

# “I” Seek Pleasures and “We” Avoid Pains: The Role of Self-Regulatory Goals in Information Processing and Persuasion

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In four experiments, we show that goals associated with approach and avoidance needs influence persuasion and that the accessibility of distinct self-views moderates these effects. Specifically, individuals with an accessible independent self-view are more persuaded by promotion-focused information that is consistent with an approach goal. In contrast, individuals whose interdependent self-view is more accessible are more persuaded by prevention focused information that is consistent with an avoidance goal. When the persuasive appeal is compatible with self-regulatory focus, individuals demonstrate greater recall of the message content and are more discerning regarding argument strength. These findings provide convergent evidence that central processing under goal compatible conditions underlies the persuasion effects.

Consider two friends, Nancy and Genevieve, both of whom were recently in the market for an automobile. Nancy ultimately purchased a Volvo sedan, and Genevieve purchased a Saab convertible. When comparing their choices in cars, they noticed several differences in the factors that guided their decision-making process. Genevieve, who lived in a warm climate and was a single woman without any children, explained that the idea most salient in her mind when deciding to buy a car was that you only live once and it should be done without any regrets. Therefore, enjoyment in the driving experience played a large role in her final decision. Nancy, being a single mom living in Canada with a 12-year-old daughter, said that enjoyment played only a small role. The most salient consideration in her mind was the possibility of an accident: if she got into one, she needed to survive.

The choice scenarios above illustrate the two distinct goals highlighted in regulatory focus theory (Higgins 1997),

which builds on the general hedonic notion that people approach pleasure and avoid pain. The theory distinguishes between two major categories of desired goals: those that relate to attaining positive outcomes such as advancement, achievement, and aspirations (termed promotion goals), and those that relate to avoiding negative outcomes such as responsibilities, obligations, and security (termed prevention goals). According to regulatory focus theory, individuals with a promotion focus will regulate their behaviors toward positive outcomes, and those with a prevention focus will regulate their behaviors away from negative outcomes. Whether an individual adopts a promotion or prevention focus influences the type of emotions experienced by an individual (e.g., Higgins, Shah, and Friedman 1997), perceptions of subjective value (e.g., Markman and Brendl 2000), and sensitivities toward positive or negative outcomes (e.g., Brendl, Higgins, and Lemm 1995).

The principles of self-regulatory focus are important to consider in the context of consumer behavior because these higher order goals of approach and avoidance provide insight into how certain lower order consumption goals are made and fulfilled (for a review of the different levels of goals that guide consumer behavior, see Huffman, Ratneswar, and Mick [2000]). For example, in the case of Nancy and Genevieve, although they shared the common functional goal of buying a car, it is in the service of the discrete goals of promotion versus prevention that the two friends were influenced by different considerations and ultimately bought different types of cars. Further, we argue that one antecedent of these effects is the accessibility of one's self-view. That

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is, Nancy may have a more accessible interdependent self-view, which may guide her decision-making process and influence her final purchase decision. In contrast, Genevieve's more accessible independent self-view may guide her decision-making process and ultimately affect brand choice.

In four experiments, we test the premise that the matching of information with the self-regulatory focus that is consistent with one's chronically or temporarily accessible self-view leads to enhanced evaluations, and we investigate the process that underlies these effects. In experiment 1, we examine the extent to which promotion relative to prevention-focused information may influence persuasion effects (i.e., attitude toward a Web site and affinity toward a brand). We show that individuals whose independent self-view has been made more accessible have more favorable attitudes when exposed to a Web site that focuses on promotion-related benefits (e.g., increasing energy), and those whose interdependent self-view has been made more accessible have more favorable attitudes when exposed to a Web site that focuses on prevention-related benefits (e.g., avoiding heart disease). We then explore the processes that underlie these persuasion effects by examining the extent to which individuals can recall information that is compatible versus incompatible with their self-view (experiment 2), and the extent to which they can discern between strong and weak arguments framed in a context that is either compatible or incompatible with their self-view (experiments 3 and 4). The pattern of findings, which is robust across multiple operationalizations of accessible self-views involving cultural comparisons (United States and China) and situational primes (individual and team events), converges to show that more elaborative processing occurs when information is compatible versus incompatible with one's accessible self-view. The results of these four experiments thereby highlight the importance of understanding the self-regulatory focus effects in consumer behavior contexts.

## THEORETICAL BACKGROUND

### Self-Regulatory Goals

According to regulatory focus theory, goals are broadly defined as "representational structures that guide the system in its pursuit of a reference or end state" (Markman and Brendl 2000, p. 98). When the end state is positive and desired, individuals are said to have an approach goal; when the end state is negative and undesired, individuals are said to have an avoidance goal (Higgins 1987). Much of the research in consumer behavior to date has focused on approach goals, where desired end states are salient and guide processing. For example, Huffman and Houston (1993) explore the desired end state of having a guitar to play music and then further distinguish between the specific benefits of having a comfortable or flexible guitar. Park and Smith (1989) examine the goal of satisfying one's entertainment needs, focusing on how such a goal affects the propensity to process in a top-down rather than bottom-up manner. To explain bargaining behavior of consumers, Brucks and

Schurr (1990) focus on the commonly held goal of obtaining good value for one's money.

Self-regulatory focus extends this research to include conditions where avoidance goals relative to approach goals may be active and guide subsequent processing, evaluations, and behaviors (Higgins 1987, 1997). To illustrate, an avoidance goal is activated when the individual is choosing between entertainment options with the criterion of it being not boring, as compared to an approach goal being activated when the criterion is exciting. Alternatively, consider the case of buying a guitar with the goal of having one that is comfortable or flexible (approach goal) relative to one that is not difficult to handle (avoidance goal).

Further, research on self-regulatory focus delineates the ways in which the two types of goals might be achieved. For example, a desired end state, which is associated with approach goals, may be achieved by maximizing the presence or minimizing the absence of positive outcomes. To illustrate, a student may attempt to attend a rock concert (i.e., desired end state) by waking up early to stand in line for tickets (i.e., strategy that maximizes the presence of a positive outcome). Similarly, an undesired end state, which is associated with avoidance goals, may be achieved by minimizing the presence or maximizing the absence of negative outcomes. To illustrate, a student may try to avoid being caught in rush hour traffic (i.e., undesired end state) by not registering for classes scheduled before 9:30 A.M. (i.e., strategy that minimizes the presence of a negative outcome).

These distinctions are important because they suggest that goals may be distinguished not only in terms of the desirability of the end state, but also in terms of the strategies that can be adopted to achieve them. In a consumer behavior context, these distinctions highlight the difference between two considerations enroute to, say, buying a car. That is, one might consider how to maximize the presence of positive attributes related to that goal, as portrayed through the following promotion-focused justification for car choice: "I bought a Saab convertible because of its impressive handling." Alternatively, one might consider how to minimize the presence of negative attributes related to that goal, as portrayed by the following prevention-focused justification: "I bought a Saab convertible because I didn't want to feel that I was driving my grandparents' car!"

In this research, we focus on conditions where the chance of obtaining a positive goal is maximized (promotion focus) as well as on conditions where the chance of avoiding a negative outcome is maximized (prevention focus). Then, by varying the accessibility of one's self-view through distinct operationalizations, we demonstrate when and how goal compatibility may lead to more positive impressions of a Web site (experiment 1), greater brand affinity (experiment 1), and more favorable brand attitudes (experiments 3 and 4). We also highlight the processes that underlie these effects (experiments 2-4).

## The View of the Self and Self-Regulatory Goals

Considerable research in cultural psychology has focused on the distinction between an independent and interdependent self-view, highlighting the extent to which specific cultures tend to encourage one particular view (for a review, see Fiske et al. [1998]). Specifically, the independent self-view, which refers to the view of oneself as defined by unique attributes and characteristics that distinguish him or her from others, tends to be nurtured in cultures where the values of independence are endorsed (e.g., United States). In contrast, the interdependent self-view, which refers to the view of oneself as intimately defined by others rather than distinguished from others, tends to be nurtured in cultures that encourage the values of fulfilling one's obligations and responsibilities over one's own personal wishes or desires (e.g., China; Singelis 1994). When the development of a particular self-view is encouraged by society, this particular view of the self becomes chronically more accessible at the individual level. However, recent research has shown that a different self-view, one that is not culturally nurtured, may be made temporarily accessible through referencing tasks (e.g., Aaker and Williams 1998), situational contexts (e.g., Briley, Morris, and Simonson 2000), and primes (e.g., Hong et al. 2000). Gardner, Gabriel, and Lee (1999), for example, primed independence or interdependence by asking American and Chinese participants to read a story that emphasizes either personal glory or family obligations. Individuals exposed to the culturally inconsistent prime (e.g., Americans exposed to the family obligation story) expressed values that are consistent with the prime. Such results demonstrating that different self-views can be temporarily activated (or suppressed) and subsequently alter attitudes, thereby highlighting the malleability of the self (Aaker 1999; Belk 1988; Kleine, Kleine, and Kernan 1993).

