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# Approach–Avoidance Motivation and Information Processing: A Cross-Cultural Analysis

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*Much recent research suggests that North Americans more frequently experience approach motivations and East Asians more frequently experience avoidance motivations. The current research explores some cognitive implications of this cultural difference. North Americans should be more attentive to approach-oriented information, whereas East Asians should be more attentive to avoidance-oriented information. Three studies confirmed this hypothesis. When asked to recall information framed in either approach or avoidance terms, a predicted interaction between culture and information frame was observed (Study 1 and 2). Moreover, analyses of consumer book reviews found that among reviews that were rated as helpful, approach-focused content was more prevalent in American reviews compared to Japanese reviews, in which avoidance-focused content was more prevalent (Study 3). Findings from the current research add to the growing literature of cross-cultural research on approach–avoidance motivations.*

**Keywords:** *approach–avoidance motivation; culture; motivation; memory; regulatory focus*

**R**esearch in cultural psychology has advanced most fruitfully with its focus on the culturally varying

nature of the relations between the self and others (Markus & Kitayama, 1991) and cognitive processes (Nisbett, Peng, Choi, & Norenzayan, 2001). These two lines of research complement each other, as social environments in which people are embedded profoundly influence their cognitive processes. For instance, Nisbett et al. (2001) have theorized the mutually reinforcing relationships between individualistic cultures and analytic cognitive processing prevalent in Western societies and collectivistic cultures, and holistic cognitive

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processing prevalent in East Asian societies. The current research focuses on the role of approach–avoidance motivations in fostering differences in cognitive processes across cultures.

### *Approach–Avoidance Motivations*

Few psychological phenomena are more fundamental than approach and avoidance motivations, which have been implicated in a wide range of psychological processes (e.g., Cacioppo, Gardner, & Berntson, 1999; Elliot & Church, 1997; Higgins, 1997) and are shared across a diverse array of species (Elliot, 1999). Despite being basic elements of psychological processing, identified cultural variation in the frequency of these two motivations (e.g., Elliot, Chirkov, Kim, & Sheldon, 2001; Lee, Aaker, & Gardner, 2000) indicates that approach and avoidance motivations are not *accessibility universals*, or psychological processes that are accessible to the same extent across cultures (Norenzayan & Heine, 2005), but are shaped considerably by cultural experiences. There are many important implications that follow from the observed cross-cultural variation in this critical dimension.

### *Evidence for Cross-Cultural Variation in Approach–Avoidance Motivations*

A growing corpus of cross-cultural research confirms cultural differences in self-regulatory motivations. For example, Elliot et al. (2001) found that Asian Americans and Koreans were more likely to embrace avoidance personal goals relative to European Americans. Lee et al. (2000) found that Americans rated a tennis game that was framed as an opportunity to win as more important than one that was framed as an opportunity to avoid a loss, whereas the reverse pattern was observed among Chinese participants. Heine et al. (2001) found that whereas success feedback motivated Canadians more than failure feedback, Japanese participants were motivated more by failure feedback than success feedback (see also Oishi & Diener, 2003). Similarly, Lockwood, Marshall, and Sadler (2005) found that negative role models—someone whom people want to ensure they do not become like—are more motivating for Asian Canadians, whereas positive role models are more motivating for European Canadians. The findings of these studies converge across methods to demonstrate that a concern with avoiding negatives is of greater significance among East Asians than among Westerners (see also Hamamura & Heine, 2008a; Ouschan, Boldero, Kashima, Wakimoto, & Kashima, 2007).

At present, there is no consensus regarding why cultures differ in their approach–avoidance motivations; however, one account maintains that cultural differences

in this dimension emerge because cultures differ in their conception of what it takes to be a good person; that is, high self-esteem is particularly desirable and functional in North America, whereas “face” is particularly desirable and functional in East Asia (e.g., Hamamura & Heine, 2008b; Heine, 2005; see also Kitayama, Mesquita, & Karasawa, 2006; Kwan, Bond, & Singelis, 1997; Oishi & Diener, 2001). The rationale is that within individualistic cultures such as North America, individuals are enculturated (via socialization, participating in cultural institutions) to aspire to view themselves as a unique and self-sufficient entity. Toward this objective, individuals come to focus on positive self-characteristics to positively distinguish themselves from others—that is, they come to desire and acquire high self-esteem. Individuals have some degree of control over their self-esteem through a variety of self-deceptive strategies by which they can attend to and elaborate on self-relevant information in a way that is flattering to themselves, thereby maintaining a high level of self-esteem (for a review, see Taylor & Brown, 1988). These tactics can be seen as examples of an approach motivation, as they facilitate progress toward the goal of securing positive information about the self. Hence, approach motivations can be seen as integral in Westerners’ attempts to accumulate the self-resource that they tend to prioritize, namely, self-esteem.

