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In this article, the authors examine cross-cultural variations in how people discount the future. Specifically, they predict that people from Western cultures are relatively less patient and therefore discount the future to a greater degree than do people from Eastern cultures, and thus Westerners value immediate consumption relatively more. Furthermore, on the basis of regulatory focus theory, the authors predict that when Easterners are faced with the threat of a *delay* in receiving a product (i.e., a prevention loss), they are more impatient, whereas when Westerners are faced with the threat of not being able to *enjoy* a product early (i.e., a promotion loss), their impatience increases. This enhanced impatience manifests in preference for expedited consumption of a product purchased online in two studies. In both studies, the authors used a priming methodology on “bicultural” Singaporean participants; the results support the predictions. In the second study, they also found evidence in support of the process-based explanation for the interaction between culture and message framing.

## Cultural Differences in Consumer Impatience

Whether and how people incorporate the future into their decision making about consumption options is a topic of considerable interest to scholars of marketing and consumer behavior from both a normative and a descriptive standpoint. Normatively, the time value of money is an integral component of standard economic prescriptions for consumption, investment, and expenditure decisions. For example, according to the normative view, in general, people should prefer receiving money immediately rather than later because all future outcomes should be discounted positively. Descriptively, research has examined precisely how the future is discounted and whether discount rates vary across situations and people. The extant finding in the intertemporal choice literature is that the discounting pattern follows a hyperbolic functional form (Read, Loewenstein, and Kalyanaraman 1999). Immediate events are discounted to a greater degree than are events that occur substantially in the future.

Discounting the future is akin to displaying impatience. A high discount rate implies that the future is considerably

less important than the present, and people who employ high discount rates manifest relatively high levels of impatience, or the preference for instant rather than delayed gratification. This impatience likely applies to the acquisition of not only money but also other material objects, and it is likely to be reflected in consumers' (1) desire for quicker service and delivery of products, (2) greater preferences for options that offer early rather than late payoffs, and (3) enhanced willingness to pay for immediate rather than delayed gratification. Thus, the general issue of impatience is of substantial interest to marketing and consumer behavior.

The extant empirical literature on intertemporal choice and time discounting has used samples of U.S. participants for empirical validation. Although this approach has proved eminently fruitful, we develop the argument that the notion of time is culture-bound. Specifically, issues such as the time value of money, the need to be expedient in achieving economic goals, and so forth, are dominant cultural values in the West. In cultures in which the pace of life is slower and the associated valuation of time is lower, the degree to which the future is discounted is expected to be different (i.e., the parameters of the functional forms may be different). Furthermore, the manner in which discounting occurs may also differ (i.e., how certain factors influence the parameters may also differ). This is our research question. We are interested in the general issue of consumer impatience and whether the degree to which and the manner in which people discount the future differ across cultures.

Our findings are likely to be of interest to a variety of audiences. Theoretically, the questions we ask and answer are pertinent to the emerging discipline of cross-cultural

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psychology (Markus and Kitayama 1991; Triandis 1989) and its application to consumer behavior. Our application of principles and perspectives from regulatory focus theory and behavioral decision theory to the issue of consumer impatience suggests that in addition to cultural factors, the goal that immediate consumption fulfills and the way that the offer is framed are important determinants of how much people value immediate consumption.

Methodologically, we use a procedure that controls for the confounding of culture with other variables, such as language, by randomly assigning bicultural respondents to conditions in which one or the other of their cultural orientations is primed. From a practical standpoint, our findings have implications for firms interested in addressing culturally diverse segments. Multinational firms addressing culturally diverse markets need to recognize that the level of impatience and desire for expedited delivery varies across cultural contexts and may even be labile. Thus, a firm may be able to influence consumers' desire for early delivery to its advantage. By the same token, firms that speak to culturally diverse segments within a country (e.g., firms that cater to first-generation immigrants and long-time residents) should recognize that these different segments have different levels of impatience that can be primed by the cultural content of the message and the way that the message is framed. Such priming can influence consumer price sensitivity and the fees that can be charged for expedited delivery of products and services. Next, we briefly review relevant literature from which we generate a set of predictions about variations in impatience. We then report on two studies that are designed to test our hypotheses, and we conclude with a discussion of the implications of our research.

#### LITERATURE REVIEW AND HYPOTHESES

Our review of the relevant literature covers three broad areas. First, we draw from the literature on intertemporal choice to explicate the notion of time discounting (i.e., the manner in which people discount the future). Second, on the basis of the premise that time perspectives may differ among cultures, we examine cross-cultural differences in impatience. Third, we turn to prospect theory and the regulatory focus literature to examine how relative levels of impatience may vary depending on the way that the consumption opportunity is framed. These perspectives enable us to develop a series of predictions about the degree of impatience that people exhibit.

##### *Time Discounting*

Normative theories posit that individual consumers should (and do) incorporate the future in their decision making. Specifically, in our context, unless an object appreciates in value as a result of deferring consumption to the future, given the choice, people should engage in immediate rather than deferred consumption (i.e., they should discount the future). In other words, a manifestation of impatience, or a desire for immediate rather than delayed gratification, is a predictable consequence of a positive discount rate (Koopmans 1960).

The extant empirical evidence raises questions about several assumptions that undergird models of how people behave with respect to their consumption over time. Of particular interest to our thesis is the evidence that the discount rate is not constant; that is, the rate between any two adja-

cent periods is not the same (Loewenstein and Prelec 1993). For example, Benzion, Rapoport, and Yagil (1989) demonstrate that people's discount rates vary across different scenarios (e.g., lending versus borrowing) and depend on time delays and outcome magnitudes. Furthermore, consistent with the immediacy effect, people value immediate outcomes disproportionately more than delayed outcomes, a phenomenon that should not be observed under a uniform discount rate. Indeed, a hyperbolic discount function is more consistent with such discounting patterns (Benzion, Rapoport, and Yagil 1989; Prelec and Loewenstein 1991).<sup>1</sup>

##### *Cross-Cultural Differences in Time Discounting*

Although empirical research that examines differences in time orientation across cultures has been scant, there are conceptual perspectives that suggest that time orientation varies with culture. For example, Graham (1981) distinguishes among the "linear-separable," "circular-traditional," and "procedural-traditional" perspectives of time. The first perspective is typical of European American cultures. It views time as a continuum from past to present to future, and it accommodates the notion of time as money and recognizes the money value of time (e.g., the hourly wage). It also recognizes time as an essential component of money (e.g., through discount rates and interest rates). In contrast, the circular-traditional perspective, which is typical of Latin American cultures, considers time a circular concept that repeats itself with a cyclical pattern. Because the future repeats the present, a culture with the circular-traditional perspective usually maintains a present orientation. Finally, the procedural-traditional perspective, which is typical of Native American cultures, considers time less important and sometimes more irrelevant than rituals (i.e., the correct procedures to do things). Therefore, in such a culture, time and money are unrelated.

