Auditory and Visual Brand Identifiers in Chinese and English

ABSTRACT

A main component of branding is to link a brand name to nonverbal cues that facilitate brand name memory. The authors examine the integration in memory of auditory and visual brand identifiers with brand names written in the logographic Chinese script compared with the alphabetic English script. The first experiment compares native Mandarin speakers living in China with native English speakers living in the United States. The second experiment examines bilingual Cantonese–English speakers living in Hong Kong. The results of the experiments suggest that visual brand identifiers are integrated in memory more easily with Chinese brand names, whereas auditory brand identifiers are integrated in memory more easily with English brand names. These results are of theoretical interest because they demonstrate that writing systems affect cognitive processes that are involved in the integration of words with nonverbal information. The results are of practical interest because they suggest that the relative success of auditory and visual brand identity strategies is affected by differences in writing systems.

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Language and writing are a definitive aspect of culture and are central to branding, brand identification, and marketing communications. The main source of knowledge on branding and communications has come, however, from research within the context of single languages. This implicitly assumes that consumers process brand information in the same way globally. We examine this assumption and compare how the two main writing systems in use, alphabetic and logographic, are integrated in memory with nonverbal auditory and visual brand identifiers.

One-fourth of the world's population, including speakers of Chinese, Japanese, and Korean, reads logographic characters that represent meaning rather than units of sound. English and most other modern languages rely instead on alphabetic scripts that represent the sounds of words and not their meanings. These scripts include the Latin alphabet (e.g., English, Spanish) and Arabic, Hebrew, and Cyrillic scripts (e.g., Russian). Moreover, within their written forms, languages such as Japanese and Korean rely on a mix of logographic and alphabetic scripts.

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Psycholinguistic research suggests that there may be cognitive differences in the reading of alphabetic English words and logographic Chinese words. Reading English is dominated by a phonological mental code, whereas reading logographs appears to rely more on visual processes (for reviews, see Hung and Tzeng 1981; Tavassoli [in press]; Zhou and Marslen-Wilson 1999). Recent consumer research has begun to build on such findings and indicates that even subtle differences in language and writing systems can have profound effects on consumer memory (Schmitt, Pan, and Tavassoli 1994; Tavassoli 1999, 2001; Tavassoli and Han 2001), attitude formation, and purchase intentions (Pan and Schmitt 1996; Schmitt and Zhang 1998; Tavassoli 2001; Zhang and Schmitt 1998, 2001).

Both the consumer and the psycholinguistic literature have been concerned almost exclusively with the processing of words in isolation or of nonverbal components intrinsic to written words such as font style and print color. However, branding is concerned not only with issues pertaining to words but also with multimodal memory structures built around and linked to verbal labels such as brand names. Recent research examining processing differences of the two Korean scripts, the alphabetic Hangul and the logographic Hancha, suggests that there are differences in the ways these scripts are integrated with auditory and visual cues (Tavassoli and Han 2001, Experiment 2). We examine whether these differences exist for the processing of logographic Chinese words and alphabetic English words.

One nonverbal brand identifier is a logo, which serves as the official visual representation of a brand name and is intrinsic to all identity programs. Taco Bell, for example, has spent 20 times more on permanent media limited to a brand name and logo (e.g., on trucks, banners, other signage) than on advertising (Shennan 1986). Auditory cues are also used extensively for brand identification purposes. Jingles, which had fallen out of favor with advertisers in the 1970s, are making a strong comeback under the new guise "sonic brand triggers" (Croft 1999). Recognizing the value of auditory brand identifiers as key branding components, companies are rushing to register them under the intellectual property clause. NBC's familiar three-tone chime and the MGM lion's roar have already been trademarked, and even the Harley-Davidson's exhaust sound from its V-twin engines has been filed for protection with the U.S. Patent and Trademark Office (Sullivan 1998).

