify brand-claim pairings that were plausible to the subjects.

In the pretest, 32 undergraduate student subjects were given one of two sets of ads. These sets were created by taking two well-known brands in each of the four product classes (e.g., Post Toasties and Cheerios cereals) and alternately pairing each brand with one claim from Keller's favorable ads for brands in the class (e.g., has more fiber and has fewer calories). Thus, four brand-claim pairings were tested in each of the target product classes. After exposure, subjects responded to measures of brand familiarity, their level of previous experience with ads for the brand making this specific claim, and the plausibility of the claim for said brand.

Each subject first completed a 3-item brand familiarity scale: "Regarding the product ____, are you:" (familiar/unfamiliar, inexperienced/experienced, knowledgeable/not knowledgeable; in 7-point numeric format). The subjects then completed two items designed to measure previous exposure to ads for the brand making the claim: "Have you ever seen an ad for ____ stating that ____ before?" in 5-point semantic differential (definitely no/definitely yes) form; and "Please estimate the percentage of the ads you have seen for this brand before today that made this claim:" with six response choices: none, 1–20%, 20–40%, 40–60%, 60–80%, and 80–100%. Use of self-reports of ex-

TABLE 1
Experimental Ad Booklets

Experimental Conditions		Ad Sequence															
Test Brand Familiarity	Interference Set	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Unfamiliar	None	p	f	f	U	f	f	U	f	f	U	f	f	U	f	f	r
Unfamiliar	Unfamiliar	p	ui	f	U	ui	ui	U	ui	ui	U	ui	ui	U	f	ui	r
Unfamiliar	Familiar	p	fi	f	U	fi	fi	U	fi	fi	U	fi	fi	U	f	fi	r
Familiar	None	p	f	f	F	f	f	F	f	f	F	f	f	F	f	f	r
Familiar	Unfamiliar	p	ui	f	F	ui	ui	F	ui	ui	F	ui	ui	F	f	ui	r
Familiar	Familiar	p	fi	f	F	fi	fi	F	fi	fi	F	fi	fi	F	f	fi	r

Key: Uppercase letters represent test ads: U = Unfamiliar brand test ad, F = Familiar brand test ad
 Lowercase letters represent other ads: p = primacy, f = filler, ui = unfamiliar interfering, fi = familiar interfering, r = recency

posure frequency is encouraged by recent findings (Wallace and Hasher 1992). Finally, subjects were asked to complete the following 3-item scale created to gauge the plausibility of the claims for particular brands: "I felt that the claim that (the brand, claim) was:" (plausible/not plausible, not credible/credible, didn't make sense/did make sense). These items were in 5-point agreement format. Coefficient alpha for the brand familiarity and claim plausibility scales exceeded .85.

The four brand-claim pairings that best met the evaluative criteria were used in the target ads for high-familiarity brands.² Across these four ads, scores on the brand familiarity scale items averaged 5.46 (out of 7), scores on the items asking about previous exposure to ads making the claim averaged 1.66 (of 5) and 1.53 (of 6), and scores on the claim plausibility items averaged 3.97 (of 5). Thus, these ads appear to have the desired properties of high brand familiarity, low levels of previous exposure to ads making the claim, and high claim plausibility.

The Ad Booklets and Interference Manipulations

We created six booklets containing the experimental treatments embedded in sets of 16 ads. The ads in each booklet were identical, except where the brand name or product class was changed to produce the target brand familiarity and interference manipulations (see Table 1). Mock brand names from Keller (1987) were used in creating ads for brands in unique product classes for use as primacy (position 1), recency (position 16), and filler ads. In all six ad booklets, the target ads appeared in positions 4 (cereal), 7 (laundry detergent), 10 (pain reliever), and 13 (toothpaste). The target ads were identical in all conditions; only the brand name was changed to manipulate target brand familiarity.

A similar process was followed in operationalizing competitive interference. In the no-interference condition, filler ads were inserted around the target ads, so that each ad fea-

tured a brand in a different product class. In the unfamiliar interference condition, the copy of ads appearing two positions before and after each target ad described a fictitious product in the same class as the target brand. As in Keller's studies, unique claims were made for each competitive brand. In the familiar brand interference condition, the names of well-known brands were inserted into the competing ads two positions before and after each target ad.