More pertinent to the current research, Hofstede's (1980) pioneering work on cross-cultural differences between the East and the West enables us to develop the foundational prediction from which the rest of our research flows. Hofstede (1980) originally identified four dimensions on which Asian and American cultures differ; a fifth dimension was added and elaborated on in Hofstede and Bond's (1988) work. Termed "Confucian dynamism," this fifth dimension reflects Confucius's teachings on the importance of perseverance, social hierarchy, thrift, and having a sense of shame. A high score on this dimension is believed to be consistent with "a dynamic, future-oriented mentality" (Hofstede and Bond 1988, p. 16). Among the top ten ranked countries on this scale, seven were Asian. In other words, Asian cultures probably value the future more than the present, and thus they are likely to be more patient than their American counterparts.

This conclusion that emerges from the literature is consistent with Eastern religious and spiritual thought as well. For example, the notion of being "reborn" in Buddhism and Hinduism, the dominant religions in much of Southeast Asia, captures the belief that a person's current life repre-

<sup>1</sup>Another premise of the normative approach that has been challenged is the notion of a positive discount rate (e.g., Loewenstein 1987; Loewenstein and Sicherman 1991; Prelec and Loewenstein 1998).

sents a small portion of his or her existence.<sup>2</sup> A belief in the next life may have the effect of diminishing the value a person places on immediate outcomes versus future outcomes. Similarly, Confucianism, the influence of which is still palpable in several Asian countries, emphasizes the importance of education (e.g., It takes ten years to grow a tree, and a hundred years to educate a person.); patience, a notion of central importance to our research (e.g., Impatience over trivial things may ruin important pursuits.); perseverance (e.g., Dripping water can penetrate stone.); and a future perspective (e.g., If a man takes no thought at what is distant, he will find sorrow near at hand.).<sup>3</sup> In contrast, in the West, the pace of life is much faster, and immediate consumption may be more important because, in a dynamic environment, a person's preferences and tastes may change rapidly, rendering future consumption less valuable. In addition, time may be worth more money in a culture in which things change quickly (e.g., Leclerc, Schmitt, and Dube 1995).

On the basis of these arguments, we propose that Western-oriented people are more present oriented, and Eastern-oriented people are more future oriented. Thus, Western-oriented people should discount future outcomes and value immediate consumption more highly than Eastern-oriented people. Formally,

H<sub>1</sub>: Western-oriented people place a higher value on immediate consumption and thus display more impatience than Eastern-oriented people.

#### *The Role of Message Framing*

There is abundant evidence in the behavioral decision theory literature that people's preferences are labile and that the way that the available options are framed influences consumer judgments systematically (e.g., Kahneman and Tversky 1979; Thaler 1985). Therefore, in addition to the main effect of culture, we argue that different levels of impatience are contingent on how the consumption opportunity is framed. We invoke the familiar notion of loss aversion to suggest that the prospect of a loss has a greater impact than does the prospect of an equivalent gain (Kahneman and Tversky 1979; cf. Lee and Aaker 2004). Thus, the desire to avoid a loss should be relatively strong, and people should exert more cognitive resources (i.e., be more attentive) when a message emphasizes negative information. Thus, because of loss aversion,

H<sub>2</sub>: A message that emphasizes the inability to engage in consumption as a loss yields more impatience than does a message that emphasizes the ability to engage in consumption as a gain.

This reasoning also suggests that the loss aversion effect that we predict in H<sub>2</sub> is likely to be due to differences in attention that people devote to the message. In other words, people should pay more attention to a message that emphasizes negative information than to a message that empha-

sizes positive information (e.g., Chatterjee et al. 2000), and this enhanced attention leads to people's higher preference for immediate consumption (i.e., more impatience) as they try to attenuate the potential threat that the loss induces. That is, the amount of attention that people devote to the message should mediate the loss aversion effect. We examine this issue empirically in Study 2.

In addition to framing the outcome as a gain or loss, another way that messages can be framed that is relevant to our research is the goal (i.e., promotion and prevention) emphasized in the message. As we discuss next, we draw from regulatory focus theory to predict a two-way interaction between culture and goal and a three-way interaction among culture, goal, and outcome (gain or a loss) on impatience. These effects have notable implications for how people from different cultures value immediate versus delayed consumption.

#### *The Interaction Between Culture and Goal*

We propose that culture may interact with the goal that consumption fulfills to influence whether and to what degree impatience manifests. Specifically, the strength of response to a specific message may be a function of the congruence between the values and norms embedded in the salient culture and the goal that is emphasized in the message. Regulatory focus theory distinguishes between two types of self-regulatory goals: promotion and prevention.<sup>4</sup> A promotion goal emphasizes the motivation to achieve or promote desirable outcomes, whereas a prevention goal emphasizes the motivation to avoid or prevent undesirable outcomes. The two different types of self-regulatory goals have been linked to dominant self-views in different cultures (e.g., Hofstede 1980). For example, Lee, Aaker (2001), and Gardner (2000) point out that an independent self-view, which emphasizes achievement and autonomy, is characteristic of the American culture and is consistent with a regulatory focus of promotion, whereas an interdependent self-view, which emphasizes the fulfillment of obligations within a social network, is characteristic of Asian cultures and is consistent with a regulatory focus of prevention (Aaker and Lee 2001). Aaker and Lee (2001) further demonstrate that when people's independent self-views are made more salient, they are more persuaded by a promotion-framed message, but when their interdependent self-views are made more salient, they are more persuaded by a prevention-framed message. That is, the congruency between the message frame and self-view is important.

