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# When More May Be Less: The Effects of Regulatory Focus on Responses to Different Comparative Frames

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We examined the consequences of regulatory focus on exposure to two types of comparative advertising frames—a maximal claim (“brand A is superior to brand B”) and a minimal claim (“brand A is equivalent or similar to brand B”)—in three experiments. In experiment 1, we manipulated these frames, basing the sponsor brand’s claim on comparison with an existing brand. In experiment 2, we operationalized the frames using a comparison featuring a sponsor brand targeting an established standard (Food and Drug Administration guidelines). A third experiment provided convergent evidence for the process underlying these effects. Consistent with theoretical reasoning, we found that promotion-focused individuals were more persuaded by maximal comparisons while prevention-focused individuals were either equally persuaded by the two frames or more persuaded by minimal frames. For prevention-focused individuals, maximal frames represented either a “no loss” or a “deviation from the norm.” The no loss representation led to maximal and minimal frames being equally persuasive. The deviation from the norm representation led to greater negative elaboration on maximal frames, making them less persuasive than minimal frames. For promotion-focused people, a maximal frame simply represented a gain over a minimal frame, and hence it induced more favorable elaboration and greater persuasion.

Recent research has found that the effectiveness of comparative advertising is moderated by several message features (valence of comparison: Jain and Posavac [2004]; gain/loss framing: Shiv, Edell, and Payne [1997, 2004]; alignability: Zhang, Kardes, and Cronley [2002]; and featured attribute’s typicality: Pechmann and Ratneshwar [1991]) that systematically affect persuasion. We examine the differential persuasion effects of a maximal claim where the sponsor brand claims superiority over a comparison ob-

ject and a minimal claim where the sponsor brand claims parity with the comparison object (Buchanan and Smithies 1989). An example of maximal claims is Visa’s claim that it is accepted more widely than American Express. Minimal claims are exemplified by Nissan Altima’s claim that it has the same trunk space as a BMW.

While these examples suggest that maximal and minimal claims are mostly made in a brand versus brand context, claims of brands comparing themselves against an established standard or a norm are also observed. For instance, manufacturers of dietary supplements cite their brands as meeting specific dietary and nutritional guidelines established by the Food and Drug Administration (FDA; e.g., percentage of daily recommended value of vitamins, fiber, and other nutritional ingredients). Several automobile brands are often advertised as meeting specific regulatory standards relating to fuel emission and/or safety (e.g., performance in a crash test). We investigate minimal and maximal claims in brand versus brand as well as brand versus standard comparison contexts. Besides identifying and investigating different types of comparisons, our research makes two additional contributions. First, it examines regulatory focus (Higgins 1997) as a moderator of the effectiveness of these

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two comparison frames, and second, it provides insight into the processes underlying this moderation.

## REGULATORY FOCUS

Regulatory focus theory suggests that distinct motivational systems govern people's drive to attain desired outcomes. To achieve these outcomes, a consumer may choose to either "approach actual self states that match the desired end-state or avoid actual self states that mismatch the desired end-state" (Crowe and Higgins 1997, 117). Some consumers might prefer to maximize the occurrence of positive outcomes (e.g., hopes and achievements). Thus, they are driven toward scenarios representing "gains" and away from scenarios associated with "nongains." In contrast, others may focus on minimizing the occurrence of negative outcomes (e.g., duties and responsibilities). They are motivated by the absence and presence of undesirable outcomes and are thus more driven toward approaching "no loss" situations and avoiding "losses." The motivational system that approaches positive outcomes is termed "promotion focus" while the system that is driven by avoiding negative outcomes is called "prevention focus" (Higgins 2000).

Recent research has examined the role of regulatory focus in persuasion and has shown that the effectiveness of an appeal advocating the attainment of prevention or promotion goals varies depending on the context and/or frame of the appeal. Chernev (2004) found that prevention-focused individuals show a greater preference for status quo than promotion-focused individuals. Lee and Aaker (2004) demonstrated that gain-framed appeals were more persuasive for promotion-focused individuals, but loss-framed appeals were more effective for prevention-focused individuals. However, research on regulatory focus has not examined how the effectiveness of different types of comparisons may differ for promotion- and prevention-focused individuals. We suggest that maximal frames are more persuasive under a promotion orientation while minimal frames, depending on how they are perceived, are either equally or more effective than maximal frames under a prevention orientation. Further, we examine the processes that may underlie the judgments evoked by exposure to different frames by consumers with different regulatory foci.