Only a few academic articles have examined the mnemonic effectiveness of auditory and visual brand identifiers. These have begun to delineate, for example, stimulus properties and contextual variables that affect the mnemonic potency of logos (Henderson and Cote 1998), jingles (Yalch 1991), and

sound effects (Miller and Marks 1992). However, we do not examine characteristics of logos and auditory devices per se. Instead, we address the associations in memory between a brand name and an auditory or visual cue, which is one of the most important ways sounds and logos are used as branding devices: to differentiate a brand name and serve as a mnemonic cue.

We next outline a theoretical model that makes predictions for the integration in memory of verbal information that is presented in alphabetic and logographic scripts with nonverbal auditory and visual information. We then test this model in two experiments with native Mandarin and English speakers and bilingual Cantonese–English speakers. We conclude by discussing the theoretical implications and practical applications of our findings.

READING CHINESE AND ENGLISH

Reading English words differs considerably from reading Chinese logographs. Although readers of both types of script rely on the same cognitive processing mechanisms, phonological involvement appears to be greater for reading English. English uses the Latin alphabet, which consists of meaningless symbols (letters) that represent the pronunciation of words. Not surprisingly, phonological aspects pervade in reading English, and readers of English tend to phonologically recode (subvocalize) written words (e.g., McCusker, Hillinger, and Bias 1981) and rehearse words phonologically (Paivio 1986; Van Orden 1987) in short-term memory's phonological loop (Baddeley 1986).

The process of reading differs considerably when a reader must distinguish more than 7000 Chinese logographs. For logographs, the association with pronunciation is arbitrary and acquired through rote associative learning. Chinese dialects such as Cantonese and Mandarin, which rely on the same script, are mutually unintelligible in their spoken forms. Logographs are symbols that represent meaning instead of a word's pronunciation. This enables a Chinese reader to mentally access meaning unmediated by phonology, or subvocalization (Perfetti and Zhang 1991). Phonology alone would also be an ambiguous mental code in Chinese, because there are only approximately 400 syllables in Mandarin (1300 including tones). This creates a large number of homophones¾words that sound the same but have different meanings, such as "so," "sow," "sew" in English. Each Chinese word, however, has a unique logographic representation, which eliminates the problem of homophones in writing. Possibly as a result of the visual complexity of characters or their disambiguity with respect to homophones, reading Chinese appears to rely on visual processes to a greater degree than does reading English (Hung and Tzeng 1981; Schmitt, Pan, and Tavassoli 1994; Tavassoli 2001, [in press]; Zhou and Marslen-Wilson 1999).

Several articles in the marketing literature have begun to explore the implications of these processing differences on brand memory and attitude formation. Schmitt, Pan, and Tavassoli (1994) find that regardless of whether words are learned auditorily or visually, Chinese speakers are able to recall them better by writing them down during free recall, whereas English speakers are better at recalling words by speaking them. The authors suggest that the attempt to write primes the words' visual memory code (which should be more pronounced for Chinese logographs) and that the attempt to speak primes the words' phonological representation in memory (which should be more pronounced for alphabetic words). Tavassoli (1999) further extends this model by suggesting that relative differences in the reliance on visual (and semantic) versus phonological processes in short-term memory should affect the qualitative nature of processing. For example, he finds that memory for presentation order is more pronounced in English. He argues that this is because the rehearsal of English words relies to a greater degree on short-term memory's phonological loop, which rehearses information in a serial manner (Baddeley 1986).

Consumer research has also examined implications of these linguistic differences on attitude formation. Pan and Schmitt (1996) find that Chinese readers are more sensitive to features of a script, whereas listeners of English are more sensitive to features of a speaker's voice. Specifically, Pan and Schmitt find that attitude ratings provided by Chinese consumers are more sensitive to the match between the femininity or masculinity of fonts for feminine (e.g., lipstick) or masculine (e.g., motorcycles) products. In contrast, U.S. consumers are more sensitive to the match between the product class and sex of the presenter in auditory communications. Tavassoli (2001) also finds that Chinese consumers are more sensitive to visual features of written words. Compared with readers of English words, readers of Chinese logographs are more likely to remember the print color of a brand name and are influenced more by a color match among brand names in brand evaluations (Tavassoli 2001). These articles are based on the assumption that visual attention is heightened for the processing of logographs, which increases the likelihood that visual features of the words are attended to and encoded in memory.