Consistent with this finding, we posit that people's impatience level should vary with the congruency between a culture's dominant self-view and the goal emphasized in a message. Specifically, when the goal is congruent with the dominant self-view, people should perceive a message to be more persuasive (Aaker and Lee 2001) and therefore should become more eager to engage in immediate consumption (i.e., they will be more impatient). Conversely, when the goal is incongruent with the dominant self-view, people should perceive a message to be less persuasive and therefore should be less eager to engage in immediate consumption (i.e., they will be less impatient). Formally,

<sup>2</sup> On the basis of the notion of being "reborn," it is possible to infer that Asian cultures are more likely to adopt a circular-traditional than a linear-separable time perspective.

<sup>3</sup> Although the time horizons considered in Eastern traditions are long (i.e., years, not days), the underlying sentiment of patience likely becomes chronic. Thus, it is expected that people from Eastern cultures are relatively patient, even when contemplating events that are only a few days in the future.

<sup>4</sup> Although a regulatory focus is largely chronic, it can also be situationally manipulated through message framing (for a review, see Higgins 1997), a property that is critical for our empirical work.

H<sub>3</sub>: For promotion-focused (prevention-focused) Westerners (Easterners), a message that emphasizes the consumption opportunity as fulfilling a promotion (prevention) goal elicits more impatience than does a message that emphasizes the consumption opportunity as fulfilling a prevention (promotion) goal.

In addition, as we noted previously, and in line with Aaker and Lee's (2001, p. 35) work, we propose that people are more persuaded by a message when the goal that is emphasized is congruent with their self-view because they attend to it more carefully and thoroughly. In other words, the attention that a person devotes to a message should mediate the two-way interaction that we propose in H<sub>3</sub>.

#### *The Interaction Among Culture, Outcome, and Goal*

Finally, we propose a three-way interaction among culture, outcome, and goal. According to prospect theory and regulatory focus theory, outcomes can be classified into four categories: a promotion gain (Mr. A won \$100), a promotion loss (Mr. A did not win \$100), a prevention gain (Mr. A did not lose \$100), and a prevention loss (Mr. A lost \$100).<sup>5</sup> That gains and losses can be framed relative to the goal emphasized in a message is a subtlety that has potential implications for how much people value immediate outcomes across cultures that differ in their regulatory foci. In particular and consistent with the literature on regulatory focus theory that we reviewed previously, we propose that the differential responses to the outcome frames (e.g., the loss aversion effect in H<sub>2</sub>) are stronger when there is a match between the values embedded in the culture and the goal emphasized in a message and are weaker when there is a mismatch between the two.

Recall our rationale for the loss aversion effect (i.e., H<sub>2</sub>). We proposed that people should exert more cognitive resources in interpreting a message that emphasizes negative information and that this enhanced attention should lead to a greater preference for immediate consumption (i.e., more impatience) as people try to attenuate the potential threat that the loss induces. Extant research suggests that a person who is Western-culture dominant is promotion focused, whereas a person who is Eastern-culture dominant is prevention focused. Because Easterners are prevention focused, their emphasis is on ensuring that undesirable outcomes (i.e., a prevention loss) do not occur; thus, for such people, the prospect of a prevention loss likely yields enhanced attention, and they are likely to cope with the potential loss-induced threat by preferring immediate consumption (i.e., being more impatient). Conversely, Easterners faced with the prospect of a desirable outcome not occurring (i.e., a promotion loss) should be relatively less threatened, because they are not promotion focused and therefore should manifest a lower degree of impatience and desire for immediate consumption. However, when a desir-

able outcome can be achieved (i.e., a promotion gain) or when an undesirable outcome can be avoided (i.e., a prevention gain), both goals should attract a similar amount of attention and yield similar levels of impatience because there is no potential threat. In effect, the loss aversion that Easterners manifest should be stronger when a message is prevention focused than when it is promotion focused.

In contrast, Westerners who are promotion focused should pay more attention to the prospect of not achieving a desirable outcome (i.e., a promotion loss), and they are more likely to alleviate that potential threat by preferring immediate consumption (i.e., being more impatient). In addition, Westerners faced with the prospect of an undesirable event occurring (i.e., a prevention loss) should be less threatened, because they are not prevention focused and should therefore manifest a lower degree of impatience and desire for immediate consumption. However, when a desirable outcome can be achieved (i.e., a promotion gain) or when an undesirable outcome can be avoided (i.e., a prevention gain), both goals should yield similar levels of impatience because there is no potential threat. In effect, the loss aversion that Westerners manifest should be stronger when a message is promotion focused than when it is prevention focused.

In an intertemporal consumption context, this reasoning suggests the presence of a three-way interaction among culture, outcome, and goal emphasized in a message. Formally,

H<sub>4</sub>: For promotion-focused (prevention-focused) Westerners (Easterners), a message that emphasizes a promotion loss (prevention loss) rather than a promotion gain (prevention gain) has a greater impact on impatience than does a message that emphasizes a prevention loss (promotion loss) rather than a prevention gain (promotion gain).

These predictions reflect a congruency perspective; when the goal emphasized in a message is congruent with people's regulatory focus, the effect of loss aversion should be stronger.<sup>6</sup> In addition, our reasoning suggests that the amount of attention that people pay to a message mediates the three-way interaction effect in H<sub>4</sub>.

#### *EMPIRICAL EVIDENCE*

In this section, we describe our methodology and two main studies. In the first study, we used willingness to pay for speedy delivery as an operational measure of (or behavioral proxy for) impatience.<sup>7</sup> In the second study, we measured impatience using scale items, and we also tested the mediating effect of attention.

Following the dynamic constructivist perspective on cross-cultural research (e.g., Hong and Chiu 2001), we tested all our predictions on "bicultural" participants. Whereas traditional cross-cultural studies have focused on uncovering differences across nationalities, which are deemed to be proxies for culture (e.g., Hofstede 1980), the emerging dynamic constructivist approach takes the position that multiple cultures may operate within an individual. Although this holds true (to different degrees) for people

<sup>5</sup>Our classification of promotion gain, promotion loss, prevention gain, and prevention loss corresponds to Idson, Liberman, and Higgins's (2000) gain, nongain, nonloss, and loss. Idson, Liberman, and Higgins find that the pleasure of a gain should be more intense than the pleasure of a non-loss, whereas the pain of a nongain should be less intense than the pain of a loss. Because H<sub>2</sub> focuses on the comparison between a gain and a loss, it is not necessarily inconsistent with their finding, because their focus is on the comparison between a promotion outcome and a corresponding prevention outcome.

<sup>6</sup>We are indebted to an anonymous reviewer for this suggestion.