## HYPOTHESES

Higgins (1997) suggests that individuals with a promotion focus work toward maximizing gains and/or minimizing nongains. In contrast, a prevention focus is driven toward minimizing losses and/or maximizing nonlosses. Promotion-focused individuals follow an "inclusive" approach—they focus on striking "hits" and avoiding misses. Alternately, a prevention focus fosters an "exclusive" approach—the focus is on incorporating correct rejections and steering clear of "false alarms." In particular, promotion-focused individuals avoid committing errors of omission while prevention-focused individuals avoid making errors of commission (Crowe and Higgins 1997). Because of their drive to approach

hopes and aspirations, promotion-focused individuals are open to change, prefer advancement to maintaining their existing states (Chernev 2004; Liberman et al. 1999), and are likely to set maximal goals (Crowe and Higgins 1997). Thus, when a brand is presented as superior to or exceeding a comparison brand versus being similar to it, promotion-focused individuals would be more persuaded by superiority rather than similarity claims. This outcome is predicted because in the "superior (vs. similar) to a comparison brand" frame, the sponsor brand presents a gain (nongain) and an advancement (vs. no improvement) from the norm.

Prevention-focused individuals focus on stopping losses and attaining nonlosses. When a brand is presented as being at parity with a comparison brand, it represents a nonloss to them. Similarly, when the sponsor brand is seen as exceeding the comparison brand, any positive movement from an accepted entity is also likely to be perceived as a nonloss. For prevention-focused individuals, as Higgins (2000, 1219) states, "the duties, obligations, and responsibilities (that drive a prevention-focused individual) function more like minimal goals which a person must attain." Thus, under a prevention focus, a brand that is similar to a comparison brand is acceptable because it meets established expectations. A brand that is superior to the comparison brand also offers the same nonloss. Hence, prevention-focused people should find both minimal and maximal framed comparison equally appealing.

**H1:** In a brand versus brand context, promotion-focused individuals will be more persuaded by maximal (vs. minimal) frames while prevention-focused individuals will be equally persuaded by minimal and maximal comparative frames.

*Valence of Elaboration.* Regulatory focus is expected to guide the valence of message-related elaboration. Promotion-focused individuals are likely to think more favorably of a maximal (vs. minimal) comparative frame because it represents their gain-driven goals. Hence, maximal- (vs. minimal-) framed comparisons should lead to more favorable elaboration. For such individuals, more positive thoughts and fewer negative thoughts should be evidenced in response to maximal frames than to minimal frames. To prevention-focused individuals, both maximal and minimal appeals represent nonlosses and, hence, should be equally desirable. So, the valence of the thoughts generated by the prevention-focused individuals should not vary as a function of frame. To examine this "nature of elaboration" prediction, we relied on a valenced elaboration index of positive minus negative thoughts (Maheswaran and Chaiken 1991).

**H2:** For the promotion-focused individuals, the valenced elaboration index would be more favorable when featuring a maximal frame. However, prevention-focused individuals will have an equivalent valenced elaboration index across both frames.

## EXPERIMENT 1

Ninety-seven undergraduate students participated in a 2 (promotion vs. prevention focus)  $\times$  2 (maximal vs. minimal comparison frames) between-subjects experiment in two purportedly unrelated studies in exchange for course credit. The first study manipulated focus through a brand name recognition task (see Higgins et al. 1994, experiment 4). Participants were informed that the task would require them to solve anagrams that were “jumbled-up” brand names, and they would be assigned points for each name. In the promotion (prevention) focus condition, respondents began with zero (12) points and were informed that they would gain (lose) two points when they got a brand name right (wrong) and would not win (not lose) two points when they did not get the brand name right (wrong).

Next, respondents completed a second study that exposed them to a toothpaste advertisement. In the maximal (minimal) frame condition, the sponsor brand was described as preventing cavities “more effectively than” (“as effectively as”) the comparison brand. Specifically, the copy stated: “Crown is more (as) effective in preventing tooth decay than (as) the leading brand, Gloss. Research has consistently shown that Crown provides cavity protection that is superior (similar) to Gloss. Try Crown today and experience superior (similar) cavity prevention to Gloss.” In addition, the sponsor brand was described as having a “Fresh Mint” flavor. The brand names were fictitious to control for prior brand knowledge/preference and were counterbalanced. This counterbalancing did not influence the dependent measures. After looking through the advertisement at their own pace, respondents went to the next page. Respondents then filled all measures (thoughts and evaluations counterbalanced) and manipulation checks for focus and comparison frames, responded to a suspicion probe, and were debriefed and dismissed. The suspicion probe revealed no evidence of hypotheses guessing.

