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Accessibility or Diagnosticity?
Disentangling the Influence of Culture on Persuasion Processes and Attitudes

JENNIFER L. AAKER*

This research explores the extent to which differences in perceived diagnosticity as compared with differences in the accessibility of associations embedded in persuasion appeals better account for the attitudinal differences found in the culture and persuasion literature. Experiment 1 replicates basic findings showing that high culture-distinct associations lead to more favorable attitudes for individuals in the target culture relative to a nontarget culture, while low culture-distinct associations lead to more attitudinal similarities across cultural boundaries. Experiments 2 and 3 explore two potential explanations for these effects. Convergent evidence, provided through within-culture and across-culture mediation analysis, is more supportive of the differential accessibility explanation. That is, high culture-distinct associations may be valued in the nontarget culture but are relatively inaccessible in memory at an individual level. The results of these experiments help to reconcile conflicting findings in the consumer psychology literature, shed insight on why cultural differences might occur, and add to the growing body of research that identifies conditions under which cultural similarities in persuasion processes and effects may be found.

Much of consumer research on culture has shown that the content of marketing communications, such as persuasion appeals, differs across cultural contexts. This result appears robust across variables such as values (Han and Shavitt 1994), depicted lifestyles (Tse, Belk, and Zhou 1989), emotion type (Martenson 1987), benefits (Sherry and Camargo 1987), and information content (Hong, Mudderisoglu, and Zinkhan 1987). To account for the differences in the content of persuasion appeals, one explanation offered is that, due to differences in culturally based traditions, religions, and histories, individuals in distinct cultures tend to hold a different set of values and preferences. These cultural differences are, in turn, reflected in the content of marketing communications (see Belk and Pollay [1985] for a discussion). Drawing on the accessibility-diagnosticity framework (Feldman and Lynch 1988), the current research examines this premise as well as an alternative explanation for these persuasion effects, one that relies on differential levels of accessibility of specific associations in memory at an individual level.

THEORETICAL BACKGROUND
Persuasion Effects in Eastern and Western Cultures: The Role of Diagnosticity

Considerable research has found asymmetric effects when exploring the impact of persuasion appeals on attitudes of individuals in East Asian and North American cultures (e.g., Hong et al. 1987; Martenson 1987; Mueller 1987; Zandpour, Chang, and Catalono 1992). For example, by manipulating the associations embedded in persuasion appeals, Han and Shavitt (1994, study 2) found that North American individuals relative to Korean individuals have more favorable attitudes toward appeals that focus on self-reliance, self-improvement, and the achievement of personal goals relative to those that focus on family integrity, collective goals, and the feeling of harmony with others. The reversed pattern was found for Korean individuals (see Wang et al. 2000; Zhang and Gelb 1996). However, other research documents symmetry in attitudinal effects across the two cultural contexts. Mueller (1987), for example, showed that appeals relying on specific source cues (e.g., youth) yield similar attitudinal results for Japanese and North American individuals (see also Cuningham et al. [1995] on the perceptions of the physically attractive). Further, advertise-

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ments focusing on themes of wealth, oneness with nature, product attributes, and usage occasions tend to occur and be similarly liked across cultural boundaries (Marquez 1975; Mueller 1987; Ramaprasad and Hasegawa 1992).

One explanation for these conceptually inconsistent findings is that the associations embedded in the appeals tend to be perceived as more important or diagnostic in one cultural context than the other, thereby leading to greater cross-cultural attitudinal differences (relative to conditions where the content is similarly diagnostic across cultures). For example, Chattopadhyay, Gorn, and Drake (1999) manipulated culture-based norms and showed cultural differences in attitudes, but only when culture-based norms were salient. For example, when asked to select the color of wrapping paper for a New Year’s celebration present, Asian participants stated a stronger preference for red wrapping paper than did Canadian participants. In contrast, when culture-based norms were not salient (birthdays) or did not differ (St. Patrick’s Day), no differences in preferences emerged (i.e., culturally consistent preferences for green).

In further support, information often used in persuasion appeals, such as consensus information (i.e., information about others’ opinions toward an attitude object), appears to also vary in perceived diagnosticity. Choi, Nisbett, and Norenzayan (1999) showed that, due to a heightened need for assimilation, individuals raised in East Asian cultures tend to weigh consensus information heavily. In contrast, in the United States, where the need to assimilate tends to be lower, consensus information is perceived as relatively non-diagnostic. Consequently, when used in persuasion appeals, consensus information (e.g., test market results in Consumer Reports) tends to be dominated by attribute information by American participants, while consensus information tends to dominate attribute information for Chinese participants (Aaker and Maheswaran 1997).

Such differences in perceived diagnosticity appear to be driven by variations in the way one sees oneself. That is, while individuals in any culture possess multiple selves that can be activated at any point in time (Aaker 1999), certain aspects of the self tend to be nurtured within a culture and are differentially accessible at an individual level (Hong et al. 2000). Singelis (1994), for example, demonstrates that individuals in East Asian cultures tend to have a more chronically accessible interdependent self (where the self is seen as intimately connected to close others), while individuals in North American cultures tend to have a chronically accessible independent self (where the self is more likely to be seen as distinct from others). One consequence of these differences in culturally encouraged selves is that “people with independent selves attend more to the internal feelings that differentiate themselves from others and act on the basis of them because these feelings are regarded as diagnostic. In contrast, people with interdependent selves weigh information that conveys others’ opinions or how to assimilate with others to a greater degree” (Markus and Kitayama 1991, p. 236). As a result, associations with independence, competition, and uniqueness tend to carry relatively more importance in East Asian cultures than in North American cultures, while the converse tends to be true for associations with interdependence, cooperation, and connectedness (Fiske et al. 1998). Consequently, when such differentially diagnostic associations are embedded in persuasion appeals (relative to more similarly diagnostic associations, e.g., youth or beauty; Cunningham et al. 1995; Schwartz and Bilsky 1990), cultural attitudinal differences are more likely to arise.

Cultural Differences in Accessibility: An Alternative Explanation

The above argument suggests that cultural differences in attitudes may occur due to a shift in the relative diagnosticity in the content of the appeals. However, an alternative explanation for these cross-cultural attitudinal effects exists, one that relies on different levels of accessibility of the associations used in the persuasion appeals. That is, the ease with which the associations are accessible in memory may vary for individuals across cultures. In this light, a natural confound may exist when examining the content of persuasion appeals that leads to attitudinal differences across cultural contexts; the content in the appeals may differ in its diagnosticity but also in its accessibility in memory at an individual level.

To illustrate, Trafimow, Triandis, and Goto (1991) asked American and Chinese individuals to complete 20 sentences that began, “I am.” The first response by American participants was most likely a private or individual cognition indicating separateness and autonomy (e.g., “I am intelligent”). In contrast, the first response by Chinese participants was most likely a collective cognition indicating one’s relation to others (e.g., “I am a parent of two.”). The authors interpret these findings in terms of differences in the accessibility of the social cognitions for individuals raised in the two cultures (driven, at least in part, by differences in the diagnosticity of the social constructs; see Feldman and Lynch [1988] and MacKenzie [1986] for a discussion on the causal relationship between diagnosticity and accessibility). Using response time measures, Markus (1977) found a similar pattern of results based on a within-culture analysis. When American participants were exposed to a set of independent words (e.g., confident, adventurous, aggressive) and dependent words (e.g., cooperative, submissive, obliging), those who were preidentified to be independent-schematic had faster response time reactions. In contrast, dependent-schematic individuals had faster reaction times when exposed to dependent words relative to independent words. This pattern of results persists when the object of focus moves from self to others. For example, when asked to describe their acquaintances, descriptions by American individuals were more decontextualized, replete with distinctive personality traits, while those by Hindu Indians were more contextualized with reference to roles and social identities (Shweder and Bourne 1982). Further, these differences in the accessibility of distinctive personality traits relative to social identities appear to grow as individuals age. For example, Miller (1984) showed that Hindu Indian children
who were 15 years old rather than eight years old were more likely to cite social identities when they described others, both close friends and acquaintances.

A relative shift in accessibility also occurs when examining categorization patterns (Chiu 1972). When asked to choose which two out of three objects in a set (man, woman, and child) went together, Chinese as compared with American individuals were more likely to choose a pair based on a social relationship (e.g., “mother takes care of the baby”). In contrast, American individuals as compared with Chinese individuals were more likely to choose a pair based on shared features (e.g., “man and woman are both adults”). Building on this research, Choi, Nisbett, and Smith (1999) demonstrated that East Asian individuals have higher levels of chronic accessibility for social categories (e.g., an individual is a member of the clergy) than do North American individuals, while no such differences were found for natural categories (e.g., a bat is a member of the mammal category).