Recent research has examined the types of goals that are associated with a highly accessible independent or interdependent view of the self. The goals of the independent self are thought to be autonomy and achievement, a desire to succeed relative to others. The goals of the interdependent self, in contrast, are characterized by belonging, mandating the fulfillment of obligations and responsibilities to others (Heine et al. 1999). Thus, the greater tendencies of the independent self toward self-enhancement through achieving success and demonstrating how one is positively distinct are consistent with a promotion focus, and the tendencies of the interdependent self toward self-improvement through being aware of potential mistakes that may preclude one from assimilation with others are consistent with a prevention focus. Indeed, Lee, Aaker, and Gardner (2000) provide evidence that promotion-focused rather than prevention-focused strategies are perceived to be more important for individuals with an accessible independent self, and the converse is true for those with an accessible interdependent self. To illustrate, they manipulated interdependence by telling one group of participants to imagine themselves in the following situation: Their team was playing in a tennis tournament and had made it to the finals. They were representing

their team in the finals. If they win (lose) this last match, their team will win (lose) the championship title as well as a huge trophy. Independence was manipulated by asking another group of participants to imagine that they were playing in a tennis tournament and had made it to the finals. The results showed that when the imagined scenario was presented in an independent context that focused on the individual, participants perceived the promotion-focused scenario that emphasized winning to be more important than the prevention-focused scenario that emphasized losing. Interestingly, the converse effect was found in the interdependent situation scenarios. When participants were asked to imagine themselves playing for a team, they perceived the scenario to be more important when it was framed in a prevention-focused than a promotion-focused context.

These results demonstrate that individuals with a more accessible independent self-view tend to be promotion focused, and those with a more accessible interdependent self-view tend to be prevention focused. Further, information compatible with the accessible self-view (i.e., promotion-focused information presented to individuals whose independent self-view is more accessible, and prevention-focused information presented to individuals whose interdependent self-view is more accessible) is considered to be more important. However, the implications for consumer behavior are unclear. To what extent will a persuasive message that relies on a promotion frame (e.g., highlighting product benefits involving enjoyment) relative to a prevention frame (e.g., highlighting product benefits involving security) lead to more or less favorable attitudes? And, what is the process that underlies such goal compatibility effects?

Experiment 1 addresses the first question. We test the premise that framing a product in a promotion- or prevention-focused appeal will impact attitudes and that how these attitudes are influenced depends on the accessibility of one's self-views. Lee, Aaker, and Gardner (2000) provide evidence suggesting that individuals consider goal compatible situations to be more important, but not necessarily more favorable. This effect suggests that individuals should expend more effort to process an appeal that is compatible with their goal (Petty and Cacioppo 1979). Such increased effort should lead to more favorable persuasion effects. In other words, we predict that persuasive messages that emphasize promotion or prevention benefits that are compatible with one's active goal will lead to enhanced persuasion effects (cf. Petty and Wegener 1998; Snyder and DeBono 1985).

To examine this hypothesis, we manipulate the promotion or prevention benefits associated with a brand, and then examine the attitudes of individuals whose independent or interdependent self-view has been made more accessible. Specifically, we predict that individuals whose independent self-view is more accessible should develop more favorable attitudes toward a brand that is presented in a promotion-framed appeal relative to a prevention-framed appeal. The converse should be true for individuals whose interdependent self-view is more accessible; they should develop more

favorable attitudes when they are exposed to a prevention-framed appeal relative to a promotion-framed appeal.

- H1:** When information is presented in a frame that is compatible versus incompatible with self-regulatory focus, greater persuasion effects will result. More specifically,
- H1a:** Individuals whose independent self-view is more accessible are more persuaded by promotion- versus prevention-framed information.
- H1b:** Individuals whose interdependent self-view is more accessible are more persuaded by prevention versus promotion-framed information.

## EXPERIMENT 1

In experiment 1, we examined the evaluations of a Web site that conveyed promotion- or prevention-focused product benefits. We draw on prior research that shows that self-view can be activated by a situational prime that shifts an individual's attention from the construal of self-as-distinct-from-others to that of self-as-connected-to-others (e.g., Aaker and Williams 1998; Gardner et al. 1999; Hong et al. 2000). Promotion and prevention focus are manipulated in line with self-regulatory theory by varying the emphasis on promotion benefits (e.g., enhancing energy levels) and prevention benefits (e.g., reducing risk of heart disease). We predict an interaction between situational prime and benefit type: Individuals in an independent situation should have more positive attitudes toward the Web site and greater brand affinity after exposure to the promotion-focused information. Conversely, individuals in an interdependent situation should have more positive attitudes toward the Web site and greater brand affinity after exposure to the prevention-focused information. Thus, a 2 (situational prime: independent or interdependent)  $\times$  2 (benefit type: promotion or prevention) between-subjects design was used.

### Method

**Stimulus Development.** To enhance external validity, the content from the actual Web site for Welch's Grape Juice (Welchs.com) was modified to create four Web sites for each condition. In each of the Web sites, participants read, "Welch's Grape Juice has been a favorite for more than six generations. Today, our classic Purple Grape Juice has been joined by a wide variety of wholesome juices to please your taste. They're all made with the same attention to quality as the original." Both independent variables were operationalized by altering elements on the Web site. The situational prime to activate a particular self-view was manipulated in two ways: (1) picture focusing on an individual or a family, and (2) text on the Web page. The Web site that evoked the independent (interdependent) situation condition read, "Give yourself (your family) a chance at great taste! Welch's Grape Juice . . . it's been a (family) favorite for more than six generations. Today, our classic purple grape juice has been joined by a wide variety of wholesome

juices to please your (every) taste. They're all made with the same attention to quality as the original."

To ensure that the verbal and pictorial manipulation would be successful in priming the independent and interdependent self-views, a pretest was conducted where participants ( $n = 51$ ; mean age = 23.10, 51.1 percent female) were randomly assigned to one of the four cells in the experiment and asked, "While you were reading about Welch's 100% Purple Grape Juice, please describe the extent to which (1) you thought just about yourself, (2) your thoughts about the message were focused on just yourself, (3) your thoughts were focused on just you, (4) you thought about you and your family, (5) your thoughts about the message were focused on you and your family, and (6) your thoughts were focused on you and your family." Participants responded on a seven-point scale (1 = not at all; 7 = a lot). The first three items were averaged to form a Self Thoughts Index ( $\alpha = .90$ ), and the remaining three items were averaged to form an Others Thoughts Index ( $\alpha = .92$ ). An overall 2 (situational prime)  $\times$  2 (benefit type)  $\times$  2 (thought type) repeated measures ANOVA yielded a marginal main effect of thought type ( $F(1, 47) = 3.55, p < .07$ ). Participants thought more about the individual self ( $M = 3.55$ ) than the self with their family ( $M = 2.67$ ), an effect that was qualified by the anticipated interaction with situational prime ( $F(1, 47) = 6.00, p < .01$ ). Participants given the independent situational prime thought more about just the self ( $M = 3.72$ ) than the self in the context of their family ( $M = 2.29; F(1, 25) = 9.06, p < .01$ ). In the interdependent situational prime condition, the thoughts about the self in the context of their family rose ( $M = 3.22; t(47) = 1.93, p < .05$ ) to match their individual self-thoughts ( $M = 3.19; t < 1$ ). These findings are consistent with Lee et al. (2000), and provide evidence that the interdependent situational prime induces the participants to view themselves more as a part of a larger collective.

The promotion and prevention benefits (adopted from Welchs.com) were manipulated through Web site content. Half of the participants read about promotion-focused benefits related to energy creation: "Further, preliminary medical research suggests that drinking purple grape juice may contribute to the creation of greater energy! Growing evidence suggests that diets rich in Vitamin C and iron lead to higher energy levels. According to research by the United States Department of Agriculture, Welch's Purple 100% Grape Juice has more than three times the naturally occurring Vitamin C and iron than other juices. Our Concord grapes and Niagara grapes are harvested only at the peak of flavor so that Welch's Grape Juice is great tasting as well as energizing. Plus, it is simply fun to drink!" The Web site closed with, "We're proud to say that everything bearing the Welch's label meets the very highest standards for great taste, enjoyment, and energy." In contrast, the prevention-framed benefits focused on cancer and heart disease prevention: "Further, preliminary medical research suggests that drinking purple grape juice may contribute to healthy cardiovascular function. Growing evidence suggests that diets

rich in antioxidants may reduce the risk of some cancers and heart disease. According to research by the United States Department of Agriculture, Welch's Purple 100% Grape Juice has more than three times the naturally occurring antioxidant capacity of other juices. Purple grape juice's antioxidants are commonly attributed to the flavinoids contained in the juice that help keep arteries clear so that blood can flow freely. Therefore, it is healthy to drink!" The Web site closed with, "We're proud to say that everything bearing the Welch's label meets the very highest standards for great taste, goodness, and healthiness."