Most previous research has been limited to examining the processing of verbal stimuli in isolation. Brand management, however, is also concerned with the relationships formed between items of information across modalities. For example, the conjoining of elements such as a brand name and a picture has been examined in terms of meaningful associations in English (e.g., Houston, Childers, and Heckler 1987; Lutz and Lutz 1977; Schmitt, Tavassoli, and Millard 1993). Marketers also extensively employ nonmeaningful logos and au-

ditory cues to enhance brand memory. There is, however, a dearth of academic research on this topic. An exception is a recent study by Tavassoli and Han (2001, Experiment 2), which examines relational memory between auditory and visual cues and the alphabetic Hangul and logographic Hancha in Korean. Tavassoli and Han find differences in the potency with which mnemonic associations are formed between auditory and visual cues and Hangul and Hancha brand names. We examine this idea cross-culturally by contrasting the processing of Chinese and English.

Cross-script differences for relational memory with auditory and visual information should exist because the integration of information is stronger the more the items rely on the same encoding mechanisms. The architecture used for perceptual processing also provides the mechanism for integration (McClelland 1996). For example, after subjects learned a mixed list of spoken and written words, words that had been learned in the same modality were better memory cues for one another than were words that had been learned in different modalities (Penney and Butt 1986). Similarly, consumers performed better at a pair-recognition task involving brand names and product categories when these were learned in the same modality rather than in different modalities (Tavassoli 1998). The integration of words with nonverbal information follows the same pattern. Information integration in a coordination task—for example, when a pilot needs to integrate visual, auditory, and verbal information to make a cognitive decision—has also been found to be greater when the processing overlap is larger (Yee, Hunt, and Pellegrino 1991).

In summary, relational memory should be stronger the more two stimuli rely on similar encoding processes. This predicts the following interaction between language and stimulus pairing: The greater reliance on phonological processes in reading English should facilitate relational memory between English brand names and auditory brand identifiers. In contrast, a greater reliance on visual processes in reading Chinese should facilitate relational memory between Chinese brand names and visual brand identifiers. We test this hypothesis with native Mandarin and English speakers in Experiment 1 and with Cantonese–English bilinguals in Experiment 2.

EXPERIMENT 1: NATIVE SPEAKERS OF MANDARIN AND ENGLISH

Method

Forty paid students participated individually in the 2 (language: Mandarin versus English) × 2 (brand identifier pairing: auditory versus visual) experiment. Language was a between-participants factor, and brand identifier pairing was a repeated factor for which the order was counterbalanced across participants. The participants were recruited from marketing classes at a Chinese and a U.S. university, respectively. For all Chinese participants (11 men and 9 women, average age 20.6 years), Mandarin was the native language. For

all U.S. participants (12 men and 8 women, average age 21.9 years), English was the native language.

The procedure was based on Tavassoli and Han's (2001, Experiment 2) and lasted approximately 30 minutes. An equal number of participants was assigned to the language and counterbalanced pairing conditions. The entire experiment was completed at a computer terminal that provided instructions on the screen. Participants first completed three tasks that familiarized them with the same verbal stimuli used in the main experiment. The third task involved a free recall task used as a control factor to help interpret potential language main effects in the main experiment.