This pattern of results suggests that, while differences in perceived diagnosticity for certain associations may exist (e.g., independence, uniqueness, autonomy), the asymmetric persuasion effects often found in the culture and persuasion literature may also be driven by cultural differences in the accessibility of those associations. Since highly accessible information tends to be easier to process (because of the greater number and strength of associative pathways in memory; Anderson and Bower 1980), the increased difficulty in processing the appeal, therefore, may account for the relative differences in attitudes (MacInnis and Jaworski 1989).

Culture Persuasion Effects and the Accessibility-Diagnosticity Framework

In three experiments, the extent to which differences in the accessibility or diagnosticity of the content of persuasion appeals better accounts for the asymmetric attitudinal effects found in East Asian and North American cultures is examined. To test between the explanations, I draw on the accessibility-diagnosticity model, where the likelihood that any piece of information will be used as an input into a decision depends on the diagnosticity and accessibility of the input in memory, as well as the diagnosticity and accessibility of alternative inputs (Feldman and Lynch 1988). Accessibility refers to the activation potential of available knowledge (see, e.g., Anderson and Bower 1980, Higgins 1996). Diagnosticity refers to the extent to which inferences based on the information alone would be adequate to make a decision, and it is therefore often operationalized through the importance of information (e.g., Aaker and Maheswaran 1997; Maheswaran and Chaiken 1991). In the current research, associations that are likely to be both highly accessible and diagnostic in one cultural context but not another are manipulated, and their relative influence on attitudes is examined. The United States and Japan were selected because among North American and East Asian cultures, respectively, they are best represented in the self literature (Heine et al. 1999). Other cultures likely possess psychological and cultural experiences similar to those of these two. To the extent that they do, the findings should generalize to them.

Drawing on the research on self-construal (Fiske et al. 1998), experiment 1 tests the premise that cross-cultural attitudinal differences are more likely to arise when individuals are exposed to appeals embedded with associations that are differentially (vs. similarly) accessible and diagnostic across cultures. In experiments 2 and 3, the differential accessibility and diagnosticity explanations are tested. Since the two constructs tend to be empirically related (e.g., diagnosticity can often influence accessibility and vice versa [MacKenzie 1986]), the two constructs are disentangled by manipulating the accessibility of the associations in the appeal through cognitive elaboration (operationalized through single as compared to double exposure to the persuasive appeal). Then, attitudes are measured. If differential levels of diagnosticity are primarily driving the cross-cultural persuasion effects, increasing accessibility should not significantly change the pattern of attitudes held by individuals in the two cultures. However, if differential levels of accessibility are primarily driving the persuasion effects, increasing accessibility should lead to a change in the pattern of attitudes such that the cultural differences diminish with elaboration, an effect that should be captured in outcome effects as well as mediation processes.

**STIMULI DEVELOPMENT**

To test between the accessibility and diagnosticity explanations, a set of stimuli that varies across cultures in both diagnosticity and accessibility was needed: one set of associations should be more accessible and diagnostic in the United States (e.g., individuality [Han and Shavitt 1994]; separateness [Wang et al. 2000]; self-reliance [Zhang and Gelb 1996]), and a second set should be more accessible and diagnostic in Japan (e.g., collective goals, connectedness, family orientation). These associations will be referred to as high “culture-distinct” associations. To demonstrate attitudinal similarities across cultures, a third set of associations was needed, one that is likely to share similar levels of diagnosticity and accessibility across cultures, to be referred to as low “culture-distinct” associations.

Personality dimensions (i.e., a set of personality traits) associated with brands serve as the basis for these manipulations because they meet the above criteria. Further, since personality dimensions have been used to convey the meaning of brands in marketing communications across global contexts (Plummer 1985), external validity of the manipulations used in the experiments may be enhanced. For the dimensions specific to North American culture, the personality dimensions relied on are those identified in Aaker (1997). To develop these American personality dimensions, three phases of research (brand identification, trait selection, and dimension development) were conducted. The results of the last phase, which involved an empirical study where American individuals were asked to rate a group of brands on a set of traits in order to determine how they perceive the personality space of brands, yielded five dimensions.
(termed “sincerity,” “excitement,” “competence,” “sophis-
tication,” and “ruggedness” [Aaker 1997]). As with the “Big
Five” human personality dimensions (see, e.g., Church and
Burke 1994; Norman 1963; Tupes and Chrystal 1958), each
dimension was individually factor analyzed so as to select
traits to represent the dimensions (e.g., competence has
three facets: “reliable,” “intelligent,” and “successful”).

In the context of the current research, the objective was
to determine which of these dimensions is most likely to be
relatively more diagnostic and accessible in the United
States than in Japan, identify a dimension with the converse
profile, and select a dimension(s) that is similarly diagnostic
and accessible in the two cultures. Therefore, a combined
emic-etic approach is adopted (Yang and Bond 1990),
requiring two steps: First, personality dimensions indige-
nous to the Japanese culture were developed by following
the same theory-based process as in Aaker (1997), but
relying on Japanese traits, brands, and participants (En-
riquez 1979). Second, to select the set of low and high
culture-distinct associations, the two sets of American and
Japanese dimensions were compared. Those that are the
most cross-culturally similar are used as the low culture-
distinct dimensions, while those that are the most specific
to only one culture are used as the high culture-distinct dimen-
sions in the subsequent experiments.

Stimuli Identification

To develop the Japanese dimensions, the three phases of
research conducted in Aaker (1997) were replicated in
Aaker, Benet-Martínez, and Berrocal (2000) relying on a
combined emic-etic approach. Brand identification, which
relied on the symbolic-utilitarian framework (Katz 1960) to
identify salient brands in a representative set product cate-
gories, yielded 24 brands: six that had the highest ratings
on the symbolic dimension and the lowest on the utilitarian
dimension (e.g., whiskey), six with the converse profile
(e.g., detergent), and 12 that had relatively high ratings
on both dimensions (e.g., coffee). The process of trait selection
ensured that the traits had a theoretical basis (Big Five
model of human personality), high usage frequency (based
on a free-association task), and high relevance (based on a
filtering task). Finally, dimension development involved
native Japanese participants rating the extent to which the
100 personality traits describe a subset of brands. The
results of a principal components analysis yielded five Ja-
panese dimensions, termed “sincerity,” “excitement,” “com-
petence,” “sophistication,” and “peacefulness.”

To determine which dimensions would best represent
high and low culture-distinct associations, Japanese indi-
viduals were asked to rate a set of brands on the 70 personality
traits that describe both sets of indigenous dimensions (36
Japanese traits and 42 American traits, minus eight over-
lapping traits). The set of brands consisted of global brands
selected to be equally familiar to and liked by participants in
the two cultures. Trait and brand order were again counter-
balanced. A two-group confirmatory factor analysis (EQS)
was used to compare the two sets of personality dimensions.
The phi coefficients, referring to the correlation between the
similar dimensions in the two cultures (e.g., excitement in
the United States and excitement in Japan) within the con-
text of the overall model involving 10 dimensions, each
with multiple trait indicators, were examined. The highest
phi coefficients across the cultural context were for excite-
ment (60) and sophistication (62). In contrast, the Ameri-
can and Japanese dimensions that had the lowest phi coef-
ficients were ruggedness and peacefulness, respectively
(highest phi coefficient was .25), which were statistically
different from both excitement and sophistication (p’s
< .01). These results are conceptually consistent with the
product moment correlations for each pair of dimensions,
and they indicate that excitement and sophistication are the
most likely to be similar in perceived diagnosticity and
accessibility (low culture-distinct associations), while
peacefulness and ruggedness are the most likely to vary in
perceived diagnosticity and accessibility in Japan compared
with the United States (high culture-distinct associations).

Summary

In experiments 1–3, the cross-cultural influence of the
personality dimensions highlighted in a persuasion appeal
on attitudes across cultures, as well as within cultures, is
examined. The prediction, based on findings in past research
highlighted above, is that an interaction effect between
personality dimensions and culture should occur. In exper-
iment 1, this attitudinal interaction effect is examined. In
experiments 2 and 3, the accessibility and diagnosticity
explanations will be tested.

1 An etic approach refers to the process whereby an existing model is identified outside the culture of interest and traits are imported in their original form or translated into the language of the target culture with varying degrees of local adaptation. An emic approach refers to the process whereby a model indigenous to the target culture is developed by relying on a systematic process that generates a set of culture-specific traits and stimuli (Enriquez 1979). In the context of personality structure, the etic approach allows a direct comparison of the personality perceptions across cultures since participants are given the same set of personality traits. However, it tends to demonstrate cultural similarities and can miss impor-
tant culture-specific aspects of personality (Yang and Bond 1990). In contrast, the emic approach makes it difficult to directly compare the cross-cultural perceptions of personality dimensions, but a more stringent test of cross-cultural generalizability is provided. In a combined emic-etic approach, the limitations of both approaches may be minimized. Here, personality dimensions are first developed within a specific culture and then tested for their similarity with those developed independently in another culture.