### Dependent Measures and Manipulation Checks

**Brand Evaluation and Elaboration.** Participants evaluated the sponsor brand on four seven-point scales anchored by “will definitely not consider buying/will definitely consider buying,” “very bad/very good,” “very unfavorable/very favorable,” and “negative/positive” (higher scores indicate more positive evaluations). These items were averaged into an overall evaluation for the target brand ( $\alpha = .91$ ). Thoughts were coded by two independent raters (blind to the hypotheses) as message-related positive, negative, and neutral statements, as well as irrelevant statements (Chaiken and Maheswaran 1994; Jain 2003; Jain and Maheswaran 2000). The judges agreed on 89% of the thoughts and resolved the disagreements through discussion. Positive thoughts indicated positive thinking and approval of the claims presented in the appeal (e.g., “This toothpaste seems like a good one”); negative thoughts indicated thoughts that reflected negatively on the product or were challenges to the claims presented in the appeal (e.g., “I am not sure if

what they are saying is true”); and neutral statements, which did not clearly have a positive or negative evaluative implication on judgments (e.g., “The ad was for toothpaste”). Thoughts appearing unrelated to the experimental materials were coded as irrelevant (e.g., “I am ready to head to work”). The number of negative thoughts was subtracted from positive thoughts to yield an index of valenced elaboration.

**Manipulation Checks.** The manipulation check for the comparative frames elicited the participants’ rating of the similarity between the two brands on two items anchored by “most different” (1) and “exact same” (7) and “totally dissimilar” (1) and “totally similar” (7) ( $r = .72$ ). The manipulation for regulatory focus was assessed using two items. In a “follow-up on brand name quiz” study, the promotion-focused item assessed the extent to which participants focused on scoring more points and was anchored by “not at all” (1) and “a lot” (7). The measure for prevention focus assessed the extent to which participants focused on not losing any points with the same end points and numerical anchors.

## Results

**Manipulation Checks.** A 2 (focus)  $\times$  2 (frame) between-subjects ANOVA was used to analyze the data. The comparative frame manipulation check yielded only a significant main effect—the two brands were seen as more similar in the minimal frame condition ( $M_{\max} = 4.18$ ,  $M_{\min} = 4.98$ ;  $F(1, 92) = 12.38$ ,  $p < .01$ ), confirming the success of this manipulation. Further, promotion-focused participants were concerned marginally more with gaining points ( $M_{\text{promo}} = 4.70$ ,  $M_{\text{prev}} = 3.94$ ;  $F(1, 93) = 2.99$ ,  $p = .08$ ) and significantly less with losing points ( $M_{\text{promo}} = 3.31$  vs.  $M_{\text{prev}} = 4.63$ ;  $F(1, 93) = 8.51$ ,  $p < .01$ ).

**Brand Evaluations and Processes.** A 2  $\times$  2 ANOVA on sponsor brand evaluation yielded a marginal effect of regulatory focus ( $M_{\text{promo}} = 4.38$ ,  $M_{\text{prev}} = 3.93$ ;  $F(1, 93) = 3.52$ ,  $p = .07$ ) as well as a significant focus  $\times$  frame interaction ( $F(1, 93) = 4.91$ ,  $p < .05$ ; see table 1). Consistent with hypothesis 1, follow-up contrasts indicated that promotion-focused individuals found maximal frames more persuasive ( $M_{\max} = 4.80$ ,  $M_{\min} = 3.95$ ;  $F(1, 89) = 6.60$ ,

TABLE 1  
COMPARING TWO BRANDS MEANS OF KEY DEPENDENT MEASURES (EXPERIMENT 1)

	Promotion focus		Prevention focus	
	Maximal frame	Minimal frame	Maximal frame	Minimal frame
Evaluations of sponsor brand	4.80	3.95	3.84	4.03
Valenced elaboration	1.67	-.48	.26	.40

NOTE.—Cell sizes range from 24 to 26.

$p < .05$ ) while prevention-focused individuals were indifferent between the two ( $M_{\max} = 3.84$ ,  $M_{\min} = 4.03$ ;  $F < 1$ ).