*Participants.* A total of 94 Caucasian college students (mean age = 23.67, 43.3 percent female) took part in the study. Members of the student community at a large western university were e-mailed an invitation to take part in a marketing study that was being conducted by a faculty member in the business school. They were told that the focus of the study was to learn about consumers' perception of current products in the marketplace and their e-commerce Web sites. Participants were asked to click on a link in their e-mail to a particular Web site, review the Web site, and then fill out an on-line questionnaire. Incentive was two \$100 prizes given to two randomly selected participants. The response rate was approximately 40 percent. Participants in the overall sample who received the e-mail invitation (mean age = 24.40, 49.2 percent female) were similar in demographic profile to the subset that participated in the study.

*Procedure.* Participants were randomly assigned to one of the four conditions by having them click on a link in their e-mail that led them to one of four Web sites for Welch's Grape Juice. All participants were told that the task is self-paced and could be done at their leisure but that they should visit the Web site only when they had an uninterrupted 10-minute time window and that they should complete the questionnaire once they started without returning to previous pages. After the participants finished viewing the Web site, they were asked to click on a questionnaire link. A new page came up on-line with a series of questions regarding the participants' evaluations of the Web site and brand affinity measures (described below). As a check for the promotion and prevention benefits, participants were asked to describe the extent that their thoughts were about vitamins and energy gained by drinking Welch's Grape Juice (promotion focus) as well as about antioxidants and cancer prevention (prevention focus) while viewing the Web site. Participants then responded to some miscellaneous measures and demographic questions, and submitted their responses by clicking on a submit button. A thank you screen then appeared and the session was completed. To assess the persistence of a goal compatibility effect, all participants were contacted by e-mail two weeks after they completed the study to answer additional questions that assessed their interest in the brand.

## Dependent Variables

Two distinct dependent variables were used to measure persuasion effects in the context of this experiment. The first measure, termed Web Site Evaluation Index, aims to assess the participants' impression of the Web site, as consistent with the cover story. Participants were asked to rate the Welch's Web site content on two seven-point scales anchored by not at all effective/very effective and not at all impactful/very impactful.

The second measure, termed Brand Affinity Index, taps the participants' level of brand affinity, defined as their attraction toward and interest in the brand (Bloxham 1998). Specifically, immediately after reviewing the Web site, individuals were directed to the questionnaire that read, "After reading the information about Welch's 100% Purple Grape Juice on the website, please indicate how willing are you to click on the: (1) Concord Grape Association link that provides more information about the benefits of purple grape juice; (2) link for recipes that involve using Welch's grape juice; (3) link for Welch's promotions?" They were presented with seven-point scales anchored by not at all willing and very willing. Two weeks after the study, an additional delayed brand affinity measure was taken to determine the persistence of the goal compatibility effects. An e-mail was sent to all participants two weeks later with the subject header reading, "A Big Thank You, Two Questions and a \$100 prize." In the e-mail, they were told that Welch's was considering updating the content on their Web site and were asked whether they would be interested in viewing the new content. Participants rated their level of interest on two seven-point scales anchored by not at all interested/very interested and not at all willing/very willing. Another \$100 lottery was announced as an incentive to encourage response.

## Results

*Manipulation Checks.* To check the benefit type manipulation, an overall 2 (situational prime)  $\times$  2 (benefit type)  $\times$  2 (thought type) ANOVA, with thought type as a repeated measure, was conducted. The results showed a main effect of thought type; there were more thoughts related to promotion benefits ( $M = 3.89$ ) than prevention benefits ( $M = 3.55$ ;  $F(1, 90) = 5.03, p < .05$ ). There was also a significant main effect of situational prime where there were more thoughts in the independent relative to the interdependent situational prime condition ( $M = 4.00$  vs.  $3.40$ ;  $F(1, 90) = 6.78, p < .01$ ). The main effect of benefit type was also significant; there were more thoughts in the prevention-benefit than in the promotion-benefit condition ( $M = 4.06$  vs.  $3.33$ ;  $F(1, 90) = 10.41, p < .005$ ). Central to our hypotheses, the predicted interaction between benefit type and thought type was significant ( $F(1, 90) = 136.65, p < .001$ ). There were more promotion-related thoughts in the promotion-benefit condition than in the prevention-benefit condition ( $M = 4.45$  vs.  $3.34$ ;  $F(1, 90) = 13.77, p < .001$ ), and more prevention-related thoughts in the preven-

tion-benefit condition relative to the promotion-benefit condition ( $M = 4.78$  vs.  $2.31$ ;  $F(1, 90) = 94.59$ ,  $p < .001$ ).

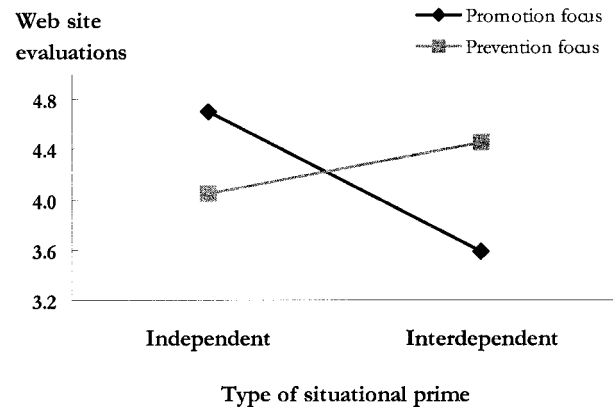
**Hypotheses Testing.** To test the hypotheses, a Web Site Evaluation Index was created by averaging the two measures of the Web site content ( $r = .92$ ). The results of a 2 (situational prime)  $\times$  2 (benefit type) between-subjects ANOVA yielded only a significant situational prime  $\times$  benefit type interaction ( $F(1, 90) = 7.05$ ;  $p < .01$ ), consistent with Hypothesis 1. A series of planned contrasts using one-tailed tests provide support for Hypothesis 1a: Participants in the independent situational prime condition scored higher on the Web Site Evaluation Index when exposed to the promotion-focused information than when exposed to the prevention-focused information ( $M = 4.70$  vs.  $4.04$ ;  $t(90) = 2.01$ ;  $p < .05$ ). In contrast, participants in the interdependent situational prime condition scored higher on the Web Site Evaluation Index when exposed to the prevention-focused information than when exposed to the promotion-focused information ( $M = 4.45$  vs.  $3.58$ ;  $t(90) = 1.70$ ;  $p < .05$ ). Thus Hypothesis 1b is also supported (see Fig. 1).

Next, the effect of the independent variables on the Brand Affinity Index was examined. First, a repeated measures analysis on the brand affinity measures showed no difference between the three items ( $F(2, 182) = 1.47$ ,  $p > .20$ ). Hence the three items were averaged, and a 2  $\times$  2 ANOVA was performed on the Brand Affinity Index ( $\alpha = .78$ ). The results showed a significant main effect of situational prime ( $F(1, 91) = 4.59$ ,  $p < .05$ ). Higher scores on the Brand Affinity Index were found in the independent relative to the interdependent situational prime condition ( $M = 3.28$  vs.  $2.71$ ). Central to our hypothesis, this main effect was qualified by the predicted two-way interaction ( $F(1, 91) = 6.67$ ,  $p < .01$ ). Planned contrasts showed that participants in the independent situational prime condition had greater brand affinity after being exposed to the promotion- versus prevention-focused information ( $M = 3.58$  vs.  $2.99$ ;  $t(91) = 1.63$ ;  $p < .05$ ). In contrast, participants given the interdependent situational prime showed greater brand affinity after being exposed to the prevention versus promotion-focused information ( $M = 3.11$  vs.  $2.30$ ;  $t(91) = 2.01$ ;  $p < .05$ ). These results provide further support for Hypothesis 1a and 1b.

A similar pattern of effects was observed for the delayed Brand Affinity Index (based on a response rate of 69 percent;  $n = 65$ ,  $r = .74$ ). The results of a 2  $\times$  2 ANOVA again showed a significant effect for situational prime ( $F(1, 61) = 4.25$ ,  $p < .05$ ), where participants in the independent relative to interdependent situational prime condition had higher levels of affinity ( $M = 4.24$  vs.  $3.63$ ). Consistent with our hypothesis, this result was also qualified by a two-way interaction ( $F(1, 61) = 9.50$ ,  $p < .005$ ). Planned contrasts showed that participants given the independent situational prime indicated that they would be interested in learning more about the brand when they had been exposed to the promotion- rather than prevention-focused Web site two weeks earlier ( $M = 4.72$  vs.  $3.79$ ;  $t(61) = 1.90$ ;  $p < .05$ ).