2 All five components had eigenvalues greater than one, and a significant dip in the Scree plot followed the fifth component. Further, components six through nine explained 2 percent or less of overall variance. For more details, please see Aaker, Benet-Martínez, and Berrocal (2000).

3 These results are consistent with Hsu (1983), who suggests that asso-
ciations with assertiveness and independence relating to the ruggedness
dimension (e.g., western, tough, rugged) are encouraged in North Ameri-
can cultures but are devalued and discouraged in East Asian cultures. In
contrast, obedience, interdependence, and the maintenance of harmony
tend to be encouraged more in East Asian than in North American cultures
(see also Kumagai and Kumagai 1985).
EXPERIMENT 1

Overview

To determine the extent to which high culture-distinct dimensions lead to an asymmetric pattern of attitudes for members of the two cultures while low culture-distinct dimensions lead to a more similar pattern of attitudes, three personality dimensions were manipulated in persuasion appeals (ruggedness, peacefulness, and excitement). Then, attitudes of both American and Japanese individuals were measured. Culture was thus operationalized quasi-experimentally through country status, as well as an individual difference measure operationalized within cultures. The prediction was that American as compared with Japanese individuals will have more favorable attitudes toward brands with ruggedness personality associations, while Japanese as compared with American individuals will have more favorable attitudes toward brands with peacefulness personality associations. In contrast, these differences should disappear when American and Japanese individuals are exposed to brands described by low culture-distinct personality associations (e.g., excitement). Since the focus was on the relative diagnosticity and accessibility of the dimensions, the diagnosticity and accessibility of potential other decision inputs (e.g., brand attributes such as price) were held constant. The original questionnaires used in experiment 1 (and in experiment 3) were first drafted in English, translated into Japanese, and then back-translated using external translators blind to the hypotheses (Brislin 1970).

Pretest

The product category, cruiseline vacations, was selected because of its relevance for the subject population and because brands described by distinct personality dimensions could be created. To develop the stimuli, a pretest was conducted where Japanese (n = 15; 52 percent female, mean age = 28) and American (n = 15; 58 percent female, mean age = 31) graduate students, recruited from the same participant pool as in experiment 1, rated the importance of a set of cruiseline attributes (identified on the basis of a review of cruiseline web sites). Six attributes that were equally important for members of both cultures were selected (F's < 1). Three attributes were held constant across conditions: price, length of time, and destination. (Hawaii was chosen as the destination, since it is midway between the United States and Japan and therefore limits potential confounds). The other three attributes, gym activities, dinner theme, and extracurricular activities, were used to manipulate the personality dimensions. Specifically, three traits from each personality dimension were embedded in each appeal: ruggedness (western, outdoorsy, and tough), peacefulness (peaceful, shy, and mild), and excitement (energetic, young, and spirited). To minimize noise, the three particular traits selected for the low culture-distinct condition were conceptually similar in (if not common to) both the American set of traits describing excitement and the Japanese set of traits describing excitement. See Table 1 for a more detailed description of the manipulations.

Participants and Procedure

Participants were American (n = 37; 54 percent female, mean age = 31) and Japanese (n = 37; 41 percent female, mean age = 29) executive and full-time graduate students recruited from a large university on the west coast of the United States and in Tokyo, respectively. Participants were paid $5 or 500 yen to participate in the brand evaluation study. They were given a series of mock color advertisements for a set of four brands (three filler ads and one target ad for Hawaiian Line Cruises, with the latter placed third in the sequence), and they were told to read them as if they were in a magazine. Participants were given approximately three minutes to read each appeal. Next, participants completed a questionnaire that assessed attitude toward the advertisement (1 = bad, not at all likable, unfavorable; 7 = good, likable, favorable) and brand (1 = bad, not at all likable, unfavorable; 7 = good, likable, favorable); gathered demographic information; and administered the Singelis (1994) Independent-Interdependent Scale. Finally, at the end of the questionnaire, participants were asked to rate the extent to which Hawaiian Line Cruises are associated with a set of 20 personality traits: 11 were filler traits, and 9 were target traits used to manipulate one of the personality dimensions (e.g., western, outdoorsy, and tough for the ruggedness index).

Results

The predictions were tested based on a 3 (personality dimension: ruggedness, peacefulness, excitement) × 2 (culture: American vs. Japanese) between-subjects ANOVA. Reliability was high for the three-item dimension indices (Cronbach’s α ranging from .80 to .92), advertisement evaluation index (Aad Cronbach’s α = .87), and brand evaluation index (Abrand Cronbach’s α = .82). However, since Aad and Abrand measures yielded a similar pattern of results, only the results for Abrand are reported below. Unless otherwise specified, the degrees of freedom used in the full-design ANOVA are 1 and 68; n ranged from 11 to 15 in each cell.

Manipulation Checks. An overall 3 × 2 ANOVA yielded a main effect of personality dimension (F = 16.67, p < .01), where the ruggedness dimension was rated the highest on the ruggedness index (m_ruggedness = 4.74, m_peacefulness = 3.84, m_excitement = 3.98; p's < .05). Similarly, a main effect of the peacefulness dimension occurred on the peacefulness index (F = 19.14, p < .01; m_peacefulness = 5.00, m_ruggedness = 3.78, m_excitement = 4.16; p's < .05). And, a main effect occurred on the excitement index (F = 23.78, p < .01; m_excitement = 5.45, m_ruggedness = 4.52, m_peacefulness = 4.00; p's < .01). No effects involving culture were found (p's > .10). Further, an interdependence-independence index was created by averaging the 31 items of the Singelis (1994) scale (Cronbach’s α = .90). As expected, American participants were more independent and less inter-
table 1
personality dimension manipulations (experiments 1 and 2)

<table>
<thead>
<tr>
<th>Hawaiian Line Cruises brochure (content)</th>
<th>Ruggedness personality dimension (high culture-distinct dimension in United States)</th>
<th>Peacefulness personality dimension (high culture-distinct dimension in Japan)</th>
<th>Excitement personality dimension (low culture-distinct dimension)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brochure introduction: three positively valenced brand attributes (destination, price, and length of vacation) held constant across conditions</td>
<td>“Everyone’s favorite Hawaiian Line Cruises. Sail to Hawaii on a 7-day cruise for only $750. Visit the resorts of Kaanapali and Kapalua, or the Whaling village of Lahaina on the island of Maui. Hawaiian Line Cruises.”</td>
<td>“Everyone’s favorite Hawaiian Line Cruises. Sail to Hawaii on a 7-day cruise for only $750. Visit the resorts of Kaanapali and Kapalua, or the Whaling village of Lahaina on the island of Maui. Hawaiian Line Cruises.”</td>
<td>“Everyone’s favorite Hawaiian Line Cruises. Sail to Hawaii on a 7-day cruise for only $750. Visit the resorts of Kaanapali and Kapalua, or the Whaling village of Lahaina on the island of Maui. Hawaiian Line Cruises.”</td>
</tr>
<tr>
<td>High versus low culture-distinct manipulation: varied across conditions</td>
<td>“For the day, enjoy the fitness program and the gym—featuring racquetball, squash, and even some tough tennis. Plus, the open-air weightroom is always open for some of the more outdorsy passengers. For the evening, western barbecue dinners are served.”</td>
<td>“For the day, enjoy the fitness program and the gym—featuring saunas, massages, and even a mild whirlpool spa. Plus, the library is always open for some of the shyer passengers. For the evening, peaceful candlelight dinners are served.”</td>
<td>“For the day, a fitness program and the gym—featuring aerobics, shuffleboard and even energetic jazzercise. Plus, the live nightclub is always open for some of the younger passengers. For the evenings, spirited theme dinners are served.”</td>
</tr>
<tr>
<td>Brochure closing: held constant across conditions</td>
<td>“Hawaiian Line Cruises—when only the best will do!”</td>
<td>“Hawaiian Line Cruises—when only the best will do!”</td>
<td>“Hawaiian Line Cruises—when only the best will do!”</td>
</tr>
</tbody>
</table>

Dependent ($m = 4.64$) than their Japanese counterparts ($m = 4.01; F = 6.36, p < .01$); no other significant effects were found ($p’s > .10$).