An ANOVA on the valenced index (positive minus negative) of thoughts yielded two significant effects: a main effect of frame ( $M_{\max} = .96$ ,  $M_{\min} = -.04$ ;  $F(1, 93) = 8.79$ ,  $p < .01$ ) and a focus  $\times$  frame interaction ( $F(1, 93) = 11.40$ ,  $p < .001$ ). Supporting hypothesis 2, follow-up contrasts revealed that promotion-focused individuals had more favorable elaboration when exposed to a maximal frame ( $M_{\max} = 1.67$ ,  $M_{\min} = -.48$ ;  $F(1, 93) = 20.34$ ,  $p < .001$ ). For prevention-focused participants, the valence of elaboration did not vary across the two frames ( $M_{\min} = .40$ ,  $M_{\max} = .26$ ;  $F < 1$ ).

## EXPERIMENT 2

The findings of experiment 1 are consistent with our prediction that focus moderates the effectiveness of comparative frames. In the next experiment, we tested this moderation in a brand versus standard context guided by the prediction that for the prevention-focused individual, a minimal appeal will be more persuasive. The reasoning for this expectation is as follows.

Prevention focus fosters a preference for stability and the maintenance of the status quo rather than for risking a move to a "better" position (Lieberman et al. 2001). Therefore, prevention-focused individuals find a new brand that meets a credible standard (as in a minimal appeal) acceptable because it represents stability. By contrast, a maximal claim represents a movement from or challenge to the status quo and hence carries uncertainty with it. Thus, it could be interpreted in one of two ways by a prevention-focused individual: (a) simply as a nonloss or (b) as a deviation from the norm that may be perceived as a potential source of loss (aka a false alarm).

In experiment 1, as reasoned earlier, the presentation of a brand as being superior to a competing brand induced perceptions of nonloss. Consumers routinely encounter advertising that promotes a brand as superior to another brand, and to that extent, such claims may be simply coded as nonlosses. In addition, brands might not be associated with being "guidelines" or "standards" in quite the same way as, say, an FDA requirement. Thus, under prevention focus, a maximal brand versus brand comparison is as persuasive as a minimal frame. In a brand versus standard domain, a brand's claim that its performance exceeds a standard may be perceived as a deviation from an established norm—a false alarm or "possible loss"—that should be avoided. Hence, prevention-focused individuals may find a maximal comparison less persuasive based on their aversion to steering away from the status quo and their preference for avoiding false alarms. However, when the brand claims to meet the normative standards (as in minimal frames), it represents the desirable end state of no loss and should thus be more persuasive.

**H3:** In a brand versus standard context, promotion-focused individuals will be more persuaded by maximal (vs. minimal) frames. Prevention-

focused individuals will be more persuaded by minimal (vs. maximal) frames.

The valence of elaboration should also reflect our theorizing. If prevention-focused individuals indeed sense a maximal framed comparison to an established standard as a potential loss, then this perceived risk of a loss should be reflected in the valence of thoughts such that maximal (vs. minimal) frames should lead to more unfavorable elaboration. Hence, we predict:

**H4:** For the promotion-focused individuals, the valenced elaboration index would be more favorable when featuring a maximal frame. However, prevention-focused individuals will elaborate more favorably on a minimal (vs. maximal) frame.

## Method

We tested hypotheses 3 and 4 in a 2 (promotion/prevention focus)  $\times$  2 (minimal/maximal frame) between-subjects experiment conducted with 122 undergraduate participants in two purportedly unrelated studies. In the first study that manipulated regulatory focus, promotion- (prevention-) focused respondents were asked to write down and explain how their "hopes and aspirations" ("duties and obligations") differed from those they had in their childhood (see Lieberman et al. 2001).

Next, in a "second study," participants were exposed to an ad for a nutrition bar, the copy for which stated:

The FDA (U.S. Food and Drug Administration) and the NAS (Food and Nutrition Board of the National Academy of Sciences) have set up recommended Dietary Allowances and Daily Values (DV) of most nutrients, vitamins, and minerals that we should consume. The Nutri-Bar® was designed to meet [*exceed*] these standards of health and nutrition. Developed to be the body's most efficient source of fuel, each Nutri-Bar® packs 10 grams of complex carbohydrates. That means you can easily satisfy the energy demands of your hectic daily schedule. Add to that our exclusive vitamin formulation which includes 105% DV of the antioxidant vitamins C and E and 105% DV of all eight B-complex vitamins to aid energy metabolism, plus 9–10 grams of high quality protein to help muscles recover and rebuild. These ingredients all add up to nutrition in a convenient, no-melt, no-crumble bar that fuels your daily activities, no matter where your adventures take you. Available in several flavors. The Nutri-Bar meets [*exceeds*] the standards. The Nutri-Bar meets [*exceeds*] your needs.