<sup>7</sup>We reasoned that impatience would manifest in a desire to acquire the object quickly and to pay more for that service. This dependent variable, with obvious implications for a firm's profitability, has considerable managerial significance.

everywhere, the notion of multiculturalism is especially pertinent in places that have been influenced by multiple cultures during their histories (e.g., the Indian subcontinent, Hong Kong, Singapore) and among people who are exposed to different cultures (e.g., immigrants). Researchers in this area view cultures as implicit theories that underlie people's knowledge structures. For people who acquire multiple cultures, the culture that directs behavior can be situation specific, depending on the relative accessibility of each of the competing cultures (see also Hong et al. 2000).

This accessibility-based perspective is subtly different from the notion of diagnosticity (i.e., the importance of a piece of information) and has been found to better explain cultural differences on persuasion (Aaker 2000). The accessibility perspective has pioneered a new methodology of visually priming bicultural participants to generate behaviors that are consistent with their different cultures (Hong et al. 2000). This procedure of priming bicultural participants with cultural icons that invoke a particular culture embedded in the individual (rather than comparing participants from two cultures) eliminates the potential for confounding that occurs when participants are not randomly assigned to experimental conditions.

Although recent research has used college students in Hong Kong to represent the Asian culture (e.g., Briley, Morris, and Simonson 2000; Hong and Chiu 2001; Hong et al. 2000), we tested our cross-cultural predictions using Singaporean students at a major university in Singapore. Similar to Hong Kong, Singaporean society is multicultural. Most Singaporeans retain a good knowledge of their own native culture, whether it is Chinese, Malay, or Indian. At the same time, the substantial influx of Western products, including films, music, and books, has exposed the younger generation, especially college students, to Western influences. In addition, biculturalism is also reflected in Singaporean students' fluency in both English and their particular native language (Chinese, Malay, or Tamil) (Bishop 1998; Tavassoli and Lee 2003; Wharton 2000). Finally, as in Hong Kong, this type of research can be conveniently conducted in English. Thus, we decided to conduct this research using Singaporean participants in part to generalize beyond the population of Hong Kong students.

### STUDY 1

#### Design

We intended our first study to establish support for our main predictions (i.e.,  $H_1-H_4$ ) by measuring enhanced willingness to pay for expedited delivery. To examine these hypotheses, we used a three-factor, between-subjects design. We manipulated the first factor, culture, through visual priming. The visual prime comprised a collage that consisted of 12 icons representing either Singaporean culture (e.g., the Singapore Airlines model, the Tiger beer icon; see Appendix A) or American culture (e.g., a classic representation of Marilyn Monroe, the Coca-Cola icon; see Appendix B). We chose the 12 pictures in each collage to represent a variety of cultural aspects (e.g., architecture, landscape, celebrity, statesman, brand names, cartoon figures, national flag) and, to the extent possible, matched them to one another in terms of their physical location in the collage and their content. Because the cultural icons could not be easily related to the focal task in the experi-

ment, there was little concern about demand effects associated with the cultural prime (Hong et al. 2000, p. 711).<sup>8</sup>

We manipulated the second and third factors (i.e., outcome: gain versus loss; goal emphasized in a message: promotion versus prevention) as follows: We exposed participants in each of the culturally primed conditions to stimuli that described the opportunity to expedite delivery of a product. In each of four conditions, the stimulus described that (1) selecting the expedited delivery option provided the opportunity to enjoy the product earlier, (2) not selecting the expedited delivery option resulted in not enjoying the product earlier, (3) selecting the expedited delivery option resulted in not having to wait for the product to arrive, or (4) not selecting the expedited delivery option resulted in having to wait. These four conditions reflect promotion gains, promotion losses, prevention gains, and prevention losses, respectively (for the exact wording used in the stimuli, see Table 1).

#### Participants

A total of 149 participants from a large Singapore university participated in this study, for which they received course credit. We conducted the study on the World Wide Web. We randomly assigned participants to one of the eight different experimental conditions. Cell sizes ranged from 16 to 22.

#### Procedure

Each participant received the questionnaire and was told to follow the instructions closely. On the first page, participants were shown either the Singaporean or the U.S. collage, depending on the experimental condition to which they were assigned, and were instructed to examine the pictures carefully. After viewing the collage, participants turned to the next page and were then asked to list all the things they remembered about the collage. After performing this task, participants were presented with an online shopping scenario for the purchase of a novel and were informed of the standard delivery fees for this purchase (Sing \$2.99). To avoid potential misunderstanding of the location of the retailer, the online retailer was specified to be local ("a local

<sup>8</sup>In preliminary empirical work, we assessed the willingness to pay for expedited delivery of a book by exposing 55 bicultural Singaporean participants to different culturally laden visual primes. Participants primed with U.S. icons were willing to pay substantially more than were those primed with Singaporean icons for one-day delivery (Sing \$6.6 > Sing \$5.1;  $t_{(53)} = 1.9, p < .05$ ).

Table 1  
MESSAGE FRAMES DESCRIBING FASTER DELIVERY  
OPTIONS

	Gain	Loss
Promotion	Faster processing methods "will allow you to start enjoying the novel earlier."	Without the faster processing methods, "you cannot start enjoying the novel as early as you like."
Prevention	Faster processing methods "will shorten the time you'll have to wait for the novel to arrive."	Without the faster processing methods, "you will have to wait longer for the novel to arrive."

retailer book.com.sg"). Participants were told that the book would arrive in five business days with the standard delivery method, but they had the option of choosing a faster delivery method that could result in the delivery of the book in one business day.

As a measure of impatience, participants were asked to indicate how much they would be willing to pay for one-day delivery of the book rather than wait for the standard shipping period.<sup>9</sup> As a manipulation check for whether the goal framing of the outcome was perceived to be salient, participants were asked to rate the importance of being able to "enjoy the novel earlier" and the importance of "not having to wait for the novel to arrive" in their willingness-to-pay decisions. On the next page, participants were asked to list the names of three politicians that came to mind, which served as a check for the culture manipulation. On the final page, participants provided some demographic information.

#### Manipulation Check

Participants understood the cultural collages well; they all remembered most of the pictures correctly, and nobody made errors. In addition, we coded participants' answers to the politician question according to whether the politician named was a Western politician or an Eastern politician. A t-test showed a significant effect of cultural priming: Participants primed with the U.S. collage listed more Western politicians, and participants primed with the Singapore collage listed more Eastern politicians ( $p < .001$ ).<sup>10</sup> Thus, we deemed the cultural priming manipulation to be successful.