For the main experiment, participants were explicitly instructed to learn the pairings between 16 brand names and a different auditory or visual brand identifier (A_1B_1, A_2B_2, ..., $A_{16}B_{16}$). Participants either learned the word–auditory brand identifier pairings first and the word–visual brand identifier ratings second or vice versa. After each learning task, pair recognition was tested. For this memory task, participants again saw the same 16 words as they saw at learning. However, half of the pairings were the same as at learning (e.g., A_3B_3), and half were cross-matched (e.g., A_5B_{11}). Participants judged whether each brand identifier–word pair was in the same pairing as at learning or in a pairing that was rearranged among the stimuli at learning. At the end of the experiment, participants completed a demographics and a handedness questionnaire (Oldfield 1971) and were debriefed.

Stimuli and Pretests

In all conditions, the words appeared in black typeface (equivalent of Arial 36-point font) just above the center of an otherwise white 15-inch computer screen. In the visual brand identifier condition, the words appeared simultaneously for five seconds above one of 16 differently colored logos. In the auditory brand identifier condition, each of 16 sounds was played over headphones and the words were displayed simultaneously. The words were displayed for five seconds, and sounds lasted an average of just over four seconds. There was a two-second pause between items in both conditions.

We took 16 two-phoneme pseudo-words (e.g., Bensu, Fatow, Hayda) from Schmitt, Pan, and Tavassoli (1994). These had been pretested for visual complexity, similarity in pronunciation across languages, homophones, familiarity, associations, acceptability as a brand name, attitudes, and perceived memorability (Schmitt, Pan, and Tavassoli 1994). We provided an additional control in the last preexperimental task of this experiment, in which we assessed recall memory. We counted words as correct when they could be pronounced like the actual stimuli. The means for the Mandarin condition (M = 9.6, standard deviation [S.D.] = 4.20) were higher,

but not significantly so, than for the English condition (M = 8.8, S.D. = 2.63; t(38) = .72, $p > .47$). We therefore believe that the verbal stimuli are comparable across the two languages.

Results and Discussion

The dependent measure was the proportion of correct number of pairings identified as "same" and "different." A repeated-measures analysis of variance (ANOVA) was performed on the between-participants factor language (Mandarin versus English) and the repeated factor brand identifier pairing (auditory versus visual). The main effects for language ($F(1, 38) = 3.97$, $p = .05$) and type of pairing ($F(1, 38) = 13.06$, $p < .001$) were significant. Overall, participants performed better in the Mandarin condition and were better at remembering the pairings of words with visual than with auditory brand identifiers. These main effects were qualified by a significant language × pairing interaction that is consistent with the hypothesis ($F(1, 38) = 13.94$, $p < .001$). The raw means are depicted in Figure 1.

Paired t-tests for the within-language comparisons show that word–visual brand identifier pairings (M = .916, S.D. = .11) were remembered better than word–auditory brand identifier pairings in Mandarin (M = .725, S.D. = .14; t(38) = 4.81, $p < .0001$). However, memory for word–visual brand identifier pairings (M = .750, S.D. = .14) did not differ significantly from memory for word–auditory brand identifier pairings in English (M = .747, S.D. = .17). The simple comparisons across the two languages show that memory for word–visual brand identifier pairings was significantly better in Mandarin than in English (t(38) = 4.17, $p < .0005$). In contrast, memory for word–auditory brand identifier pairings did not differ between Mandarin and English.

The interaction effect in the ANOVA suggests that there are relative differences in the way auditory and visual brand

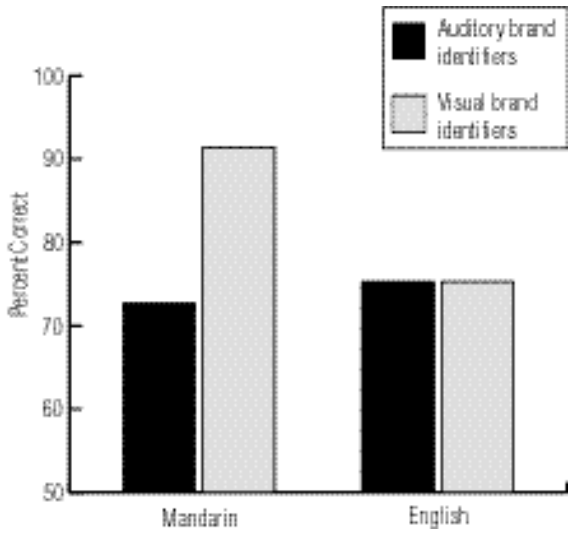


Figure 1.
Experiment 1: Pair Recognition of Brand Names and Brand Identifiers (Raw Means)