In contrast, in hierarchical, collectivistic cultural environments such as East Asia, where the self is embedded in a social network, being a culturally valued person entails maintaining one’s “face,” that is, “the respectability and/or deference which a person can claim for himself from others by virtue of the relative position he occupies in his social network and the degree to which he is judged to have functioned adequately in that position” (Ho, 1976, p. 883). Compared to self-esteem, face is considerably more difficult to manage. Increasing face is difficult, as the amount of face that a person can claim is anchored to their position in the social hierarchy: Face is increased when one moves up the social hierarchy (e.g., a graduate student becoming a professor). On the other hand, face is chronically vulnerable for loss because it is successfully managed only to the extent that the individual is able to live up to the expectations of others—expectations that are often unknown to the individual. If one fails to meet others’ expectations, they lose face, which can have significant consequences to the individual. Hence, face is something that is difficult to gain but potentially easy to lose. To the extent that East Asians tend to be more concerned about this inherently vulnerable resource, their self-regulation should be oriented more toward avoiding the loss of face (Hamamura & Heine, 2008b; Heine, 2005).

In sum, one account has it that different conceptions of what it entails to be a good person across cultures, and

an inherent asymmetry between the ease of acquiring self-esteem and the vulnerability of face, give rise to cultural variation in self-regulation. An approach focus is more adaptive and should be more common among North Americans, whereas an avoidance focus is more adaptive and should be more common among East Asians.

### *Cognitive Implications of Regulatory Fit*

Research shows that individuals are sensitized to stimuli that fit their regulatory focus (for a review, see Higgins & Spiegel, 2004). For example, Higgins and Tykocinski (1992) found that after reading a list of events that a stranger had experienced, approach-focused individuals recalled more events pertaining to the presence or absence of positive outcomes, or approach-oriented events (e.g., finding a \$20 bill on the street or finding that a movie one wanted to see was no longer showing), whereas avoidance-focused individuals recalled more events pertaining to the presence or absence of negative outcomes, or avoidance-oriented events (e.g., finding a zit on one's nose or having an unpleasant class canceled; see also Derryberry & Reed, 1994; Higgins, Roney, Crowe, & Hymes, 1994; Strachman & Gable, 2006). Importantly, this research suggests that the effect of information framing, focusing on the *presence* or *absence* of positive or negative, is independent of the effect of overall valence of information. That is, the approach-avoidance distinction does not appear to pertain to the overall valence of the information (Higgins & Tykocinski, 1992). Furthermore, this line of research finds the cognitive implication of regulatory fit not only in the processing of information that is self-relevant but also in the processing of non-self-relevant information.

### *Current Research*

Combined with observed cultural variation in approach-avoidance motivations, research on regulatory fit suggests a pattern such that North Americans with a more chronic approach motivation should be more attentive to information pertaining to positive rather than negative outcomes, whereas East Asians with a more chronic avoidance motivation should show the opposite preference.

A few studies support this rationale. For example, in a study of autobiographical memory Endo and Meijer (2004) found that whereas for Americans memories of successes were more accessible relative to memories of failures, among Japanese memories of successes and failures were equally accessible. Endo and Meijer also found that Americans perceived the positive impact of their success memories to be greater than the negative impact of their failure memories, whereas Japanese

showed the opposite pattern. Similarly, Oishi (2002) found that European Americans' overall satisfaction ratings across a week were better predicted by the level of satisfaction that was reached on their happiest day of the week. In contrast, for Asian Americans their overall satisfaction was better predicted by the level that was reached on their *unhappiest* day of the week. Furthermore, Aaker and Lee (2001) found that when Hong Kong Chinese and European Americans imagined themselves in a tennis match, Hong Kong Chinese had better recall for the details when the game was framed as preventing a loss, whereas European Americans exhibited better recall when the game was framed as an opportunity to win. These studies converge in suggesting cultural differences in processing of self-relevant information: North Americans are attuned to approach-oriented information, whereas East Asians are attuned to avoidance-oriented information.

