Activating Sound and Meaning: The Role of Language Proficiency in Bilingual Consumer Environments

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How do bilingual consumers process bilingual information? Prior research indicates that stimulus-related concepts (type of name translation and language emphasis) play a critical role. We extend this research by including language proficiency as a key person-related concept. When asking Chinese-English bilinguals to evaluate dual brand names, we find that proficient consumers prefer sound translation when the English name is emphasized but meaning translation when the Chinese name is emphasized. In contrast, less proficient bilinguals engage in semantic processing of the dual names. These results suggest that proficiency must be added as a key concept to a framework that addresses bilingual consumer environments.

In many countries around the world, bilingual consumer environments are becoming increasingly prevalent. These environments include two key characteristics. First, consumers grow up with a native language (the so-called dominant language) and in addition learn to speak and read another language (the so-called nondominant language). Second, through the media and other commercial channels, these bilingual consumers are exposed to bilingual stimuli that contain both the dominant and the nondominant language.

The prevalence of such environments raises a key theoretical issue: How do these bilingual consumers process this bilingual information? To address the issue, it is necessary to conduct research that focuses on language processing while exposing bilingual consumers to bilingual information. Yet most research on language in consumer research has not done so. Some studies have employed a social cultural perspective, examining language as a carrier of social meaning (see, e.g., Koslow, Shamdasani, and Touchstone 1994), while others have examined picture-ad congruity in a given language (see, e.g., Luna and Peracchio 2001), but none have studied bilingual language processing per se. Even those studies that have focused on language processing (e.g., of grammatical structures, writing systems, the order of words) have exposed monolingual or bilingual consumers to only one language (Pan and Schmitt 1996; Schmitt, Pan, and Tavassoli 1994; Schmitt and Zhang 1998; Tavassoli 1999, 2001; Tavassoli and Han 2001; Zhang and Schmitt 1998).

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CONCEPTUALIZING BILINGUAL CONSUMER PROCESSING

The issue of how bilingual consumers process bilingual information has been examined conceptually and empirically by Zhang and Schmitt (2001). Using bilingual respondents whose dominant language was Chinese and nondominant language was English, in dual naming displays (an English brand name and its localized Chinese version), this research offered a framework that includes two key concepts: type of name translation and name emphasis. Specifically, in a dual naming display, the Chinese translation of the English name was sound based or meaning based. Moreover, either the English or the Chinese name was emphasized (using a certain type face, size, or position). Prior research had shown that English words are more likely to be processed phonologically and Chinese names are more likely to be processed semantically (Baddeley 1986; Hung and Tzeng 1981; Perfetti and Zhang 1991; Schmitt, Pan, and Tavassoli 1994). Hence Zhang and Schmitt expected

that emphasis would prime either phonological or semantic processing and consequently affect evaluations of the translated brand names. As expected, for sound-based translations, respondents evaluated these brand names more positively when the emphasis was the English language (rather than Chinese) because phonological processing had been primed. However, for meaning-based translations, there was no difference in attitudes toward the brand names between the two emphasis conditions.

While Zhang and Schmitt's research provides a framework and important insights into how bilingual consumers process bilingual information, the research used only stimulus-related characteristics of the bilingual consumer environment, namely, type of translation and language emphasis. However, the bilingual consumer environment consists of both stimulus-related and person-related characteristics. Therefore, a complete framework of how bilinguals process bilingual information must also study person-related concepts to determine their importance and potential interaction with the stimulus-related concepts.

LANGUAGE PROFICIENCY AND HYPOTHESES

In this article, we conduct a study that examines language proficiency and its interaction with type of translation and language emphasis in brand-name evaluations. Language proficiency has emerged as a key concept in bilingual interactive activation (BIA), which is the prime psycholinguistic model for explaining lexical-semantic access in a bilingual context (Dijkstra and van Heuven 1998; Grainger and Dijkstra 1992; Jared and Kroll 2001). The BIA model specifies whether bilingual speakers activate both the dominant and nondominant languages, or only the dominant language, when they process a bilingual stimulus.

Extant research has shown that both the dominant and nondominant languages are activated for speakers that are highly proficient in the nondominant language, whereas primarily the dominant language is activated by less proficient speakers (Beauvillain and Grainger 1987; Bijeljac-Babic, Biardeau, and Grainger 1997; Jared and Kroll 2001). This processing difference between highly and less proficient bilinguals has been shown not only when words are typographically or semantically related but also when they are phonologically related (Brysbaert, van Dyck, and van de Poel 1999; Dijkstra, Grainger, and van Heuven 1999).