Attitudes. A $3 \times 2$ ANOVA on $A_{brand}$ yielded only a significant interaction ($F = 2.75, p < .05$). Planned contrasts indicated that, as expected, American ($m = 4.48$) as compared with Japanese ($m = 3.63$) participants had more favorable attitudes toward brands described by the ruggedness dimension ($F = 3.97, p < .01$). However, while the pattern of means was similar, the converse effect was not significant; attitudes toward brands described by the peacefulness dimension did not significantly differ for Japanese ($m = 4.53$) as compared with American ($m = 4.05; F = 1.48, p = .22$) participants. Finally, as predicted, American ($m = 4.80$) and Japanese ($m = 4.38$) participants showed no difference in attitudes toward the excitement brands ($F < 1$).^4

Discussion

The results provide some support for the prediction that high culture-distinct dimensions may be differentially preferred in a target as compared with a nontarget culture, while the low culture-distinct dimensions may be more likely to be similarly preferred across cultures. However, the predicted difference in attitudes toward the peacefulness dimension did not attain significance, which brings into question the symmetry of the predictions. Analysis of opened-end thought protocols indicated that the directional but non significant effect may be stimuli specific, driven by a relatively high number of positively valenced thoughts as-underlying the predicted preference patterns, a second operationalization of self-construal was used. American and Japanese individuals were split into two groups each: independent and interdependent (based on a within-culture median split on the Singelis scale). Two sets of ANOVAs were run (both based on limited sample size), one relying on independent and interdependent American participants, the other using independent and interdependent Japanese participants. Again, only the $3 \times 2$ interactions were significant ($p’s < .05$); in both analyses, the pattern of attitude means closely mirrored those found using the country status as the independent variable (Singelis 1994).

^4While maximizing the chance of observing self-construal differences hypothesized to underlie the preferences for specific associations, the operationalization of self-construal through country status has limitations. For example, the effects found above may be driven by a potential confounding variable associated with country status. Therefore, to address this limitation and garner additional confidence that the view of the self
associated with the peaceful trait (i.e., "peaceful, candlelight dinners") by American participants. To examine this possibility, the current design is conceptually replicated, but a larger sample is drawn upon in experiment 2. In addition, a new product category is used to provide another context to test the predictions in experiment 3.

Perhaps, more important, in both experiments 2 and 3, the two potential explanations for these outcome-based results are examined by manipulating the accessibility of the dimensions across cultures. If the diagnosticity explanation better accounts for the attitudinal results, the magnitude of the crossover interaction of culture and personality dimension found in experiment 1 should persist, or be greater, when the dimensions are made more accessible (through cognitive elaboration; see, e.g., Alba and Hutchinson 1987). In contrast, if the accessibility explanation better accounts for the attitudinal results, the magnitude of the crossover interaction of culture and personality dimension found in experiment 1 should be reduced in conditions of high elaboration relative to low elaboration. The premise underlying this prediction is that increased elaboration for individuals for whom the dimension is diagnostic but relatively inaccessible will lead to more favorable attitudes relative to individuals for whom the dimension is diagnostic but accessible (Feldman and Lynch 1988).

To illustrate, Cacioppo and Petty (1979) manipulated cognitive elaboration through the number of exposures to a persuasion appeal and then measured participants' attitudes and thoughts. The results showed that when the relatively inaccessible associations embedded in the appeal were positively valued, increasing message exposure led to more positively valenced thoughts and more favorable attitudes. However, when the associations were not positively valued (e.g., neutral or negative), increasing message exposure led to less favorable thoughts and attitudes.

In the context of this research, therefore, increasing the number of exposures to the high culture-distinct dimension should increase its accessibility. However, more favorable attitudes should result only if the content of the information is diagnostic or valued. If it is not diagnostic (or perceived as relatively low in diagnosticity), increasing accessibility should be less likely to lead to more favorable attitudes because positively valenced thoughts should not be generated (and/or negatively valenced thoughts may be generated; Kisielius and Sternthal 1986). Experiment 2 examines this pattern of attitudinal effects as well as the underlying processes.

**EXPERIMENT 2**

**Overview**

To test between the accessibility and diagnosticity explanations, the design and procedure of experiment 1 were replicated, but a new independent variable (cognitive elaboration) and process measures (thought protocols) were added. Further, to increase generalizability and gain greater confidence that the results were driven by self-construal patterns associated with country status, the participant profile of experiment 2 differed. All participants were American (although half of the sample were born in Japan, China, or Korea), and they were recruited at two geographically distinct areas within the same large western city.

**Participants and Procedure**

With the permission of two midsize grocery stores (one in a predominantly Anglo-American neighborhood and the other in Chinatown), a stand was set up outside each store. A banner covering the stand read, “Introducing a New Cruiseliner—Hawaiian Line Cruises. Come Sail Away!” (see Figs. A1 and A2 in the Appendix). Shoppers who stopped at the stand before entering the store were handed a color brochure (i.e., based on the appeal used in experiment 1) by a confederate salesperson. To limit situational culture primes, two confederate sellers were used in both locations: one Asian-American and the other Anglo-American. Both spoke English to the participants. As shoppers were leaving the store, one of the confederates approached them individually and asked if they had stopped by the stand for Hawaiian Line Cruises. If the response was “yes” and the individual could produce the brochure, the confederate proceeded with the interview, offering the individual $5 in compensation for answering a series of questions.

Half of the participants who were randomly selected to be in the high-elaboration condition were given the one-page brochure, which was the same brochure they had received before entering the store. Matching conditions was done by the confederate who unobtrusively examined the original brochure before handing the participant the second one. Participants in the low-elaboration condition were instead given a one-page filler task that included unrelated material regarding the grocery store (e.g., when it was built, how many shoppers visit the store). Both sets of participants were allowed to peruse the one-page appeal or filler task anywhere from one (minimum time) to two (maximum time) minutes. Next, participants were given the questionnaire, which included the three attitude-toward-the-brand measures. (Since the pattern of results for \( A_{ad} \) and \( A_{brand} \) was the same in experiment 1, only \( A_{brand} \) measures were included.) In the questionnaire, they also completed the thought protocol, provided demographic information, and responded to the Singelis (1994) scale. To check the cognitive elaboration manipulation, a recall measure was included: participants were asked to recall as much as they could of the original description of the Hawaiian Line Cruises (including the details provided about this product’s various attributes and activities), and this was followed by the personality dimension check.

Approximately 145 participants declined to participate, and three did not finish the questionnaire and so were not included. Thus the end sample was composed of 98 Anglo-

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The majority of the Asian-American subjects were not born in the United States; the average number of years they had lived in the United States was 16.7.
American (mean age = 34, 62 percent female) and 100 Asian-American (mean age = 37, 68 percent female) participants. While the study was run at two locations to enhance variability in self-construal patterns, Anglo-American and Asian-American participants at both locations were aggregated in the analysis.

To maintain approximately equal cell sizes, the confederates personally solicited some shoppers. For example, at both stores, the confederates approached more men than women to get approximately equal cell sizes across gender in each condition. In addition, at the store in the predominantly Anglo-American (vs. Chinatown) neighborhood, the confederates primarily approached Caucasian (vs. Asian) individuals. To avoid bias, however, brochures were given to anyone who approached the stand. In addition, only the English-based questionnaire was used to eliminate the natural confound of language in experiment 1 (Enriquez 1979). To ensure equal levels of English knowledge, any participant who scored less than 4.0 when rating their written English knowledge (1 = extremely limited, 5 = extremely good) was eliminated (n = 4), leaving 96 Asian participants. Only two Asian participants were born in the United States; the remainder of the participants were born in East Asian countries (58 percent in China, 38 percent in Japan, 2 percent in Korea). The average number of years the Asian participants had lived in the United States was 16.7.

Thought Protocols

Two raters (both American) were given thought type examples and encouraged to discuss any questions of clarification with each other when discrepancies arose. Adopting a procedure used in Wright (1980), thoughts were coded for counter and support arguments. However, given the nature of the hypotheses, three modifications to this coding scheme were made. First, to more accurately test the hypotheses, counter and support arguments were categorized by personality dimension. For example, if one of the three traits used to manipulate each dimension was explicitly mentioned in the thought (e.g., energetic, young, and spirited), it was coded into its respective personality dimension (e.g., excitement). Second, neutral thoughts were also categorized according to the three categories to ensure that any elaboration on the personality dimensions was captured. Third, to shed greater insight on the content of elaboration (Sawyer 1981), message-irrelevant thoughts were also coded. Examples of the codes include: “I think couples would like the cruise, but it sounds boring to me. The activities are way too mild” (negative peacefulness); “I love western barbecues. Plus, I would get to work out and have fun at the same time—sounds perfect!” (positive ruggedness); “I was thinking about the comedy shows, energetic jazzercise, all the activities” (neutral excitement); “If there is no limbo dancing, I won’t be going” (message-irrelevant). Interrater agreement was 91 percent; discrepancies were resolved through discussion.