What is not yet examined in the literature is whether this pattern of results extends to processing of non-self-relevant information. For example, are North Americans attuned to approach-oriented information and East Asians attuned to avoidance-oriented information when they are considering which movie to watch for the weekend? Such a pattern would suggest that the cognitive implications of cultural differences in approach-avoidance motivations extend to the processing of a wide variety of information, even information that would appear to be unrelated to one's self-concept. To the extent that prior research shows that individuals' chronic approach and avoidance motivations bias their information processing for non-self-relevant information (Higgins & Tykocinski, 1992), we predict that North Americans and East Asians should similarly differ in their processing of such information. Specifically, North Americans should be more attentive of information pertaining to the presence or absence of positive characteristics, whereas East Asians should be more attentive of information pertaining to the presence or absence of negative characteristics. Moreover, this effect should be independent of the effect of the overall valence of information. Three studies were conducted to examine this hypothesis.

### *Overview*

The hypothesis under investigation is that North Americans with a relatively chronic approach orientation should be more attentive to information pertaining to positive outcomes (approach focus) relative to negative outcomes (avoidance focus), whereas East Asians with a relatively chronic avoidance orientation should show the opposite preference. Studies 1 and 2 examined this hypothesis by asking Japanese and North American participants to remember and recall a list of informa-

tion. Study 3 examined customer book reviews posted on Amazon and investigated whether reviews that American customers found helpful contained more approach-focused information and whether reviews Japanese found helpful contained more avoidance-focused information.

## STUDY 1

### Method

**Participants.** Fifty-four American university students who were born in the United States (27 females and 27 males, average age = 18.8) and 56 Japanese university students (27 females and 29 males, average age = 19.9) participated in the study. Although the average age of the two groups differed significantly,  $t(108) = 4.15, p < .001$ , age was uncorrelated with any of the dependent variables. The two samples did not differ in their gender proportions ( $\chi^2 < 1$ ), and gender did not interact with culture in any of the analyses. Both American and Japanese students received extra credit toward their course grade for their participation.

**Materials and procedure.** Before the study, a list of everyday life events was generated. First, experimenters classified the events into one of five categories: presence of positive outcomes (e.g., gorgeous weather for hiking), absence of positive outcomes (e.g., a favorite class was canceled), presence of negative outcomes (e.g., stuck in a traffic jam), absence of negative outcomes (e.g., did better than anticipated on a test), or neutral (e.g., went to a post office and mailed some letters). Next, the same classification task was performed by a small group of American and Japanese participants. Participants also rated the events for their realism. Only events that were perceived to be belonging to the presupposed event category and realistic by the majority of participants from both cultural groups were selected. The final list consisted of four groups of five events, one from each of the five event categories, and each group of events was presented as a day in the life of a fictitious person. All materials were translated and back-translated from the English originals into Japanese.

Participants read a list of 20 short events that a fictitious person experienced in a 4-day period and were asked to form an impression of the fictitious person. Following a distraction task (copying shapes), participants were asked unexpectedly to write down as many of the events from the list as they could remember. The material and procedure in this study were closely modeled after Higgins and Tykocinski (1992).

**TABLE 1:** Recall of Events in Study 1

	<i>Approach Events</i>	<i>Avoidance Events</i>	<i>Neutral Events</i>
American	.55 <sub>a</sub> (.22)	.46 <sub>b</sub> (.19)	.49 (.29)
Japanese	.48 <sub>a</sub> (.25)	.54 <sub>b</sub> (.24)	.39 (.26)

NOTE: Standard deviations are reported in parentheses. Different subscripts within each row indicate significant difference between recalls for approach and avoidance events at  $p < .05$ .