Thus the BIA model proposes that bilinguals who are highly proficient in the nondominant language will access both languages, whereas less proficient speakers will primarily access the dominant language. As mentioned earlier, phonetic languages such as English are primarily processed phonologically, whereas logographic languages such as Chinese are primarily processed visual-semantically. Therefore, in a dual naming context, highly proficient Chinese-English bilinguals should be able to attend to both sound relations and meaning relations of the names. However, less proficient bilingual speakers should primarily activate phonological and semantic representations of the dominant Chinese language.

For less proficient speakers, it is possible that limited processing of the nondominant language may occur as well (Jared and Kroll 2001). However, this processing seems largely limited to the English lexicon and to using Chinese to mediate words in English in lexical-semantic access tasks (Chen 1990; Chen and Leung 1989), especially in a dual-name processing and evaluation context in which English names are newly made-up words. Further, the phonological awareness and phonological processing of new and unfamiliar English words by less proficient Chinese-English speakers seem to be poor (Holm and Dodd 1996). Since Chinese is primarily visual-semantic and processing English seems to be based on Chinese semantic mediation, dual name processing and evaluations by less proficient speakers should be largely based on meaning.

H1: Chinese-English speakers who are highly proficient in the nondominant language (i.e., English) will access phonological and semantic representations of both the Chinese and English language and therefore rely on both sound and meaning relatedness (of the Chinese and English names) in evaluating brand names;

H2: Chinese-English speakers who are less proficient in the nondominant language (i.e., English) will access phonological and semantic representations of Chinese and rely more on meaning than sound relatedness in evaluating brand names.

Moreover, the contextual cue of language emphasis should direct respondents to place weights on sound and meaning differentially. Since highly proficient speakers access both phonological and semantic representations of the Chinese and English languages (see hypothesis 1), we expect language emphasis to act as a prime that cues either phonological or semantic representations and thus sound or meaning relatedness between the English and Chinese names. This priming or cueing effect should be much less pronounced for less proficient respondents because these speakers are more likely to access phonological and semantic representations of Chinese (see hypothesis 2).

It is possible that there may be some priming of representation of English in the English-emphasis condition. For example, less proficient speakers may be able to engage in a limited lexical activation of the word (Hernandez and Reyes 2002). However, given that their phonological awareness in English is much less developed than that of highly proficient speakers in newly made-up word processing (see hypothesis 2), we expect that it is much less likely for less proficient speakers than for highly proficient speakers to access the phonological representation of the English language at the prompt of the cue.

In sum, high-proficiency respondents should be directed to place differential weights on sound and meaning in eval-

uations, depending on language emphasis, whereas low-proficiency respondents should primarily use a uniform meaning-processing strategy regardless of language emphasis. Thus, the effects specified in hypotheses 1 and 2 should be moderated by the language emphasis.

H3: When the emphasis is on the English name, we expect that high-proficiency respondents evaluate the dual name primarily by sound relatedness; when the emphasis is on the Chinese name, we expect that they evaluate the dual name primarily by meaning relatedness.

H4: Regardless of the emphasis, we expect that low-proficiency respondents evaluate the dual brand names primarily based on meaning relatedness.

EXPERIMENT

We tested these hypotheses in a study that presented English and Chinese brand names as one compound stimulus and emphasized either the Chinese name or the English name. To determine which type of processing occurs, we created relations or no relations between the dual names (i.e., the two languages), using methods similar to those used in previous studies of lexical-semantic representations. For example, in one such study participants read English words for which there were or were not French words with similar spelling (Jared and Kroll 2001). As English and French are phonetic languages, relations could be created with orthographic variations. For languages of different script types (e.g., phonetic English and logographic Chinese), one cannot simply create relations by selecting words of similar or dissimilar orthographies: the approximately 25–35 alphabetic letters of phonetic languages do not correspond to the hundreds of logographs of Chinese. Thus, relations were created along the sound and meaning dimensions of the names.