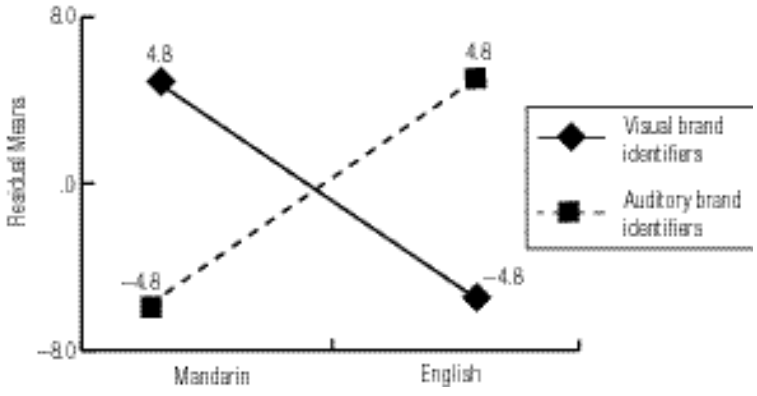
identifiers are integrated with Mandarin and English words in memory. A simple examination of the raw means suggests that the type of brand identifier, auditory or visual, affects relational memory in Mandarin but not in English. It may be wrong to make that inference, however. There were significant main effects, indicating that Mandarin speakers performed better regardless of pairing condition and that visual brand identifiers were remembered better than those with auditory brand identifiers irrespective of language.

To compare such "apples and oranges," it is statistically appropriate to adjust for significant main effects and interpret the residual means (Rosnow and Rosenthal 1991; Ross and Creyer 1993). Table 1 decomposes the grand mean for each cell into its constituent language (Mandarin versus English) and pairing (auditory versus visual brand identifier) main effects and interaction effect. The residual means that remain after the main effects are subtracted are depicted in Figure 2. They describe a pattern of results that is consistent with the hypothesis and with Tavassoli and Han's (2001) Korean findings. The adjusted means suggest that word–visual brand identifier pairings are remembered better in Mandarin, whereas word–auditory brand identifier pairings are remembered better in English.

Table 1.
Experiment 1:
Decomposition of the
Group Means (Proportions)

	Group Mean	=	Grand Mean	+	Language Effect	+	Pairing Effect	+	Interaction Effect
Mandarin auditory	72.5	=	78.4	+	3.6	+	–4.7	+	–4.8
Mandarin visual	91.6	=	78.4	+	3.6	+	4.7	+	4.8
English auditory	75.0	=	78.4	+	–3.6	+	–4.7	+	4.8
English visual	74.7	=	78.4	+	–3.6	+	4.7	+	–4.8

Figure 2.
Interaction Effect from
Experiment 1



It is possible, however, that other cross-cultural differences that were not controlled for could have caused the pattern of results. For example, the memorability of the brand identifiers may have differed for Chinese compared with U.S. participants. If it was easier for Chinese participants to remember the visual brand identifiers but easier for U.S. participants to remember the auditory brand identifiers, this may have produced the interaction effect. To control for any population differences, we replicated the experiment with bilingual subjects within a single culture. In Experiment 2, we used bilinguals in Hong Kong who are fluent in English and Cantonese, a Chinese dialect that uses the same script as Mandarin.