FIGURE 1

EXPERIMENT 1: WEB SITE EVALUATIONS AS A FUNCTION OF SITUATIONAL PRIME AND REGULATORY FOCUS



.01). Participants given the interdependent situational prime, in contrast, showed greater brand affinity when they had been exposed to the prevention- versus promotion-focused Web site ( $M = 4.18$  vs.  $2.77$ ;  $t(61) = 2.43$ ;  $p < .01$ ). No other effects were significant.

## Discussion

The results of experiment 1 show that goal compatibility has an impact on attitudes as measured by perceived effectiveness of the Web site and brand affinity. Individuals whose independent self-view was made more accessible by the situational prime had more positive impressions of the Web site content that was consistent with a promotion focus, and individuals whose interdependent self was made more accessible had more positive impressions of the Web site content that was consistent with a prevention focus. These results build on prior research showing that such goal compatible information is considered more important (Lee et al. 2000) and further extend that research to demonstrate the effect of goal compatibility on attitudes.

However, the results shed little insight on the processing that accounts for these persuasion effects. Most research on goal compatibility has examined the impact of promotion- and prevention-focused information on outcomes such as perceptions of subjective value (e.g., Markman and Brendl 2000), emotions (e.g., Higgins et al. 1997), and attention (Higgins and Tykocinski 1992); very little research has been done to examine how goal (in)compatible information is processed and how the processing of such information affects the distinct outcomes (see Higgins [1997] for a discussion). Therefore, experiments 2–4 were conducted with the objectives of testing the robustness of the attitudinal effects found in experiment 1, as well as identifying the mechanism driving this effect.

The greater persuasiveness of goal compatible appeals and

the persistence of these effects after a two-week delay suggests that participants may be processing information that is in line with their self-regulatory goal more carefully and thoroughly (Petty and Cacioppo 1986). This notion of central (or systematic; Chaiken 1980) processing of the goal compatible information is consistent with previous findings that research participants are more sensitive to events that match their psychological state of self-discrepancy (Higgins and Tykocinski 1992) and that they place more weight on situations that are consistent with their self-regulatory goals (Lee et al. 2000). These results suggest that people may be paying more attention to and focusing more on messages that are compatible with their self-regulatory goal. As the result of greater attention, participants in goal compatible conditions would thus have a more extensive and differentiated structure of thoughts and associations in support of their attitudes, hence attitudes persist over time (Haugtvedt and Petty 1992). Such a central mode of processing, in contrast to peripheral (or heuristic) processing, implies that participants' more favorable attitudes toward the Web site and brand are the result of higher scrutiny and more elaborative processing of the goal compatible information (cf. Petty and Wegener 1998).

If individuals do indeed process goal compatible information systematically, they should exhibit higher recall of the information and show greater discernment of argument quality. In contrast, if peripheral processing were the primary mode of persuasion for the results in experiment 1, with participants forming more favorable attitudes whenever benefits are aligned with their self-regulatory focus, they should not demonstrate any advantage in their recall or discernment between the appeals. To investigate the type of processing underlying attitude formation under conditions of goal (in)compatibility, experiment 2 was conducted to examine the effects of goal compatibility on recall, and experiments 3 and 4 were conducted to examine the effects of goal compatibility on message quality discernment.

If goal compatibility prompts higher attention or more elaborative processing, we should then find evidence of better recall of information by participants in goal compatible versus incompatible conditions. More specifically, participants from a North American culture, or those primed by an independent event, should have better recall for information that is consistent with a promotion goal. In contrast, participants from an East Asian culture, or those primed by an interdependent event, should have better recall for information that is consistent with a prevention goal.

- H2:** When benefits are compatible versus incompatible with self-regulatory focus, better recall will result. More specifically,
- H2a:** Individuals with a more accessible independent self-view will have better recall for promotion- than prevention-framed information.
- H2b:** Individuals with a more accessible interdependent self-view will have better recall for prevention- than promotion-framed information.

## EXPERIMENT 2

The objective of experiment 2 was to examine whether individuals whose independent self-view is more accessible have better memory for events presented in a promotion frame, and whether individuals whose interdependent self-view is more accessible have better memory for events presented in a prevention frame. In addition, we examine the malleability of these effects by varying the accessibility of distinct self-views using a situational prime manipulation, as well as by including participants from China as well as the United States, where the chronic self-view is either consistent or inconsistent with the primed self. Thus, a 2 (culture: North American or East Asian)  $\times$  2 (situational prime: independent or interdependent)  $\times$  2 (frame: promotion or prevention) between-subjects design was used. Situational prime was manipulated in a conceptually similar way to that in experiment 1, and culture was operationalized quasi-experimentally through country status. The United States and China were selected as the two countries because, although they vary on the individualism-collectivism dimension associated with self-view differences (Hofstede 1980), participants who possess high levels of English comprehension skills could be identified in both countries, thereby minimizing potential problems arising from stimulus translation. Further, similarity of the participant profile based on demographic and psychographic variables could be enhanced as participants were recruited from undergraduate programs in major universities in the United States and Hong Kong. It should be noted that considering both chronic and temporary variations in the accessibility of self-view not only allows the conceptual replication of the effects predicted in Hypothesis 2, it provides a context to demonstrate support for a more dynamic view of culture (Arnould 1989; McCracken 1986; Shore 1996). That is, past research has often treated culture as similar to stable personality dispositions whereby predilections are predicted to be manifest in all situations. However, if situational effects have the power to eliminate culture-based effects, evidence for a more dynamic, less monolithic view of culture is obtained.

The hypothesis was tested in a way that extends the paradigm used in experiment 1. In experiment 1, goal compatible information was manipulated through different benefits designed to attain either a promotion or a prevention goal presented in an independent or interdependent situational context. In experiment 2, goal compatible information is operationalized through the crossing of a win-loss framing manipulation with a situational priming (and country status) manipulation. This design follows from past findings that individuals who differ in promotion or prevention focus consistently vary in their responses to frame manipulations. Specifically, those with promotion concerns are sensitive to potential gains and nongains, whereas those with prevention concerns are sensitive to potential losses and nonlosses (Crowe and Higgins 1997). Thus, the meaning associated with (non)gains and (non)losses in self-regulatory focus research has to do with the salience of the perceived outcome of the information.

## Method

**Stimulus Development.** Borrowing from Lee et al. (2000), we developed scenarios that allow manipulations of independent and interdependent self-view as well as promotion and prevention focus. Goal (in)compatibility was operationalized by (mis)matching the situational prime with the frame of the message. Frame was manipulated using language that emphasized potential gains or losses; that is, the word “win” was used in the promotion-focused condition and the word “lose” was used in the prevention-focused condition. A situational prime manipulation was used to enhance the accessibility of distinct self-views. Specifically, participants in the independent situation/promotion-focused condition were asked to imagine the following scenario: “You are playing in a tennis tournament and have made it to the finals. It is 4:26 P.M., and the sun is beating down on you. You count the strings on your racquet and bounce the ball on your racquet a few times, thinking to yourself: If you win this last match, you will win the championship title and bring home the huge trophy.” Participants in the interdependent situation/promotion-focused condition were asked to imagine that they were playing on a team: “Your team is playing in a tennis tournament and have made it to the finals. You are representing your team in the finals. . . . If you win this last match, your team will win the championship title and bring home the huge trophy.” The prevention-focused conditions were identical to the above, except that the word “lose” instead of “win” was used. For example, participants in the independent situation/prevention-focused condition read, “You are playing in a tennis tournament and have made it to the finals. It is 4:26 P.M., and the sun is beating down on you. You count the strings on your racquet and bounce the ball on your racquet a few times, thinking to yourself. If you lose this last match, you will lose the championship title and not bring home the huge trophy.”

To ensure that the accessibility of distinct self-views and self-regulatory focus would be successfully manipulated, a pretest was conducted. A total of 19 American participants and 20 Chinese participants from the same subject pools as those in the main study were asked, “We would like you to describe the situation you are currently facing by circling a number on the following scales. Please describe the extent to which (1) your thoughts on the situation were focused on yourself, (2) your thoughts were focused on just you, (3) your thoughts on the situation were focused on you and your teammates, and (4) your thoughts were focused on you and your teammates.” Participants rated each item on a seven-point scale (1 = not at all; 7 = a lot). The first two items were averaged to form a Self Thoughts Index ( $r = .71$ ) and the other two items were averaged to form an Others Thoughts Index ( $r = .70$ ). An overall  $2 \times 2 \times 2 \times 2$  ANOVA (with thought type as a repeated measure) yielded a significant interaction between thought type and situational prime ( $F(1, 31) = 7.77, p < .01$ ). As expected, more others-related thoughts ( $M = 5.18$ ) than self-related thoughts ( $M = 4.58; F(1, 17) = 3.60, p = .07$ ) were found in the

interdependent situational prime condition, and marginally more self-related thoughts ( $M = 4.88$ ) than others-related thoughts ( $M = 4.05; F(1, 18) = 3.81; p = .06$ ) were found in the independent situational prime condition. With the exception of the four-way interaction ( $F(1, 31) = 4.03, p = .05$ ), no other effects were significant. This pattern of results provides support that the two distinct selves are successfully enhanced by the situational prime.