**Coding.** Participants' recalls were rated by a native speaker of English and Japanese using a 2-point scale. For each recall, a rating of 1 was given if the recollection preserved the original event category, and a rating of 0 was given if the recollection did not preserve the original event category. For example, for the event "I woke up in the morning and brushed my teeth. When I looked in the mirror I saw a big zit on the middle of my nose," a rating of 1 was given if the recall mentioned the fact that the person woke up with a big zit on the nose, and rating of 0 was given for all other recalls. For recalls of neutral reviews, a rating of 1 was given if the recall preserved the meaning of the original sentence. To ensure the reliability of coding, the recalls were also coded by another native speaker of English or Japanese. For the American data, the second coder rated all of the recalls whereas for the Japanese data the second coder rated a subset (about 40%) of all of the recalls.<sup>1</sup> The coders were blind to the hypothesis. Two independent coders reached a high level of agreement in both cultures. Using the criteria by Landis and Koch (1977), Kappa's coefficient was moderate for Japanese (.56) and almost perfect for English (.95) recalls. The following analyses are performed on ratings by the first coder in both cultures.

### Results and Discussion

Of the five event categories presented in the list, events that referred to the presence or absence of positive outcomes represent approach events, whereas those that referred to the presence or absence of negative outcomes represent avoidance events. Japanese and Americans did not significantly differ in their recall of neutral events,  $t(108) = 1.87, p = .07$  (Table 1).

Next, participants' recall of approach and avoidance events was analyzed with their recall of neutral events as a covariate. A repeated measure ANCOVA revealed a significant interaction,  $F(1, 107) = 13.03, p < .001, \eta^2 = .11$ . Americans showed significantly better recall of approach events relative to avoidance events ( $M = .55, SD = .22$  and  $M = .46, SD = .19$ , respectively),  $t(53) = 2.93, p < .01, d = .44$ . In contrast, Japanese showed significantly better recall for avoidance events relative to



approach events ( $M = .48$ ,  $SD = .25$  and  $M = .54$ ,  $SD = .24$ , respectively),  $t(55) = 2.04$ ,  $p < .05$ ,  $d = -.24$ . Neither the main effect of culture (American or Japanese) or of event type (approach or avoidance) was significant.

Next, analyses were conducted to examine whether recalls of approach and avoidance were qualified by their valence. Events with the presence of positive outcomes and absence of negative outcomes represent positive overall valence events, and those with the presence of negative outcomes and absence of positive outcomes represent negative overall valence events. A 2 (approach or avoidance)  $\times$  2 (positive or negative)  $\times$  2 (American or Japanese) ANCOVA was conducted. This analysis revealed that the three-way interaction was not significant ( $F < 1$ ,  $ns$ ). Cultural differences in the recall of approach and avoidance were unqualified by the valence of the events. A two-way interaction between valence and culture was also not significant ( $F < 1$ ,  $ns$ ). Americans and Japanese did not differ in their recalls as a function of the valence of the events.

In sum, this study found a predicted interaction between participants' cultural background and the framing of information. American participants who are predominately more approach focused exhibited better recall of approach-focused information relative to avoidance-focused information, whereas the pattern was the opposite among Japanese participants, and this pattern was not qualified by the overall valence of information. Study 1 adds to prior research in extending the cognitive implications of cultural variation in approach-avoidance motivations to information that is not directly relevant to the self. Study 2 replicates this finding using stimuli from a different domain.

## STUDY 2

### Method

**Participants.** One hundred and sixteen students at the University of British Columbia participated in the study. Of these, 55 were Canadians who were born in Canada (42 females and 13 males, average age = 20.44) and 61 were Japanese nationals who were studying in Canada (46 female and 15 male, average age = 21.45). At the time of the study, the Japanese students had been in Canada for an average of 6.4 months (range = 1 to 24 months).

The two samples did not differ in their average age,  $t(113) = 1.54$ ,  $p > .10$ . Also, the two samples did not differ in their gender proportions ( $\chi^2 < 1$ ), and gender did not interact with any of the analyses reported later. Canadian students received extra credit toward their psychology grade for their participation, and Japanese students received \$5 for their participation.

**Materials.** A large number of reviews (posted by lay audiences) were retrieved from popular movie review Web sites in the United States (<http://www.imdb.com/>) and Japan (<http://movies.yahoo.co.jp/>). The reviews were broken down into sentences, and the following procedure was carried out on these sentence-long reviews: First, as in Study 1, each review was classified into one of five categories (presence or absence of positive qualities, presence or absence of negative qualities, and neutral). Two graduate students of social psychology who were blind to the hypothesis carried out this classification. Reviews were retained only when the classifications by these two raters agreed. Also, to ensure that these reviews were meaningful in both cultures, a small group of Canadians and Japanese rated the reviews on their informativeness, and reviews that received low ratings in either culture were removed from the list.

