

All Dressed Up With Something to Say: Effects of Typeface Semantic Associations on Brand Perceptions and Consumer Memory

Terry L. Childers

*Gatton College of Business and Economics
University of Kentucky*

Jeffrey Jass

*QRC Marketing Research
Boulder, CO*

In this research, a conceptual framework is developed that addresses the impact of typeface semantic cues within a marketing context. Visual properties of typefaces are conceptualized as communicating unique semantic associations to individuals distinct from the content of the written words they clothe. Typeface associations are investigated across varying levels of involvement in terms of their effect upon brand perceptions. These associations also influenced the memorability of advertised benefit claims. Memorability was enhanced as the degree of consistency among typeface semantic cues, advertisement visual cues, and advertisement copy claims increased. Extensions of this framework focus on obtaining a more complete understanding concerning the semantic pathways through which typefaces convey meaning.

Marketing communications often consist of three primary components: A visual image, a verbal message, and a voice used to convey the content of the verbal message. In television and online computer advertising, for example, full motion visual images are commonly coupled with a verbal message delivered by the announcer's voice. In other forms of communications—such as print advertising, in-store displays, product packaging, couponing, and brand logos—a parallel to this situation exists. In these situations visual images are commonly combined with a written verbal message. The “voice” used in these communication modes is the costume or physical appearance of the written words. In this sense, typefaces are used to “speak” to consumers on occasions when the spoken word is simply not feasible. For instance, Unnava, Burnkrant, and Erevelles (1994,) noted that, “people exposed visually to the Wendy's trademark may remember the font used by Wendy's restaurants, and this may contribute to the belief that they make old-fashioned hamburgers” (p. 481).

Sparked by the proliferation of desktop publishing equipment, recent developments in the design and usage of typeface

alternatives are expected to carry some interesting implications for marketing communications in the near future. While vast quantities of unique typefaces have been available to professionals within marketing communications, similar type designs are becoming available to any firm or individual with a personal computer. Firms of all sizes are now able to consider typography as an affordable design decision for brochures, in-store displays, coupons, and advertising. However, while typography choices are becoming more available, the effects of typefaces at the consumer level are not well understood.

Although past researchers have provided some limited research that addresses typeface semantic effects, a sustained research effort aimed at building a framework for the influence of these semantic associations on important marketing variables is lacking. For example, research from information design has demonstrated that individuals are able to consistently extract meaning from typefaces along a number of semantic dimensions. Research from psychology suggests an immediate-perceptual indirect influence of typeface semantics. From a marketing standpoint, it is critical to extend our understanding concerning the influence of these associations (a) when the typeface cues appear in a rich, competitive environment, such as a print advertisement context, where multiple elements provide input to consumers concerning brands; (b) on dependent variables, of interest to marketers; and (c)

under conditions reflecting a more natural consumer decision making context.

Accordingly, the research objectives of this article are to (a) further examine the semantic nature of typography, (b) investigate the situations under which typeface cues in advertising serve as influential cues for consumers in forming perceptions of brands, and (c) extend the effect of typeface semantic associations to consumer memory for advertised brand claims. To accomplish this, two experiments were conducted and their results are summarized. Prior to discussing these findings we first review past research on typeface semantic effects and then provide a conceptual framework that enables us to hypothesize about the nature of typeface associations in the consumer context.

REVIEW AND SYNTHESIS OF EXISTING RESEARCH ON THE VISUAL CHARACTERISTICS OF VERBAL STIMULI

Our review focuses on the semantic influences of the visual appearances of verbal material. Prior to this review, a short section develops a useful classification system for categorizing typefaces that will also be referred to throughout this research (McLean, 1980).

The Vocabulary of Type

Typography is the art, or skill, of designing communication by means of the printed word. The letters used to communicate ideas can take on a variety of forms due to variations in the elements of a letter's design. Four elements of design are of particular interest: line, weight, orientation, and size. The *line* is the basic element that gives form to a letter and determines the style of the type. *Weight* of a style of type refers to the volume of white space its letters replace with ink within a contained area. The weight of the lines in a type style may vary from "light" to "medium" to "ultra bold." *Orientation* refers to the vertical position (e.g., upward versus slanted) of a type style. The final stylistic element of a typeface is *size*. The overall size of a style of type is determined by the sizes of the three components of any letter: the x-height, the ascenders, and the descenders. By combining different values of the properties of line, weight, orientation, and size, distinct styles of type may be created. Research regarding these associations is examined in the following section.

Visual Features and Their Semantic Associations

Research suggests that the visual features of words influence verbal processing at an earlier stage than the actual semantic

processing of the written message. For instance, researchers have examined the issue of legibility of letters and words as influenced by choice of type styles (Tinker, 1963; Webster & Tinker, 1935) as well as the case (upper versus lower) of the letters (Tinker & Patterson, 1928), and case alternation (Posner, 1970; Posner & Boies, 1971). In each of these instances, the visual properties of verbal stimuli influenced the processing of the verbal material itself. The next logical step suggests that these visual features may actually activate their own semantic representations.

Research from information design and marketing has demonstrated that individuals are capable of perceiving consistent meaning in typefaces, as indicated by direct ratings of typefaces on semantic differentials (Bartram, 1982; Rowe, 1982; Tantillo, Lorenzo-Aiss, & Mathisen, 1995; Walker, Smith, & Livingston, 1986). For example, Bartram (1982), Rowe (1982), and Tantillo et al. (1995) all presented subjects with a selection of unique typefaces and participants indicated the connotations of the type styles using multi-item scales. Ratings revealed a limited number of dimensions (e.g., potency, elegance, and novelty) that were useful in describing the semantic qualities of the typefaces. Walker, Smith, and Livingston (1986) also demonstrated that subjects were able to identify semantic qualities associated with a particular style of typeface. In addition, these researchers demonstrated that typeface appropriateness for a specific application is determined, in part, by the degree to which it shares features with the application context (e.g., "sturdy" and "heavy" as appropriate for representing "sturdy", "heavy" professions, such as, construction work).

Research from psychology has also addressed the semantic characteristics of visual features of words when text processing is the participant's primary goal (Foltz, Poltrock, & Potts, 1984; Lewis & Walker, 1989; Paivio, 1975). Lewis and Walker demonstrated that an inconsistency between a typeface meaning and a word's meaning behaves similar to a Stroop effect, resulting in longer reaction times in inconsistent conditions. Prior activation of typeface features was supported by an interaction of typeface and word meanings and the authors concluded that English words do possess an element of "pictorial reference" which is contingent upon the typeface of a word.¹ This suggests that processing of English

¹In their first experiment (Lewis & Walker 1989), subjects were presented with adjective word pairs that were consistent or inconsistent in their meaning. Subjects pressed a key if either the word *slow* or *heavy* or a different button if the words *fast* or *light* appeared. A significant crossover interaction in reaction times for inconsistent pairs between typeface (italic, bold) with word displayed (*light*, *heavy*) was reported. This indicates that because there was no requirement by subjects to attend to the visual features of the words that encoding of typographic features can proceed automatically. In addition, because typography interacted with the meaning of words, this feature must have activated a representation in semantic memory. In their second experiment, more indirect typeface meanings were manipulated and a significant interaction for reaction times between inconsistent typeface and word meaning conditions was reported again.

may have much in common with processing of ideographic language writing styles, such as Chinese. This conclusion is also supported by research in marketing that has demonstrated that mental representations of verbal information in Chinese is primarily visual in nature (Schmitt, Pan, & Tavassoli 1994). Foltz et al. also demonstrated that the physical size of verbal stimuli (e.g., letter–word size) could influence conceptual size decisions. Thus, the judgement of which is the taller of two pairs presented under consistent or inconsistent conditions either visually or verbally was affected under both modalities.