Results

The predictions were tested based on a 3 (personality dimension: ruggedness, peacefulness, excitement) × 2 (culture: Anglo-American vs. Asian-American) × 2 (cognitive elaboration: high vs. low) between-subjects ANOVA, where cognitive elaboration was manipulated by giving one or two exposures to the appeal. Unless otherwise specified, the degrees of freedom used in the full design ANOVA are 1, 182; n ranged from 10 to 26 in each cell.

Manipulation Checks. Three sets of manipulation checks were examined. First, participants rated the personality dimensions conveyed in the appeal on the indices (Cronbach’s α’s ranged from .89 to .91). An overall 3 × 2 × 2 ANOVA showed that, as intended, ruggedness brand was rated highest on the ruggedness index (m_ruggedness = 4.57, m_peacefulness = 4.00, m_excitement = 3.95; p’s < .05). The peacefulness brand was rated highest on the peacefulness index (m_peacefulness = 4.74, m_excitement = 4.14, m_ruggedness = 4.16; p’s < .05). The excitement brand was rated marginally highest on the excitement index (m_excitement = 4.65, m_ruggedness = 4.25, m_peacefulness = 4.19; p’s < .10). No other main or interactive effects were found (p’s > .10). The results of a 3 × 2 × 2 ANOVA on the Singelis (1994) scale showed a significant main effect; Anglo-American as compared with Asian-American participants received higher independent and lower interdependent scores (m = 5.01 vs. 4.54; F = 2.92, p < .05; a = .87); no other effects were found (p’s > .10). Finally, as expected, an ANOVA on recall revealed a main effect, where recall increased with cognitive elaboration (F = 4.13, p < .05). The only other significant effect in the overall ANOVA was the three-way interaction (F = 7.02, p < .01).

Confounding Checks. To ensure that elaboration only increased accessibility (and not diagnosticity), a supplemental set of diagnosticity measures were included at the end of the questionnaire (Aaker and Sengupta 2000). Participants were asked the degree to which the three attributes used to manipulate personality dimensions (gym activities, dinner theme, extracurricular activities) were relevant and important (1 = relevant, important; 7 = extremely relevant, important) in forming their evaluation of the cruise. A 3 × 2 × 2 ANOVA showed only an interaction of personality dimension and culture on the averaged two-item diagnosticity index (r = .91, p’s < .01), which occurred in all three analyses for each attribute (p’s < .05). Follow-up contrasts showed that in the ruggedness condition, the attributes scored higher on the diagnosticity index for the Anglo-American as compared with Asian-American individuals (average mean of the three attributes = 4.59 vs. 3.42; p’s < .01). In the peacefulness condition, the attributes scored higher on the diagnosticity index for Asian-American as compared with Anglo-American individuals (average mean = 4.38 vs. 3.85; p’s < .05). It is important, however, that (1) no interaction with cognitive elaboration occurred (F’s < 1), and (2) this pattern did not occur in the excitement condition (average m_Anglo-American = 4.24, m_Asian-American = 4.54; F < 1).
Attitudes. A 3 × 2 × 2 ANOVA on $A_{\text{brand}}$ (Cronbach’s $\alpha = .93$) yielded a main effect of personality dimension ($F = 7.01$, $p < .01$), where the personality dimension ($m = 5.17$) was preferred to other dimensions ($m_{\text{excitement}} = 4.39$, $m_{\text{ruggedness}} = 4.50$). Further, the personality dimension and cognitive elaboration interaction ($F = 2.79$, $p < .05$) and the three-way interaction ($F = 5.88$, $p < .01$) were both significant. To interpret the pattern of results and test the predictions, planned contrasts were conducted. First, $A_{\text{brand}}$ for the ruggedness dimension was not higher for Anglo-American as compared with Asian-American participants ($F < 1$), due to the introduction of the high-elaboration condition. In other words, support for the hypothesized effect was found in low-elaboration conditions ($m_{\text{Anglo-American}} = 5.00$, $m_{\text{Asian-American}} = 4.07$; $F = 5.74$, $p < .01$), paralleling the findings in experiment 1. However, in high-elaboration conditions, a marginally significant reverse effect occurred ($m_{\text{Anglo-American}} = 3.79$, $m_{\text{Asian-American}} = 4.83$; $F = 3.77$, $p < .06$). This interaction, discussed below, is consistent with those found in the advertising literature (e.g., Pechman and Stewart 1989), as well as those found in Cacioppo and Petty (1979).

The subsequent set of contrasts was consistent with expectations: $A_{\text{brand}}$ for the peacefulness dimension was higher for Asian-American ($m = 5.51$) as compared with Anglo-American participants ($m = 4.82$; $F = 6.03$, $p < .01$). In addition, $A_{\text{brand}}$ did not differ for Anglo-American and Asian-American participants in the excitement condition ($F < 1$).

To test between the diagnosticity and accessibility explanations, an additional set of planned contrasts was run to compare attitudes in low- and high-elaboration conditions. Providing more support for the accessibility explanation, $A_{\text{brand}}$ for the ruggedness dimension was higher for Asian-American participants in conditions of high ($m = 4.83$) as compared with low elaboration ($m = 4.07$; $F = 4.02$, $p < .05$). Further, $A_{\text{brand}}$ for the peacefulness dimension was higher for Anglo-American participants in high ($m = 5.16$) as compared with low elaboration ($m = 4.13$; $F = 7.64$, $p < .01$). As expected, $A_{\text{brand}}$ for the excitement dimension did not differ across elaboration conditions for Anglo-American participants ($m_{\text{high}} = 4.76$ vs. $m_{\text{low}} = 4.26$; $F < 1$), although it decreased in high as compared with low elaboration for Asian-American participants ($m_{\text{high}} = 4.96$ vs. $m_{\text{low}} = 3.55$; $F = 8.06$, $p < .01$).

It is interesting that increased elaboration on the high culture-distinct dimension had either a null effect (e.g., $A_{\text{brand}}$ for the peacefulness dimension for Asian-American individuals; $F < 1$) or a marginally negative effect (e.g., $A_{\text{brand}}$ for the ruggedness dimension for Anglo-American participants; $p < .06$) on attitudes. That is, increased elaboration on a highly diagnostic and accessible dimension did not lead to more favorable attitudes. This pattern of results is consistent with the accessibility explanation, discussed below.

Mediation Analysis. With the purpose of exploring the underlying processes that may shed light on the content of elaboration for members of both cultures, a series of regressions were conducted using $A_{\text{brand}}$ as the dependent variable.

Drawing on past research that has examined the impact of diagnosticity on persuasion effects, valenced-thoughts indexes were created by subtracting positively valenced thoughts from negatively valenced thoughts related to the specific dimension (see, e.g., Aaker and Sengupta 2000; Maheswaran and Chaiken 1991). Thus, two indexes were created: valenced ruggedness thoughts (positive minus negative ruggedness thoughts; VRT) and valenced peacefulness thoughts (positive minus negative peacefulness thoughts; VPT). Next, two sets of four regressions were conducted in low-elaboration conditions (Baron and Kenny 1986).

The first set of equations indicates that (1) Anglo-American as compared with Asian-American participants had more favorable attitudes toward brands with ruggedness associations ($b = .92$, $t = 2.30$; $p < .05$); (2) Anglo-American as compared with Asian-American participants had marginally higher scores on the VRT index ($b = .58$, $t = 1.29$; $p < .10$); (3) VRT led to more favorable attitudes toward brands with ruggedness associations ($b = .47$, $t = 3.98$; $p < .01$); and (4) VRT was significant ($b = .44$, $t = 3.69$; $p < .01$), but culture was not significant ($b = .55$, $t = 1.44$; $p = .16$) in a model that includes both VRT and culture. In contrast, the second set of equations indicates that (1) Asian-American as compared with Anglo-American participants had more favorable attitudes toward brands with peacefulness associations ($b = 1.31$, $t = 3.45$; $p < .01$), (2) Asian-American as compared with Anglo-American participants had higher scores on the VPT index ($b = 1.54$, $t = 2.18$; $p < .05$); (3) VPT led to more favorable attitudes toward brands with peacefulness associations ($b = .52$, $t = 3.10$; $p < .01$), and (4) VPT was significant ($b = .21$, $t = 2.13$; $p < .01$) as was culture ($b = .98$, $t = 2.54$; $p < .05$) in a model that includes both VPT and culture, indicating partial mediation.