Procedure, Guise, and Processing Instructions

When they arrived, subjects were given an updated version of the guise used by Keller (1987, 1991): They heard a brief description of an interactive television programming and shopping service to be transmitted by fiber optic phone lines and then were given a booklet of prospective ads "like the ones to be used in the service." All subjects were given non-brand processing instructions; that is, subjects were instructed to consider the likability of the ads, the instruction given in Keller's (1987, p. 322) "ad-directed" processing condition. Given that Keller (1987) observed a larger interference effect under ad-directed than under brand-evaluative processing (see also Burke and Srull 1988), use of these instructions provides a stronger test of our hypothesis that competitive interference will not decrease recall for familiar brands.

Subjects were instructed (as in the Keller studies) to examine and read each ad; the experimenter kept the pace at an exposure time of 25 seconds per ad. After ad exposure, a distractor task involving four questions about on-line shopping services was given to prevent deliberate elaboration or rehearsal of ad information; completion of these items took approximately five minutes (Keller's interpolated task involved questions about the shopping service and required a similar time period to complete).

Measurement

After the distractor task, subjects completed measures given in the following order: ad claim recall, a self-report confusion item, manipulation check measures, and an item gauging subjects' prior exposure to ads making the experimental claim. The subjects were instructed not to go back to previ-

²The unfamiliar (familiar) brands used in the experimental test ads, followed by the claim made, were "Colony (Cheerios) cereal has high protein," "Harp (Aim) toothpaste gently whitens," "Charter (Motrin) pain reliever works a long time," and "Circle (Cheer) laundry detergent works with all fabrics."

ously completed sections of the questionnaire; assistants monitored compliance with this request.

Claim recall measures. As in previous studies, the ad claim recall measures were cued (see Srull 1992) with the brand name and product class. These cues were provided in the ad claim recall measures used by Keller (1987, 1991), who noted that “brand name and product category cues were available” to all subjects independent of his photo-based manipulation of ad retrieval cues (1987, p. 323). Burke and Srull (1988) also provided their subjects with brand name and product class cues in assessing recall of product information. These cues are also given in many industry ad recall tests (Stewart et al. 1985). The number of confusions (i.e., responses in which a subject produced a claim from an ad for the wrong brand) was also tabulated.

Confusion item. Subjects in the interference conditions completed the self-report item used by Keller (1991) to assess subjects’ difficulty in correctly pairing brands and claim. The item was worded as follows: “In considering ads in each product class, how confusing was it to ‘keep the information straight’ as to which ad went with which brand?” (not very confusing/ very confusing; in 5-point form).

Manipulation check measures. To gauge the success of the target brand familiarity manipulations, all subjects completed a scale from Machleit, Allen, and Madden (1993) for each target brand. Brand familiarity was measured with the following items given in 7-point numeric format: familiar/unfamiliar, inexperienced/experienced, knowledgeable/not knowledgeable. Two sets of items were used to verify the manipulations of the competitive advertising environment. As in Keller’s studies, all subjects completed a series of four open-ended items asking them to estimate the number of ads they had seen for brands in the target product classes. In addition, subjects in the interference conditions completed one item for each of the four target classes designed to measure their familiarity with the brands featured in the two competing ads. These items, in 5-point semantic differential (definitely no/definitely yes) form, asked, “Before today, had you heard of [Duty] and [Ritual] toothpastes?”

Claim familiarity measures. All subjects completed one item for each target ad to establish that the recall measures reflected retention from the target (rather than previous) ad exposure. These items were in 5-point semantic differential format (definitely no/definitely yes) and were worded as follows: “Have you ever seen an ad for [brand name, product class] stating that [the claim] before?”

Results

Manipulation Checks

Test Brand familiarity manipulation check. The data gathered with the familiarity scale clearly supported the intended manipulation of target brand familiarity. Subjects in the high familiarity condition reported a mean per-item familiarity score of 4.84 (of 7) versus a mean per-item score of 1.29 reported by subjects in the unfamiliar target brand condition ($F [1, 83] = 271.28, p < .001$).

Competitive interference manipulation checks. Two sets of items were used to check the competitive interference manipulations. To verify the manipulation of the number of competing ads, data from the four open-ended measures asking subjects to estimate the number of brands advertised in the target product classes were examined. Scores of subjects in the no-interference condition (1.62) were compared with the pooled scores of subjects in the low (3.10) and high (3.13) familiarity interference conditions. These data support the intended manipulation ($F [1, 83] = 17.33, p < .001$).

We used a second test to check the manipulation of brand familiarity in the competing ads. Scores on the items asking whether subjects had previously experienced the brands featured in the competing ads were significantly lower for subjects in the low (1.16) versus high (4.81) familiarity condition ($F [1,83] = 283.28, p < .001$). These data support the intended manipulation of competing brand familiarity.