We created the meaning relations between the Chinese and English names by having the Chinese name depict the specific meaning of brand associations contained in the English name (e.g., the unit "-rub" for the fictitious name "with-rub" for lotion). For the sound relations, the Chinese name used characters that corresponded closely to the phonetics of vowels and consonants of the English name, particularly pertaining to the meaningful unit. Thus, the Chinese name could be related to the English name via sound only, meaning only, both sound and meaning, or neither sound nor meaning. The designs used here were different from those used before (Zhang and Schmitt 2001). In the earlier study, the baseline condition of neither sound nor meaning was not used, the meaning-based Chinese name did not refer to the meaning of the original English name per se but rather to meanings associated with the product category (e.g., "juicy" for fruit drinks), and sound-based names were manipulated in a Gestalt similarity sense.

Method

Subjects and Design. Three hundred sixty-eight undergraduate and graduate students from Tianjin participated in the study. Subjects were randomly assigned to conditions according to a between-subjects design of 2 (sound of name: related/similar or unrelated/dissimilar to the original name) × 2 (meaning of name: related/similar or unrelated/dissimilar to the brand name) × 2 (language emphasis: English or Chinese) × 2 (language proficiency: high vs. low). They were given booklets and were presented with dual names across the four product categories of lotion, tissue, boxing gloves, and supermarket store.

Language emphasis was manipulated via verbal instruction (i.e., subjects were told that either the Chinese name or the English name was the target of emphasis), via the position of the name (English either above or below the Chinese name) and via name typeface (either English or Chinese appeared in larger, bold typeface). Language proficiency was a measured variable based on the students' scores on the College English Test (CET), widely used in China. Those who had achieved levels 5–6 (equivalent to scoring 550 or above on the Test of English as a Foreign Language) were classified as having high English proficiency, and those who had achieved levels 1–2 (equivalent to scoring 500 or below) were classified as having low English proficiency. An announcement was posted on campus asking students with CET levels of 1–2 and 5–6 to participate in the experiment. Experimenters screened the potential participants and assigned the same proportions of graduate and undergraduate students (one-third graduate and two-thirds undergraduate) to the high- and low-proficiency conditions. Participants were 54% male and 46% female, and the average age was 23.2. These participants had on average had 3–6 years of English study since entering college, in addition to any earlier training years. Depending on specific situations, formal English education began in the sixth grade around age 12 and continued through the end of college and graduate school for these participants. As a result, participants' English proficiency was reflected in the objective CET test results.

Stimuli and Pretests. Sound and meaning relations were manipulated through stimulus design. In pretests using a group of native speakers, fictitious English brand names were created for a variety of products so that these names satisfied lexical criteria of word formation (e.g., syllabic structure, vowel and consonant combinations). All names were bisyllabic, used a variety of vowels and different initial consonants across the names. In addition, each name was constructed to contain a specific meaningful unit—a part that can be identified with a word.

Eighteen native English speakers provided ratings on these names, judging how familiar each name sounded to them (1 = not at all familiar, 7 = very familiar), to what degree each name was seen as a likely brand name (1 = not at all likely, 7 = very likely), and to what degree the special unit was easily seen as a meaningful unit (1 = not

at all easily, 7 = very easily). The subjects were asked to provide these judgments relative to their lexicon knowledge. Those that were perceived to have similar familiarity, similar high-likelihood brand-name ratings, and similar ease of meaning identification were then used as original English names for Chinese name creations, as shown in table 1, column 1. In column 1, hyphenation is used in the English name to separate the special meaningful unit from the rest of the name.

Based on the selected English names, four types of Chinese names were constructed by a group of language study experts (pairwise interrater agreement > .95; differences were resolved through discussions) according to a 2 × 2 scheme of sound (related or similar vs. unrelated or dissimilar) and meaning (related or similar vs. unrelated or dissimilar). A created Chinese name was defined as similar in sound if the individual characters making up the Chinese name sounded like the original English name, syllable by syllable, especially in reference to the meaningful unit. A created name was defined as related in meaning if the individual characters making up the Chinese name suggested brand associations indicated by the meaningful unit of the original English name. For example, in table 1, columns 2 and 3, the Chinese names were created to sound similar to