As indicated by the italicized words in brackets above, only the framing of the comparison of the target brand with a credible standard (FDA and NAS) as meeting/exceeding was varied. Participants then filled the dependent measures as in experiment 1, responded to manipulation check items for the independent variables, and were probed for suspicion,

debriefed, thanked, and dismissed. No evidence of suspicion was found.

### Dependent Measures and Manipulation Checks

*Brand Evaluation, Elaboration, and Manipulation Checks.* Brand evaluations ( $\alpha = .93$ ) as well as thoughts were collected and analyzed as in experiment 1. Focus manipulation checks asked participants the extent to which they focused on their hopes, aspirations, responsibilities, and obligations on separate seven-point scale items for each of these goals, with the scales items anchored by “not at all” (1) and “a lot” (7). Hopes and aspirations were averaged to form a promotion index ( $r = .90$ ), and responsibilities and obligations were averaged to form a prevention index ( $r = .89$ ; Liberman et al. 2001). The manipulation check for the frame asked participants to indicate the extent to which they believed Nutri-Bar met/exceeded FDA’s requirements, with anchors of “meets standards set up by FDA” (1) and “exceeds standards set up by FDA” (7).

### Results

The data were analyzed using a 2 (focus: promotion/prevention)  $\times$  2 (frame: maximal/minimal) between-subjects, full-factorial design. No effects were observed based on the order of administering the dependent variables.

*Manipulation Checks.* Promotion-focused individuals indeed thought more about hopes and aspirations ( $M_{\text{promo}} = 4.06$ ,  $M_{\text{prev}} = 3.18$ ;  $F(1, 118) = 6.67$ ,  $p < .05$ ) and less about duties and obligations ( $M_{\text{promo}} = 3.39$ ,  $M_{\text{prev}} = 4.53$ ;  $F(1, 118) = 8.85$ ,  $p < .01$ ). In addition, respondents in the minimal frame condition thought that the advertised breakfast bar met standards while those in the maximal frame condition thought that it exceeded standards ( $M_{\text{min}} = 4.02$ ,  $M_{\text{max}} = 4.82$ ;  $F(1, 118) = 5.56$ ,  $p < .05$ ).

*Brand Evaluations and Processes.* An ANOVA on the evaluation of Nutri-Bar yielded only a significant focus  $\times$  frame interaction ( $F(1, 118) = 26.15$ ,  $p < .001$ ; see table 2). Follow-up contrasts indicated that promotion-focused participants were more persuaded by the maximal frame ( $M_{\text{max}} = 5.07$ ,  $M_{\text{min}} = 3.45$ ;  $F(1, 118) = 19.34$ ,  $p < .001$ ) while the minimal frame was more effective under a prevention focus ( $M_{\text{min}} = 4.64$ ,  $M_{\text{max}} = 3.57$ ;  $F(1, 118) = 8.11$ ,  $p < .01$ ).

As predicted in hypothesis 4, an ANOVA on the valenced

index of thoughts yielded the predicted focus  $\times$  frame interaction ( $F(1, 118) = 29.28$ ,  $p < .001$ ). In particular, participants with a promotion focus were more favorable in their elaboration under the maximal frame condition ( $M_{\text{max}} = 1.26$ ,  $M_{\text{min}} = -.61$ ;  $F(1, 118) = 20.73$ ,  $p < .001$ ) while prevention focus elicited more favorable thoughts in the minimal frame cell ( $M_{\text{min}} = .17$ ,  $M_{\text{max}} = -1.13$ ;  $F(1, 118) = 9.68$ ,  $p < .01$ ).