To check the success of the regulatory goal manipulation, we analyzed participants' rating of the importance of being able to enjoy the novel now and not having to wait for the novel to arrive in their willingness-to-pay decisions. We computed the difference between the two ratings and found

<sup>9</sup>We also collected data on participants' willingness to pay for two-day delivery and obtained qualitatively similar results. These data enabled us to compute individual discount rates. The results on discount rates, though mirroring those on willingness to pay, are consistent with the immediacy effect and hyperbolic time discounting reviewed previously. In the interest of brevity, we do not report the details of these results here.

<sup>10</sup>When we coded only the U.S. politicians as Western and only Singaporean politicians as Eastern, treating all other responses as missing (e.g., Tony Blair, Jiang Zemin), we obtained a similar result ( $p < .01$ ).

that, compared with participants in the prevention-focused condition, participants in the promotion-focused condition rated being able to enjoy the novel now as more important than not having to wait for the novel to arrive ( $.7 > -.4$ ,  $p < .005$ ). The manipulation appears to have been successful.<sup>11</sup>

#### Results

Analysis of variance (ANOVA) using a fully saturated model of the three main effects (culture, outcome, and goal), the three associated two-way interactions, and the one three-way interaction indicates that the three-way interaction was significant ( $p < .05$ ).<sup>12</sup> In light of the observed higher-order interaction, we begin by addressing that finding.

The F-values and effect sizes from the ANOVA appear in Table 2. The structure of the observed three-way interaction appears in Figure 1. Consistent with  $H_4$ , the effect of loss aversion on willingness to pay was marginally stronger for Singapore-primed participants when the message about immediate consumption was prevention focused than when it was promotion focused ( $p < .09$ ). Planned contrasts show that Singapore-primed participants were willing to pay significantly higher prices to shorten the waiting time ( $\$7.9 > \$5.6$ ;  $p < .005$ ).<sup>13</sup> However, we did not observe this difference when Singapore-primed participants could hasten delivery to enjoy the book earlier ( $\$6.5$  versus  $\$6.3$ ;  $p > .40$ ). In contrast, for U.S.-primed participants, the effect of loss aversion on willingness to pay was stronger when the

<sup>11</sup>To check the self-view that cultural priming evoked, in a separate pretest, we asked participants to indicate their degree of agreement with each of six statements that have been used to measure people's independent versus interdependent self-views (Aaker and Lee 2001). Consistent with research we reviewed previously (e.g., Hofstede 1980; Hong and Chiu 2001), participants primed with U.S. culture scored higher on the independent self-view than did participants primed with Singapore culture ( $5.1 > 3.9$ ;  $p < .005$ ); we observed the opposite for the interdependent self-view ( $3.6 < 5.2$ ;  $p < .001$ ).

<sup>12</sup>Because of the large variance in one of the cells, the assumption of equal error variance was violated ( $p < .01$ ). Fortunately, a log transformation of the raw data, which helped stabilize the error variance ( $p > .10$ ), produced qualitatively similar results.

<sup>13</sup>Consistent with Lee and Aaker's (2004) work, all  $p$ -values associated with planned contrasts are one tailed; all other  $p$ -values refer to two-tailed comparisons.

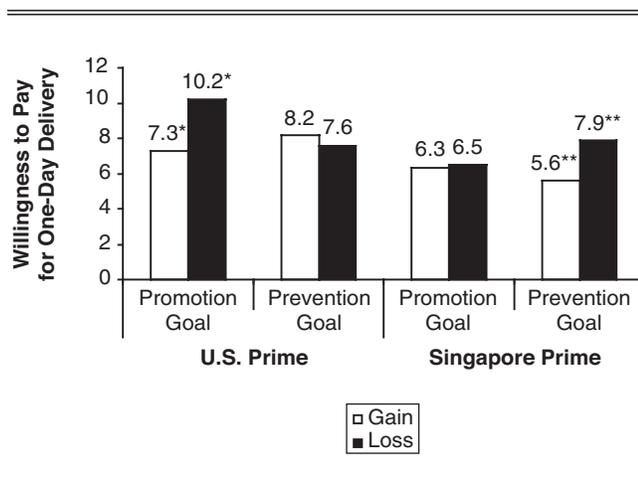
Table 2  
SUMMARY OF ANOVA RESULTS FOR STUDY 1 AND STUDY 2

	Study 1		Study 2	
	F-Value	Effect Size ( $\eta^2$ , Hedge's $g^a$ )	F-Value	Effect Size ( $\eta^2$ , Hedge's $g^a$ )
Culture	7.5	.05, .47	10.7	.07, .50
Goal	n.s.	.00, .06	n.s.	.01, .15
Outcome	3.4	.02, .28	3.8	.03, .29
Culture $\times$ goal	n.s.	—	8.6	.05
Culture $\times$ outcome	n.s.	—	n.s.	—
Goal $\times$ outcome	n.s.	—	n.s.	—
Culture $\times$ goal $\times$ outcome	4.9	.03	4.9	.03

<sup>a</sup>We report the Hedge's  $g$  univariate effect size for all directional main effects.

Notes: Degrees of freedom for all tests in Study 2 are 1, 141; degrees of freedom for all tests in Study 3 are 1, 152. We report effect sizes only for statistically significant effects; n.s. = not significant.

Figure 1  
RESULTS ON WILLINGNESS TO PAY IN STUDY 1



\*Significantly different at  $p < .10$ .

\*\*Significantly different at  $p < .01$ .

message about immediate consumption was promotion focused than when it was prevention focused, though the difference did not reach statistical significance ( $p < .12$ ). Planned contrasts showed that U.S.-primed participants were willing to pay higher prices to ensure that they would enjoy the book earlier, though the statistical significance associated with this result was marginal ( $\$10.2 > \$7.3$ ;  $p < .06$ ). However, we did not observe this difference when U.S.-primed participants had the option of paying to avoid having to wait longer for the novel to arrive ( $\$7.6$  versus  $\$8.2$ ;  $p > .30$ ).