Overall, these studies provide empirical evidence supporting the position that the visual characteristics of written material may directly convey meaning to readers. Essentially, Foltz et al. (1984) as well as Lewis and Walker (1989) demonstrated that the visual patterning of a verbal stimulus may influence conceptual judgments involving the stimulus with respect to that same attribute. The conclusion reached through both the direct rating methods (scaling-based) used in information design and marketing as well as the indirect methods (conceptual judgments) used in psychology is the same; the visual characteristics of verbal material possess semantic characteristics. The primary contributions made by the indirect methods used in the studies from psychology are that (a) the influence of typeface semantic associations may be examined when text processing versus direct scale ratings is the participant's goal and, (b) typeface semantic associations are activated prior to the activation of the meaning of the verbal stimulus itself. In the next section we present a conceptual framework which builds upon these findings for the purposes of understanding the processing of more complex advertising stimuli.

CONCEPTUAL FRAMEWORK AND HYPOTHESES FOR TYPOGRAPHIC SEMANTIC INFLUENCES ON ADVERTISED BRANDS

Semantic Influences of Typeface Associations

The research discussed in the previous section demonstrated that the visual features of words do affect the processing of verbal material. When consumers are exposed to a marketing communication that contains a verbal stimulus control features (type; line, weight, orientation and size) enable the style of type to be identified by the consumer (Figure 1). Once this context has been established the semantic qualities of the type style may be activated. Research findings (Foltz et al., 1984; Lewis & Walker, 1989) suggest that the visual properties of words are processed early and result in the formation of a semantic code that exists independently of the semantic nature of the actual verbal material. Thus, one may view words as being “dressed up” in the “costume” of type styles. These cos-

tumes portray meaning independently of the words they clothe. However, upon activation of typeface semantic associations, a question remains concerning what level of influence one may expect this information to exert on consumers who are evaluating brand information. In the next section, the conceptual framework is expanded to consider typeface semantic cues under conditions of varying involvement.

Semantic Typeface Associations and Consumer Involvement

Research in both psychology and marketing has demonstrated that at least two routes to persuasion exist; a central, or systematic type of processing, as well as a heuristic, or peripheral view of persuasion (Chaiken, 1980; Petty & Cacioppo, 1984; Petty, Cacioppo, & Schumann, 1983). This conceptualization provides a useful framework for understanding how typographic cues may moderate the message contained in the copy of an ad. On the one hand, Pan and Schmitt suggest that typeface cues may serve as peripheral cues for consumers in evaluating brands similar to communication characteristics² (such as, likeability [Chaiken, 1980], celebrity status [Petty et al., 1983], attractiveness [Kahle & Homer, 1985], number of arguments [Petty & Cacioppo, 1984], perceived advertising costs [Kirmani, 1990], or music [Macinnis & Park, 1991]). It follows that typographic cues may be important brand cues under low involvement conditions when consumers are not motivated to process the content of advertisement copy. Thus, it is expected that these consumers will be influenced by the semantic associations readily conveyed through the typeface used to communicate brand perceptions. Alternatively, under high involvement conditions, consumers are expected to attend to the arguments conveyed through the copy. Under these conditions, the typeface used to communicate the copy would be ex-

²Pan and Schmitt (1995) examined the differential influence of typeface “matching” on brand attitudes for Chinese and English consumers. Type style matching (script matching as they refer to it) as defined by the fit between typeface associations and brand associations affected Chinese subjects when the type style matched the product (the lipstick brand appearing in a feminine typeface) than when it did not match. This effect was not found for the English speaking subjects. On one level, these results do not appear supportive of the notion of visual properties of English words exerting a semantic influence on verbal processing. However, given the cross cultural nature of the Pan and Schmitt research it is possible that the particular styles of type used in the Chinese portion of the study had more powerful gender associations than did the specific type styles used in the English portion of the study. It is possible that while the Chinese systems are more precisely related to gender, the English styles may connote several equally available meanings. For example, the Helvetica typeface may carry associations of simplicity, or of being thin, or smooth; all in addition to being masculine. Because only gender related ratings were collected for the styles of type, it is unclear if other associations with the type styles had been influenced. Essentially, it seems plausible to suggest, in spite of these findings, that typefaces may exert some level of influence on English speakers as well.

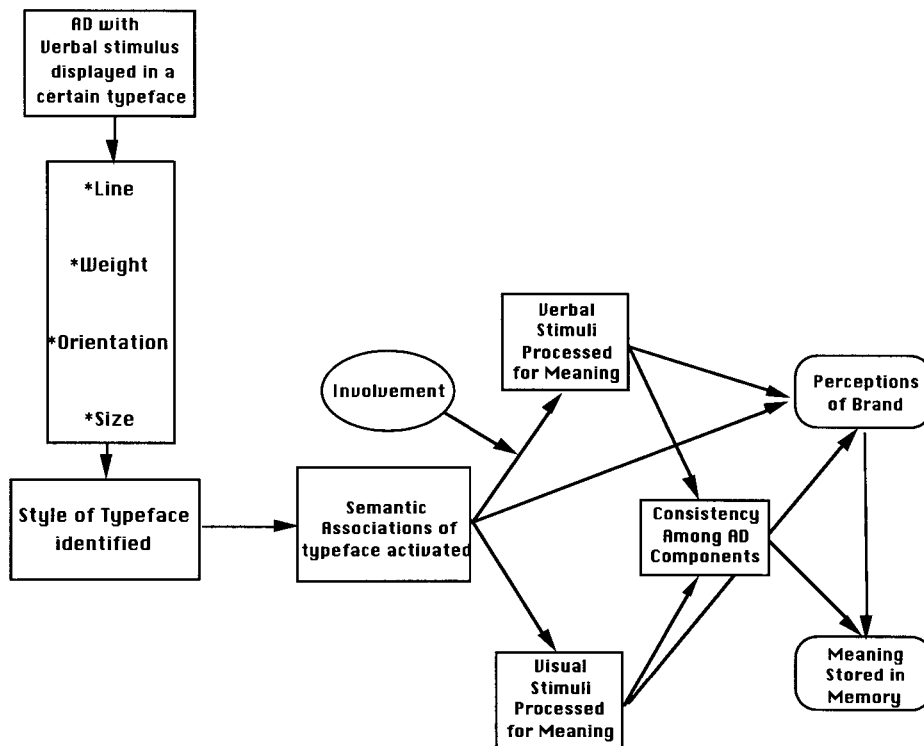


FIGURE 1 Conceptual model of typeface effects on ad processing.

pected to influence brand perceptions only if they act as a central cue to reinforce the message arguments contained in the ad's copy (Miniard, Bhatla, Lord, Dickson, & Unnava, 1991). Thus, under high involvement conditions it is anticipated that a typeface that reinforces these brand perceptions will also be perceived as conveying relevant brand information in addition to the impact of the message arguments. This leads to the following two-part hypothesis: H1a proposes a main effect of typeface semantic cues on consumer perceptions of brands, while H1b proposes that typeface cues will affect both high and low levels of involvement.

H1a: Typeface semantic associations will affect the formation of brand perceptions.