**Participants.** A total of 101 students from a large western university (mean age = 24.97, 45.1 percent female, 100 percent Caucasian) and 96 University of Hong Kong students (mean age = 19.59, 45.3 percent female, 100 percent Chinese) participated in this study. To ensure that members from a Western culture do indeed have a more accessible independent self-view and that those from an Eastern culture have a more accessible interdependent self-view, we administered the Twenty Statements Test (Kuhn and McPartland 1954) to 29 participants from the same subject pools as those in the main study. A repeated measures ANOVA produced a significant trait effect ( $F(1, 27) = 105.10, p < .001$ ); participants from both cultures listed more independent traits than interdependent traits to describe themselves. More important, the culture  $\times$  trait interaction was significant ( $F(1, 27) = 6.60, p < .01$ ). As expected, our American participants described themselves more as independent individuals than did their Chinese counterparts ( $F(1, 27) = 6.68, p < .01$ ), whereas our Chinese participants described themselves more in the context of others than the American participants ( $F(1, 27) = 6.47, p < .01$ ).

**Procedure.** Participants were invited to participate in an advertising study for \$5 (United States) or course credit (Hong Kong). Participants were told that an advertising campaign for a new tennis racquet was being developed and that the researchers were interested in learning how they may perceive some of the ideas that will be incorporated into the campaign. Participants were randomly assigned to one of the four conditions highlighted above and then completed a filler task that took approximately 20 minutes, including responding to some demographic questions, manipulation checks, and the 31-item Self-Construal Scale (Singelis 1994). At the end of the questionnaire, participants were asked, “Without turning back to the previous pages, please answer these questions relating to the tennis tournament scenario that you read about earlier: (1) What was the weather like? (2) What was the reward for winning the tennis match?” As a manipulation check for frame, they were also asked to indicate how good and favorable the situation described was on a seven-point scale anchored by very bad/very good and unfavorable/favorable. Participants were then debriefed and thanked.

## Results

**Manipulation Checks.** To check that our American and Chinese participants held different chronic views of the self, a  $2 \times 2 \times 2 \times 2$  ANOVA was conducted using the 15-item

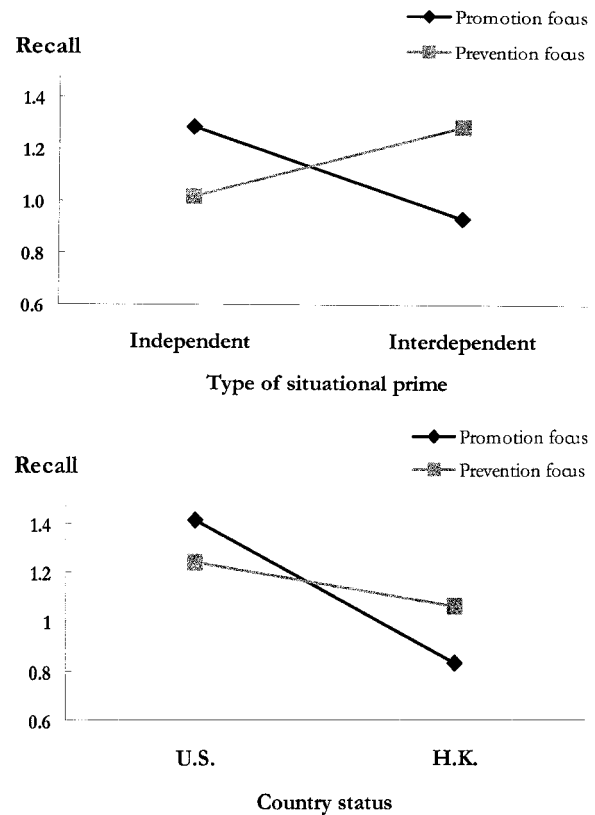


independent self construal subscale ( $\alpha = .77$ ) and the 16-item interdependent subscale ( $\alpha = .74$ ) as repeated measures. The results showed the predicted significant culture  $\times$  self-view interaction ( $F(1, 188) = 4.71, p < .05$ ). The American participants had a more accessible independent than interdependent self-view ( $M = 5.95$  vs.  $5.68$ ;  $F(1, 97) = 5.01, p < .05$ ), whereas the Chinese participants' interdependent and independent self-views were equally accessible ( $M = 5.44$  vs.  $5.39$ ;  $F < 1$ ).

**Hypotheses Testing.** Coding of the participants' memory for each of the two items was binary (one if they demonstrated correct recall and zero if otherwise). Each participant's recall score was the sum of these two cued recall items. We hypothesized that individuals whose independent self-view is more accessible should have better recall for promotion-framed information, whereas those whose interdependent self-view is more accessible should have better recall for prevention-framed information. Given that accessibility of self-view is operationalized by a situational prime as well as by culture, a significant interaction between situational prime and frame and a significant interaction between culture and frame would provide support for our hypothesis. The results of a 2 (culture)  $\times$  2 (situational prime)  $\times$  2 (frame) ANOVA on recall yielded a significant main effect for culture ( $F(1, 188) = 12.03, p < .001$ ) where American participants had better recall than their Chinese counterparts ( $M = 1.33$  vs.  $0.95$ ). More important, the situational prime  $\times$  frame interaction was significant ( $F(1, 188) = 8.88, p < .005$ ), as predicted by Hypothesis 2. Planned contrasts supported both Hypothesis 2a and 2b. Participants in the independent situational prime condition had better recall for the promotion-focused information ( $M = 1.29$ ) than the prevention-focused information ( $M = 1.02$ ;  $t(188) = 1.88, p < .05$ ). Further, as displayed in Figure 2, the opposite pattern occurred in the interdependent situational prime condition where participants recalled more prevention-focused information ( $M = 1.29$ ) than promotion-focused information ( $M = .93$ ;  $t(188) = 2.29, p < .01$ ). A marginally significant culture  $\times$  frame interaction demonstrated a conceptually parallel pattern ( $F(1, 188) = 2.80, p = .09$ ). American participants displayed better recall for the promotion-focused than prevention-focused information ( $M = 1.41$  vs.  $1.24, t(188) = 1.18, p = .12$ ), and Chinese participants had better recall for the prevention focused than promotion-focused information ( $M = 1.06$  vs.  $0.83, t(188) = 1.55, p = .06$ ). Neither contrast, however, reached the conventional significance level. See Table 1 for means.

The only other significant effect was the culture  $\times$  situational prime interaction ( $F(1, 188) = 9.14, p < .005$ ). Follow-up contrasts indicated that American participants had better recall in the independent relative to the interdependent situational prime condition ( $M = 1.49$  vs.  $1.13$ ;  $t(188) = 2.46, p < .01$ ). Conversely, Chinese participants had better recall in the interdependent situational prime condition than in the independent prime condition ( $M = 1.11$  vs.  $.80$ ;  $t(188) = 2.00, p < .05$ ). These results are consistent

**FIGURE 2**  
EXPERIMENT 2



NOTE.—Top panel, recall as a function of situational prime and regulatory focus; bottom panel, recall as a function of culture and regulatory focus.

with findings that individuals are more likely to process and recall information that is consistent with their self-schema (e.g., Gardner, Pickett, and Brewer 2000; Petty, Cacioppo, and Sidera 1982). These results also provide further evidence that our American participants' independent self-view is more accessible than that of their Chinese counterparts, who have a more accessible interdependent self-view.