TABLE 1

STIMULUS BRAND NAMES AND PRETEST MEANS

Products and measures[a]	English names	Chinese names: Sound: Similar Meaning: Related[b]	Chinese names: Sound: Similar Meaning: Not related[c]	Chinese names: Sound: Not similar Meaning: Related[d]	Chinese names: Sound: Not similar Meaning: Not related[e]
1. Boxing gloves	Death-lon	De(2)shi(4)yong(3) 得 逝 勇	De(2)shi(4)long(2) 得 师 隆	Wei(1)shi(4) 威 逝	Dan(1)hui(4) 丹 汇
Meaningful unit	6.78	. . .	. . .	. . .	. . .
Familiarity	2.81	1.93	1.78	1.97	1.68
Likelihood	2.65	2.94	2.66	2.97	2.45
Sound	. . .	6.42	6.01	1.41	1.57
Meaning	. . .	6.56	1.54	6.42	1.32
2. Lotion	With-rub	Wei(2)run(4)rou(2) 维 润 揉	Wei(3)ruo(4)pu(3) 韦 若 普	Rou(2)shu(1) 揉 舒	Hong(2)lang(3) 宏 朗
Meaningful unit	6.67	. . .	. . .	. . .	. . .
Familiarity	2.69	2.06	2.01	1.94	1.89
Likelihood	2.71	3.23	3.41	3.02	2.87
Sound	. . .	6.14	6.37	1.76	1.49
Meaning	. . .	6.47	1.36	6.54	1.25
3. Superstore	Pe-tons	Bei(4)duo(1) 贝 多	Pai(4)teng(2) 派 腾	Duo(1)man(3)le(4) 多 满 乐	Hao(3)tai(4) 好 泰
Meaningful unit	6.12	. . .	. . .	. . .	. . .
Familiarity	2.78	2.86	2.64	2.88	2.47
Likelihood	2.56	3.34	3.27	3.76	3.04
Sound	. . .	6.47	6.52	1.65	1.43
Meaning	. . .	6.58	1.58	6.71	1.61
4. Facial Tissue	Sof-ra	Si(1)ruan(3) 丝 软	Si(1)jia(1)ruo(4) 斯 佳 若	Rou(2)ruan(3) 柔 软	Di(2)ya(3) 涤 雅
Meaningful unit	6.54	. . .	. . .	. . .	. . .
Familiarity	2.83	1.97	1.78	2.15	1.72
Likelihood	2.79	3.64	3.44	3.02	3.56
Sound	. . .	6.36	6.28	1.92	1.48
Meaning	. . .	6.45	1.29	6.44	1.36

[a]The measures "meaningful unit" (the unit is easily seen as meaningful) are for the fictitious English brand names only. The measures "sound" (sound similarity to the original name) and "meaning" (meaning similarity to the original name) are for the created Chinese brand names only. See discussions in the method section. The other measures "familiarity" (familiarity with the linguistic name) and "likelihood" (brand-name likelihood) are for both the English and Chinese names; the measures, however, are used on a different sample of subjects. See discussions on all measures in the method section.

[b]The literal translations of the characters are: de(2)shi(4)yong(3) for "the knocking-out courage," wei(2)run(4)rou(2) for "rubbing on to keep moist," bei(4)duo(1) for "tons of good stuff," and si(1)run(3) for "fine and soft." Note that the pinyin may appear to be the same in different columns (e.g., 'shi[4]'); however, the represented characters are not the same.

[c]De(2)shi(4)long(2) means "acquiring, teaching, and thriving," wei(3)ruo(4)pu(3) means "the surname of Wei, similar and general," pai(4)teng(2) means "dispatch and jump," and si(1)jia(1)rou(4) means "this, good and similar."

[d]Wei(1)shi(4) means "having the power to knock out," rou(2)shu(1) means "rub to make comfortable," duo(1)man(3)le(4) means "tons and full to make you happy" and rou(2)ran(3) means "flexible and soft."

[e]Dan(1)hui(4) means "redness comes together," hong(2)lang(3) means "grand and bright," hao(3)tai(4) means "good and peaceful," and di(2)ya(3) means "wash to be elegant."

the English name—the overall name as well as the particular meaningful part; in table 1, columns 2 and 4, the Chinese names were created to be related in possessing specific meanings suggested by the hyphenated units "death-," "-rub," "-tons" (for "lots of"), and "sof-" (for "soft").