EXPERIMENT 2: CANTONESE–ENGLISH BILINGUALS

Method

The design and procedure were identical to Experiment 1. Forty participants in the Cantonese and English language conditions were recruited from the same participant pool of a Hong Kong university. For all participants (30 men and 10 women), Cantonese was the native language. On average, these bilinguals had begun to learn English 19.2 years previously. Their average age was 26.4 years. All participants had begun to learn English before age 12, which is considered the end of the "critical period" for second-language acquisition (Scovel 1988). The paid participants were divided equally across conditions.

Stimuli and Pretests

We used the same auditory and visual brand identifiers as in Experiment 1 but developed the brand names specifically for Cantonese in a series of pretests. The final set of 16 two-character nonsense words and matched alphabetic words met criteria similar to those in Schmitt, Tavassoli, and Millard's (1993) work. We controlled for the complexity of the number of strokes versus the number of letters (see Schmitt, Tavassoli, and Millard's [1993] criteria). We equated the pronunciation across languages using a different subsample of students. We read the English words aloud, and participants recorded each word using Chinese characters. There was a 100% match between the spoken words and the written characters (N = 10). We also avoided homophones within the stimulus set. Finally, 32 bilinguals rated each of the 16 words selected¾16 raters per language condition¾on five seven-point scales: "What is your overall attitude toward this nonsense word?" ("positive"/"negative"), "How appropriate is this nonsense word as a brand name?" ("very appropriate"/"not very appropriate"), "Would you ever try a product carrying this word as its brand name?" ("very likely"/"not very likely"), "How would you rate this nonsense word in terms of memorability?" ("very memorable"/"not very memorable"), "Would you readily recognize this nonsense word if you saw it again in a store?" ("very likely"/"not very likely"). The average ratings across the 16 words did not differ on any of the five scales between the Cantonese and English conditions ($p > .31$).

Actual recall memory assessed in the last preexperimental task was also similar. We counted words as correct when they could be pronounced like the actual stimuli. The number of words recalled in the Cantonese condition (M = 11.35, S.D. = 2.94) did not differ significantly from that in the English condition (M = 10.55, S.D. = 3.22; t(38) = .82, $p > .41$).

Results and Discussion

From the pair-recognition tests, the proportion of correct responses were analyzed. A repeated-measures ANOVA was performed on the between-participants factor language (Cantonese versus English) and the repeated factor brand identifier pairing (auditory versus visual). The main effect for language was not significant ($p > .28$). The main effect of pairing was significant (F(1, 38) = 5.05, $p < .05$). As in Experiment 1, participants performed better at remembering the pairings of words with visual than with auditory brand identifiers (see Figure 3). Qualifying this main effect was a significant language × pairing interaction, consistent with the hypothesis (F(1, 38) = 17.64, $p < .0005$).

Paired t-tests for the within-language comparisons show that word–visual brand identifier pairings (M = .850, S.D. = .08) were remembered better than word–auditory brand identifier pairings in Cantonese (M = .747, S.D. = .09; t(38) = 7.47, $p < .0001$). However, memory for the word–visual brand identifier pairings (M = .809, S.D. = .11) did not differ significantly from memory for the word–auditory brand identifier pairings in English (M = .841, S.D. = .09; t(38) = −1.08, $p > .29$). The simple comparisons across the languages show that memory for word–visual brand identifier pairings was directionally but not significantly greater in Cantonese than in English (t(38) = 1.35, $p < .20$). In contrast, memory for word–auditory brand identifier pairings was significantly worse in Cantonese than in English (t(38) = −3.27, $p < .005$).

