



# The effect of mixed versus blocked sequencing of promotion and prevention features on brand evaluation: The moderating role of regulatory focus

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## ARTICLE INFO

### Article history:

Received 14 April 2008

Accepted 4 September 2009

### Keywords:

Regulatory focus  
Information sequence  
Perceived variety  
Brand attitude

## ABSTRACT

We investigate if presenting a brand's promotion and prevention features in homogenous blocks (e.g., two promotion features followed by two prevention features – a toothpaste that freshens breath, whitens teeth, stops plaque buildup and prevents cavities) as opposed to alternating their presentation order (a toothpaste that freshens breath, stops plaque buildup, whitens teeth, and prevents cavities) affects brand attitude. We find that alternating feature presentation improves brand evaluation among promotion-focused, but not prevention-focused, consumers. In mixed presentations, since each feature physically contrasts with those near it (e.g., promotion features bracketing a prevention feature), the resulting heightened distinctiveness increases the perceived variety of a brand's benefits and fits better with the advancement goals of promotion-focused consumers. We report two studies that support our predictions.

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## 1. Introduction

Consider a recent advertisement for Crest Pro-Health toothpaste highlighting seven brand benefits in the following order: preventing cavities, preventing tartar, whitening teeth, freshening breath, preventing sensitivity, preventing gingivitis, and preventing plaque (<http://www.crest.com/prohealth/>). Two features of this advertisement merit note. First, the brand lists more prevention (i.e., information focusing on avoiding negative outcomes) than promotion features (i.e., information focusing on attaining positive outcomes; Aaker and Lee, 2001). Given that consumers typically self regulate, using a promotion-focused system or a prevention-focused system, to align their behavior with their desired goals (Higgins, 1997), this advertisement is likely to appeal more to prevention-focused consumers relative to promotion-focused consumers.

Second, the advertisement alternates the prevention and promotion features (*mixing*) rather than grouping like features together (*blocking*). The sequence starts with two prevention features, followed by two promotion features, and ends with three prevention features. Because mixing juxtaposes contrasting feature types and thereby increases each feature's relative distinctiveness, we expect that mixing the features should increase the perceived variety of features and benefits (Kahn and Wansink, 2004; van Trijp et al., 1996). To the extent that enhanced variety perception appeals to the advancement goals of promotion-focused consumers (Lieberman

et al., 1999) and, perhaps, conflicts with the security (status-quo) goals of prevention-focused consumers, the mixed nature of the sequence should appeal more to promotion-focused consumers relative to prevention-focused consumers.

In this paper, we examine how mixed versus blocked sequencing of two promotion and two prevention features affects consumer evaluation of a fictitious toothpaste brand. Study 1 finds that mixing improves brand attitude among promotion-focused consumers, but has no effect on prevention-focused consumers. Study 2 investigates one source of the attitude improvement among promotion-focused consumers and finds that these consumers perceive a mixed sequence to offer greater feature variety, and the latter, in turn, partially mediates the feature sequence effect on brand evaluation.

Our results are relevant to both theory and practice. For theory, this is the first known study tying regulatory focus to feature sequencing, which thus extends research on self-regulation (Brockner et al., 2002; Chernev, 2004; Liberman et al., 1999). For practice, the fact that mixing increases brand appeal within one segment while doing no damage within the other, suggests that sellers marketing both promotion and prevention features adopt mixed presentation sequences to maximize aggregate impact across heterogeneous consumer segments.

## 2. Theory

According to regulatory focus theory (Higgins, 1997), consumers self regulate to align their behavior with one of two desired goals, a prevention goal or a promotion goal. Prevention goals are associated with the need for security, a focus on duties and obligations, and a desire to avoid negative outcomes. Promotion goals are associated

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with the need for growth, a focus on hopes and aspirations, and a desire to seek out positive outcomes. How these promotion and prevention goals interact with selected features in the context or environment has been the focus of considerable research interest (see for example, Chatterjee et al., 2005; Malhotra, 2005; Poels and Dewitte, 2008). For example, research suggests that a consumer will feel better and evaluate a brand more positively if the positioning of the brand fits her regulatory focus (Idson et al., 2000). For example, Aaker and Lee (2001) show that prevention-focused consumers evaluate a juice more positively when the juice emphasizes cardiovascular disease prevention (a prevention benefit) rather than emphasizing energy and taste (promotion benefits; Aaker and Lee, 2001).