H1b: Level of involvement with the product, is expected to affect the utilization of typeface cues by consumers in forming brand perceptions. Specifically, both low and high involvement consumers are expected to be influenced by these cues.

Semantic Typeface Associations and Consumer Memory

Aside from typographic effects on brand associations, an additional question of interest concerns how typeface

executional techniques may influence consumer memory for advertised product information. Although past research in information design and psychology has not assessed memory consequences of typeface associations related research in marketing provides a foundation for the examination of potential typeface effects. The research stream within marketing that has focused on advertisement memorability has established a strong foothold in understanding the relative influences and interrelationships among the pictorial and verbal portions of ads (Houston, Childers, & Heckler, 1987; Lutz & Lutz, 1977; Unnava & Burnkrant, 1991). This research suggests that one more visually oriented component of advertisements, typography, has been overlooked by past inquiry into this general domain. Given that researchers have suggested that typography contributes certain "graphic qualities" to verbal material (Lewis & Walker, 1989), it appears that exploration into the effects typefaces may exert on consumer memory for advertising claims may prove useful both theoretically and practically.

Recently, Schmitt, Tavassoli, and Millard (1993) used an associative network model perspective in their investigation of the influence of the relationships of ad elements on consumer memory. Their model suggests that memory for elements of an advertisement should be enhanced as the number of linkages between the individual components are increased. Schmitt and colleagues varied the conceptual relations among the pictures, brand names and copy components of a

number of ads. Support for the superiority of the number of relations among ad elements was found for several memory measures, including recall of brand names. This framework may be adapted to consider typographic influences by conceptualizing a distinct node in memory for typeface semantic associations. Similar to Schmitt et al. (1993), but, for typographic cues that carry a well defined meaning represented in the memory network, associations may exist between the typeface used in a print advertisement and, (a) the copy, (b) the picture component, or, (c) both the copy and the picture component (Figure 1).

In this investigation, a print advertisement is utilized as the marketing context. Therefore, consistency of typeface cues is examined with respect to two common print advertisement components: the ad picture and the ad copy. In addition, because recall has been identified in past research as the principle dependent variable of importance in consistency models of memory (Schmitt et al., 1993), this variable was used in the experiment. This phenomenon stems from the finding that organization of material is important in helping a subject generate access paths for retrieval, a task critical in recall performance, but less important for recognition. Accordingly, the following two-part hypothesis is presented:

H2a: Consistency among the typeface's semantic associations, the verbal content of an ad's copy, and the meaning portrayed by the picture component, is expected to increase recall performance of a brand's features.

H2b: Consistency among the typeface's semantic associations, the verbal content of an ad's copy, and the meaning portrayed by the picture component, is expected to increase recall performance of a brand's benefit claim.

To assess these hypotheses two experiments were conducted which are detailed in the next sections.

EXPERIMENT 1

Overview

The first experiment was designed to test hypotheses H1a and H1b, which address the degree to which typeface cues are expected to influence consumer perceptions of brands. The experiment was conducted in two stages: In the first stage, subjects were presented with a test booklet containing two test ads. The verbal portion of the advertisements were displayed in a typeface that either supported the benefit claim implied by the ad, or in a typeface that activated semantic associations that were different from this benefit. In the second stage of the experiment, subjects were presented with a second booklet containing the dependent measures. Multiple item scales were developed, using Keller's (1993) framework, that were

designed to tap the nature of the target brand associations held by the subjects with respect to the target benefit claims.

Independent Variables

The level of involvement (*high, low*) as well as the typeface used to portray all written elements of print advertisements (conveys target benefit claim vs. conveys different target benefit claim) were manipulated in a between subjects factorial design. The visual components of the ads, the product brand names, and actual verbal content of the ads remained constant across the conditions. Low involvement subjects were told they would be asked to choose among brands of a different product class than the target (mountain bikes and watches). Additionally, they were informed that the target product would be available in a region of the country different from their own (Kahle & Homer, 1985; Macinnis & Park, 1991). Subjects in the high involvement conditions were asked to choose among brands of products in each of the two target product classes (cars and pants). Additionally, these subjects were informed that the two test brands would soon be made available in their local market. Before introduction of these products, however, the manufacturers were described as particularly interested in gaining college students' reactions to their advertisements. This manipulation was expected to enhance the high involvement subjects' motivation to elaborate on the target ad message arguments.

Sample

The sample consisted of 96 undergraduate university students recruited from introductory marketing courses. Product categories were selected to ensure that undergraduate students would possess an acceptable level of experience and general understanding of the types of features and benefits present in the product category.

Stimulus Materials

Several considerations were made in selecting the product categories, and their respective advertised benefits, to be featured in the target advertisements. As mentioned earlier, one such important consideration in selecting the product categories was that the student population have an acceptable level of knowledge concerning the products. Based upon an examination of the advertising contained in magazines currently targeted toward a college audience, four product categories and a representative set of benefits and features were selected for pretesting: cars, pants, watches, and fruit drinks.

A pretest was conducted, using 22 undergraduate students, to assess the product categories, benefits, features, and brand names. Items were constructed for each of the potential prod-

uct categories to measure the perceived variability of product offerings for a particular benefit (e.g., automobiles–luxury; pants–casual look). Overall means on these variability scales (*disagree* = 1, *agree* = 5; *pants* = 4.15; *cars* = 4.18) indicated subjects did perceive variability along the luxury and casual target benefits for the selected automobile and pants product categories, respectively.

Additionally, a measure from Brucks (1985), was used to assess subjective product knowledge. Means were calculated for the 7 point (*low knowledge* = 1) subjective knowledge scale (*pants* = 4.38, *cars* = 4.68). This was taken as evidence that the subject population possessed an acceptable level of product category knowledge.

The selection of three product features per product category which implied the primary benefit to be communicated in the advertisement copy was also assessed. To accomplish this, subjects first responded to an open-ended question describing the differences in benefits among brands within each product category. Secondly, a more directed procedure was followed by providing attributes for each product category (*automobiles* = 6 attributes, *pants* = 7 attributes). The three luxury car features selected were, (a) dual temperature control zones, (b) leather seats, and (c) a factory installed alarm system. The three casual pants features consisted of (a) a soft, 100% cotton fabric, (b) a relaxed full cut, and (c) a button fly.

The final issue pretested was the fictitious neutral brand names to be used for each of the target brands. Names were

rated on two 7 point semantic differential scales to determine the extent to which they reflected the potential product benefits (casual vs. luxury). The brand name “Foley” was neutral on the casual scale ($M = 3.79$) and “Merin” was neutral on the luxury scale ($M = 4.08$).

A second pretest, with 19 subjects, was conducted to identify the neutral visuals to be used in the construction of the advertisements. Five pant images (six car images) were selected to represent a variety of styles (models) available to college students. Subjects rated each image on two 7 point semantic differential scales (e.g., “Definitely an economy car” [*very casual pants*] and “Definitely a luxury car” [*very dressy pants*]). An image of a gray, four-door family sedan ($M = 4.3$) was selected as the neutral automobile visual, while a picture of a pair of pleated brown flannels ($M = 4.2$) was chosen as the neutral pants image.

To obtain an understanding concerning what prospective typefaces may convey to individuals, two additional pretests were conducted. In the first pretest, 30 subjects rated an excerpt of text on twelve typefaces along two 9-point scales (“casual” and “formal” and “practical” vs. “extravagant”). The typeface “Don Casual” was rated as conveying “casualness” ($M = 7.17$) as well as “practicality” ($M = 7.28$). The typeface “Empire Script” conveyed “formality” ($M = 7.59$) as well as “luxury” ($M = 7.69$).