The final list consisted of four sets of five movie reviews. The list mentioned four movies, and each movie was associated with a set of five reviews (one review from each category). For example, a fictitious movie titled *The Wolf* was associated with the following five reviews: "It's just too fantastic. It's impossible to describe. You should just watch this without saying anything" (presence of positives), "The movie had no good actors or a good script" (absence of positives), "This is worthless. I could see where the jokes were going, and it made me want to leave in the middle" (presence of negatives), "This vastly underrated actor was not doing so badly in the movie" (absence of negatives), and "A movie disclaimer claims that the characters are, in part, fictional" (neutral).

The materials were translated between English and Japanese by a bilingual research assistant, and another bilingual checked the translation. The translators discussed and resolved any inconsistencies that were identified.

**Procedure.** Participants read a list of reviews that were presented as sets of customer reviews of recently shown movies, and participants were then asked to form an impression about each movie. After a distraction task (a sudoku puzzle), participants were unexpectedly asked to write down as much from the reviews that they could remember.

**Coding.** Coding criteria were the same as those used in Study 1. For each recall, a rating of 1 was given for a recall that preserved the original review category, and a rating of 0 was given for all the other recalls. For example, for the review "The movie had no good actors or a good script," a rating of 1 was given if the recall mentioned the fact that the movie had no good actors or script, and a rating of 0 was given for all other recalls.

**TABLE 2:** Recall of Movie Reviews in Study 2

	<i>Approach Reviews</i>	<i>Avoidance Reviews</i>	<i>Neutral Reviews</i>
Canadians	.41 <sub>a</sub> (.16)	.28 <sub>b</sub> (.14)	.16 (.17)
Japanese	.37 <sub>a</sub> (.15)	.34 <sub>a</sub> (.14)	.18 (.21)

NOTE: Standard deviations are reported in parentheses. Different subscripts within each row indicate significant difference between recalls for approach and avoidance reviews at  $p < .05$ .

For recalls of neutral reviews, a rating of 1 was given if the recall preserved the meaning of the original sentence. All of the English and Japanese recalls were coded by two coders: a native speaker of English or Japanese and a bilingual speaker of both languages. High intercoder reliability (Landis & Koch, 1977) was achieved (Kappa coefficients: English = .75, Japanese = .88). Discrepancies were resolved by discussion. These coders, however, were not unaware of the hypothesis, and a third bilingual rater who was blind to the hypothesis also coded a randomly sampled subset (30%) of the recalls as a check. This coding converged with the original coding (Kappa coefficients: English = .74, Japanese = .81).

### *Results and Discussion*

Of the five types of reviews, those that include the presence or absence of positive qualities represent approach reviews and those that include the presence or absence of negative qualities represent avoidance reviews. The recall for neutral reviews was entered as a covariate.

First, Japanese and Canadian participants did not differ in their recall of neutral reviews,  $t < 1$  (Table 2). Recall of approach and avoidance reviews was analyzed next. A repeated measure ANCOVA revealed a significant interaction,  $F(1, 113) = 6.00$ ,  $p < .05$ ,  $\eta^2 = .05$ . The main effect of culture was not significant ( $F < 1$ ); however, the review type had a significant effect on recall in that approach reviews were recalled better ( $M = .39$ ,  $SD = .15$ ) than avoidance reviews ( $M = .31$ ,  $SD = .15$ ),  $t(115) = 3.86$ ,  $p < .001$ ,  $d = .53$ . Nonetheless, the strength of this effect was qualified by culture. Canadians recalled approach reviews ( $M = .41$ ,  $SD = .16$ ) significantly more than avoidance reviews ( $M = .28$ ,  $SD = .14$ ),  $t(54) = 4.43$ ,  $p < .001$ ,  $d = .87$ . In contrast, among Japanese there was no such difference (approach reviews:  $M = .37$ ,  $SD = .15$ ; avoidance reviews:  $M = .34$ ,  $SD = .14$ ),  $t(60) = 1.17$ ,  $ns$ ,  $d = .21$ . Hence, Canadians showed better recall of approach reviews than avoidance reviews, whereas no such difference was found among Japanese.