The current research tests a brand message that contains the same number of promotion and prevention features but differ in their presentation sequence. While past research has considered how the ordering of information may affect the selective filtering of so-called incongruent features (Deffuant and Huet, 2007) or affect the processing of numerical versus verbal information (Childers and Viswanathan, 2000), to the best of our knowledge this is the first paper that investigates the effect of regulatory fit on information sequence. We consider a fictitious toothpaste brand (Brand X) with two prevention and two promotion features, presented in either a mixed sequence (e.g., Brand X stops plaque buildup, whitens teeth, prevents cavities, and freshens breath), or a blocked sequence (Brand X stops plaque buildup, prevents cavities, whitens teeth, and freshens breath). The question we ask is whether mixed versus blocked sequencing differentially alters brand evaluation among prevention-focused and promotion-focused consumers.

In mixed presentations, each feature physically contrasts with those near it (e.g., promotion features bracketing a prevention feature) and we expect that the resulting heightened distinctiveness of each feature should increase the perceived variety of the brand's benefits (Hoch et al., 1999; Kahn and Wansink, 2004). Enhanced variety perceptions, to the extent that they signal a change from the status-quo, should fit well with the advancement goals of promotion-focused consumers, and less so, with the security goals of prevention-focused consumers who may seek the comfort of the status-quo (Lieberman et al., 1999). Moreover, since prevention-focused consumers are more vigilant about avoiding losses, their vigilance might make them more careful decision makers who are able to transcend any contextual manipulations by marketers (see for example, Chatterjee et al., 2000). For example, recent research shows that prevention-focused consumers are less susceptible to the attraction effect (a contextual manipulation that biases consumers towards seeking a dominating alternative in the marketplace) relative to promotion-focused consumers (Mourali et al., 2007). Therefore, we expect that:

**H.** Relative to a blocked feature sequence, a mixed feature sequence will improve brand evaluation more among promotion-focused consumers than among prevention-focused consumers.

**Table 1**  
Study 1: Stimuli.

Mixed sequence (prevention feature first)	Blocked sequence (promotion features first)
Toothpaste X contains a special ingredient extracted from the Neem plant to <i>prevent plaque from building up</i> . If not stopped, plaque can build up on teeth and gums and lead to gum swelling and bleeding.	Toothpaste X contains natural polishers such as sodium bicarbonate and hydrated silica to <i>whiten your teeth</i> . A healthy beautiful smile and whiter teeth can lead to a boost in self-confidence, a younger appearance and positive self-esteem.
Toothpaste X contains natural polishers such as sodium bicarbonate and hydrated silica to <i>whiten your teeth</i> . A healthy beautiful smile and whiter teeth can lead to a boost in self-confidence, a younger appearance and positive self-esteem.	Toothpaste X contains perilla seed extract, grapefruit seed extract, and natural essential oils of orange and mint to <i>freshen your breath</i> . Fresh breath symbolizes extra self-confidence and sex appeal when you are with your special someone.
Toothpaste X contains Sanguinaria Extract that inhibits the growth of decay causing bacteria to <i>prevent cavities</i> . Cavities lead to painful dental procedures such as drilling and root canal treatment.	Toothpaste X contains a special ingredient extracted from the Neem plant to <i>prevent plaque from building up</i> . If not stopped, plaque can build up on teeth and gums and lead to gum swelling and bleeding.
Toothpaste X contains perilla seed extract, grapefruit seed extract, and natural essential oils of orange and mint to <i>freshen your breath</i> . Fresh breath symbolizes extra self-confidence and sex appeal when you are with your special someone.	Toothpaste X contains Sanguinaria Extract that inhibits the growth of decay causing bacteria to <i>prevent cavities</i> . Cavities lead to painful dental procedures such as drilling and root canal treatment.