In the next pretest, 30 additional subjects were presented with an excerpt of text displayed in twelve unique typefaces. Each page displayed the excerpt of text in a different type-

*The New Merin...
All You Ever Needed*



The new Merin is definitely all you ever needed in a car in this class. Just consider the features available on the standard model of this beautiful new line. Leather seats as a standard option; smooth, soft and durable, nothing else is quite the same. Dual temperature zones make riding a comfortable experience for all; separate control panels allow passengers on the driver and passenger sides to select their own temperature levels. Built in anti-theft measures are another great feature; if any of the car's sensors detect tampering, a spoken message alerts the offender that the authorities have been contacted. Because the system comes straight from the factory, it nicely complements the car's interior. Visit the new homepage at www.merin.com to learn more about this great model, view images from several additional angles, and leave us your questions and comments. Definitely, the Merin is all you ever needed.

Merin

Pants by Foley. Designed for you.



The new Foley line of pants is definitely designed with you in mind - man, woman, young or old. At every detail, these pants are constructed for quality. Our cotton fabric is soft to the touch, but requires no pampering; it's tough enough to withstand the most active use. The lightly brushed texture gives the colors a rich quality. The unique button fly provides a distinctive look for both men and women. The relaxed, full cut is something else we feel you'll appreciate. Foley's are designed with a natural fit style; cut with extra room in the thigh and knee, with a slight taper from knee to ankle for exceptional comfort. Available in men's waist sizes 28-36, inseams of 30", 32" and 34". Also in women's sizes 4-20 in petite and regular. Foley, for you.

Foley.

FIGURE 2 Example stimuli—Experiment 1.

face, and subjects wrote down any impressions or moods the typefaces created and these were grouped according to thematic similarity. For Empire Script 61% of these impressions were classified as conveying "classic elegance". Classic elegance was characterized by formality, luxury, prestige, and sophistication. For the Don Casual typeface, 82% of the impressions were classified as conveying a "casual attitude." Casual attitude was characterized by a casual look, coupled with good humor. These responses paralleled the typeface ratings collected from the semantic differential scales.

The data obtained in the pretests were used to construct two sets of target advertisements (see examples in Figure 2). All verbal information (i.e., the headline, the body of copy, and the brand name) contained within the target ads was affected by the typeface manipulation. Four filler ads (for mountain bikes, watches, pens, and notebook computers) were also constructed using the format of the target ads as a guide. The size of the headlines and visuals, as well as the structure of the copy, were similar. The typefaces used in these filler ads consisted of a combination of several serif (Rockland Palatino, and Classic Typewriter) and a single sans serif type style (Geneva). The goal was to produce a variety of typeface styles such that a disproportionate amount of attention would not be directed at the two target ads.

Procedures

The target and filler ads were assembled into booklets containing six ads with the target ads in the middle separated by a filler ad. Subjects arrived at the laboratory in groups of five and were randomly assigned to one of the four treatment conditions. The first page of the questionnaire booklet described the cover story and the experimental procedure. Subjects read that the study concerned the evaluation of magazine advertisements and that the researcher was working with several local advertising agencies in an effort to better understand consumers' responses to ads. These instructions also contained the involvement manipulation.

After reading the instructions, each subject was presented with an ad booklet and continued through the booklet at their own pace. The primary dependent variable for the experiment was a series of brand association measures that were developed for each target brand. Keller (1993) suggested that central to a brand's image are the nature of the brand associations held in consumer memory. Brand associations may include information stored concerning a product's attributes (product and nonproduct related), benefits, or attitudes toward the brand. Using this framework as a guide, 7 multiple-item scales were developed for the target products that were designed to measure the associations held by the subjects with respect to these brands.³

Following the brand association measures, subjects responded to a series of single item 7-point scales that were designed to directly measure the benefits communicated in each of the six advertisements (i.e., "The Merin Car is:" "practical" vs. "luxurious" "The Foley pants are:" "formal" vs. "casual"). This direct measurement approach served as a supplement to the multi-item brand association measures. Finally, subjects completed a manipulation check concerning the involvement manipulation. First, subjects were asked to report how much attention they felt they paid to the ads for these products on a 7-point scale ranging from (*not much*) to (*very much*). Second, subjects were asked an open-ended question concerning where the products were to be test marketed. Finally, subjects indicated whether they remembered they would be making choices concerning brands within the four product categories. Following this manipulation check, subjects were thanked for their time and debriefed.

Results

Involvement manipulation checks. High involvement subjects reported devoting a significantly greater amount of attention to the target ads ($M = 4.91$) than to the filler ads ($M = 4.29$; $t = 2.72$, $p < .05$). Alternatively, low involvement subjects reported paying a significantly greater amount of attention to the filler ads ($M = 5.22$) than to the target ads ($M = 3.28$; $t = 7.40$, $p < .05$). Second, 85% of high involvement subjects correctly indicated they would be making choices concerning the target product categories, while only 8% ($t = 12.83$, $p < .05$) responded incorrectly they were to make choices involving the filler categories. In addition, 79% of the low involvement subjects correctly indicated they were to make choices regarding the filler brands, while only 8% ($t = 10.14$, $p < .05$) reported choices for the two target brands. Finally, 56% of the subjects in the high involvement condition correctly identified the test market for both target brands, while none ($t = 8.00$, $p < .05$) of the low involvement subjects identified the local area as the test market for the target brands. In addition, 58% of the low involvement subjects correctly identified the local area as the test market for the two filler brands, while none ($t = 8.29$, $p < .05$) of the high involvement subjects mentioned this region as the test market. Based upon these analyses, it was concluded that the involve-

useful, and what types of consumers would most likely use the brands. For the car ad, example items were "Riding in a Merin is probably a pretty luxurious feeling" and "It seems to me that the Merin is designed to provide complete travel comfort". For the pant ad, examples included "These pants by Foley are really rather casual", "laid-back pants" and "These Foley pants are designed for 'everyday use'". All items used 7-point Likert type scales, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Similar scales were also developed for the watch and mountain bike brands, the two filler products that were relevant to the low involvement manipulation.

³Subjects responded to items that asked them to consider what it may feel like to use the target brands, what situations the target products may prove

ment manipulation was successful in both increasing high involvement subjects' motivation to process the target ads and decreasing low involvement subjects' motivation to process the target ads.

Analysis of brand association and benefits measures. The brand association measures were each composed of 7 items (*car* - $\alpha = .85$; *pants* - $\alpha = .83$). The mean brand association scores were analyzed using an analysis of variance procedure with a 2 (level of involvement: High, Low) \times 2 (typeface semantic associations: supports benefit, different benefit) factorial design.

Supporting H1a is a significant typeface main effect (M_s - typeface supports = 5.3 vs. typeface different = 4.7, $F[1, 92] = 11.23$, $p = .001$) indicating that the typeface used to display the verbal components of the advertisements significantly influenced the brand perceptions subjects reported through the brand association measure. A similar pattern of results emerged for the benefit measure. The typeface main effect was again significant (M - typeface supports = 5.3 vs. typeface different = 4.8, $F[1, 92] = 6.50$, $p = .012$), supporting H1a. The correlation between the two sets of measures was .81 ($p < .05$) supporting the conclusion that the brand association measure was indeed tapping subject perceptions of the brands with respect to the implied benefit information.