Analyses were conducted to examine whether cultural differences in recall of approach and avoidance reviews were qualified by the valence of reviews. Reviews that include the presence of positive and absence of negative

qualities represent positive overall valence reviews, whereas those that include the presence of negative and absence of positive qualities represent negative overall valence reviews. Replicating Study 1, the three-way interaction among valence, framing, and culture was not significant ( $F < 1$ ,  $ns$ ). The two-way interaction between valence and culture was also nonsignificant ( $F < 1$ ,  $ns$ ). Hence, cultural differences in recall of approach and avoidance reviews were unqualified by the valence of the reviews.

Studies 1 and 2 found an interaction effect between culture and the framing of information on recall. These findings confirm that differences in chronic motivation orientation give rise to cultural difference in the type of information to which people most closely attend.

One implication of these findings is that cultures might also differ in the process of decision making. For instance, to the extent that North Americans are particularly attentive to approach information, they might find information that focuses on positive characteristics to be more helpful in guiding their decision making (e.g., purchasing a product). In contrast, to the extent that Japanese are especially aware of avoidance information, they might find information that focuses on negative characteristics to be more helpful when making decisions. Study 3 examined this possibility by analyzing consumer book reviews that were rated as helpful in the United States and Japan. To the extent that Japanese and Americans differ in the perceived quality of helpful information, helpful book reviews in the United States should contain a greater amount of approach-oriented content relative to avoidance-oriented content, whereas this trend should be considerably weaker, if not reversed, among helpful book reviews in Japan.

## STUDY 3

### *Method*

*Materials.* Amazon (United States: <http://www.amazon.com> and Japan: <http://www.amazon.co.jp>) is one of the most popular online bookstores in both the United States and Japan. One of the many interactive features available on Amazon revolves around customer book reviews: Customers are able to post their reviews of a book, and in turn, these reviews are rated in terms of their usefulness by potential buyers. As reviews are more prevalent for top-selling books, we examined reviews for the 10 top-selling books in 2005 on both Amazon.com and Amazon.co.jp (the top 5 fiction sellers and the top 5 nonfiction sellers). All reviews that were posted for a given book were sorted by their helpfulness rating, and the 8 most helpful reviews were obtained for each book. Eighty American book reviews and 80 Japanese reviews were obtained by this procedure.

**TABLE 3:** Contents of Helpful Book Reviews (Study 3)

	<i>Approach Content</i>	<i>Avoidance Content</i>
Americans	1.11 <sub>a</sub> (.58)	.76 <sub>b</sub> (.61)
Japanese	.91 <sub>a</sub> (.50)	.81 <sub>a</sub> (.42)

NOTE: Standard deviations are reported in parentheses. Different subscripts within each row indicate significant difference between the prevalence of approach and avoidance content at  $p < .05$ .

*Coding.* Each book review was rated for the amount of approach and avoidance content that it contained. Two bilinguals independently coded each review for the amount of content mentioning the presence of positive characteristics, the absence of positive characteristics, the presence of negative characteristics, and the absence of negative characteristics. Content that did not meet any of these categories was not coded. Hence, each review received four ratings, one for each of the four content types.

In rating the amount of a particular type of content, a 3-point scoring system was used. The highest score (2) was given when a review contained two or more sentences of a particular content type, a middle score (1) was given when a review contained just one sentence of a particular content type, and the lowest score (0) was given when a review did not contain a particular content type. High intercoder reliability (Landis & Koch, 1977) was achieved (Kappa coefficients: English = .72, Japanese = .71). Discrepancies were resolved by discussion. The raters, however, were not unaware of the hypothesis, and native speakers of English and Japanese who were blind to the hypothesis also coded a randomly sampled subset (30%) of the reviews as a check. This coding converged with the original coding (Kappa coefficients: English = .62, Japanese = .67).

### Results and Discussion

*Comparability of the samples.* Helpful American reviews were rated by a greater number of people ( $M = 349$ ,  $SD = 631$ ) than helpful Japanese reviews ( $M = 57$ ,  $SD = 39$ ),  $t(158) = 4.13$ ,  $p < .001$ . Nevertheless, the proportion of people who found reviews helpful did not differ between the United States (73%) and Japan (70%),  $t(158) = 1.22$ ,  $ns$ . Hence, the perceived helpfulness of the obtained reviews did not differ across cultures.