Next, the same mediation analyses involving VPT and VRT were repeated, but they were done so in high-elaboration conditions where culture-specific thoughts appear to be less positively valenced. Consistent with the accessibility explanation, the 1–4 equations (corresponding to the statements above) did not yield significant results for VPT or VDT ($p$’s > .10 for 1 and 2, although $p$’s < .10 for 3 and 4 with both VPT and VDT), which suggest the same mechanism that guides persuasion effects in low-elaboration conditions does not operate in conditions of high elaboration.

Ancillary Analyses. To gain additional insight into the pattern of results, mediation analyses involving valenced excitement thoughts (VET) were run. Further support for the accessibility explanation should be found if VET mediates the relationship between the low culture-distinct dimension and attitudes for both Anglo-American and Asian-American participants in low-elaboration conditions. Consistent with this expectation, the results of the regressions showed that (1) Anglo-American and Asian-American participants had equally favorable attitudes when exposed to the excitement dimension ($p = .68$); and (2) the effect of culture on VET was not significant ($p = .31$), but that VET led to more favorable attitudes (3) in general ($p < .05$) and
DISENTANGLING ACCESSIBILITY AND DIAGNOSTICITY

(4) when culture \((p = .92)\) and VET \((p < .05)\) were jointly included in the model.

Finally, to provide additional evidence for the premise that self-construal differences associated with country status are driving these results, Asian-American and Anglo-American individuals were split into two groups: independent and interdependent (as in experiment 1). One set of mediation analyses involving the VET index was conducted with independent and interdependent Asian-American individuals; a second set was conducted with independent and interdependent Anglo-American individuals. The results of the first set showed that (1) independent and interdependent Anglo-American participants had equally favorable attitudes when exposed to the excitement dimension \((p = .39)\), (2) the effect of self-construal on VET was not significant \((p = .16)\), (3) VET led to marginally more favorable attitudes toward excitement brands \((p < .10)\), and (4) VET was significant \((p < .05)\), but self-construal was not \((p = .33)\), in a model that includes both VET and self-construal. In further support, a similar pattern occurred for independent participants (1) \(p = .41\), (2) \(p = .46\), (3) \(p < .10\), and (4) \(p < .05\) for VET and \(p = .50\), for self-construal.\(^6\)

Discussion

Experiment 2 was conducted to test whether cultural differences in the accessibility or diagnosticity of the high culture-distinct dimensions better account for the results of experiment 1. When the accessibility of the high culture-distinct dimensions was increased through message repetition, attitudes became more favorable for individuals from the nontarget culture. Further, the regression results suggest that elaboration on specific associations (e.g., VRT, VPT) mediates the persuasion process. This pattern of results, therefore, favors the accessibility explanation.

Notably, however, less favorable attitudes toward ruggedness dimensions by Anglo-American participants and excitement dimensions by Asian-American participants in high-elaboration conditions relative to low-elaboration conditions were found. Given their high levels of diagnosticity, more exposure to these dimensions arguably should have led to more favorable attitudes. However, these results are conceptually consistent with Cacioppo and Petty (1979), who show that increased elaboration on a positively valued stimulus can sometimes lead to less favorable attitudes (or a null effect) in conditions of message overexposure (see Sawyer [1981] for a review of the processes underlying repetition effects). To illustrate, Cacioppo and Petty (1979) increased exposure to a positively valued appeal from low to moderate levels of exposure and demonstrated a corresponding increase in attitudes. However, attitudes became less favorable as the number of exposures mounted. Analysis of thought protocols showed that when positively valued information in an appeal was already accessible, increasing elaboration further can lead to less favorable attitudes as a result of (a) increased counterarguments, (b) decreased support arguments, and (c) increased message-irrelevant thoughts (which tend to be less favorable than those directly related to the message).

In the context of this research, it is unclear whether increased elaboration may have induced negatively valenced thoughts or reduced positively valenced thoughts regarding the high culture-distinct dimension. Alternatively, an increase in irrelevant thoughts may have led to the lowered evaluations. Experiment 3 explores in more detail the underlying mechanism that led to the decrease in attitudes in the two cells to determine which of these explanations receives more empirical support.

EXPERIMENT 3

Overview

Beyond shedding additional insight on the mechanism underlying the results in the previous experiments, experiment 3 was conducted to retest the predictions and to increase the generalizability of the overall framework by providing a new product category, low culture-distinct dimension and subject sample. Therefore, the independent variables remained the same as in experiment 2, but two changes were made in their operationalization. First, culture was operationalized through country status as in experiment 1. To complement this operationalization, however, a set of additional within-culture mediation analyses relying on the inpeacefulness/interpeacefulness individual difference variable (Singelis 1994) was conducted, as in experiment 2. Second, a more controlled cognitive elaboration manipulation was used to address one limitation of the field setting used in experiment 2. While it may have raised the level of external validity, the field setting also may have led to increased noise in the elaboration manipulation. For example, while some of the participants may have studied the persuasion appeal when it was handed to them by the confederate, others may have merely glanced at it. Therefore, in experiment 3, cognitive elaboration was manipulated as in experiment 2 (one vs. two exposures to the message) but in a more controlled laboratory setting, thereby closely mirroring past manipulations of message repetition (e.g., Cacioppo and Petty 1979; Higgins and Rhines 1978).

Participants and Procedure

As in experiment 1, American \((n = 93; \text{mean age} = 30)\) and Japanese \((n = 64; \text{mean age} = 29)\) executive and full-time graduate students participated. While the overall procedure remained the same as in experiment 2, the cologne product category was used. Thus, to ensure a relevant and involved sample, only male respondents were used in the analysis.\(^7\) Run in an experimental laboratory setting,

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\(^6\)This within-culture analysis was repeated for the mediation analyses involving both VPT and VRT and yielded conceptually consistent results, but these are not reported due to space constraints.

\(^7\)A subset of females \((n = 63; \text{mean age} = 27)\) also participated in the study, but their attitudes toward the cologne were assessed indirectly by
participants were paid $5 or 500 yen. The researcher gave each participant three booklets. In the first, the participant read that a cologne brand was being tested in a new product concept study and that they would be given the brand’s name (“Avant,” pretested to be neutral across conditions), its price ($50), and a short brand description. Next, the participant read a brief description about PeoplePerspective, the research company fielding the study. Participants in the low-elaboration condition were told that PeoplePerspective simply exposes the participant to a potential appeal, and they were told to read the appeal as if it were in a magazine. Participants in the high-elaboration condition were told that PeoplePerspective exposes the participant to a potential appeal twice, and they were instructed to read the appeal as if it were in a magazine. Both sets of participants then read the persuasion appeal. Those in the one-exposure condition then received a page that included a four-sentence excerpt describing the characteristics of PeoplePerspective and its client list, while those in the two-exposure condition received the same appeal again. To be consistent with this cover story, no filler ads were used.

To manipulate personality dimensions, Avant was described as western, outdoorsy, and tough (ruggedness condition), or peaceful, shy, and mild (peacefulness condition), the same high culture-distinct conditions as in the previous experiments. However, to increase generalizability, a different low culture-distinct condition was used, sophistication, manipulated by the traits, smooth, sophisticated, and elegant. All participants were asked their attitudes and then were given three minutes to list any thoughts. In the second booklet, they received a filler task that took approximately 25 minutes. In the final booklet, participants were given a free recall task as in experiment 2 (as a check on elaboration), and they completed the personality dimension manipulation checks as well as the Singelis (1994) scale.

Results and Discussion

The predictions were tested based on a 3 (personality dimension) × 2 (culture) × 2 (cognitive elaboration) between-subjects ANOVA. Unless otherwise specified, the degrees of freedom used in the full-design ANOVA are 1 and 155; n ranged from 11 to 20 in each cell. The same thought coding scheme as in experiment 2 was used; however, in experiment 3, two sets of raters coded the thoughts (two American raters coded American participants’ thoughts, and two Japanese raters coded Japanese participants’ thoughts). Interrater agreement was high (94 percent); discrepancies were resolved through discussion.

Manipulation Checks. As in the prior experiments, the personality dimension checks operated as expected. In each of the 3 × 2 × 2 overall ANOVAs, significant main effects of personality dimension on the corresponding index were found (p’s < .05; see Table 2 for means), and the contrasts between personality dimensions were significant (p’s < .05). No main or interactive effect of culture was found (p’s > .10). The results of an ANOVA on the Singelis (1994) scale yielded only a significant main effect showing higher independent and lower interdependent scores for American as compared with Japanese participants (m = 5.01 vs. m = 4.44; F = 2.94, p < .05; Cronbach’s α = .91).