For  $H_3$ , the interaction between culture and regulatory focus was in the predicted direction, but it was not statistically significant ( $p > .30$ ). For the U.S.-primed participants, framing the consumption opportunity as fulfilling a promotion goal elicited a higher willingness to pay ( $\$8.7 > \$8.0$ ), but the difference was not statistically significant ( $p = .18$ ). Conversely, for the Singapore-primed participants, framing the consumption opportunity as fulfilling a prevention goal elicited a higher willingness to pay ( $\$6.6 > \$6.4$ ), though again the difference was not statistically significant ( $p = .27$ ). Thus, our results are directionally consistent with the predictions in  $H_3$ , but they failed to reach statistical significance. We explore this issue further in Study 2.

In addition, the main effect of outcome was significant. Participants in the loss conditions were willing to pay more than those in the gain conditions to receive the novel one day earlier ( $\$8.0 > \$6.9$ ;  $p < .05$ ). This result supports  $H_2$  and is consistent with the loss aversion effect that has been well documented in the behavioral decision theory literature (Kahneman and Tversky 1979; Thaler 1985). Finally, consistent with  $H_1$ , we found a significant main effect of cultural priming on willingness to pay. Participants in the U.S.-primed conditions were willing to pay significantly more than were those in the Singapore-primed conditions for the faster delivery option ( $\$8.3 > \$6.5$ ;  $p < .005$ ). Finally, no other main or interaction effects were significant ( $p > .50$ ).

### Discussion

The results from this study demonstrate that bicultural participants primed with different cultures may be differentially impatient; thus, people whose Western cultural values are made salient through cultural priming place a higher value on immediate consumption than do people whose Eastern cultural values are made salient. Although differential levels of impatience (i.e., differential discount rates) are not impermissible under a normative discount utility model, provided there is idiosyncrasy in borrowing or lending power or variations in prevailing marketing interest rates (Benzion, Rapoport, and Yagil 1989, p. 271), our use of bicultural, randomly assigned participants rules out these possible explanations for our results. In addition, we found support for our predictions about loss aversion and the differential impact of culture on how people react to two types of losses (i.e., promotion loss and prevention loss). Specifically, the effect of loss aversion is present only when the goal framing of a message is congruent with participants' temporarily accessible cultural norms.

While the results are largely consistent with our predictions, there are alternative explanations that must be considered. One possibility is consumerism. Although we tried to match the content of the two collages used in the first two studies, the U.S. collage contained more consumption-related pictures than the Singapore collage (e.g., Mickey Mouse in the U.S. collage versus the cartoon figure of Mr. Kiasu in the Singapore collage), some of which may have primed impatience independent of the cultural context (e.g., McDonald's may have primed the notion of fast food). If these consumption-related pictures elicited consumerism, the difference in willingness to pay that we observed in the first study may be due to an enhanced desire to consume and not to the priming of culture. Another possibility is a reduction in price sensitivity due to travel-related thoughts prompted by the U.S. collage. Because U.S. products are usually associated with higher prices, and consistent with research showing that people tend to spend more when they travel (e.g., Thaler 1985, p. 213), people's price sensitivity may have declined. Finally, the emphasis on thriftiness in Confucianism may produce the observed effects on willingness to pay independent of our theorized effect of impatience.

To rule out these alternative explanations, we conducted a second study in which we used a scale to measure impatience (rather than the willingness-to-pay proxy), modified the cultural collages to eliminate consumption-related icons, and measured how much participants were thinking about traveling as they participated in the study. A final purpose of Study 2 was to understand the cognitive process underlying  $H_2$ – $H_4$ , which we accomplished through a measure of the time that participants spent examining the key elements of the stimuli.

### STUDY 2

Study 2 was similar to Study 1, but we made the following changes: First, although we retained the U.S. national flag, the eagle, the Statue of Liberty, the Lincoln Memorial, Marilyn Monroe, and Hollywood from the original U.S. collage, we replaced the other pictures with images of Jazz musicians and Waltzers. Similarly, we retained the pictures of the Singapore national flag, the crest, Merlion, the Singapore Airlines model, and Sentosa Island from the original

Singapore collage, but we replaced the other pictures with images of the Singapore Supreme Court, a national parade, and the lion dance.<sup>14</sup> We used the new collages to eliminate any possibility that consumption-related icons in the original U.S. collage influenced the observed impatience to consume.

Second, as we mentioned previously, to rule out possible rival explanations, we measured impatience directly. Specifically, on the basis of pretests, we asked participants to respond to two questions that were intended to measure their impatience level: "Right now, I would like to get a copy of the novel as quickly as possible," and "'Buy now, get it instantly' describes how I feel about the novel at this moment." Finally, as a proxy for the amount of attention participants allocated to processing the information, we measured the amount of time (in seconds) that they spent reading the key part of the stimuli that introduced the outcome and goal manipulations. The remaining stimuli and procedures were identical to those we used in Study 1. We recruited 160 participants from the same pool we used in Study 1, and we randomly assigned them to one of the eight experimental conditions; there were 20 participants in each condition.

#### Manipulation Check

We used the same manipulation check for culture and goal framing as we did in Study 1. We found that both the cultural manipulation (politicians mentioned) and the goal manipulation (rating of importance of enjoying the novel now less rating of importance of not having to wait for the novel to arrive) were successful ( $p < .001$  and  $p < .05$ , respectively). Furthermore, to eliminate the possibility that travel-related thoughts (induced by the U.S. prime) led to enhanced impatience, we measured responses to an item that was designed to measure whether there were any differences in "thinking about travel." There were no differences ( $p > .40$ ).

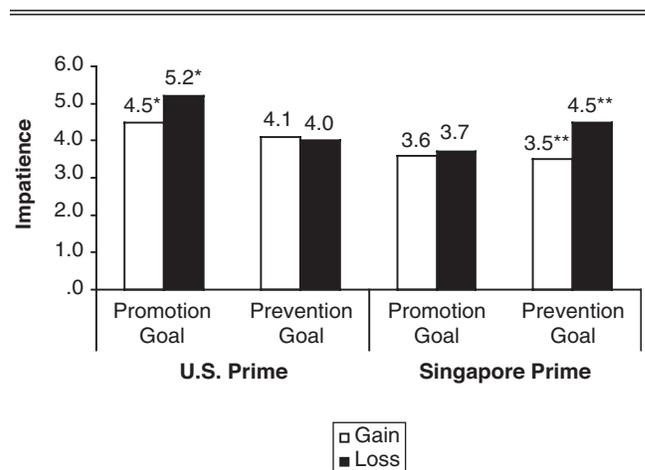
#### Results

The average of the two impatience scale items ( $r = .28$ ,  $p < .001$ ) was the dependent variable in an ANOVA using a fully saturated model of the three factors. The three-way interaction was significant ( $p < .05$ ) (see Figure 2), as were the interaction effects between culture and goal ( $p < .005$ ), the main effect of outcome ( $p = .05$ ), and the main effect of culture ( $p < .005$ ). No other effects were significant ( $p \geq .30$ ). In light of the observed higher-order interaction, we address that finding first.