### Discussion

People often focus more on information that is relevant to them. Hence they will attend more to information that is compatible with their self-regulatory goals. The results of experiment 2 support this premise. Across both cultures, participants whose independent self was made more accessible through a situational prime had better recall of information that was presented in a promotion frame, and individuals whose interdependent self was made more accessible had better recall when the information was presented in a prevention frame. This pattern of results in combination with the findings of experiment 1 is consistent with

**TABLE 1**  
EFFECTS OF GOAL COMPATIBILITY AS A FUNCTION OF CULTURE, SITUATIONAL PRIME, AND FRAME

	United States				Hong Kong			
	Independent situational prime		Interdependent situational prime		Independent situational prime		Interdependent situational prime	
	Promotion frame	Prevention frame	Promotion frame	Prevention frame	Promotion frame	Prevention frame	Promotion frame	Prevention frame
Experiment 1:								
A (Web site)	4.70 (1.62)	4.04 (1.19)	3.58 (1.69)	4.45 (.97)	...	...	...	...
Brand affinity	3.58 (1.53)	2.99 (1.19)	2.30 (1.22)	3.11 (1.24)	...	...	...	...
<i>N</i>	27	25	20	20				
Experiment 2: Recall	1.64 (.55)	1.06 (.81)	1.03 (.73)	1.03 (.78)	.85 (.86)	.74 (.81)	.80 (.83)	1.36 (.64)
<i>N</i>	33	31	25	29	27	23	20	25
Experiment 3:								
A (brand), weak argument	4.81 (.77)	5.21 (1.33)	5.15 (1.05)	4.64 (1.26)	...	...	...	...
<i>N</i>	18	24	24	24				
Experiments 3 and 4:								
A (brand), strong argument	5.70 (1.00)	4.68 (1.62)	4.94 (1.46)	5.60 (.68)	4.93 (.99)	4.36 (.64)	4.33 (.98)	4.76 (.85)
<i>N</i>	22	20	24	21	21	21	20	21

the notion that the more favorable attitudes under goal compatibility condition is driven by participants paying more attention to and elaborating more on the content of the message. A closer examination of the data indicates that recall was highest when the self-regulatory focus of the information was compatible with participants' distinct self-view that is culturally encouraged and at the same time reinforced by the situational prime. This is consistent with past findings that chronic accessibility and temporarily enhanced accessibility are often additive in nature (Bargh et al. 1986).

Although results showing better memory in goal compatible conditions are consistent with the premise that central processing of the information underlies the more favorable attitudes found in experiment 1, greater confidence in this mechanism may be gained by testing additional predictions of the dual process models. When information is processed via a central route, more favorable attitudes should result when the communication is based on a strong persuasive appeal; yet when the appeal is weak, less favorable attitudes should result (Petty and Wegener 1998). The moderating role of argument strength, which refers to the recipient's perception that the arguments presented in a message are strong and cogent as opposed to weak and specious (Petty and Cacioppo 1986), has been demonstrated across persuasion contexts when individuals are processing information via a central route. In conditions where peripheral processing dominates, argument strength tends to have little or no effect on attitudes (Haugtvedt, Petty, and Cacioppo 1992). The rationale underlying these findings is twofold: (a) participants discriminate more between strong and weak messages under elaborative processing conditions, which implies

greater issue-related processing, and (b) more central processing increases the persuasiveness of strong messages and decreases the persuasiveness of weak messages.

Extending the findings in experiment 2 to the processing of messages with different argument strength, the criterion for evaluation of a persuasive communication should be different for messages that are compatible rather than incompatible with self-regulatory goals. That is, individuals whose independent self is more accessible (i.e., those with a promotion goal) should scrutinize promotion-focused information to a greater extent than prevention-focused information, and the converse should occur for individuals whose interdependent self is more accessible (i.e., those with a prevention goal). If true, participants should be more discerning regarding argument strength under conditions of goal compatibility than incompatibility.

**H3:** Individuals pay more attention and are more discerning between appeals with varying argument strength when information is compatible rather than incompatible with self-regulatory goals.

Further, if arguments in a goal compatible persuasion appeal are strong, increased scrutiny should lead to more favorable attitudes. However, if the arguments are weak, increased scrutiny should result in less favorable attitudes. That is, individuals whose independent self is more accessible (i.e., those with a promotion goal) should scrutinize a promotion-focused message more than a prevention-focused message and should consider a weak promotion-focused message to be less persuasive than a weak prevention-fo-

cused message. In contrast, individuals whose interdependent self is more accessible (i.e., those with a prevention goal) should find a weak prevention-focused message to be less persuasive than a weak promotion-focused message.

**H4:** When information presented is compatible rather than incompatible with self-regulatory goals, more favorable attitudes toward the brand will result when the arguments are strong, but less favorable attitudes toward the brand will result when arguments are weak.

Thus, the primary objective of experiment 3 is to provide further evidence that individuals engage in central processing when information is compatible with self-regulatory goals. A second objective is to conceptually replicate the findings in experiment 1 (where conditions of goal compatibility lead to more favorable evaluations) when the argument strength is strong and to reverse them when argument strength is weak. A third objective is to provide support for greater generalizability of the overall self-regulatory goal framework.

### EXPERIMENT 3

To achieve the objectives of experiment 3, we relied on the same design as in experiment 2 with three exceptions. First, to test the predictions that follow from the dual process models, we added argument strength as an independent variable. Second, to examine the degree to which the effects found in experiment 1 are robust across different contexts with different dependent variables, a new context, one that involves persuasive appeals rather than Web sites, was created. The principal dependent measure of interest was altered to reflect that change in focus. Third, to test the extent to which the effects found in experiment 1 may generalize to a different operationalization of goal compatibility, we operationalized promotion- and prevention-focused information by manipulating the salience of gains and losses in the persuasion appeal as in experiment 2. In this way, we demonstrate similar effects of goal compatibility on attitudes when a product is positioned to offer promotion or prevention benefits (as in experiment 1) as well as when a brand is presented in a promotion- or prevention-framed context (as in experiment 2). Thus, a 2 (argument strength: strong or weak)  $\times$  2 (situational prime: independent or interdependent)  $\times$  2 (frame: promotion or prevention) between-subjects design was used.

#### Method

*Stimulus Development.* To develop messages that would vary in argument strength, a pretest was conducted where participants ( $n = 25$ ; mean age = 25.62, 52.0 percent female) rated the argument strength of two messages using a two-item seven-point scale anchored by not at all effective/very effective and not at all impactful/very impactful. Following Maheswaran and Chaiken (1991), argument strength was manipulated by varying the importance

of the benefits associated with the product attributes and by providing support that the target brand does provide these benefits (cf. Haugtvedt, Petty, and Cacioppo 1992; Petty and Wegener 1998). More specifically, the strong message read, "The new 'Star' tennis racquet is of the highest quality, created that way based on certain important attributes. First, the weight is light and optimally distributed to be heavier on the sides of the frame, which means that the Star tennis racquet allows you to hit solid, powerful returns, and serves. Also, the size of the sweet spot is considerably larger than most competing brands, allowing you to hit with both power and accuracy. Finally, its shock absorbers are made of a new technology patented by Lycra, and therefore are uniquely able to eliminate vibrations that lead to painful tennis elbow and other arm-related injuries."

In contrast, the weak message read, "One important key to the ultimate outcome is the choice of your tennis racquet—it is imperative that the racquet is of high quality. The weight should be light and optimally distributed to be heavier on the sides of the frame, which means the tennis racquet is less likely to twist. Also, the size of the sweet spot should be large, allowing you to hit accurately. Finally, it should have shock absorbers to avoid tennis elbow and other arm-related injuries. All of these attributes are qualities the new 'Star' tennis racquet possesses." As predicted, the results of a one-way ANOVA indicated that the strong argument message was deemed more effective than the weak argument message ( $M = 5.50$  vs. 4.08,  $F(1, 23) = 4.69$ ,  $p < .05$ ).

*Participants.* A total of 177 undergraduate students from a large western university (mean age = 23.00, 43.5 percent female; 100 percent Caucasian) participated in the experiment.

*Procedure.* As in experiment 2, participants were told that an advertising campaign for a new tennis racquet was being developed and that the researchers were interested in learning how they may perceive some of the ideas that will be incorporated into the campaign. Participants in the independent situational prime/promotion (prevention) frame condition read the following, "You are playing in a tennis tournament and have made it to the finals. If you win (lose) this last match, you will win (lose) the championship title and (not) bring home a huge trophy." Participants in the interdependent situational prime/promotion-frame condition read, "Your team is playing in a tennis tournament and have made it to the finals. You are representing your team in the finals. If you win this last match, your team will win the championship title as well as the huge trophy." Next, all participants read the second part of the stimulus that contained the argument strength manipulation (described above). Half of the participants read the strong argument message, and the remaining half read the weak argument message. All participants were then asked to rate the Star tennis racquet on a two-item seven-point scale anchored by unfavorable/favorable and low quality/high quality. Finally, they completed a manipulation check of argument strength,

followed by a series of ancillary measures including demographic information.