To validate the stimulus construction, 17 bilingual English-Chinese students judged the created names on a seven-point scale of how similar in sound the Chinese name, character by character, was to the original English name, syllable by syllable (1 for not at all similar and 7 for very similar), and on a seven-point scale of how related in meaning the Chinese name was to the original name, particularly in reference to the meaningful unit of the original English name (1 for not at all related and 7 for very related). As shown in table 1, names that received a mean 6 or above in sound and in meaning scales were kept for the sound-plus-meaning type of names; names that received a mean 6 or above in sound and 2 or below in meaning were kept for the sound-related type of names; names that received a mean 2 or below in sound and 6 or above in meaning were kept for the brand-name meaning-related type of names, and finally names that received a mean 2 or below were kept for the type of names that had no sound or brand-name meaning relatedness.

The four types of Chinese names were then tested with 72 native Chinese speakers on familiarity and brand-name likelihood. These subjects were randomly assigned to the four types of names. They were asked to provide their familiarity with each Chinese translation on a seven-point scale (1 for not at all familiar and 7 for very familiar) and the extent to which they thought the translation was a likely brand name (1 for not at all likely and 7 for very likely). Based on the test results, four names for each type were selected for the main study, as shown in table 1. There were no significant differences between these selected names regarding familiarity or brand-name likelihood in each condition as well as between conditions ($p > .25$).

Procedure. Subjects were told that the study was about brand naming and that they would be shown a number of names in a booklet format. On the stimulus page, the product category information was provided first, followed by the dual name in a rectangular frame. At the bottom of the page were three seven-point evaluation items (good/bad, unsatisfactory/satisfactory, dislike/like). All instructions and scales were given in Chinese. Each subject in the two different language-emphasis conditions evaluated four names, each of which was on a separate page. The order of stimulus name presentation was held constant for these conditions.

Results

An index of brand-name evaluation was formed by averaging the evaluation items (Cronbach alpha = .89). A 2 × 2 × 2 × 2 ANOVA revealed a main effect of sound ($F(1, 352) = 29.18$, $p < .0001$) and a main effect of meaning ($F(1, 352) = 89.56$, $p < .0001$). These results, as expected, indicated that names similar in sound to the original English name received more favorable evaluations than names dissimilar in sound ($M = 4.17$ vs. 3.72) and that names related in meaning to the original English brand name received more favorable evaluations than names unrelated in brand-name meaning ($M = 4.34$ vs. 3.53).