Obtained reviews were also compared in terms of their length (the number of words in English and the number of characters in Japanese). Although the length of reviews did not differ between American ( $M = 417$ ,  $SD = 355$ ) and Japanese ( $M = 366$ ,  $SD = 200$ ) reviews,  $t(158) = 1.11$ ,  $ns$ , this comparison is not very meaningful

as one word in English may or may not communicate more than one character in Japanese. To guard against the possibility of the review length affecting the results, review length was included as a covariate (excluding this variable does not change the results). The book's genre (fiction or nonfiction) did not influence any of the results; hence, it is mentioned no further.

*Review contents.* Of the four types of content mentioned previously, those that mention the presence or absence of positive characteristics represent approach content, whereas those that mention the presence or absence of negative characteristics represent avoidance content.

A repeated measure ANCOVA on the review contents (approach or avoidance) controlling for review length revealed a significant interaction,  $F(1, 157) = 5.53$ ,  $p < .05$ ,  $\eta^2 = .03$  (Table 3). The main effect of culture was not significant ( $F < 1$ ), whereas the main effect of content type (approach or avoidance) was significant,  $t(159) = 4.28$ ,  $p < .001$ ,  $d = .43$ : Approach content ( $M = 1.01$ ,  $SD = .55$ ) was more prevalent in the reviews than avoidance content ( $M = .78$ ,  $SD = .52$ ). This effect, however, was qualified by culture. Among American reviews, approach content was significantly more prevalent ( $M = 1.11$ ,  $SD = .58$ ) than avoidance content ( $M = .76$ ,  $SD = .61$ ),  $t(79) = 4.56$ ,  $p < .001$ ,  $d = .59$ . However, in Japanese reviews, the difference between the amount of approach ( $M = .91$ ,  $SD = .50$ ) and avoidance ( $M = .81$ ,  $SD = .42$ ) content was not significant,  $t(79) = 1.47$ ,  $ns$ ,  $d = .22$ . Hence, although helpful reviews in the United States contained a greater amount of approach content than avoidance content, Japanese helpful reviews contained about equal amounts of approach and avoidance content.

Next, analyses were conducted to examine whether cultural differences in the prevalence of approach and avoidance content were qualified by the overall valence of the review contents. First, there was a significant two-way interaction between valence and culture,  $F(1, 157) = 8.78$ ,  $p < .01$ ,  $\eta^2 = .05$ . Among American reviews, the prevalence of positive ( $M = .93$ ,  $SD = .63$ ) and negative ( $M = .94$ ,  $SD = .85$ ) valence content did not differ significantly ( $t < 1$ ,  $ns$ ,  $d = -.01$ ). In contrast, among Japanese reviews, negative valence content ( $M = 1.13$ ,  $SD = .77$ ) was significantly more prevalent than positive valence content ( $M = .59$ ,  $SD = .57$ ),  $t(79) = 4.02$ ,  $p < .001$ ,  $d = -.81$ . Hence, the prevalence of positive and negative valence reviews differed between American and Japanese helpful reviews. Nevertheless, the three-way interaction among framing (approach or avoidance), overall valence (positive or negative), and culture (United States or Japan) was not significant ( $F < 1$ ,  $ns$ ). Thus, cultural differences in the prevalence of approach and avoidance was unqualified by the overall valence of the content.

*Correlations between review content and helpfulness.* One alternative possibility for the preceding finding is that American and Japanese reviews differ in the base rates of approach and avoidance content. That is, it might be that American reviews, regardless of their perceived helpfulness, contain a greater amount of approach content, whereas Japanese reviews contain a greater amount of avoidance content regardless of their perceived helpfulness. To rule out this possibility, analyses were conducted to examine the relation between the nature of the content, and the helpfulness of the review (i.e., the percentage of customers who rated each review as helpful). Among American reviews, helpfulness was significantly and negatively correlated with the amount of avoidance content,  $r(80) = -.40$ ,  $p < .001$ , whereas helpfulness was uncorrelated with the amount of approach content,  $r(80) = .05$ , *ns*. That is, among American reviews, the amount of avoidance content was a negative predictor of their helpfulness. However, the same relation was absent among Japanese reviews: Helpfulness was uncorrelated with the amount of avoidance content,  $r(80) = .01$ , *ns*. The amount of approach content was also unrelated to helpfulness,  $r(80) = -.10$ , *ns*. These findings provide further support for the notion that the cultures differ on the perceived utility of approach or avoidance information: Among American reviews, the amount of approach content negatively predicted the helpfulness of the review, whereas such a relation was not found among Japanese reviews.