## Results

**Manipulation Checks.** To assess the argument strength manipulation, a  $2 \times 2 \times 2$  ANOVA was conducted on an Effectiveness Index made up of the two items that assessed the strength of the message ( $r = .90$ ). A significant main effect of argument strength confirmed that the strong message was indeed considered to be more effective than the weak message ( $M = 4.49$  vs.  $3.88$ ;  $F(1, 169) = 10.31$ ,  $p < .005$ ). The argument strength  $\times$  situational prime interaction was significant ( $F(1, 169) = 5.51$ ,  $p < .05$ ). Participants rated the strong message as more effective than the weak message only in the independent situational prime condition ( $M = 4.69$  vs.  $3.57$ ;  $t(169) = 3.82$ ,  $p < .001$ ), but not in the interdependent situational prime condition ( $M = 4.31$  vs.  $4.15$ ,  $t < 1$ ). These two effects are further qualified by a significant three-way interaction that is consistent with the effects of goal compatibility on information processing and persuasion ( $F(1, 169) = 7.09$ ,  $p < .01$ ). Results of separate contrasts showed that participants were able to discriminate between the strong and weak argument messages under conditions of goal compatibility. In particular, participants in the independent situational prime/promotion-frame condition rated the strong message to be more effective than the weak message ( $M = 5.09$  vs.  $3.33$ ;  $t(169) = 4.12$ ,  $p < .001$ ), as did those in the interdependent situational prime/prevention-frame condition ( $M = 4.48$  vs.  $3.77$ ;  $t(169) = 1.76$ ,  $p < .05$ ). However, participants in the goal incompatible conditions did not appear to differentiate between the strong and weak arguments. The difference in the effectiveness of the two messages did not reach significance for participants in the independent situational prime/prevention-frame condition ( $M = 4.25$  vs.  $3.75$ ;  $t(169) = 1.23$ ,  $p > .10$ ), nor did it for those in the interdependent situational prime/promotion-frame condition ( $M = 4.17$  vs.  $4.52$ ;  $t < 1$ ).

**Hypotheses Testing.** A  $2 \times 2 \times 2$  between-subjects ANOVA was conducted on the Brand Attitude Index, which is the average of the two favorableness-quality items ( $r = .84$ ). The three-way interaction between argument strength, situational prime, and frame was significant ( $F(1, 169) = 12.80$ ,  $p < .001$ ). No other effects were significant. If individuals in goal compatible conditions are indeed more discerning than those in goal incompatible conditions, then participants in the independent situational prime condition should be more discerning between the promotion-focused messages, whereas participants in the interdependent situational prime condition should be more discerning between the prevention-focused messages. Results of planned contrasts confirmed that participants in the independent situational prime condition discriminated between the strong and weak promotion-focused messages ( $M = 5.70$  vs.  $4.81$ ;  $t(169) = 2.36$ ,  $p < .01$ ), but not between the two prevention-focused messages ( $M = 4.68$  vs.

$5.21$ ;  $t(169) = 1.47$ ,  $p > .10$ ). Similarly, participants presented with the interdependent situational prime were also more discerning between the two prevention-focused messages ( $M = 5.60$  vs.  $4.65$ ;  $t(169) = 2.79$ ,  $p < .005$ ), but not between the promotion-focused appeals ( $M = 4.94$  vs.  $5.15$ ;  $t < 1$ ). Hypothesis 3 is thus supported. By showing how individuals with a promotion goal differ from those with a prevention goal in the processing of promotion- versus prevention-focused information, these results demonstrate a conceptual replication of the effect of goal (in)compatibility on information processing.

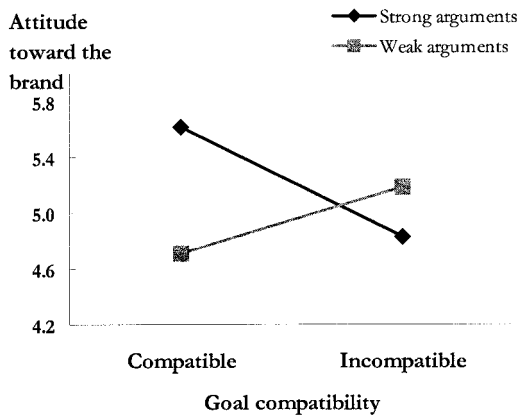
To test the hypothesis that, when benefits are compatible with self-regulatory focus, more favorable attitudes will result when argument strength is strong but less favorable attitudes will result when argument strength is weak, further planned contrasts were conducted. Results showed that when argument strength was strong, participants in the independent situational prime condition had more favorable attitudes toward the brand presented in a promotion frame than in a prevention frame ( $M = 5.70$  vs.  $4.68$ ;  $t(169) = 2.78$ ,  $p < .005$ ). Similarly, participants in the interdependent situational prime condition had more favorable attitudes toward the brand presented in a prevention versus a promotion frame ( $M = 5.60$  vs.  $4.94$ ;  $t(169) = 1.84$ ,  $p < .05$ ). These results conceptually replicate those in experiment 1 in that messages compatible with self-regulatory goals are more persuasive than those that are incompatible with self-regulatory goals. However, these effects are moderated by argument strength. Specifically, when argument strength is weak, participants in the independent situational prime condition reported directionally less favorable attitudes toward the brand presented in a promotion versus prevention frame ( $M = 4.81$  vs.  $5.21$ ;  $t(169) = 1.07$ ,  $p = .14$ ), and participants in the interdependent situational prime condition reported marginally less favorable attitudes toward the brand presented in a prevention frame than in a promotion frame ( $M = 4.65$  vs.  $5.15$ ;  $t(169) = 1.45$ ,  $p = .07$ ), although neither contrast reached the conventional level of significance. Participants' attitude toward the brand as a function of goal compatibility (as collapsed across those with a promotion goal and those with a prevention goal) and argument strength is displayed in Figure 3.

## Discussion

These results support the premise that when the information presented is important to the self, as in conditions of goal compatibility, individuals scrutinize the information to a greater degree and are more critical of product claims aimed to help attain one's goal. More favorable attitudes are formed under conditions of goal compatibility; however, these effects only held when the arguments are strong. When argument strength is weak, these effects are moderated and may even be reversed. The data in experiment 3 thereby extend the results found in experiment 1 in several ways. By manipulating argument strength, the present findings establish boundary conditions for the persuasion effects observed in experiment 1. They also provide additional support for the central

FIGURE 3

EXPERIMENT 3: ATTITUDE TOWARD THE BRAND AS A FUNCTION OF GOAL COMPATIBILITY AND ARGUMENT STRENGTH



processing hypothesized to underlie these results. Further, by using different manipulations of promotion- and prevention-focused information, the data contribute to the confidence regarding the generalizability of the persuasion effects. In experiment 1, promotion versus prevention focus was manipulated using well-supported benefits that focused on the presence of vitamin C (leading to an increase of energy) or antioxidants (leading to unclogged arteries). When these benefits were compatible with self-regulatory goals, more favorable attitudes resulted. In experiment 3, the same benefits framed in either a promotion or prevention context supported by strong arguments also led to more favorable attitudes when the frame was compatible rather than incompatible with one's self-regulatory goal.

Thus, the results of both experiments 1 and 3 provide convergent evidence that strong persuasive appeals that are consistent with self-regulatory focus lead to more favorable attitudes. Both experiments were conducted using participants whose independent self-view tends to be chronically more accessible. Promotion focus was operationalized by reinforcing the participants' culturally consistent self with an independent situational prime, and prevention focus was operationalized by temporarily enhancing the accessibility of their culturally inconsistent self with an interdependent situational prime. To seek further evidence for the malleability of self-view and the robustness of the goal compatibility effects when the appeal is persuasive, experiment 4 was conducted by replicating the strong argument strength conditions of experiment 3 on a sample whose interdependent self-view is culturally encouraged and hence chronically more accessible.

**EXPERIMENT 4**

To provide additional evidence that the effects of goal compatibility on persuasion are robust across cultural con-

texts, experiment 4 was conducted using a sample of 83 Chinese participants (mean age = 20.41, 59.5 percent female; 100 percent Chinese) recruited from the same subject pool as in experiment 2. Participants followed a similar procedure as that in experiment 3. They were presented with identical information in the strong argument conditions and were given the same measures. Thus, the design was a 2 (situational prime) × 2 (frame) factorial using the strong message as in experiment 3. Attitudes were assessed by asking participants to rate their attitude toward the brand on two seven-point scales anchored by unfavorable/favorable and low quality/high quality. As in the prior experiments, participants then completed a series of ancillary measures.

**Results and Discussion**

As expected, the results of a 2 × 2 ANOVA showed a significant situational prime by frame interaction ( $F(1, 79) = 6.92, p < .01$ ). Planned contrasts showed that participants evaluated the brand presented with the interdependent situational prime more favorably in the prevention- than promotion-frame condition ( $M = 4.93$  vs.  $4.36; t(79) = 2.12, p < .01$ ). However, these results only held when the situation was consistent with their chronic self-view. When their independent self was temporarily made more accessible by the independent situational prime manipulation, the more favorable attitudes toward the prevention-framed brand were reversed. Specifically, brand attitudes became more favorable in the promotion- than prevention-frame condition ( $M = 4.76$  vs.  $4.33; t(79) = 1.60, p < .05$ ). Both sets of contrasts provide additional support for Hypotheses 1 and 4.