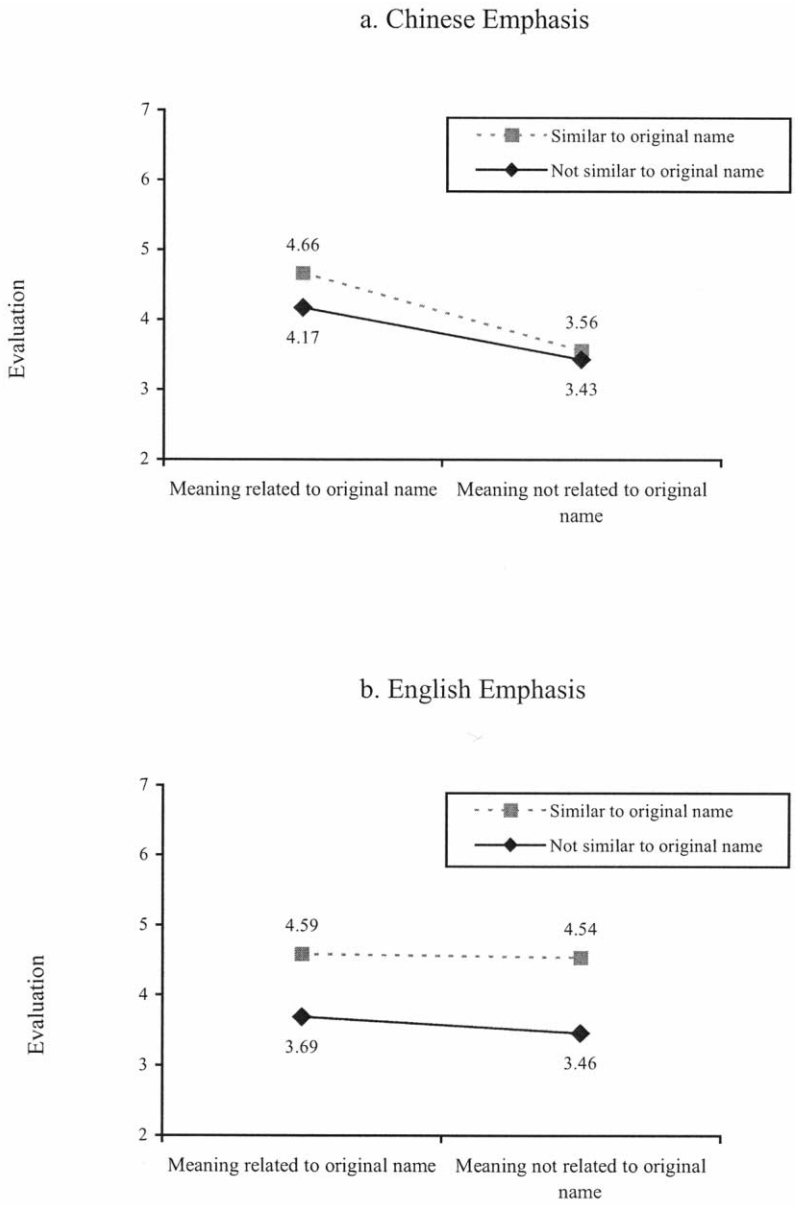
There was a significant two-way interaction between emphasis and sound ($F(1, 352) = 3.63$, $p = .057$) revealing that names similar in sound to the original English name were evaluated more favorably than names dissimilar in sound when English was emphasized ($M = 4.27$ vs. 3.64; $t(185) = 4.37$, $p < .001$) but not so when Chinese was emphasized ($M = 4.05$ vs. 3.81; $t(179) = 1.77$, $p > .08$). There was also a significant two-way interaction between emphasis and meaning ($F(1, 352) = 4.56$, $p < .05$) revealing that names related to the original brand-name meaning were evaluated more favorably than names unrelated to the meaning when Chinese was emphasized ($M = 4.43$ vs. 3.43; $t(179) = 8.35$, $p < .0001$) but to a lesser degree when English was emphasized ($M = 4.27$ vs. 3.64; $t(185) = 4.38$, $p < .001$). These results indicate that, on average, emphasizing the English language made participants rely on sound as the basis for judgment, whereas emphasizing the Chinese language made participants use meaning.

Importantly, there was a two-way interaction between language proficiency and sound ($F(1, 352) = 4.31$, $p < .05$) and a two-way interaction between language proficiency and meaning ($F(1, 352) = 4.56$, $p < .05$). These interactions revealed that names similar in sound to the original English name were judged significantly better than names dissimilar in sound for high-proficiency subjects ($M = 4.32$ vs. 3.70; $t(181) = 4.50$, $p < .001$) but not so for low-proficiency subjects ($M = 4.00$ vs. 3.75; $t(220) = 1.86$, $p > .08$). However, names related to the original brand-name meaning were judged significantly better than names unrelated to the meaning for both high-proficiency subjects ($M = 4.27$ vs. 3.76; $t(181) = 3.51$, $p < .001$) and low-proficiency subjects ($M = 4.43$ vs. 3.33; $t(183) = 9.45$, $p < .0001$). These results indicate that high-proficiency subjects rely on both sound and meaning as the basis for name evaluations, whereas low-proficiency participants tend to use meaning, providing support for hypotheses 1 and 2.

Also as predicted, the ANOVA revealed a three-way interaction of language proficiency by emphasis and by meaning ($F(1, 352) = 5.41$, $p < .05$) and a three-way interaction of language proficiency by emphasis and by sound ($F(1, 352) = 4.19$, $p < .05$). We expected that high-language-proficiency subjects would focus more on the processing of meaning of the names when Chinese was emphasized but more on the processing of sound of the names when English was emphasized. As shown in figure 1a, for highly proficient subjects when Chinese was emphasized, names related to the original brand-name meaning were evaluated more favorably than names unrelated to the meaning regardless of whether the sound of the name was similar or dissimilar to the original name ($M = 4.66$ vs. 3.56; $t(44) = 4.21$, $p < .0001$; $M = 4.18$ vs. 3.43; $t(42) = 3.20$, $p < .01$; $M = 4.66$ vs. 4.18, $p > .06$; and $M = 3.56$