Consistent with H1b, the interaction of typeface and level of subject involvement was not significant, $F(1, 92) = .006$, $p = .94$. Planned contrasts, however, are used to assess the nature of the typeface effect under both involvement conditions. Under low involvement, there was a significant effect when the typeface supported the brand associations (M - typeface supports = 5.20 vs. typeface different = 4.71, $t[92] = 10.79$, $p < .05$). A typeface supporting the brand message arguments was also significant under high involvement conditions (M - typeface supports = 5.29 vs. typeface different = 4.78, $t[92] = 11.69$, $p < .05$). For the benefit measure, the interaction of typeface and level of subject involvement was again nonsignificant, $F(1, 92) = .062$, $p = .80$. In addition, planned contrasts support the same pattern of results found for the brand association measure. Under low involvement, the supporting typeface increased perceptions of the implied product benefit (M - typeface supports = 5.23 vs. typeface different = 4.75, $t[92] = 5.23$, $p < .05$) as well as under high involvement conditions (M - typeface supports = 5.40 vs. typeface different = 4.81, $t[92] = 7.90$, $p < .05$).⁴

⁴A similar analysis of the brand association and brand benefit measures was conducted with respect to the two filler brands used in the involvement manipulation. Subjects in the low involvement condition were provided instructions to heighten their motivation to process the information contained in the ads for the mountain bike and the watch. No significant effects were found for these measures (all $F_s [1, 92] < 1$, $p > .05$).

Discussion of Experiment 1

H1a suggested that typeface semantic associations would influence consumer perceptions of brands. The results of this experiment lend support to H1a: On both the brand association and the brand benefit measures, a significant typeface effect was found. Referring back to the experimental stimuli provides an illustration of the specific effects of these typeface associations. Copy presented for the car ad in the practical typeface was rated significantly less luxurious than the copy presented in the luxury type style. While the content of the ad copy remained constant across the conditions, subjects assembled the information quite differently, depending upon the physical appearance of the type. Therefore, H1a was strongly supported.

This typeface effect was also identical in situations where subjects were under high and low involvement processing instructions, supporting H1b. Based upon the results of the manipulation check, it is plausible to conclude that the subjects were processing the ads in the two involvement conditions with unique motivational goals. In spite of these differences, typefaces significantly influenced the perceptions these subjects developed concerning the target brands. Given that the same message arguments were present in the typeface different condition, it appears plausible to conclude that a supporting typeface affected brand association and benefit perceptions for both involvement conditions, but in a differential manner. Under low involvement, consumers processed the supporting typeface as a peripheral cue and similar to other message characteristics, this affected their product beliefs. Under high involvement, the supporting typeface reinforced the message arguments conveyed through the ad's copy and this served as a central cue in affecting these brand beliefs. Similar to the effects for pictures reported by Miniard et al. (1991), typeface can serve as a central or peripheral persuasion cue under varying levels of involvement dependent upon whether the typeface is relevant to the message arguments contained in the copy of the ad.

EXPERIMENT 2

Overview

The second experiment was designed to test the hypothesis concerning the influence of typeface semantic associations on consumer memory. Because of the degree of overlap concerning the materials used in the two experiments, the following sections focus on the primary differences from the first experiment.

Independent variables. This experiment was designed to test hypothesis two, which suggests that consistency

among elements in a print ad—the copy claims, the picture component, and the typeface semantic associations—is expected to result in superior memory for the advertised benefit claims. According to this consistency argument (Schmitt et al., 1993), the greater number of linkages formed between the components of a print ad, the more memorable will be the claims. Accordingly, ad stimuli were created in which the number of linkages between the copy, the visual component, and the typeface associations varied. A linkage was hypothesized to exist when a component (typeface or visual) supported the primary message communicated by the ad. Target ads were again constructed by creating copy that discussed product features which all supported a single benefit claim for the target brands. The typeface used to display this copy was manipulated so that its semantic associations either supported the implied benefit or were neutral with respect to the advertised benefit. Additionally, the visual component of the ad was manipulated in the same fashion such that it either supported the benefit communicated within the copy, or was neutral with respect to this claim.

Sample. The sample used for this experiment was composed of 112 undergraduate students recruited from introductory marketing courses to fulfill a course requirement.

Stimulus materials. The primary difference between the visual materials used in the first experiment and those incorporated into this experiment concerned the pictorial communication of the advertised benefit. In the present experiment visuals were introduced which supported the message conveyed in the ad copy. For example, a car (pants) image was selected which conveyed the luxury (casual) benefit. The previous neutral images of the car and pants were used once again in this experiment. The visuals were identified in the pictorial pretesting that was conducted prior to the first experiment. The pants visual conveying the casual benefit was a picture of a khaki pair of pleated chinos rolled up at the ankle to reveal a flannel lining ($M = 6.17$; 7-point scale). The car visual identified as conveying the luxury benefit was a picture of a four-door American sedan ($M = 6.00$).

The essential difference in typeface selection between the two experiments concerned the introduction of type styles that were neutral with respect to advertised benefits. The typeface manipulation in the first experiment involved depicting the ad copy in a typeface that possessed associations which either supported the ad benefit or were the opposite of the ad benefit. The typefaces supporting the ad benefits were taken from the first experiment. A separate pretest was conducted to identify neutral typefaces using a questionnaire in which the alphabet was displayed in six unique typefaces. Twenty-eight subjects rated the type styles using three casual items (“casual–formal”, “comfortable–uncomfortable”, and “light-hearted–serious”) and three luxury items (“sophisti-

cated–basic”, “expensive–inexpensive”, and “advanced–primitive”). The “Times” typeface was selected as the neutral typeface with respect to both the casual ($M = 3.71$) and the luxury ($M = 4.32$) benefits.

Procedure. Subjects arrived at a laboratory in groups of five and were randomly assigned to one of the four experimental conditions. The ad booklet contained the six fictitious ads, while the questionnaire booklet contained the instructions and the dependent measures. Subjects were informed that the study concerned consumers’ general reactions to print advertisements. After reviewing the instructions, subjects placed the questionnaire booklet aside and directed their attention to the ad booklets. Following exposure to the advertisements (45 sec per ad), subjects completed a 4 min mathematical distracter task to eliminate effects which may be attributed to short term memory.

Following completion of the distracter task, subjects completed a series of product feature and product benefit cued recall tasks. In each task, subjects were presented with a cue and were asked to list (a) the product features as mentioned in the target ads and, (b) the primary benefit communicated in the target ads. The product feature and product benefit questions were always listed on separate pages within the booklet. In the first task, subjects were cued with the brand names of the target products, displayed in the typefaces as they appeared in the original ads. The questionnaire was typed in Helvetica. The brand names were displayed in Times (typeface neutral conditions), Don Casual (typeface supporting casual pants benefit), or Empire Script (typeface supporting luxury car benefit). In all cases, the type style used to display the brand name itself was distinct from the typeface used to display the remaining verbal material on the page. Next, subjects were provided with the brand name, as well as the respective product categories as cues for feature and benefit recall. Third, subjects were allowed to view the visual portions of the two target ads, as they appeared in the subjects’ experimental conditions, as cues for feature and benefit recall. Next, subjects completed a benefit recognition task by identifying the correct benefit communicated in the car and pants ads from a list containing three distracters for each question. Following this recognition task, subjects were provided with the correct benefit for each of the brands as cues for a final feature recall task.