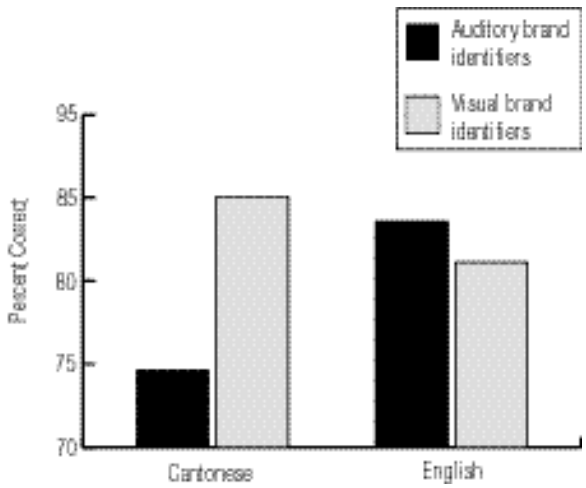


Figure 3.
Experiment 2:
Pair Recognition of Brand Names and Brand Identifiers (Raw Means)

Again, we rely on the residual means to interpret this interaction (Rosnow and Rosenthal 1991; Ross and Creyer 1993). Table 2 decomposes the grand mean into its constituent main effects and interaction effect. Table 2 shows that the pattern of results is identical to that in Experiment 1 (Table 1), except that the language main effect is no longer present. It appears that the Mandarin speakers may simply have had better overall memory than the English speakers in Experiment 1. This is controlled for with the bilinguals in Experiment 2. When we control for the superiority of the visual brand identifiers, the residual means show the same pattern as in Experiment 1 (Figure 4). They suggest that it is easier to integrate auditory brand identifiers with English brand names, whereas it is easier to integrate visual brand identifiers with Cantonese brand names. Experiment 2 therefore replicates the ANOVA interaction effect of Experiment 1 within a single culture. This further supports the notion that the effect is linguistic and based on processing differences in reading English and Chinese, rather than on other cultural factors such as education or cultural differences in memory for the auditory or visual brand identifiers.

General Discussion

Previous research suggests that reading Chinese relies more on visual processes, whereas reading English is dominated by phonological processes (Hung and Tzeng 1981; Schmitt,

Table 2.
Experiment 2:
Decomposition of the
Group Means (Proportions)

	Group Mean	=	Grand Mean	+	Language Effect	+	Pairing Effect	+	Interaction Effect
Cantonese auditory	74.7	=	81.2	+	−1.3	+	−1.8	+	−3.4
Cantonese visual	85.0	=	81.2	+	−1.3	+	1.8	+	3.4
English auditory	84.1	=	81.2	+	1.3	+	−1.8	+	3.4
English visual	80.9	=	81.2	+	1.3	+	1.8	+	−3.4

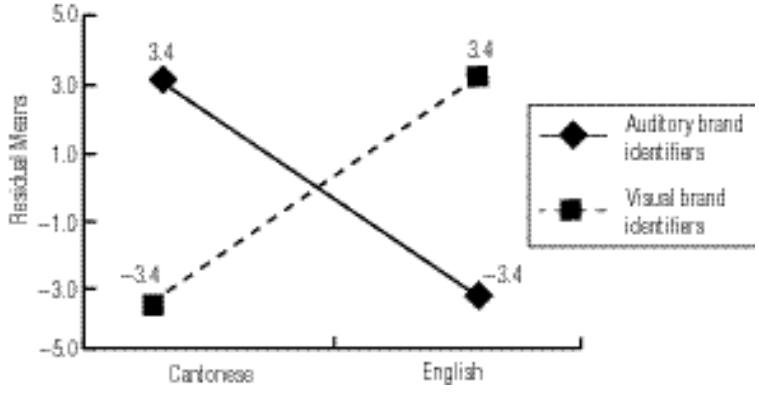


Figure 4.
Interaction Effect from
Experiment 2

Pan, and Tavassoli 1994; Tavassoli 1999, 2001, [in press]; Zhou and Marslen-Wilson 1999). This affects, for example, the processing of words' visual features such as font style (Pan and Schmitt 1996) and color (Tavassoli 2001). These processing differences have also been found to affect the interaction between auditory and visual brand identifiers and Hangul and Hancha (Tavassoli and Han 2001).