Previous exposure to ads making the experimental claim. For subjects exposed to target ads for familiar brands, the mean score on the item assessing prior exposure to ads making the experimental claim (“Have you ever seen an ad for [brand name product class] stating that [the ad claim] before?”) was 2.05 on the 5-point scale.³ These data suggest that the findings are not contaminated by a high degree of prior exposure to ads making the experimental claims.

Preliminary Analyses

Findings on claim recall are presented in Table 2 and graphed in Figure 1. Given that each subject encountered four target ads making one claim per ad, the claim recall and confusion scores can assume the values 0, 1, 2, 3, or 4. ANOVA analyses and a priori contrasts were used to analyze the dependent variable data.

Claim recall scores from ads for familiar brands may exceed scores from ads for unfamiliar brands (see Srull 1983). The methodology of the present research provides a very clean manipulation of target brand familiarity: All subjects were given a common ad processing goal and received equal length exposures to otherwise identical new ads for brands of varying familiarity. Thus, many factors that should affect ad memorability were equalized across the familiarity conditions, including processing goal, exposure time, ad execution, and previous experience with the ad. Subjects in the familiar brand condition recalled an average of 2.38 of the 4 target ad claims versus an average of 1.35 for subjects in the unfamiliar condition ($F [1,78] = 21.55, p <$

³Subjects exposed to test ads for unfamiliar brands reported significantly lower (1.62) levels of previous exposure to ads making the experimental claim ($F [1, 82] = 4.69, P < .03; \omega^2 = .042$). This finding is not surprising, given that consumers appear to encode frequency information for ad exposures in a relatively automatic manner (see Wallace and Hasher 1992). Thus, subjects in the familiar test brand conditions were likely to believe that they had seen many ads for the brands and, given the plausible claims made, may have had difficulty in assessing whether they had previously encountered an ad making the test claim. However, subjects in the unfamiliar test brand condition likely realized that they had encountered few, if any, ads for the test brands and therefore should have been more likely to report no prior exposure to ads making the experimental claim.

TABLE 2
Mean Scores by Experimental Condition

Independent Variable Conditions			Dependent Variable Scores	
Test Brand Familiarity	Interference Set	Number of Observations	Ad Claim Recall	Confusions
Unfamiliar	None	14	2.071	.071
Unfamiliar	Unfamiliar	14	.714	1.571
Unfamiliar	Familiar	14	1.285	.928
Familiar	None	15	2.400	.066
Familiar	Unfamiliar	14	2.428	.285
Familiar	Familiar	13	2.307	.615
Unfamiliar		42	1.357	.857
Familiar		42	2.381	.285
None		29	2.241	.068
Unfamiliar		28	1.571	.928
Familiar		27	1.778	.778

.001). The magnitude of this brand familiarity effect was large, accounting for 17.6% of the variance in claim recall as indicated by ω^2 .

Hypothesis Testing

Both main and interaction effects of the competitive interference treatments were anticipated. A main effect of the interference sets was observed ($F [2,78] = 3.26, p < .043; \omega^2 = 3.99\%$), as was an interactive effect ($F [2,78] = 3.31, p < .041; \omega^2 = 4.10\%$). Accordingly, separate analyses of interference effects for unfamiliar and familiar target brands were conducted to test the hypotheses.

Competitive interference effects for familiar test brands. H_1 posited that brand familiarity would moderate the effects of competitive ad exposure such that little interference would be observed when familiar brands were featured in test ads. The first evidence bearing on this prediction is the significant interaction between test brand familiarity and the interference sets ($F [2,78] = 3.31, p < .041$). Further evidence of moderation is seen in the similarity of the claim recall scores across the interference conditions for those exposed to test ads for familiar brands (2.40 in the no-interference condition, 2.43 in the unfamiliar brand interfer-

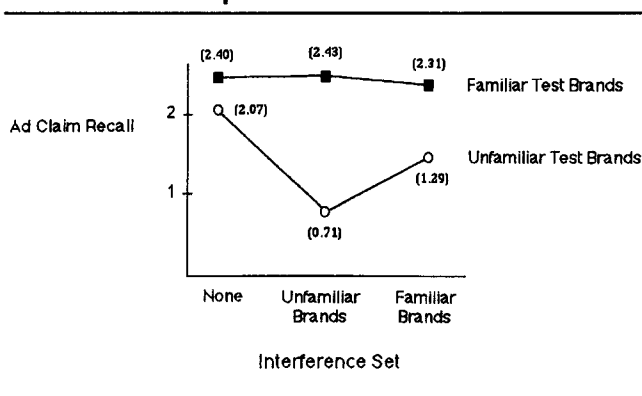
ence condition, and 2.31 in the familiar brand interference condition). As suggested by the hypothesis, the effect of ad interference for familiar target brands is nonsignificant ($F [2,78] = .22, p > .25$), as are all pairwise comparisons of means between interference conditions (each $F < .5$, each $p > .25$). These data show that brand familiarity moderated competitive interference effects.