FIGURE 1

HIGH-ENGLISH-PROFICIENCY SUBJECTS' BRAND-NAME EVALUATIONS AS A FUNCTION OF PROFICIENCY, NAME EMPHASIS, SOUND, AND MEANING

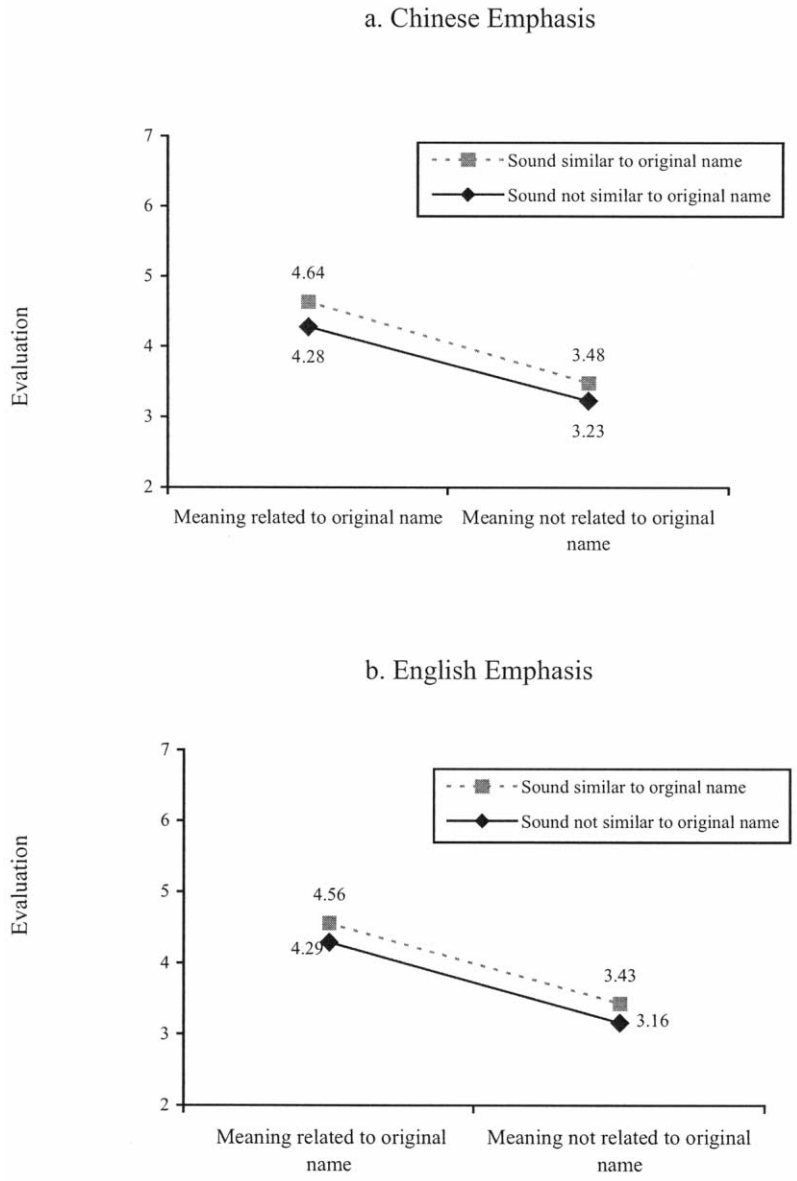


vs. 3.43, $p > .10$). In contrast, when English was emphasized, as shown in figure 1b, names that sound similar to the original English name were evaluated more favorably than names that sound dissimilar regardless of whether the meaning of the name was related or unrelated to the original brand-name meaning suggested ($M = 4.59$ vs. 3.69; $t(44) = 3.50$, $p < .01$; $M = 4.54$ vs. 3.46; $t(45) = 3.59$, $p < .001$; $M = 4.59$ vs. 4.54; and $M = 3.69$ vs. 3.46, $p > .10$). These results support hypothesis 3.