The final task was adapted from a cued-recognition procedure utilized by Schmitt et al. (1993). Subjects were cued with the brand name displayed in the typeface originally used in the ads for their respective experimental conditions and asked to identify the product features mentioned in the ads from a list of nine potential items. This list of 9 items contained the three actual product features, as well as six uniquely constructed distracter items. Three of the distracters (car: adjustable seats, AM/FM stereo, and front and rear speakers; pants: deep pockets, variety of colors, and wide belt loops) were selected to be typical of any product in the target categories. The

three remaining items were selected to be typical only of products that offered the target benefits within the respective categories (car: air temperature display, an on-board compass, and a passenger side air bag; pants: double stitched seams, a five pocket design, and riveted pockets). After completing this final task, subjects were debriefed and thanked for their time.

Results

Analyses of feature recall. The mean aided recall scores were analyzed using an analysis of variance procedure with a 2 (Visual component: Supports benefit, neutral with respect to benefit) \times 2 (Typeface component: Supports benefit, neutral with respect to benefit) between subjects factorial design. The means for each of these variables in each the four experimental conditions are displayed in Table 1. The analyses of these variables revealed no significant effects (all p s $>$.05).

Whether the visuals or the typefaces used in these ads conveyed the target benefit, or were neutral, did not influence the extent to which subjects were able to recall the specific features mentioned within the ads. Therefore, H2a was not supported.

Analyses of benefit recall and recognition. Three aided benefit recall measures were also examined and the means for each of these variables, as well as for benefit recognition, are presented in Table 2.

TABLE 1
Feature Aided Recall

CUE	Visual	Visual	Visual	Visual
	Neutral/Type Neutral	Supports/Type Neutral	Neutral/Type Supports	Supports/Type Supports
Brand name	2.21	2.82	2.89	2.64
Product class	2.57	3.43	3.07	3.00
Ad visual	2.61	3.54	3.14	3.18
Benefit	2.61	3.50	2.96	3.07

TABLE 2
Benefit Aided Recall and Recognition

CUE FOR RECALL	Visual	Visual	Visual	Visual
	Neutral/Type Neutral	Supports/Type Neutral	Neutral/Type Supports	Supports/Type Supports
Brand name	0.89	1.00	1.11	1.61
Product class	1.07	1.11	1.11	1.68
Ad visual	1.07	1.21	1.11	1.75
Recognition	1.07	1.50	1.18	1.86

Each variable is characterized by significant typeface and visual main effects. For aided recall given the brand name, both the typeface main effect, $F(1, 108) = 7.97, p = .006$, and the visual main effect, $F(1, 108) = 4.35, p = .039$, were significant. Similarly, both the typeface main effect, $F(1, 108) = 4.7, p = .032$, and the visual main effect, $F(1, 108) = 4.7, p = .032$, were significant for aided recall given the product class. Finally, for aided recall given the advertisement visual, the typeface main effect, $F(1, 108) = 4.37, p = .039$, and the visual main effect, $F(1, 108) = 8.26, p = .005$, were significant. While the aided recall measures served as primary tests of the hypotheses, benefit recognition was also analyzed. For this recognition measure, both the typeface, $F(1, 108) = 6.18, p < .05$, and the visual main effect, $F(1, 108) = 35.11, p < .05$, were significant. Because H2b predicts a specific pattern for the treatment means, these findings were followed by a series of planned comparisons.

Specifically, the conceptual framework suggests that consistency among the advertisement components is expected to result in superior performance on the aided recall measures. Using the advertisement copy as the reference point, the lowest level of consistency condition incorporated neutral visuals and neutral typefaces to convey the brands. The medium level consistency conditions utilized either consistent visuals or consistent typefaces to convey the brand information. The highest level consistency condition incorporated both consistent visuals and typefaces in the target ads.

For benefit recall given the brand name, the comparison of the neutral condition with the two combined medium-level consistency conditions was nonsignificant, $F(1, 108) = .86, p > .05$. In contrast, the comparison of the two medium-level consistency conditions with the high-level consistency condition was significant, $F(1, 108) = 9.70, p < .05$. In addition, the high-level consistency condition was significantly greater than the neutral condition, $F(1, 108) = 12.2, p < .05$. Similarly, for benefit recall given the product class the neutral condition versus the two medium-level consistency conditions was nonsignificant, $F(1, 108) = .05, p > .05$. The comparison of the two medium-level consistency conditions with the high-level consistency condition was significant, $F(1, 108) = 11.05, p < .05$. In addition, the high-level consistency condition was significantly greater than the neutral condition, $F(1, 108) = 9.49, p < .05$. Thirdly, for benefit recall given the visual, the comparison of the neutral condition with the medium-level condition was not significant, $F(1, 108) = .29, p > .05$. The comparison of the high-level condition consistency with the medium-level conditions was significant, $F(1, 108) = 12.42, p < .05$. In addition, the high-level consistency condition was significantly greater than the neutral condition, $F(1, 108) = 12.38, p < .05$.

Finally, for the benefit recognition measure, the comparison of the neutral condition with the two medium-level conditions was significant, $F(1, 108) = 5.58, p < .05$. It appears that this comparison is driven by the performance in the cell in

which the visual supported the brand benefit (see, Table 2). While performance in this cell is significantly greater than the neutral condition, $F(1, 108) = 10.61, p < .05$, performance in the typeface-supports, visual-neutral cell is not significantly greater than the neutral condition, $F(1, 108) = .694, p > .05$. The comparison of the high-level consistency condition with the medium-level consistency conditions was also significant, $F(1, 108) = 20.69, p < .05$. In addition, the high-level consistency condition was significantly greater than the neutral condition, $F(1, 108) = 35.8, p < .05$. Taken together, this pattern of results provides partial support for H2b. Overall, no significant differences were detected for the aided recall measures between conditions where either typeface or visual associations supported brand benefits and the condition where both of these elements were neutral. However, when both of these ad components supported the brand benefit, performance on the recall task was significantly better than in the conditions in which either component supported the benefit. Both of these comparisons were significant for the benefit recognition task.

Analyses of aided feature recognition. The number of correct features recognized by subjects, the number of benefit-consistent distracters selected, and the overall total number of features selected in this task were analyzed using a between subjects analysis of variance (see Table 3 for means).

There were no significant differences for correct recognition of the target features across the four experimental conditions (all $ps > .05$). These results parallel the feature recall findings. Consistency among the typeface, visual and copy components did not contribute to significantly better memory task performance for stated features from the ads. Analysis of the benefit-specific distracters, however, revealed a significant typeface by visual component interaction, $F(1, 108) = 5.36, p < .05$. Following the previous analysis, the comparison, involving the high-level consistency condition and the two medium-level consistency conditions, was significant, $F(1, 108) = 10.72, p < .05$. In addition, the high-level consistency condition was significantly greater than the neutral con-

dition, $F(1, 108) = 5.77, p < .05$. Alternatively, no significant differences were found for the total number of features selected in this task (all $ps > .05$).

Taken together, the pattern of results for these three measures suggests that subjects in the high-level consistency condition were utilizing a “benefit-guided” response process. When both the typeface and the visual components were consistent with the copy claims, the benefit information, but not the feature-level information, was stored in a consistent memory network for the advertised brands. In the recognition task, these two factors—the availability of benefit information, and the relative unavailability of feature-level information—contributed to subjects’ recognizing features conceptually related to the advertised target benefits. Because differences were found concerning the benefit-specific distracters, and not the total number of features selected, it appears that subjects in the high-level consistency condition were systematic and not random in their search to remember features that were consistent with the benefit claims. Subjects in the other three conditions did not demonstrate this type of benefit guided response in the selection of items in this recognition task.