## GENERAL DISCUSSION

Three studies found evidence for cultural differences in approach and avoidance information processing. Studies 1 and 2 found an interaction effect between culture and information framing on memory recall. North Americans showed better recall for approach-focused information than for avoidance-focused information, whereas this effect was considerably weaker among Japanese who remembered avoidance-focused information as well as approach-focused information. In Study 3, we observed a difference in the kind of information that Americans and Japanese found helpful when evaluating book reviews. Customer book reviews that were rated as helpful in the United States contained a greater amount of approach content than avoidance content, whereas helpful reviews in Japan contained about equal amounts of approach- and avoidance-oriented content. Moreover, avoidance content was viewed as especially unhelpful for book reviews among Americans but not among Japanese. These findings confirm that cultural differences in chronic approach or avoidance motivations give rise to cultural differences in the kinds of information individuals attend to in their environment. Furthermore, this cultural difference

extends beyond the laboratory to the cultural environment (as reproduced through Amazon) more generally.

The current research found that the effect of information framing is independent of the effect of information valence. North American attentiveness to approach information and Japanese attentiveness to avoidance information were unqualified by the valence of the information. What the approach–avoidance distinction predicts is attentiveness to the framing, focusing on the *presence* or *absence* of positive or negative information, and this distinction does not directly pertain to the overall valence of the information.

### Limitations

Although in all studies we found an interaction between culture and information framing, the crossover interaction found in Study 1 was not observed in either Study 2 or Study 3. In Study 1 we found a pattern that Japanese participants recalled avoidance information more so than approach information. However, in Studies 2 and 3 Japanese preferences for approach- and avoidance-oriented information did not differ significantly. This inconsistency might have stemmed from our use of movie reviews and book reviews as stimuli in Studies 2 and 3. We speculate that when people are reading reviews about movies and books, they are more likely to be in a approach-oriented state, as their main concerns are presumably to have a pleasant experience by selecting a good movie or book (rather than trying to avoid an unpleasant experience). In other words, we speculate that the use of movie reviews and book reviews as stimuli in Studies 2 and 3 might have skewed the findings toward a greater approach focus both for North Americans and Japanese.

Some evidence in support of this speculation comes from comparisons of Studies 1 and 2, two memory recall studies with nearly identical procedures with the exception of the stimuli: Participants in Study 1 recalled some events that occurred in a stranger's life, the kind of information that does not clearly favor approach or avoidance focus. A comparison of the effect sizes from these two studies is informative. In Study 1, Americans favored approach information more so than avoidance information ( $d = .44$ ), whereas Japanese showed the opposite pattern, favoring avoidance information over approach information ( $d = -.24$ ). In Study 2, approach information was recalled more so than avoidance information both by Canadians ( $d = .87$ ) and Japanese ( $d = .21$ ), although this effect was significant only among Canadians. What we note here as compared to Study 1 is that recall of approach information in Study 2 was greater to a similar degree for Canadians and Japanese. Hence, in Study 2 approach information was generally recalled better for both cultures compared to Study 1, supporting the speculation that the use of movie reviews as a stimulus favored an approach focus. Thus, the use of movie and



book reviews in Studies 2 and 3 might have skewed the results toward a greater approach focus. This possibility, however, needs to be examined systematically in future research.

### Conclusion

Approach and avoidance motivations are fundamental and universal motivations that exist across species, but they are relied on to varying extents in different cultures. As approach-avoidance motivations are associated with different patterns of information processing, North Americans and Japanese also differ in the kinds of information to which they most closely attend. Japanese are, on average, more sensitive to information that indicates the presence or absence of negatives, whereas Americans are, on average, more sensitive to information that indicates presence or absence of positives. The current research highlights the utility of the approach-avoidance distinction in cross-cultural research of self and cognition.

### NOTE

1. In Study 1, only a subset of the recalls were coded by the second Japanese coder as we (wrongly) anticipated the reliability to be high given that the American coders had achieved such high reliability. As only a subset of coding was available from the second Japanese coder, we analyzed the coding by the first coder in both cultures.

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