### EXPERIMENT 3

A robust finding that emerged across two different contexts for promotion-focused people is that “more is better.” For prevention-focused people, however, in a brand versus brand context, “more was not better,” while in a brand versus norm situation, “more was less.” We theorized that prevention-focused individuals could represent maximal claims in two ways: (a) simply as a “nonloss” (experiment 1) or (b) as a deviation from the norm that may be perceived as a potential source of loss (experiment 2). In experiment 1, comparing a brand to another brand led to perceptions of a nonloss. In experiment 2, a maximal comparison of a brand to a recommended standard led to perceptions of potential loss and decreased persuasiveness. An unanswered question is: Comparisons to what kind of standards would lead to perceptions of a nonloss instead of a potential loss? In addition, we need to test our basic prediction within the same type of comparison—brand-to-brand comparison or brand-to-standard comparison. Since brand-to-standard comparisons are less well-understood and prevention-focused individuals are more likely to be sensitive to the nature of comparisons to standards, in experiment 3 we relied on brand versus standard comparisons to test our predictions using two different types of standards. Experiment 2 featured comparison with a “recommended standard.” It is possible that prevention-focused people found maximal appeals to be less persuasive because the standard was a “recommended” one, not a “minimum” one. When a maximal comparison is made with a minimum standard (i.e., exceeding a minimum standard), it may take away the potential for risk and, hence, is likely to present simply a nonloss. In experiment 3, we examine whether maximal appeals’ lower persuasiveness under prevention focus holds for recommended standards but leads to equivalent persuasion for minimum standards. Hence, we predict:

**H5:** Regardless of the type of standard, promotion-focused individuals will find maximal (vs. minimal)

TABLE 2  
COMPARING BRANDS WITH STANDARDS MEANS OF KEY DEPENDENT MEASURES (EXPERIMENT 2)

	Promotions focus		Prevention focus	
	Maximal frame	Minimal frame	Maximal frame	Minimal frame
Evaluations of sponsor brand	5.07	3.45	3.57	4.64
Valenced elaboration	1.26	-.61	-1.13	.17

NOTE.—Cell sizes range from 30 to 31.

TABLE 3  
RECOMMENDED VERSUS MINIMUM STANDARDS MEANS OF KEY DEPENDENT MEASURES (EXPERIMENT 3)

	Promotions focus				Prevention focus			
	Recommended		Minimum		Recommended		Minimum	
	Maximal frame	Minimal frame	Maximal frame	Minimal frame	Maximal frame	Minimal frame	Maximal frame	Minimal frame
Evaluation of sponsor brand	4.72	3.63	4.46	3.95	3.52	4.17	4.18	3.84
Valenced elaboration	.61	.00	-.12	-.93	-.82	.21	.07	.03

NOTE.—Cell sizes range from 17 to 30.

frames to be more persuasive. For prevention-focused individuals, when a brand is compared to a recommended standard, minimal (vs. maximal) frames will be more persuasive, but when a brand is compared to a minimum standard, maximal and minimal frames will be equivalent in persuasion.

## Method

One hundred and ninety-four undergraduate students participated in an experiment where three factors were crossed in a  $2 \times 2 \times 2$  between-subjects design: focus (promotion/prevention), appeal (maximal/minimal), and comparison standard (recommended/minimum). Regulatory foci were manipulated using the procedure described in experiment 2. The “minimum standard as comparison object” appeal featured the claim as given in the description under experiment 2 with the word “recommended” replaced by “minimum.” In particular, the first line of the copy read: “The FDA (U.S. Food and Drug Administration) and the NAS (Food and Nutrition Board of the National Academy of Sciences) have set up minimum Dietary Allowances and Daily Values (DV) of most nutrients, vitamins, and minerals that we should consume.” A separate nine-point manipulation check item examined the extent to which respondents believed that “the Nutri-Bar® meets the nutrition standards set up by the FDA” with end points “meets standards set up by the FDA” (1) and “exceeds the standards set up by the FDA” (9). In this experiment, we also wanted to examine whether the regulatory foci manipulations were leading to changes in affect. Hence, we included the PANAS (positive and negative affective schedule, administered immediately after focus manipulation) to examine whether focus was confounded with affect. This schedule (Watson, Clark, and Tellegen 1988) consists of 20 items, half of which measure positive affect, with the rest measuring negative affect.

## Results

There was no evidence of suspicion, and the data were analyzed using a  $2$  (focus: promotion/prevention)  $\times$   $2$  (frame: maximal/minimal)  $\times$   $2$  (standard: recommended/minimum) between-subjects, full-factorial design. The order of administering thoughts and evaluations did not affect the de-

pendent variables, nor did participants’ regulatory focus covary with affect (positive affect:  $M_{\text{prev}} = 3.17$ ;  $M_{\text{promo}} = 3.32$ ;  $F(1, 186) = 1.57$ ,  $p > .20$ ; negative affect:  $M_{\text{prev}} = 1.55$ ;  $M_{\text{promo}} = 1.63$ ;  $F(1, 186) = 1.42$ ,  $p > .25$ ; net affect [positive minus negative]:  $M_{\text{prev}} = 1.62$ ,  $M_{\text{promo}} = 1.59$ ;  $F < 1$ ). Finally, in a separate covariate analysis, affect did not exert any effect on any of the dependent variables (see Crowe and Higgins [1997] for null affect findings).