Finally, as expected, a 3 × 2 × 2 ANOVA on recall revealed a main effect of cognitive elaboration, showing that with repetition, recall increased (F = 4.55, p < .05). Only two other marginally significant effects occurred: a main effect where American as compared with Japanese participants had higher recall (F = 3.86, p < .06) and a two-way interaction of cognitive elaboration and personality dimension (F = 2.24, p < .10). Follow-up contrasts showed that the marginal two-way interaction appears to be driven by a significant increase in recall for the high culture-distinct dimensions by participants in the nontarget culture in high relative to low-elaboration conditions, while no such increase occurred for the low culture-distinct dimensions (F < 1). More specifically, recall for the peacefulness brand was higher under high as compared with low elaboration for American participants (F = 10.00, p < .01) but not for Japanese participants (F < 1). However, this pattern was not as strong in the recall of the ruggedness brand. Specifically, recall did not significantly increase in high compared with low elaboration for Japanese participants (F = 2.22, p = .13); nor was it significant for American participants (F = 1.58, p = .22).

Attitudes. A 3 × 2 × 2 ANOVA on Abrand (Cronbach’s α = .93) yielded a marginally significant interaction between personality dimension and cognitive elaboration (F = 1.79, p < .10), qualified by a significant three-way interaction (F = 6.35, p < .01). Planned contrasts showed support for the predictions: Abrand for the ruggedness dimension was higher for American as compared with Japanese participants (F = 4.19, p < .01), and Abrand for the peacefulness dimension was higher for Japanese as compared with American participants (F = 3.84, p < .05). As expected, Abrand did not differ for American and Japanese participants in the sophistication condition (F < 1).

Planned contrasts comparing attitudes at low and high elaboration were then conducted. Providing more support for the accessibility than the diagnosticity explanation, Abrand for the ruggedness dimension was higher for Japanese participants in the high-elaboration condition relative to those in the low-elaboration condition (F = 3.89, p < .05). In contrast, Abrand for the peacefulness dimension was higher for American participants in high as compared with low elaboration (F = 4.19, p < .05). As expected, Abrand for the sophistication dimension did not differ across elaboration conditions for American participants (F = 1.69, p
TABLE 2
MEASURES ACROSS CONDITIONS (EXPERIMENT 3: MEAN AND SD)

<table>
<thead>
<tr>
<th></th>
<th>Ruggedness dimension</th>
<th>Peacefulness dimension</th>
<th>Control dimension</th>
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<tr>
<td></td>
<td>One exposure</td>
<td>Two exposures</td>
<td>One exposure</td>
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<tr>
<td></td>
<td>Japan (n = 12)</td>
<td>United States (n = 15)</td>
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<td>(α = .75)</td>
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= .20) or for Japanese participants (F < 1). It is interesting that increased elaboration on the high culture-distinct dimension had no effect. Paralleling the results of experiment 2, in conditions of high as compared with low elaboration, \( \Delta_{brand} \) toward the peacefulness dimension did not change for Japanese participants (F < 1). Neither did \( \Delta_{brand} \) toward the ruggedness dimension for American participants change (F < 1), to be discussed below.

Mediation Processes. As in experiment 2, a series of regressions were conducted in the low-elaboration conditions. The results indicated that (1) American as compared with Japanese participants had more favorable attitudes toward brands with ruggedness associations (b = .86, t = 2.35; p < .05), (2) American as compared with Japanese participants had higher scores on the VRT index (b = .85, t = 2.25; p < .05), (3) VRT led to more favorable attitudes toward ruggedness brands (b = .86, t = 2.52; p < .01), and (4) VRT was marginally significant (b = .58, t = 1.94; p < .06), while culture was not significant (b = .32, t = 1.51; p = .14), in a model that includes both VRT and culture. Further, the second set of equations indicates that (1) Japanese as compared with American participants had more favorable attitudes toward brands with peacefulness associations (b = .76, t = 1.92; p < .05), (2) Japanese as compared with American participants had marginally higher scores on the VPT index (b = .58, t = 1.91; p < .07), (3) VPT led to more favorable attitudes toward peacefulness brands (b = .67, t = 4.74; p < .01), and (4) VPT was significant (b = .62, t = 4.31; p < .01), although culture was not (b = .39, t = 1.22; p = .23) in a model that includes both VPT and culture. In contrast, the same mediation analyses involving VRT and VPT run in high-elaboration conditions did not yield significant results (1–4 equations, corresponding to the statements above; p’s > .10), with only one exception (Eq. 1; p’s < .01). Together, these results suggest that increased elaboration leads to more similar processes of persuasion across the cultures, which is consistent with the accessibility explanation.

Ancillary Analyses. As in experiment 2, a set of ancillary analyses was conducted. First, the mediation analyses run above were repeated with valenced sophistication thoughts (VST) in low-elaboration conditions. All four
equations support the premise that VST mediates the relationship between sophistication appeals for both American and Japanese participants in low elaboration: (a) $p = .63$, (b) $p = .72$, (c) $p < .01$, and (d) $p = .23$ for culture; $p < .01$ for VST. In addition, the pattern of results remained consistent when this mediation analysis was repeated as within-culture analyses.

Finally, to shed insight on why attitudes toward high culture-distinct dimension do not increase (or potentially decrease as in experiment 2) in high-elaboration conditions as compared with low-elaboration conditions, a series of overall $3 \times 2 \times 2$ ANOVAs were run on the specific thought types (e.g., irrelevant thoughts, as well as counter and support arguments for peacefulness and ruggedness). No significant differences were found in message irrelevant thoughts (see Table 2), suggesting that idiosyncratic associations were not likely to account for the decrease in attitudes. However, in conditions of high as compared with low elaboration, (a) decreased counterarguments involving the high culture-distinct dimension in the nontarget culture and (b) decreased support arguments involving the high culture-distinct dimension in the target culture occurred. To illustrate, in conditions of high as compared with low elaboration on the ruggedness appeal, Japanese participants had fewer counterarguments ($m = .00$ vs. .25; $F = 5.77$, $p < .05$), while American participants had fewer support arguments ($m = .36$ vs. .67; $F = 9.61$, $p < .01$). In other words, as in Cacioppo and Petty (1979), both types of valenced thoughts appear to jointly account for the decrease in attitudes toward high culture-distinct dimensions in high-elaboration conditions relative to the low-elaboration conditions.

### GENERAL DISCUSSION

The objective of this research was to explore the extent to which differences in perceived diagnosticity and accessibility of associations embedded in persuasion appeals better account for the cross-cultural differences often found in the culture and persuasion literature. Specifically, the results of the three experiments showed greater support for the accessibility explanation, as evidenced through both outcome and mediation analyses, conducted within and across cultures. The results of experiment 1 demonstrated the basic asymmetric effects whereby the high culture-distinct dimensions led to more favorable attitudes for individuals in the target as compared with the nontarget culture, while attitudinal similarities across cultures were found when individuals were exposed to the low culture-distinct dimension. Experiments 2 and 3 replicated these findings in conditions of low elaboration, and extended them into conditions of high elaboration in order to shed light on the mechanism driving the results. In conditions of heightened elaboration, levels of accessibility of the associations increased, and cross-cultural attitudinal differences were muted. A set of mediation analyses and ancillary ANOVA analyses indicated that the number of positively valenced thoughts of the high culture-distinct associations in the target culture decreased, while the number of positively valenced thoughts of the high culture-distinct associations in the nontarget culture increased, which, combined, appears to have driven the outcome results. This pattern of results provides more support for the differential accessibility explanation relative to the diagnosticity explanation, which suggests the high culture-distinct associations may be valued in the nontarget culture but are less accessible in memory at an individual level.

From a theoretical perspective, these results shed some light on conflicting findings in the literature on culture and persuasion. For example, Han and Shavitt (1994) find congruity effects where Korean individuals prefer interdependent to independent appeals, while the converse is true for American individuals (Wang et al. 2000; Zhang and Gelb 1996). However, another pattern of results has also been found in this literature. Tse, Belk, and Zhou (1989), for example, show that persuasion appeals used in Hong Kong often evoke positive associations with idealized Western lifestyles. Mueller (1987) demonstrates that, counter to hypotheses, persuasion appeals depicting group orientation (showing how individuals relate to others) are more predominant in the United States than in Japan. In an experimental context, Aaker and Williams (1998) showed that Chinese individuals prefer emotional appeals that rely on ego-focused or disengaged emotions (e.g., pride, anger), while American individuals preferred emotional appeals that rely on other-focused or engaged emotions (e.g., empathy, guilt). Further, Tan and Farley (1987) found that Singaporean participants prefer advertisements with Western rather than Asian models (see also Sherry and Camargo [1987] for a discussion of Waconysai, or the infusion of Western technology with a Japanese soul).