The results for impatience mirror those of willingness to pay in Study 1. Consistent with  $H_4$ , the effect of loss aversion on impatience was marginally stronger for Singapore-primed participants in the prevention condition than for those in the promotion condition ( $p = .10$ ). Specifically, Singapore-primed participants were more impatient in the prevention-loss condition than in the prevention-gain condition ( $4.5 > 3.5$ ;  $p = .01$ ), but we did not observe this difference in the promotion conditions (3.7 versus 3.6;  $p > .40$ ).

<sup>14</sup>We also replaced a portrait of President Benjamin Shears wearing a Western gown with that of the Singapore Supreme Court to avoid potential confounding. Note that the parade corresponds to the Jazz musicians, the lion dance to the Waltzers, and the Supreme Court to the Lincoln Memorial.

Figure 2  
RESULTS ON IMPATIENCE IN STUDY 2



\*Significantly different at  $p < .05$ .

\*\*Significantly different at  $p = .01$ .

In contrast, for U.S.-primed participants, the effect of loss aversion on impatience was stronger in the promotion condition than in the prevention condition, though the difference did not reach statistical significance ( $p < .14$ ). Planned contrasts showed that U.S.-primed participants were more impatient in the promotion-loss condition than in the promotion-gain condition ( $5.2 > 4.5$ ;  $p < .05$ ). However, we did not observe this difference in the prevention conditions (4.0 versus 4.1;  $p > .30$ ). Thus, both predictions associated with  $H_4$  received support.

With respect to the significant interaction between culture and goal, emphasis of the promotion goal elicited more impatience among the U.S.-primed participants ( $4.8 > 4.1$ ;  $p < .005$ ). Conversely, among the Singapore-primed participants, emphasis of the prevention goal elicited more impatience, though this result is only marginally significant ( $4.0 > 3.6$ ;  $p < .10$ ). These results support  $H_3$ . In addition, with respect to the main effect of outcome, participants in the loss conditions were more impatient than were those in the gain conditions ( $4.3 > 3.9$ ;  $p < .05$ ), providing support for  $H_2$ .

Finally, consistent with  $H_1$  and replicating results from the first study, we found a significant main effect of cultural priming on impatience; participants in the U.S.-primed conditions were more impatient than were participants in the Singapore-primed conditions ( $4.4 > 3.8$ ;  $p < .005$ ).<sup>15</sup>

<sup>15</sup>We replicated our results by comparing the impatience levels of non-student U.S. participants ( $n = 44$ ) and nonstudent Singaporean participants ( $n = 43$ ). For the promotion/prevention manipulation, we borrowed Aaker and Lee's (2001) stimuli from their Experiment 1 and crossed those conditions with a gain/loss manipulation. For example, in the promotion-gain condition, we told participants, "If you drink it today, you can start enjoying the great taste, enjoyment, and energy offered by Welch's Grape Juice." In the promotion-loss condition, we told them, "If you don't drink it today, you cannot start enjoying the great taste, enjoyment, and energy offered by Welch's Grape Juice." The overall ANOVA and tests of individual hypotheses are substantively similar to those we report for Study 2. However, because a cross-country comparison is subject to confounding and in the interest of brevity, we do not discuss these results further.

### Mediation Analysis

We predicted that attention should mediate the three-way interaction, the interaction between culture and goal, and the loss aversion effect. In this study, to assess attention, we measured the amount of time that participants spent reading the promotion/prevention and gain/loss manipulation instructions. To test the mediating effect of attention, we conducted a three-factor ANOVA on time, which revealed a pattern of results that was similar to that on impatience. Specifically, the main effect of culture ( $p < .08$ ), the main effect of outcome ( $p < .01$ ), the interaction between culture and goal ( $p < .05$ ), and the three-way interaction ( $p < .01$ ) were all statistically significant. No other effects were significant ( $p > .50$ ). Planned contrasts showed that participants in the U.S.-primed conditions spent more time than did those in the Singapore-primed conditions (108 seconds  $>$  104 seconds,  $p < .05$ ), and participants in the loss conditions spent more time than did those in the gain conditions (112 seconds  $>$  94 seconds,  $p < .01$ ). In terms of the interaction between culture and goal, participants in the U.S.-primed conditions spent more time when the message emphasized a promotion goal (117 seconds  $>$  100 seconds,  $p = .05$ ); we found the opposite for participants in the Singapore-primed conditions (90 seconds  $<$  104 seconds,  $p < .05$ ). For the three-way interaction, U.S.-primed participants spent more time in the promotion-loss condition than in the promotion-gain condition (136 seconds  $>$  97 seconds,  $p < .01$ ), but there was no difference between gain and loss in the prevention conditions (99 seconds versus 101 seconds,  $p > .40$ ). Conversely, Singapore-primed participants spent more time in the prevention-loss condition than in the prevention-gain condition (119 seconds  $>$  89 seconds,  $p = .01$ ), but there was no difference between gain and loss in the promotion conditions (92 seconds versus 89 seconds,  $p > .30$ ).

To test mediation, we used Baron and Kenny's (1986) procedure. We added time as a covariate in the three-factor ANOVA on impatience and found that the effect of the covariate was significant ( $p < .001$ ). At the same time, the loss aversion effect, the interaction between culture and goal, and the 3-way interaction on impatience lost significance ( $p > .86, .10, .77$ , respectively). These results provide strong evidence that attention completely mediates the loss aversion effect, the interaction between culture and goal, and the three-way interaction on impatience.

### Discussion

The pattern of results we observed for impatience is remarkably similar to the pattern of results we observed for willingness to pay, which provides confirmatory evidence regarding the interactive effect of culture, outcome, and goal on consumer impatience. In addition, the direct measure of impatience and the nonsignificant differences in thoughts about travel enable us to rule out various rival explanations for our results. Finally, the effect of attention lends support to our explanation of the process that underlies the interaction between culture and message framing on impatience.