Competitive interference effects for unfamiliar test brands. H_2 predicted that, with unfamiliar test brands, exposure to competitive advertising for both unfamiliar and familiar brands would produce interference in claim recall. The hypothesis was supported. For example, subjects exposed to ads for unfamiliar competing brands recalled significantly fewer ad claims (.71) than subjects who were not exposed to competing ads (2.07) ($F [1, 26] = 21.24, p < .001$). Those exposed to ads for familiar competing brands also recalled fewer claims (1.28) than subjects in the noncompetitive condition ($F [1, 26] = 7.12, p < .013$).

We also predicted that exposure to ads for unfamiliar competing brands would produce a greater amount of interference than exposure to ads for familiar competing brands. The mean claim recall scores of subjects in the unfamiliar test brand condition fell in the expected order when partitioned by interference set (see Table 2). As hypothesized, subjects exposed to competing ads for familiar brands recalled significantly more ad claims (1.28) than subjects exposed to competing ads for unfamiliar brands (.71) ($F [1, 26] = 4.33, p < .047$).

Brand-attribute confusions. H_3 predicted that subjects in the unfamiliar test brand condition would display more brand-attribute confusions with exposure to ads for unfamiliar versus familiar competing brands. The hypothesis was supported: Subjects exposed to competitive ads for unfamiliar brands on average exhibited more confusions (1.57) than subjects who were exposed to competitive ads for familiar brands (.928) ($F [1, 26] = 4.19, p < .051$). We also expected that subjects exposed to test and competing ads for unfamiliar brands would produce the highest scores on Keller's self-reported confusion item. Although subjects in this cell did report the highest degree of confusion (4.28 on the 5-point scale), this score did not significantly differ from the mean score (3.78) of subjects exposed to the unfamiliar test ads and competing ads for familiar brands ($F [1, 26] = 1.46, p < .223$). The nonsignificance of this result may be due to the subjects' perception that being asked about the ads without warning was "confusing" independent of the treatments, as suggested by the (above median) average confusion score of 3.33 for subjects in the familiar test brand conditions.

FIGURE 1
Experimental Results



Discussion

Managerial Implications

It long has been suggested that competitive interference will have important effects on consumers' memory for advertising (cf. Bettman 1979; Lynch and Srull 1982), and the results of previous experimentation support this conclusion (cf. Burke and Srull 1988; Keller 1987, 1991). Here, com-

petitive interference findings were replicated when subjects were exposed to test and competing ads for unfamiliar brands. However, when subjects were exposed to test ads for familiar brands, no interference resulted from exposure to competitive ads for either unfamiliar or familiar brands. These data suggest an important boundary condition for previous interference findings: Exposure to competitive advertising appears to have little effect on claim recall from ads for well-known brands.

The large main effect of familiarity suggests that well-known brands have important advantages in marketplace advertising. Independent of differences in ad executions, processing objectives, exposure time, and prior exposure to the tested ad, consumers appear to better remember new product information for familiar brands. Moreover, the moderation of competitive interference suggests that consumers' memory for the advertising of familiar brands is less affected by exposure to competitive advertising. These findings suggest that the large sums paid to acquire established brands may be justified in part by advertising advantages that accrue to the marketers of well-known brands (see Keller 1993a). The findings may help to explain why leading (and hence highly familiar) brands tend to maintain a market share that exceeds their advertising share-of-voice, though low-share brands tend to have an advertising share-of-voice greater than their market share (cf. Jones 1990; Schroer 1990).