**Manipulation Checks.** Participants who were exposed to the recommended standards stimulus felt that the ad was closer to the “exceeds the standards set up by the FDA” anchor while those who saw the minimum standards stimulus perceived the ad to be closer to the “meets standards set up by the FDA” end point ( $M_{\text{exceeds}} = 4.89$ ,  $M_{\text{meets}} = 3.85$ ;  $F(1, 186) = 6.67$ ,  $p < .01$ ). Further, prevention-focused respondents thought more about their responsibilities and obligations ( $M_{\text{promo}} = 2.48$ ,  $M_{\text{prev}} = 3.04$ ;  $F(1, 187) = 3.56$ ,  $p = .06$ ) and less about their hopes and aspirations ( $M_{\text{promo}} = 2.71$ ,  $M_{\text{prev}} = 2.19$ ;  $F(1, 187) = 4.97$ ,  $p < .05$ ) vis-à-vis their promotion-focused counterparts.

**Brand Evaluations and Processes.** An ANOVA on the evaluation of Nutri-Bar yielded a three-way interaction ( $F(1, 187) = 7.01$ ,  $p < .01$ ; see table 3). Further analysis revealed that promotion-focused participants found maximal frames to be more persuasive overall ( $M_{\text{max}} = 4.58$ ,  $M_{\text{min}} = 3.82$ ;  $F(1, 95) = 14.16$ ,  $p < .0005$ ) regardless of the standard (recommended standard:  $M_{\text{max}} = 4.72$ ,  $M_{\text{min}} = 3.63$ ;  $F(1, 41) = 13.53$ ,  $p < .005$ ; minimum standard:  $M_{\text{max}} = 4.46$ ,  $M_{\text{min}} = 3.95$ ;  $F(1, 54) = 3.40$ ,  $p = .07$ ). For prevention-focused respondents, a significant two-way interaction ( $F(1, 92) = 5.14$ ,  $p < .05$ ) revealed that when the comparison object was a recommended standard, minimal frames were more effective ( $M_{\text{max}} = 3.52$ ,  $M_{\text{min}} = 4.17$ ;  $F(1, 34) = 4.41$ ,  $p < .05$ ), replicating experiment 2. However, when the comparison standard was a minimum one, the two frames were equally persuasive ( $M_{\text{max}} = 4.18$ ,  $M_{\text{min}} = 3.84$ ;  $F(1, 58) = 1.42$ ,  $p > .20$ ).

The three-way interaction was also significant for valence of elaboration ( $F(1, 185) = 3.29$ ,  $p < .05$ ). For promotion-focused participants, the simple main effect of frame was significant, indicating that the valence of thoughts was more favorable for maximal frames ( $M_{\text{max}} = 0.22$ ,  $M_{\text{min}} = -0.55$ ;  $F(1, 94) = 6.30$ ,  $p < .05$ ) regardless of the standard

of comparison. For prevention-focused participants, the two-way interaction between the frame and standard was significant ( $F(1,91) = 3.60, p = .06$ ). Specifically, for a recommended standard, prevention-focused respondents exhibited significantly more unfavorable valence of elaboration for maximal frames ( $M_{\max} = -0.82, M_{\min} = 0.21$ ;  $F(1,33) = 8.43, p < .01$ ), but for a minimum standard, the index was equal for the two frames ( $M_{\max} = 0.07, M_{\min} = 0.03$ ;  $F < 1$ ).

## GENERAL DISCUSSION

We examined the effectiveness of maximal/minimal comparative messages under different foci when the comparison benchmark was a brand (experiment 1) and a normative standard (experiments 2 and 3). Consistent with the promotion-focused goal of seeking gains, the maximal message was more persuasive and favorably elaborated on. However, under a prevention focus, its claim of being better than a recommended norm undermined persuasion. When a brand was compared with a brand or a minimum standard, maximal and minimal frames were equally persuasive. Process measures provided insights into the mechanisms underlying judgmental effects of maximal comparison under a prevention focus. When maximal frames represented a no loss (as in experiments 1 and 3), then the two frames were equally persuasive. But when maximal frames were perceived to be a deviation from an established norm (experiments 2 and 3), they led to negative elaboration and attenuated persuasion.