### 3. Study 1

#### 3.1. Pretest

Consistent with other research in this area, we selected toothpaste as our focal product (Wang and Lee, 2006) and scanned various toothpaste advertisements to produce fourteen typical toothpaste features. Twenty-four participants from the same subject pool as in the main studies classified these features as promotion-focused, prevention-focused, or neutral. Following the procedure outlined in Wang and Lee (2006), we defined promotion-focused (prevention-focused) features as those designed to bring about benefits concerning positive (negative) outcomes, help people attain accomplishments and advancement (avoid potential costs and losses) when they use the product, and make people feel cheerful (relieved) when they are present and disappointed (tense) when they are absent. We defined neutral features as those features participants perceive as neither promotion-focused nor prevention focused. The two most frequently cited promotion features were “whitening teeth” (88%) and “freshening breath” (71%), and the two most frequently cited prevention features were “preventing plaque buildup” (100%) and “preventing cavities” (83%). In all subsequent studies, we use these four features as our promotion and prevention features.

#### 3.2. Method

##### 3.2.1. Procedure

In the main study, we randomly assigned the participants into one of two regulatory focus conditions. Following the procedure outlined by Higgins et al. (1994), we asked participants in the promotion-focused conditions to write a brief essay about their hopes and aspirations at present as well as five years from now. Similarly, we asked participants in the prevention-focused conditions to write a brief essay about their duties and obligations at present as well as five years from now.

After participants had completed their essays, we directed them to a different task where they read that a toothpaste manufacturer was conducting a market survey to find out what consumers thought about the four different features of their brand. In order to mimic a sequential presentation, we listed one feature per page. Half of the participants encountered a mixed description of the features (the promotion and prevention features arranged alternatively) and the other half of the participants encountered a blocked description of the features (e.g., the two promotion features arranged before the two prevention features, or vice versa; see Table 1). To control for any order effects (recency or primacy; see for example, Carlson et al., 2006; Johar et al., 1997), we counterbalanced the order of presentation within each sequence condition such that either a promotion feature appeared first and a prevention feature last, or a prevention feature appeared first and a promotion feature last, in the sequence.

After reading about each feature, participants evaluated the attractiveness of each feature (7-point very attractive/very unattractive

scale; e.g., *how attractive is a feature that stops plaque buildup*) and the importance of the outcome resulting from using that feature (7-point very important/very unimportant scale, e.g., *how important is the prevention of gum bleeding and swelling*). After participants evaluated all four features, they reported their brand attitude on a 100-point (Best/Worst) scale (see Escalas, 2007).

### 3.2.2. Participants

One hundred eighteen undergraduate students (77 females) were randomly assigned to one of the eight experimental conditions defined by the crossing of regulatory focus (promotion, prevention), presentation sequence (mixed, blocked), and presentation order (promotion feature first/prevention feature last, prevention feature first/promotion feature last).

### 3.3. Analysis and results

We created composite (average) attractiveness scores for the promotion and prevention features. Similarly, we created composite (average) outcome-importance scores for the promotion and prevention features. Since the attractiveness and outcome-importance scores were highly correlated ( $\alpha = 0.87$  for the promotion features;  $\alpha = 0.91$  for the prevention features), we created an overall strength score for the promotion and prevention features by averaging their attractiveness and outcome-importance scores.

We modeled brand evaluation as a function of all main and interaction effects of regulatory focus and feature sequence. We added controls for order effects, feature strength, and gender. We used Generalized Least Squares (GLS) for model estimation to correct for data heteroskedasticity (White's  $\chi^2(30) = 72.87, p < .01$ , rejecting the null hypothesis of constant error variance). We first estimated our regression model using OLS to obtain the residuals, and then used the reciprocal of squared residual terms as the weights to estimate the same (weighted) regression model (see, for example Greene, 2006). In our model, we used dummy coding for regulatory focus (promotion = 1, prevention = 0), sequence (mixed = 1, blocked = 0), order (promotion feature first/prevention feature last = 1, prevention feature first/promotion feature last = 0) and gender (males = 1, females = 0), and treated feature strength of the promotion and prevention features as continuous variables.