## GENERAL DISCUSSION AND IMPLICATIONS

### Summary

In this article, we document systematic variations in willingness to pay for expedited delivery and consumer impa-

tience induced by cultural priming and differences in message frames. Specifically, in Study 1, we observe that U.S.-primed participants valued immediate consumption significantly more than did Singaporean-primed participants. We also observe that the cross-cultural difference is sensitive to the way that outcomes are framed: Westerners are more apt to expend monetary resources to achieve a desirable outcome, whereas Easterners are more apt to expend monetary resources to avoid an undesirable outcome. Whereas we use willingness to pay as a proxy for impatience in Study 1, in Study 2, we use a scale to measure impatience, and we find evidence that is consistent with the premise that drives Study 1. The computer-mediated examination of attention in the Study 2 provides some evidence for the process that seemingly drives the phenomenon.

Some limitations of our research include the use of student participants, which raises the usual concerns about generalizability. Therefore, it is important to replicate the current results in a field study. A second limitation is our impatience measure, which has only two items; although they are significantly correlated ( $p < .001$ ), the correlation coefficient is relatively small ( $r = .28$ ). Furthermore, although our results for the congruency effects (i.e.,  $H_3$  and  $H_4$ ) are consistent with the proposed cultural difference on impatience, it is plausible that the experimental manipulations yielded differences in liking for the product, which in turn resulted in different levels of impatience and willingness to pay; this is an issue worthy of further scrutiny.

### Theoretical Contributions

Theoretically, we offer new insights on the topics of time discounting and intertemporal choice with particular relevance to the area of cross-cultural psychology and behavioral pricing. The normative models on how consumers account for the future in their decisions rest on the assumption that people prefer immediate rather than future consumption, and peripheral factors, such as the way that the consumption option is framed, are not expected to influence consumer behavior. Yet we observe that consumer preferences are labile, and despite the presence of certain enduring preferences for immediate versus delayed consumption as reflected in a generalized enhanced preference for early delivery, the patterns of these preferences vary across cultures and are influenced differentially by message framing. Specifically, our results suggest that different cultures display different levels of impatience; furthermore, these levels of impatience can be influenced by how the consumption opportunity is framed. We have, in effect, combined perspectives from regulatory focus theory, intertemporal choice, and time discounting and applied it to the domain of cross-cultural psychology in a way that has value for consumer behavior and marketing. For example, one of our dependent variables, willingness to pay, is a key construct in many conceptual frameworks of consumer price perceptions (e.g., Monroe 2002; Rao and Sieben 1992), and as such, our work is of particular relevance to behavioral pricing research. In addition, our findings on impatience and willingness to pay have implications for the circumstances under which certain consumer segments consider expedited delivery essential, and thus they are of potential relevance to the service quality literature.

### Methodological Contribution

Methodologically, using a priming technique on bicultural participants is a novel approach that is new to the marketing discipline. As we noted previously, other approaches to cross-cultural research have used procedures that are unable to guard effectively against experimental confounds (e.g., Childers and Rao 1992). We protected our study from this concern by randomly assigning bicultural participants to experimental conditions and priming one or the other of their cultures through visual primes delivered in a computer-mediated environment. This is a methodological advance inspired by Hong and colleagues (2000), who use a similar method to prime Chinese immigrants with either their original culture or the culture of their adopted country (i.e., the United States).

### Contributions to Practice

In general, our results indicate a firm's ability to price discriminate across cultures using appropriate message frames, a topic that is likely to be of considerable interest to corporations (both multinational and domestic) attempting to appeal to diverse cultures. Different cultures can be primed in bicultural people through the use of appropriate cues. We use visual primes, but it is likely that auditory or language cues (Tavassoli and Lee 2003) can also prime a particular culture. The priming of these different cultures has important practical significance in terms of impatience and willingness to pay. As our cultural main effect finding indicates, there is a substantially higher level of impatience associated with Western culture than with Eastern cultures (Singapore and, by extension, Hong Kong, Malaysia, Thailand, Indonesia, and possibly the Indian subcontinent). Thus, a bicultural customer in one of these cultures is likely to expect relatively quick service from a U.S. firm compared with a local firm, especially when the immediate consumption environment makes American culture more accessible (e.g., through company logos, music in the stores, designs on the Web site).

In addition, firms may wish to consider how to frame the message associated with their delivery options. In the United States (and perhaps in other Western cultures that emphasize promotion goals), suggesting that standard delivery limits the early enjoyment of the product could yield higher degrees of impatience and thus higher willingness to pay for expedited delivery. In Eastern cultures, messages that emphasize how standard delivery extends the waiting time for the product to arrive could yield enhanced impatience and associated willingness to pay.

A final speculation pertains to the different levels of impatience observed across cultures. If the future is discounted less in Eastern cultures, financial instruments and investments that emphasize long-term benefits are likely to be more attractive there, whereas short-term returns are likely to be preferred in Western cultures. For example, whereas saving for education and retirement involve immediate sacrifice for the sake of future benefits, revolving credit usage has the effect of borrowing from the future for immediate consumption. Therefore, our general premise that Asian cultures are less impatient and exhibit a smaller discount rate than the American culture is also consistent with anecdotal evidence that Asians value education, have a higher savings rate (e.g., Katzner 2002), and are less likely to use credit cards.

### Further Research

There are several avenues for further research. First, it might be fruitful to examine the ramification of the cultural difference in discount rates in areas of research in which time plays an essential role (intertemporal choice: e.g., Chen and Rao 2002; Loewenstein 1987; Read, Loewenstein, and Kalyanaraman 1999; temporal construal: e.g., Trope and Liberman 2003). Second, whether and how discount rates vary with stimulus magnitudes in different cultures is an intriguing question; in relatively impoverished economies, large numeric values may be rarely encountered and may be subject to excessive discounting because they are less credible. Finally, our results appear to be driven by substantial differences in the loss conditions, suggesting that people's perceptions of loss are more malleable than those of gains.<sup>16</sup> A natural next step is to understand the cognitive processes that underlie this effect and the cultural underpinnings of loss aversion.

<sup>16</sup>We thank an anonymous reviewer for this observation.

## Appendix A SINGAPORE CULTURAL COLLAGE (STUDY 1)



## Appendix B U.S. CULTURAL COLLAGE (STUDY 1)



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