While past comparative advertising literature has examined gain/loss framing (Shiv et al. 1997), valence (Jain and Posavac 2004), and alignability (Zhang et al. 2002), our research examines the frame of the “extent” of claimed difference in comparisons. In the process, it extends comparative advertising literature by identifying two types of comparison—comparison with a norm and minimal (similarity) comparison. While industry practice often relies on a standard-based comparison in advertising, relatively little insight is available on the effectiveness of this frame. We identify conditions under which such a comparison would be productive. Second, while considerable research has addressed the effectiveness of maximal comparisons, the effects of minimal frames have not been well understood. Our studies suggest that minimal frames by themselves may be an important comparative advertising execution since they could be more persuasive than maximal frames in some situations. In addition, while most research assumes that maximal comparisons might always be more persuasive, our research shows conditions when maximal frames may be less persuasive than minimal comparative frames.

The present research also extends the literature on regulatory focus. Our findings provide support for the expectation that relative to a current state, promotion-focused individuals are geared toward advancement while prevention-focused individuals are geared toward maintenance. In addition, our results are novel in suggesting that prevention-focused individuals might process information pitching a

nonloss differently, based on the uncertainty or “possibility of loss.” That is, for prevention-focus respondents, different contexts may prime different degrees of losses or nonlosses. For example, exceeding (vs. meeting) a recommended norm may lead to discomfort and uncertainty about the attainment of a nonloss. But being superior to another brand or a minimum standard presents as much a nonloss as being equal to another brand. Future research could identify more conditions when prevention-focused individuals may see the same information as representing a nonloss versus a potential loss, depending on differing frames or contexts.

One concern across experiments 1 and 2 is the difference in domain. In experiment 1, the toothpaste category may be associated more with preventing losses than with promoting gains. The breakfast bars might be more associated with the gain domain. We investigated the differences in gain/loss domain in an ancillary experiment. We examined category associations by asking 79 undergraduates to rate four categories (breakfast bars, condoms, ice creams, and toothpaste) on two scales regarding the extent to which respondents perceived that they “reduce negative feelings” (1)/ “increase positive feelings” (7) and “prevent problems” (1)/ “promote benefit” (7) ( $r = 0.78$ ; lower scores indicate more loss/prevention association). Besides the finding that the difference in means for the two stimulus categories was not statistically significant ( $M_{\text{bars}} = 4.37, M_{\text{paste}} = 4.18$ ;  $F < 1$ ), their average rating was around the midpoint of the scale, suggesting that their domain (gain/loss) was ambiguous (in comparison, condoms received a rating of 2.7, suggesting a strong prevention/loss focus, and ice creams were rated at 6.2, suggesting a strong promotion/gain focus). Hence, the difference in gain and loss domains does not explain our findings. However, future research would benefit from testing circumstances where gain and loss domains might lead to differential effects for regulatory focus or comparative frames.

A limitation of our research is that we have used different categories to represent different contexts in separate experiments. It would be useful to test our predictions either by controlling for the category or through category replicates. In particular, an important task for future investigations is to identify factors that may systematically activate the non-loss and deviation mechanisms under a prevention focus. Also, follow-up inquiries could help identify conditions other than prevention focus that might influence the effectiveness of norm- versus brand-based comparisons. Future research could also investigate the effects of regulatory focus on comparative frames using further measures of processing (time spent, elaboration) and effectiveness (ad credibility, claim believability, and evaluations of competing brands). We have proposed that an individual’s regulatory motivation moderates the impact of different comparative ad frames. There has been an increasing interest in individual differences (e.g., Sorrentino and Roney 2000) and motivational variables (e.g., Agrawal and Maheswaran 2005; Jain 2003; Jain and Maheswaran 2000) as predictors of a host of process and persuasion-related measures. While our research examines

regulatory focus differences in a specific comparative context, examining other variables, such as self-monitoring (Snyder 1974), self-construal (Agrawal and Maheswaran 2005a), and cultural differences (Gürhan-Canli and Maheswaran 2000; Maheswaran and Agrawal 2004), may further deepen our understanding of framing effects in general and comparative advertising effects in particular.

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