These results conceptually replicate those in experiments 1 and 3 and provide evidence that the goal compatibility effect on persuasion is robust across a different culture that nurtures an interdependent self-view. Chinese participants found brands framed in an interdependent context to be more persuasive. However, their independent self-view became more accessible when they are prompted to think just about themselves, thereby shifting their preference toward brands framed in a promotion-focused context. These results further support the premise that self-view is relatively malleable, in line with prior findings (Aaker 1999; Kleine et al. 1993). In experiments 1 and 3, when American participants whose independent self-view is chronically more accessible face a situation that connects the self to others, their interdependent self-view becomes more accessible and their preference shifts toward brands framed with a prevention-focused appeal. Similarly in this study, when Chinese participants whose interdependent self-view is chronically more accessible face a situation that primes the independent self, their attitude favors a brand framed with promotion-focused appeal.

**GENERAL DISCUSSION**

This research demonstrates that distinct views of the self encourage different perspectives on the pursuit of higher

order goals such as life values and self-regulatory focus and shows that these distinct higher order goals have important implications for the processing of information, which in turn affects the pursuit of lower order consumption goals such as benefits sought (Huffman et al. 2000). When benefits are aligned with self-regulatory focus under conditions of goal compatibility, more favorable persuasion effects are found. For individuals whose independent self-view is more accessible, promotion-focused information leads to more positive attitudes toward a Web site and higher levels of brand affinity relative to prevention-focused information, and the converse occurs for individuals with a more accessible interdependent self-view (experiment 1). These effects are replicated in experiments 3 and 4 using more traditional persuasive appeals. The results of the four studies also provide insight into the mechanism underlying these persuasion effects. The persistent effect of goal compatibility on brand affinity (experiment 1) hints at a central processing route to persuasion. Both the recall data (experiment 2) and the argument strength results (experiment 3) provide convergent support that people process information more centrally in goal compatible conditions. The better recall of information consistent with self-regulatory goals suggests that individuals pay more attention to and elaborate more on the information under conditions of goal compatibility. Further support that goal compatibility affects the extent of processing is evidenced by the moderating role of argument strength on persuasion. Specifically, when information is consistent with self-regulatory focus, less favorable attitudes resulted when argument strength was weak (experiment 3), whereas more favorable persuasion effects resulted when the argument strength was strong (experiments 3 and 4). These experiments thus extend prior research by demonstrating how the relevance of promotion or prevention goals impacts attitudinal processes and consequences.

Our data across the four studies also highlight the importance of self-regulatory focus effects in consumer behavior contexts and provide insight on the decision-making process experienced by Nancy and Genevieve. Further, confidence in the results is provided by convergent evidence of a significant goal compatibility effect demonstrated across distinct dependent measures of persuasion, multiple manipulations of promotion and prevention-focused benefits, and different stimuli.

In addition, our data are consistent with recent research showing that individuals with a more accessible independent self-view are oriented toward a promotion goal, whereas those with a more accessible interdependent self-view are oriented toward a prevention goal. It is interesting to further note that these results are robust across different operationalizations of self-view (e.g., situational variables in experiments 1–4, country status in experiments 2–4). This suggests that the relative accessibility of an independent or interdependent self-view varies not only across cultures, but also across different situations within the same culture. In other words, the two ways of viewing the self appear to coexist within every individual and can be activated or sup-

pressed temporarily by contextual cues (see also Belk 1988; Kleine et al. 1993). Importantly, these temporarily activated self-views alter attitudes and processing in ways that are highly consistent with past findings in the literature of cultural differences (Aaker and Williams 1998; Gardner et al. 1999). Taken together with prior theorizing in cultural anthropology (e.g., Arnould 1989; McCracken 1986; Shore 1996) and more recent findings in cultural psychology (e.g., Aaker 2000; Hong et al. 2000; Lee et al. 2000), these results converge to support the view of culture as a relatively dynamic (rather than static) set of beliefs that can be made more or less accessible to guide attitudes and behavior (see also Holt 1994).

The present findings fit well with a number of recent studies documenting differences in the effectiveness of positive and negative framed information. For example, Block and Anand Keller (1995) demonstrate that the effectiveness of a positive or negative framed appeal depends on the respondents' involvement. Under conditions of high involvement, respondents engage in more elaborative processing, and negatively framed rather than positively framed appeals become more effective. Along similar lines, the current research suggests that when consumers perceive a prevention-focused situation to be important, greater persuasion effects for negative (prevention) relative to positive (promotion) framed information are likely to be observed. However, the extent to which these persuasion effects occur depends on the particular self-view that is accessible as well as the strength of the arguments. When one's interdependent self is more accessible and the appeal is well supported, these effects should be particularly strong. Additional research is needed to explore other conditions that moderate the effectiveness of negative and positive framed appeals (see Block and Anand Keller [1995] for a discussion) and to determine the relationship between these persuasion effects that result from different sources of involvement (e.g., characteristics of the individual, Haugtvedt and Petty 1992; characteristics of the context, Anand and Sternthal 1992).

Although this research contributes by offering new conceptual insights that fall from principles of goal compatibility, it has several limitations that merit addressing in follow-up research. For example, the results may be limited in terms of scope or generalizability. Triandis and Gelfand (1998) have argued that cultures differ not only in their levels of individualism and collectivism, but also in the extent to which they are vertical (emphasizing hierarchy) and horizontal (emphasizing openness). Given that the United States represents a vertically individualist culture and Hong Kong represents a vertically collectivist culture, it is possible that self-view induced shifts in self-regulatory focus may be limited to cultures that are vertical in structure. Additional research is needed to determine whether the findings presented here may be equally applied to horizontal and vertical differences in individualism and collectivism.

Further, we note that the effect sizes of goal compatibility vary depending on whether the situational operationalization of the self is consistent (range from 0.42 in experiment 1

to 0.72 in experiment 2 Hong Kong sample) or inconsistent (range from 0.14 in experiment 2 Hong Kong sample to 0.63 in experiment 1) with the culturally nurtured self. This pattern raises an interesting question regarding the impact of chronic and temporary accessibility. In the current research, the effects of self-view as operationalized by culture (chronic) or situation (temporary) are presumed to be additive (Bargh et al. 1986). Therefore, attitudes should be most favorable when the self-view activated by the situational prime is consistent with the culturally encouraged self. This is indeed observed in experiments 1, 3, and 4. However, when independent and interdependent self-views are both accessible, as in cases where one view is culturally encouraged and hence chronically accessible and the other view is situationally primed and hence temporarily activated, it is not clear if individuals may be more promotion focused or more prevention focused. Our data in the four experiments suggest that the temporarily enhanced accessibility prevails, as preferences shifted away from the culturally nurtured focus (cf. Gardner et al. 1999; Lee et al. 2000). However, our data in experiment 2 suggest that the chronically held view may sometimes dominate, consistent with findings reported in the literature (e.g., Bargh et al. 1986). Additional research is thus needed to examine if and how chronic and temporary accessibility effects may differ and interact. Further research is also warranted to understand the mechanism that links self-views to regulatory goals and to identify other antecedents of promotion and prevention goals.

Relatedly, it would be important to consider situations where the two goals of promotion (e.g., wanting to benefit from high energy) and prevention (e.g., wanting to avoid the chance of illness) are simultaneously active. Additional research is needed to determine the conditions under which both goals may concurrently guide processing and decision making. Other research questions include how different strategies (e.g. maximizing the presence of positive outcomes or minimizing the absence of positive outcomes) may be used to attain goals (Markman and Brendl 2000), what moderating role expectations may play in the attainment of promotion or prevention goals (Bagozzi and Warshaw 1990), and when promotion and prevention goals may be associated with higher level goals (e.g., life themes) or more context-specific concrete goals (e.g., benefit search; Huffman et al. 2000).

Finally, this research focuses on the prepurchase decision-making processes, leaving the domain of consumer usage and experience that occurs postpurchase largely unexplored. For example, to what extent will the goals that guided Nancy's and Genevieve's automobile purchase decisions persist and influence the relationship development process between the consumer and brand over time? The self-regulatory focus literature suggests that individuals with a chronic goal of promotion or prevention may experience different emotions. Those who are prevention focused are more likely to experience emotions associated with feelings of security and trust, and individuals who are promotion focused are more likely to experience emotions

associated with cheerfulness and happiness (Higgins et al. 1997). Fournier (1998) suggests that such distinct emotional experiences may influence the nature of the consumer-brand relationship. For example, a relationship based on feelings of security and trust may form the basis of a nurturing, stable relationship (e.g., committed partnerships, best friends), whereas a relationship based on feelings of cheerfulness and happiness may form the basis of a fun, enjoyable relationship (e.g., casual friends/buddies, or even flings). Similarly, different emotional experiences may influence the nature of consumer satisfaction with the brand. For example, Oliver (1989) suggests that one type of satisfaction is based on feelings of relief (prevention-focused emotion) and another type of satisfaction is based on pleasure (promotion-focused emotion). Future empirical research is needed to extend the principles of self-regulatory focus involving emotions into the domain of consumer experience in order to further understand the meaning of the brand for the individual consumer and the basis of consumer satisfaction that may affect future consumption (Fournier and Mick 1999).

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