Discussion of Experiment 2

The pattern of results from the analyses of the aided recall tasks provided partial support for H2b, which addressed the effect of consistency among typeface associations and the visual and copy components of the print advertisements. A high-level consistency condition, where each of the components was linked, produced significantly better performance on the aided recall measures than either the neutral or two medium-level consistency conditions. This result parallels the Schmitt, Tavassoli and Millard (1993) finding which suggests that providing relations in an advertisement facilitates memory for ad copy. Both of these comparisons were also significant for the supplementary benefit recognition measure.

Alternatively, H2a was not supported. No significant difference among the conditions was found concerning recall of the product features mentioned in the copy of the target ads. Consistency of the visual and typeface components with the ad copy did not contribute to memory performance at the concrete feature-level. This conclusion was further supported through the findings of the aided-recognition measure. Overall performance on correct recognition of product features mentioned in the target ads did not differ across conditions. Performance did differ, however, concerning the characteristics of the distracter items chosen by subjects across conditions. Subjects in the high-level consistency condition recognized a significantly greater number of benefit-specific distracters in this task. Performance on this feature-level task would appear to be driven by the greater availability of benefit information to subjects in this condition.

TABLE 3
Aided Recognition Means

	Visual Neutral/ Type Neutral	Visual Supports/ Type Neutral	Visual Neutral/ Type Supports	Visual Supports/ Type Supports
Correct recognition of target features	4.54	4.96	4.82	4.82
Benefit-specific distracters selected	0.93	0.82	0.79	1.64
Total features selected in task	6.64	6.61	6.36	7.54

The overall pattern of results suggests that consistency among the typeface, visual and copy components contributed to the successful abstraction of the specific brand features, but encoded at the benefit level. This more thematic abstracted benefit information was successfully integrated into the memory networks for the target ads. The typeface cues supported this abstraction, as did the visual information. The specific product features, however, were not integrated into this network. It is entirely possible that the feature-level information simply was not encoded at the time of stimulus exposure. In this case, the visual and typeface cues would provide the information utilized by the subjects in formulating memory networks for the ads. However, an examination of the treatment means for the aided feature recall measures indicates that subjects did process the feature information contained within the ads: Recall levels appear to be of an acceptable level. These levels, however, were not differentially influenced by the consistency of typeface and visual cues. Therefore, an additional explanation is offered which addresses the treatment of detailed versus abstracted information. In related studies, researchers have demonstrated that physical details and thematic content are two unique aspects of pictorial organization (Spoehr & Lehmkuhle, 1983). In examining a series of pictures, subjects may abstract the meaning of pictures, rather than the details of form. An analogy may be drawn to memory for verbal material: One may be able to remember the overall or deep meaning of a sentence without possessing the ability to reconstruct the surface structure or exact wording of the material. Essentially, it is suggested that subjects abstracted the underlying meaning conveyed by the product features. This meaning was incorporated into the memory network for the ad, along with the consistent information conveyed by the typeface and visual cues. The specific feature-level details, however, were comparatively less accessible—their contribution consisting of stimulating the creation of a more accessible copy theme, particularly when the visual and typeface cues jointly reinforced this abstracted theme.

GENERAL DISCUSSION AND CONCLUSIONS

Taken together, the results of the two experiments provide evidence that typefaces convey meanings that have the potential to significantly influence important marketing constructs. These associations influence how consumers perceive brands, as well as, what they remember about brands. The first experiment demonstrated that typeface semantic associations significantly influenced the perceptions of advertised brands under both high and low involvement processing. The second experiment demonstrated how typefaces interact with additional ad components, the ad picture and copy, to affect consumer brand memory. Memory for brand benefit information was superior when all three ad components were consis-

tent. Given these findings, it is useful to conceptualize typefaces contained in marketing communications as independent components which convey meaning that consumers are able to perceive and store in memory as nodes in a semantic network.

Several interesting research questions need to be examined in light of the findings presented here. At a theoretical level, one issue concerns the manner through which typefaces develop and convey semantic associations. Semantic associations may be activated via one of three paths to meaning, or some combination of these three paths, including (a) through consistent use in a particular situation, (b) through a direct relation with the perceptual qualities generated by the visual patterning of the stimulus, and/or (c) via associations with abstract connotative dimensions (Lewis & Walker, 1989). For example, the script typeface used to convey the Johnson and Johnson company logo may convey a number of meanings through these three paths. Through consistent use on products associated with gentleness, the typeface may activate “gentleness” associations. Through the direct route, the typeface may convey the concept of “thin”, given the delicate style of the writing. Finally, through the connotative route, the type style may convey “elegance” to consumers—the elaborate style of writing conjuring associations with real-world elaborate objects which are, often times, also elegant. One area for future research would be directed at disentangling these semantic pathways. Several interesting constructs may exhibit distinct characteristics, contingent upon a typeface’s pathway to meaning. For example, the strength of typeface semantic associations (extent of agreement concerning specific typeface meanings) may vary depending upon the pathway through which meaning is acquired. Additionally, the specificity of typeface associations (degree of variability in meanings activated by a typeface) may also vary among the three pathways. Meaning developed through consistent usage may be characterized by a broader network of associations than meaning developed through the perceptual qualities of a typeface. In a marketing context, for example, a typeface that is used consistently to represent a brand name may acquire a number of diverse semantic associations which become centered on the meaning of the brand. Finally, it is also quite possible that these pathways work in concert to activate semantic associations—multiple paths may establish meaning for a single typeface.

Related to this issue of multiple pathways would be a line of research to examine the nature of typographical influences on consumer perceptions of brands with which consumers have prior exposure and/or experience. A typeface used to display a brand name during its introduction may be expected to convey meaning via the first two pathways. For example, early in the company’s lifetime, General Motors’ bold logo may have exclusively conveyed strength and security to consumers. As a brand develops and the name is presented over time with the same physical appearance—meaning begins to accumulate due to consistent usage. Over time, perhaps, the

meaning developed from the direct and indirect pathways surrenders to the meaning developed through this consistent use. Following the General Motors example, the type style used to display the company brand in 2000 may convey to consumers the qualities they associate with the firm, but these specific associations would not necessarily coincide with the meanings conveyed at introduction.

An additional implication concerns the influence typeface semantic associations exerted on high as well as low involvement subjects. One line of research should focus on gaining a better understanding of other potential moderating variables on this typeface effect. One interesting issue would examine individual difference variables that may influence the degree to which typeface cues exert an influence on consumer brand perceptions. One such variable may be an individual's preference for visual versus verbal information (Childers, Houston & Heckler, 1985). Although a stimulus may be verbal in structure, consumers with a preference for visual versus verbal information may be more influenced by the pictorial element of typeface cues.

Also related to involvement, as an area for future inquiry is the process by which typeface cues exert influence on consumers. Results of this study indicate that the central route supplements, but not replaces, the peripheral route to persuasion. Further research needs to more specifically address the nature of the process that underlies these effects. Lewis and Walker (1989) indicated that encoding of typographic features can proceed automatically, but our research did not explore the automatic nature of this semantic activation effect. However, related research (Krishnan & Shapiro, 1996) has used indirect-direct test comparisons to demonstrate the existence of implicit memories which may be adapted to study the encoding process for typographic cues. In their research indirect tests were composed of word-stem completions and preference judgments. Future research may explore the automatic and prior activation of typeface semantic associations by including derivations of these indirect memory measures with direct tests of memory. Methodologically, this would represent a significant contribution to the work presented in this study.