The results also suggest that it will be difficult for consumers to remember product information from ads for new brands in heavily advertised categories. This difficulty, which may play a role in the high failure rate (over 85%) of new products (Hall 1992), can be lessened by avoiding media contexts in which other brands in the category advertise. Given that ads for many brands are run in national media and targeted to demographic groups, such as women 18–49 years of age (Kent 1993), ads for new and/or low-awareness brands could be run in local media vehicles, such as “spot” television, and targeted by local-market brand or category development indices (Ephron 1994; see also Abraham and Lodish 1990). This practice should avoid media with high levels of competitive clutter and may provide additional increases in effectiveness because media would be selected by brand or category purchase rates rather than their demographic correlates (Assael and Poltrack 1993; Ephron 1992).

Limitations and Suggestions for Further Research

Several potential limitations of the methodology used in this research should be acknowledged. First, subjects were exposed to a set of consecutive ads with no programming, and a delay of only several minutes elapsed between exposure and testing. These methodological choices were made to allow the findings to be compared with those of previous research. However, given that interference effects might differ within programming or after longer delays, issues of programming context and delays might be addressed in the future.

The potential effects of unrealistic ad stimuli also should be considered. As in previous studies, completely un-

familiar ads were used to control prior exposure to test ads. However, consumers often have previous experience with the ads they encounter in the marketplace. Given that competitive interference was not observed with novel ads for familiar brands in the present research, it seems unlikely that interference would be observed with previously encountered ads for familiar brands. Thus, the more interesting question is how ad familiarity can alter competitive interference effects for low-familiarity brands.

Because new brands often are introduced with concentrated advertising (Hall 1992; Smith 1992), consumers may receive multiple exposures to ads for brands they have never seen or tried. These repeated exposures should increase ad memorability. For example, Singh, Rothschild, and Churchill (1988) found that repetition of ads for initially unfamiliar brands increased claim recall. This finding suggests that higher levels of ad familiarity might lessen susceptibility to competitive interference. Interestingly, however, Burke and Srull (1988) observed that repetition of novel ads for low-familiarity brands did not increase recall in the presence of competitive advertising. To examine whether prior ad exposure leads to positive repetition effects in competitive media, subjects might be given single exposures to ads in noncompetitive media and then given repeated exposures in competitive media.

Researchers also should examine how brand familiarity affects the ease with which consumers can access stored product information during ad encounters (cf. Alba, Hutchinson, and Lynch 1991). For example, marketplace ads for highly familiar brands display well-known logos and colors (e.g., Kodak yellow and Fuji green), which allow consumers to recognize brands in print ads without reading any words. Consumers also may feel a greater motivation to retrieve ad information for high-familiarity brands because of their availability and salience (see Baker 1993; Keller 1993b). Such effects can provide important advantages in an advertising context marked by low levels of attention and high levels of competitive clutter (Kent 1993).

Researchers should consider the circumstances under which competitive advertising might affect ad memorability for familiar brands. In particular, the effects of claim similarity in competitive advertising should be examined (Keller 1991). Ads for competing brands often make similar claims, which may lead to greater memory interference (see Friedman and Reynolds 1967). However, as Alba, Hutchinson, and Lynch (1991, p. 15) note, familiarity should “reduce the extent to which advertised benefits are mistakenly attributed to similar competitors.”

Greater confusion may be produced by ads making similar claims when the ad executions are also similar (see Garfield 1992). If there is a sufficiently strong resemblance between competitive ads making similar claims, consumers may recall erroneously that a vividly memorable ad for a non-leading brand actually featured a better-known brand (see Keller 1993b). This effect is suggested by the history of the Energizer “Bunny” advertisements, which mimic an earlier ad for Duracell batteries. Early in this campaign, 40% of consumers who selected the Bunny commercial as the most outstanding ad they could recall were highly con-

fidant that it promoted Duracell, the best-known brand (Lipman 1990). This suggests that robust interference can occur for even well-known brands when competitive ads make similar claims and use common executional strategies.

A final area for additional research is related to the cognitive processes underlying brand familiarity effects in competitive advertising and other marketing contexts. Given that brand familiarity can influence multiple cognitive factors (Alba and Hutchinson 1987), researchers should compare alternate theoretical explanations for the moderation of competitive interference by brand familiarity. For example, memory structure models based on information organiza-

tion and schema development make similar predictions in this context. To compare these explanations, oral protocols for target brands of varying familiarity could be gathered in further ad interference research. Application of coding schemes (Alba, Hutchinson, and Lynch 1991; Biehal and Chakravarti 1982) to these protocols may help to pinpoint the cognitive factors underlying brand familiarity effects in competitive advertising. Moreover, an enhanced understanding of the cognitive consequences of brand familiarity may encourage investigation of how brand familiarity alters other effects usually studied with unfamiliar brands.

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