For low-proficiency subjects, we expected that they focus more on the processing of meaning in the Chinese-emphasis condition as well as in the English-emphasis condition. When Chinese was emphasized, names related to the brand meaning were evaluated more favorably than names unrelated to the brand meaning regardless whether the sound of the name was similar or dissimilar to the original name ($M = 4.64$ vs.3.48; $t(43) = 4.80$, $p < .0001$; $M = 4.28$ vs. 3.23; $t(43) = 4.99$, $p < .0001$; $M = 4.64$ vs. 4.28; and $M = 3.48$ vs. 3.23, $p > .10$; see fig. 2a). Similar patterns of name evaluations were observed when English was em-

FIGURE 2

LOW-ENGLISH-PROFICIENCY SUBJECTS' BRAND-NAME EVALUATIONS AS A FUNCTION OF PROFICIENCY, NAME EMPHASIS, SOUND, AND MEANING B



phasized ($M = 4.56$ vs. 3.43; $t(44) = 4.32$, $p < .0001$; $M = 4.29$ vs. 3.16; $t(46) = 5.13$, $p < .0001$; $M = 4.56$ vs. 4.29; and $M = 3.43$ vs. 3.16, $p > .10$) (see fig. 2b). These results support hypothesis 4.

DISCUSSION

We have shown that language proficiency determines the kind of processing bilingual consumers engage in when they evaluate bilingual information. Highly proficient Chinese-English speakers activated both lexical-semantic and phonological representations of the dominant (i.e., Chinese) and nondominant (i.e., English) language, placing weight on both the sound and meaning-name components; however, less proficient speakers activated primarily the representations of Chinese, placing more weight on the meaning than sound. These results thus suggest that language proficiency must be added as a key concept to Zhang and Schmitt's (2001) framework of bilingual consumer processing.

The supporting data are obtained from bilinguals who learned the nondominant language at a relatively late age. Such bilinguals, known as late bilinguals, are different from

early bilinguals who learn the two languages in early childhood. Early bilinguals are believed to process these languages according to the concept mediation model (Amrhein and Sanchez 1997; Chen and Leung 1989). According to this model, for early bilinguals, the two languages can operate independently so that words in the two languages are not directly associated with each other but linked through an amodal concept mediation system. Interestingly, our findings suggest that late bilinguals can exhibit behavior similar to concept mediation, as long as they are highly proficient in the second language. It is thus the level of proficiency rather than age at which a bilingual begins to learn the second language that needs to be of theoretical interest to researchers (Francis 1999).

While we believe this article contributes to the literature in that language proficiency of the nondominant language determines how bilingual consumers process bilingual information, we also acknowledge that the findings are somewhat at odds with those in Zhang and Schmitt (2001, experiment 1). While the earlier study did not employ a rigorous language proficiency measure as we did in the present study, results indicate that respondents overall react to sound-based methods depending on the language-emphasis condition; however, they do not react differently to meaning-based methods, yielding only a partial differential processing pattern. In the current study, we find complete differential processing by the high-proficiency respondents and uniform meaning-based processing by the low-proficiency respondents. We are at a loss for a complete explanation for the partial versus complete differential processing patterns, but we offer that perhaps the new set of stimuli and design employed in the current study (as discussed in the experiment section) and the different level of proficiency language skills in Zhang and Schmitt (2001) might have jointly contributed to the results. Moreover, it was brought to our attention that there may be a potential confound regarding a subject-selection bias in that the high-proficiency subjects might largely consist of graduate students. We do not share this concern, however, because the proportion of undergraduate and graduate students was roughly the same across high- and low-proficiency conditions.

In summary, our results indicate that consumers engage in a complex evaluation process to form brand-name preferences. This finding stands in contrast to earlier suggestions that consumers prefer a certain type of name translation, such as by sound (Chan 1990) or sound plus meaning (Seligman 1986). Our research suggests that bilinguals' language-based cognition and judgment seem to be dynamic and malleable: name preferences vary as a function of stimulus-related characteristics (such as type of translation and language emphasis), person-related characteristics (such as proficiency and knowledge-related variables), and perhaps broader contextual variables. Thus, a bilingual's languages dynamically direct and shape the judgments of names and other commercial messages. In line with the emerging dynamic view of cross-cultural consumer research that cultures can activate a different construal and evaluation of a commercial communication depending on specific contexts and situations (Aaker and Lee 2001; Briley, Morris, and Simonson 2000), our research suggests that construal and evaluation, a result of cognitive and social processes, begin with the linguistic processing of the message itself. Thus, future research should be targeting complex language-based judgments and examining their dynamic nature using experimental designs that include the appropriate stimulus, person as well as contextual variables such as the type of task processing (e.g., online judgment vs. memory-based judgment).

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