A final area of future research would involve the potential influence of attitudes toward typefaces on attitudes toward advertisements and brands. This research was focused on the semantic influences of typefaces on brand perceptions and memory and thus evaluative reactions to typefaces were not addressed. However, one very interesting line of research might examine the extent to which evaluative reactions to typefaces influence attitudes toward the ad as well as attitudes toward the ad's brand (Lutz 1985). It appears likely that evaluative reactions to typefaces may influence consumers considering the effects on brand perceptions demonstrated in this research.

The issues raised in this study contribute to knowledge development within consumer behavior in numerous ways. First, evidence is provided which suggests that typefaces should be viewed as more than a design afterthought. Type-

faces do more than communicate verbal material, they convey unique associations independent of the words they represent. Secondly, these semantic associations are not ephemeral in nature. It has been demonstrated that these associations influence variables of interest to both practitioners and researchers. Third, the viability of an indirect path to typeface meaning, through associations with real-world objects, has been examined. It has been suggested that these meanings are especially useful from a marketing standpoint in communicating product benefits. Fourth, typeface semantic cues have been shown to influence subjects characterized by both high and low levels of involvement. Fifth, typeface semantics are shown to significantly influence consumer memory for brand benefits. Overall, this study directs attention to the importance of understanding issues related to typeface selection beyond the aesthetics of their style. Typeface semantic associations may best be conceptualized as independent inputs both to the development of consumer perceptions and the formation of memory networks for brands.

REFERENCES

- Bartram, David. (1982). The perception of semantic quality in type: Differences between designers and non-designers. *Information Design Journal*, 1, 38-50.
- Brucks, Merrie. (1985). The effects of product class knowledge on information search behavior. *Journal of Consumer Research*, 12, 1-16.
- Chaiken, Shelly. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39, 752-766.
- Childers, Terry L., Houston, Michael J., & Heckler, Susan E. (1985). Measurement of individual differences in visual versus verbal information processing. *Journal of Consumer Research*, 12, 125-134.
- Foltz, Gregory S., Poltrock, Steven E., & Potts, George R. (1984). Mental comparison of size and magnitude: Size congruity effects. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10, 442-453.
- Houston, Michael J., Childers, Terry L. & Heckler, Susan E. (1987). Picture-word consistency and the elaborative processing of advertisements. *Journal of Marketing Research*, 24, 359-369.
- Kahl, Lynn R., & Homer, Pamela M. (1985). Physical attractiveness of the celebrity endorser: A social adaptation perspective. *Journal of Consumer Research*, 11, 954-961.
- Keller, Kevin Lane. (1993). Conceptualizing, measuring and managing customer-based brand equity. *Journal of Marketing*, 57, 1-22.
- Kirmani, Amna. (1990). The effect of perceived advertising costs on brand perceptions. *Journal of Consumer Research*, 17, 160-171.
- Krishnan, H. Shanker, & Shapiro, Stewart. (1996). Comparing implicit and explicit memory for brand names from advertisements. *Journal of Experimental Psychology: Applied*, 2, 147-163.
- Lewis, Clive, & Walker, Peter. (1989). Typographic influences on reading. *British Journal of Psychology*, 80, 241-257.
- Lutz, Kathy A., & Lutz, Richard J. (1977). Effects of interactive imagery on learning: Application to advertising. *Journal of Applied Psychology*, 62, 493-498.
- Lutz, Richard. (1985). Affective and cognitive antecedents of attitude toward the ad: A conceptual framework. In L. Alwitt & A. Mitchell (Eds.), *Psychological Processes and Advertising Effects: Theory, Research and Applications* (pp. 45-63). London: Lawrence Erlbaum Associates, Inc.

- Macinnis, Deborah J., & Park, C. Whan. (1991). The differential role of characteristics of music on high- and low-involvement consumers' processing of ads. *Journal of Consumer Research*, 18, 161–173.
- McLean, Ruari. (1980). *The Thames and Hudson Manual of Typography*. London: Thames & Hudson Ltd.
- Miniard, Paul, Bhatla, Sunil, Lord, Kenneth, Dickson, Peter, & Unnava, H. Rao. (1991). Picture-based persuasion processes and the moderating role of involvement. *Journal of Consumer Research*, 18, 92–107.
- Paivio, Allan. (1975). Perceptual comparisons through the mind's eye. *Memory & Cognition*, 3, 635–647.
- Pan, Yigang, & Schmitt, Bernd. (1995). Language and brand attitudes: The impact of script and sound matching in chinese and english. *Working Paper*, Columbia University.
- Petty, Richard E., Cacioppo, John T., & Schumann, David. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research*, 10, 135–146.
- Petty, Richard E., & Cacioppo, John T. (1984). The effects of involvement on responses to argument quantity and quality: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology*, 46, 69–81.
- Posner, Michael I. (1970). On the relationship between letter names and superordinate categories. *Quarterly Journal of Psychology*, 22, 279–287.
- Posner, Michael I., & Boies, Stephen J. (1971). Components of attention. *Psychological Review*, 78, 391–408.
- Rowe, Camille L. (1982). The connotative dimensions of selected display typefaces. *Information Design Journal*, 1, 30–37.
- Schmitt, Bernd H., Pan, Yigang, & Tavassoli, Nader T. (1994). Language and consumer memory: The impact of linguistic differences between chinese and english. *Journal of Consumer Research*, 21, 419–431.
- Schmitt, Bernd H., Tavassoli, Nader T., & Millard, Robert T. (1993). Memory for print ads: Understanding relations among brand name, copy, and picture. *Journal of Consumer Psychology*, 2, 55–81.
- Spoehr, Kathryn, & Lehmkuhle, Stephen. (1983). *Visual Information Processing*. San Francisco: Freeman.
- Tantillo, John, Di Lorenzo-Aiss, Janet, & Mathisen, Richard E. (1995). Quantifying perceived differences in type styles: An exploratory study. *Psychology and Marketing*, 12, 447–457.
- Tinker, Miles A. (1963). *Legibility of print*. Ames: Iowa State University Press.
- Tinker, Miles A., & Paterson, David G. (1928). Influence of type form on speed of reading. *Journal of Applied Psychology*, 12, 359–368.
- Unnava, H. Rao, & Burnkrant, Robert E. (1991). An imagery-processing view of the role of pictures in print advertisements. *Journal of Marketing Research*, 28, 226–231.
- Unnava, H. Rao, Burnkrant, Robert E., & Erevelles, Sunil. (1994). Effects of presentation order and communication modality on recall and attitude. *Journal of Consumer Research*, 21, 481–490.
- Walker, Peter, Smith, Sylvia, & Livingston, Alan. (1986). Predicting the appropriateness of a typeface on the basis of its multi-modal features. *Information Design Journal*, 3, 29–42.
- Webster, Helen A., & Tinker, Miles A. (1935). The influence of type face on the legibility of print. *Journal of Applied Psycholinguistics*, 19, 43–52.

Accepted by Dawn Iacobucci.

Copyright of Journal of Consumer Psychology (Lawrence Erlbaum Associates) is the property of Taylor & Francis Ltd and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.