The accessibility-diagnosticity framework accommodates these observations by specifying that the conditions under which cultural incongruity effects relative to cultural incongruity effects occur may depend on elaboration likelihood in the evaluation context (see also Aaker and Sengupta 2000). For example, when elaboration levels are lower (e.g., when participants are instructed to read advertisements as spontaneously as possible, where the focal brand is detergent; Han and Shavitt 1994), exposure to a diagnostic and relatively accessible stimulus should lead to favorable attitudes. Conversely, when elaboration levels are higher (e.g., when participants are instructed to rate a single advertisement for a new brand, where the focal brand is beer; Aaker and Williams 1998), exposure to a diagnostic and relatively inaccessible stimulus may not lead to more favorable attitudes and, under certain conditions (e.g., when counterarguing occurs; Cacioppo and Petty 1979), can lead to less favorable attitudes (Kisielius and Sternthal 1986). Therefore, one possible explanation for the discrepant findings

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9While speculative, the pattern of counter and support arguments may be interpreted in conjunction with the pattern of recall results. That is, there was an increase in recall of the high culture-distinct dimension in the nontarget culture in the high-elaboration conditions relative to low-elaboration conditions and a corresponding decrease in counterarguments in these cells. To understand this pattern better, follow-up research is needed to explore the nature of the recalled content in these high- and low-elaboration conditions.
is that different levels of message elaboration may have been evoked in the experiments.

The results of this research may also be interpreted with an eye for practical implications. For example, the findings in all three experiments, under conditions of low elaboration, indicate that cultural differences in consumer preferences exist. However, the findings under conditions of high elaboration raise the question regarding the malleability of these preferences. On the basis of this pattern of findings, two points may be highlighted. First, taken together, the results do not rule out the possibility that cultural differences in the diagnosticity of content embedded in persuasion appeals exist (e.g., brand associations, source cues, or emotions). The relevance of the Marlboro icon, for example, may be higher for American individuals than for non-Western individuals. In fact, the results of pretests, unreported in this research, as well as the results of the diagnosticity checks in experiment 2, suggest that cultural differences in diagnosticity do exist. However, because the diagnosticity and accessibility explanations were pitted against each other, the attitudinal and mediation results were forced to favor one over the other. Marketers interested in the efficacy of persuasion appeals, therefore, may consider questions that remain unaddressed in this research: What is the magnitude of cultural differences in diagnosticity of associations embedded in an appeal? And, how easily can these potential differences be overcome?

Second and related, the pattern of results suggest that cultural preferences for persuasion appeals, often assumed to be relatively stable and driven by culture-based norms and traditions, may, in fact, be relatively malleable. That is, by increasing the accessibility of the personality associations through elaboration, the asymmetric preferences found in much of the work on culture and persuasion appear to diminish. From an applied perspective, this insight suggests that global brands that are based on relatively high culture-distinct associations (e.g., Basu/Kurin bath salt in Japan, Marlboro cigarettes in the United States) may focus on advertising campaigns that remain consistent over time and across modes when advertised in foreign countries. Such a campaign would aim to increase the accessibility of the associations (e.g., ruggedness in Japan), rather than shift the meaning of the brand (e.g., imbuing Marlboro with less rugged but more exciting associations in Japan) or increase diagnosticity of the associations (e.g., attempting to make ruggedness more important in Japan). In contrast, however, when a marketing campaign is not consistent over time and modes (Keller 1987), this persuasion strategy may be less effective because higher levels of accessibility of the high culture-distinct associations may not be achieved.

**CONTRIBUTIONS, CAVEATS, AND FUTURE RESEARCH**

There are several limitations of this research that reveal areas for future research. For example, cognitive elaboration was manipulated through single as compared to double exposures to the appeal, thereby limiting the possibility of identifying conditions where attitudes toward the high culture-distinct dimension in the nontarget culture may decrease. For example, Krugman (1972) theorized that the cognitive processes underlying persuasion effects shift as the number of exposures increases to three. Specifically, the first exposure leads to “What is it?” responses, attempts to understand the content of the appeal. The second exposure elicits more evaluative “What of it?” responses, which determine the effectiveness of the appeal. The third exposure acts as a reminder, and in many cases is associated with the withdrawal of attention. Additional research may explore this possibility by examining the content of thoughts as the number of exposures mounts and determining whether these effects co-occur across cultural contexts.

Further, additional research is needed to determine the extent to which other indigenous dimensions may exist in Japan and in cultures not defined by eastern and western boundaries. For example, Benet-Martínez (1999) identifies a culture-specific human personality dimension that encapsulates associations with “passion” (e.g., impulsive, intense, passionate) that tend to be fostered and encouraged in the Spanish culture. Research is needed to determine the extent to which this set of associations is reflected in brands created in Mediterranean cultures, what culture-specific personality dimension(s) may exist in other cultures, and how the meaning of such culture-specific dimensions changes as cultural boundaries shift.

Future research is also needed to provide a deeper understanding of the meaning and influence of high culture-distinct dimensions. One possibility would be to address the limitation that only a subset of traits within each dimension was manipulated in the experiments. To what extent would the results persist if other traits are used? Specifically, consider the trait associations with peacefulness: to what extent would the persuasion effects remain similar if the other three traits that make up peacefulness (childlike, dependent, naive) were added to the description of Hawaiian Line Cruises? While speculative, research on the Japanese culture suggests that the pattern may remain similar or be strengthened, since the manipulation may more closely reflect the deeper meaning of “*amae*” (“the feeling of complete acceptance or the sense of being lovingly cared for; a feeling that involves depending on another, to be passively loved” [Doi 1971]). *Amae* tends to be more important in East Asian cultures, where socialization practices foster an intense closeness between mother and child, one that is more likely to be prolonged into adult life, than in North American cultures (Kumagai and Kumagai 1985). Therefore, to the extent that the peacefulness dimension may become even more representative of concepts that are indigenous to Japan (relative to the United States) with the incorporation of the other peacefulness-related traits, the pattern of results found in low-elaboration conditions in this research may be enhanced. What needs to be addressed, however, is how the pattern may change in high-elaboration conditions. In other words, when might the meaning of the dimensions shift from positive to negative such that heightened elaboration would not lead to more favorable associations?
Further, an understanding of cultural similarities and variations in the meaning of the low culture-distinct dimensions merit exploration. For example, while dimensions such as excitement in North American contexts and excitement in East Asian contexts may share similar traits, the two-group confirmatory analysis suggests that they are not identical. Future research is needed to determine which particular traits shift, thereby altering the meaning of such a dimension. To illustrate, Japanese individuals tend to perceive “masculine” to be highly related to traits such as patient, tenacious, and responsible, all of which convey the meaning of responsibility and are consistent with the Japanese notion of “gambari” (i.e., perseverance, inner strength, the ability to endure hardship). However, “masculine” is not perceived to be highly correlated with competence by American individuals; instead, it loads highly on ruggedness. (See Triandis [1997] for similar shifts in the meaning of human personality traits, such as “self-reliant.”) Research is needed to determine when and why the meaning of particular traits vary across cultures (Aaker et al. 2000). To illustrate, Bem (1981) argues that, through cultural socialization, virtually all children acquire the culture’s concepts of masculinity and femininity, and these perceptions guide judgments of one’s self and others. The results of this research suggest that this socialization process may extend beyond the perceptions of individuals to those of nonhuman objects such as possessions or brands.

Finally, future research is needed to broaden our understanding of how culture, as communicated through language (e.g., Schmitt, Pan, and Tavassoli 1994), perpetuated through child-rearing techniques (e.g., Heine et al. 1999), and influenced by advertising (e.g., McCracken 1986), affects individual-level psychological processes. That is, while past research has focused primarily on the extent to which culture can influence individual-level attitudes and behavior (culture-creates-psyches), less research has been conducted on the companion process (cf. Chiu et al. 2000); how do individual-level psychological processes influence culture (psyche-creates-culture)? Further, research in consumer behavior, particularly in the realm of experimental psychology, has been silent on how culture influences consumers’ attitudes and behavior when cultural boundaries shift and cultural characteristics change. Addressing both questions will shed more insight on the mechanisms underlying cross-cultural persuasion effects and allow us to retreat from a static view of culture to a dynamic one that recognizes the reciprocal relationship between individual psyche and culture.

**APPENDIX**

**FIGURE A1**

**PREDOMINANTLY ANGLO-AMERICAN NEIGHBORHOOD**

![Figure A1](image-url)
REFERENCES


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