We replicated this last finding across languages. The interaction effects in two studies with native speakers and bilinguals suggest that relational memory is more easily encoded between words and visual brand identifiers in Chinese, whereas it is more easily encoded between words and auditory brand identifiers in English. These findings provide a framework for managers to develop marketing communications more efficiently across language systems.

Associations in memory between brand names and cues such as logos and auditory icons are of importance to consumer memory, brand identity, and branding. Logos have been found to be important mnemonic brand cues in English (Henderson and Cote 1998). The availability of multimedia channels of communication has received renewed attention through the promises of Internet marketing: three-fifths of the Web's top 75 sites already feature audio (Crockett 2001); as Andrew Ingram of the Radio Advertising Bureau notes, "like visuals or smells, sounds can become associated with brands, and once they are, they become hugely powerful as branding devices" (Croft 1999, p. 41). It is therefore of practical interest that reliable differences exist in the everyday integration of verbal and nonverbal information that is presented in multimedia messages across the world's two major writing systems, alphabetic and logographic.

These effects may also extend to brand evaluations. The absence or presence of logos, for example, has been found to affect brand ratings (Schechter 1993). One way a nonverbal element can affect the evaluation of a brand is by triggering in memory verbal associations that are linked to the brand name (Schmitt, Tavassoli, and Millard 1993). Logos and auditory icons may thus serve not only as differentiating devices in recognizing a brand (e.g., on the shelf) or as retrieval cues for brand recall (e.g., in forming an evoked set) but also as triggers for evaluatively relevant information that is stored in memory. Auditory and visual features may also create associations between brands, such as between a parent brand and its extension or, in cases of "brand piracy," between two separate brands Store brands, for example, often mimic the visual design of a leading national brand. On all these levels, our results suggest that visual branding strategies are more potent for logographic brand names and that auditory branding strategies are more potent for alphabetic brand names.

Mnemonic associations between alphabetic and logographic scripts and auditory and visual information may also have broader application. Using visual symbols is common in signage and complex information displays. Symbols are used to highlight category membership and signify thematic relations among items of verbal information. This is helpful in environments such as museums and theme parks, as well as for static and dynamic textual information. The navigation of Web sites, for example, is more efficient when verbal information adheres to a visual scheme, because symbols can help orient the user toward goal-relevant information. Our results suggest that it should be easier for readers of Chinese logographs to learn visual–verbal associations that could aid them in navigating complex environments. Conversely, it should also be more confusing when visual codes are changed in information displays that contain logographic compared with alphabetic words.

Further research should also examine auditory and visual cues that carry meaning. On the one hand, the use of nonmeaningful logos, sounds, and brand names (akin to Exxon or Lycos) in our research avoided a myriad of confounds inherent in the symbolic, or associative, content of each language. On the other hand, because participants in our experiments were informed that the brand names were nonsense words, this may have enhanced differences in phonological and visual processing strategies between Chinese and English. Further research should examine meaningful brand names (Sun), logos (Traveler's umbrella), and auditory brand identifiers (MGM's lion roar) that do have inherent meaning. Meaningful associations can be made at a variety of levels, both conceptual and lexical (Schmitt, Tavassoli, and Millard 1993), and can enhance memory (Lutz and Lutz 1977; Schmitt, Tavassoli, and Millard 1993) as well as facilitate the encoding of thematic information (Meyers-Levy 1991). Moreover, research suggests that meaningful associations may be attended to more in Chinese (Tavassoli 1999) and affect brand name evaluations more strongly than in English (Zhang and Schmitt 2001).

In summary, understanding linguistic differences means more than being sensitive to symbolic differences in language's content. International branding is not simply a matter of avoiding embarrassing names such as the Chevy Nova, which translated into "no go" in Spanish. Instead, the effectiveness of an auditory or visual brand identity strategy may be inherent to general processing differences in reading an alphabetic compared with a logographic script. In that sense, culture is not merely superimposed on a consumer's psychology. Instead, culture can unfold cognitively through the reading of different scripts people use to represent everyday verbal information.

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