We conducted a diagnosticity check for colinearity among the predictors. All VIF's (variance inflation factors) were less than the accepted cut-off level of 10.0. The feature sequence effect was significant ( $\beta = 2.47, t(108) = 9.74, p < .0001$ ) and indicated that, on the average, mixing features improved brand evaluation relative to blocking them. The regulatory focus effect was also significant ( $\beta = -4.30, t(108) = -10.00, p < .0001$ ) indicating that, on the average, promotion-focused participants liked the brand less than their prevention-focused counterparts. However, and consistent with our hypothesis, the interaction between regulatory focus and sequence effect was significant (interaction  $\beta = 8.51, t(108) = 13.50, p < .0001$ ; see Table 2 for the means). Mixing features improved brand evaluation among promotion-focused

consumers ( $\beta = 13.12, t(54) = 19.63, p < .0001$ ), but not among prevention-focused consumers ( $\beta = -0.75, t(52) = -1.41, ns$ ).

All control variables were significant. The gender effect was significant ( $\beta = -2.04, t(108) = -5.30, p < .0001$ ), suggesting that, on the average, males liked the brand less than females. The order effect, too, was significant ( $\beta = 3.12, t(108) = 9.69, p < .0001$ ), suggesting that, on the average, presenting a promotion feature first and a prevention feature last improved brand evaluation relative to presenting a prevention feature first and a promotion feature first. Finally, and not surprisingly, the weights (feature strength) participants put on the promotion and prevention features reflected in their brand attitude. Thus, the strength of the promotion/prevention features was positively correlated with brand attitude (for promotion features:  $\beta = 6.71, t(108) = 42.03, p < .0001$ ; for prevention features:  $\beta = 1.26, t(108) = 5.40, p < .0001$ ).

### 3.4. Discussion

Study 1 shows that, relative to a blocked sequence, a mixed sequence of promotion and prevention features improves brand evaluation among promotion-focused individuals but not among prevention-focused individuals. In mixed presentations, each feature physically contrasts with those near it (e.g., promotion features bracketing a prevention feature) and we expect that the resulting heightened distinctiveness of each feature should increase the perceived variety of a brand's benefits (Hoch et al., 1999; Kahn and Wansink, 2004). Since enhanced variety perceptions signal a change from the status-quo, such perceptions should fit well with the advancement goals of promotion-focused consumers. Study 2 (next), therefore, extends Study 1 by testing the above-mentioned potential explanation for why mixed feature sequences improve brand evaluation among promotion-focused individuals.

## 4. Study 2

### 4.1. Overview

The primary objective of Study 2 is to understand why promotion-focused consumers evaluate a brand more positively when the promotion and prevention features appear in a mixed rather than a blocked sequence. As noted earlier, mixed sequences should increase perceived variety of the brand's features. To the extent that perceived variety helps meet the advancement motivations of promotion-focused consumers, greater variety perception should mediate the feature-sequencing effect on brand evaluation among promotion-focused individuals.

Study 2 retains the primary structure of Study 1 but improves upon it in various ways. First, because Study 1 found no feature-sequencing effect on brand evaluation among prevention-focused consumers, Study 2 assesses brand evaluation among only promotion-focused consumers. Second, Study 2 improves upon Study 1's measures by replacing Study 1's single-item measure of brand attitude with a multi-item measure, and by adding a multi-item measure of perceived feature variety. Third, whereas Study 1 listed the brand features on different pages, which may have exaggerated feature-sequencing effects, Study 2 lists all four features on the same page. Finally, to eliminate any potential contaminating effects of consequences, Study 2 uses Study 1's features but drops descriptions of features' consequences.

### 4.2. Method

#### 4.2.1. Procedure

We primed participants with a promotion-orientation task by asking them to write a brief essay about their hopes and aspirations, at present as well as five years from now. Following their essay, we asked participants how they felt (7-point scale anchored on happy/

**Table 2**  
Study 1: cell means (regulatory focus X feature sequence on brand attitude).

Feature sequence	Regulatory focus			
	Promotion focus		Prevention focus	
	<i>n</i>	<i>M</i> (std. dev)	<i>n</i>	<i>M</i> (std. dev)
Mixed	29	90.93 (10.48)	29	87.83 (19.51)
Blocked	30	78.50 (19.08)	28	85.57 (14.11)

Brand attitude is measured on a 1 (Worst) to 100 (Best) scale.

sad; Zhao and Pechmann, 2007), and what was more important to them in their life (7-point scale anchored on what they want to do/what they ought to do; Keller, 2006). Next, we directed them to a different task where they read that a toothpaste manufacturer was conducting a market survey to find out what consumers thought about the four different features of a recently introduced brand of toothpaste (Toothpaste X). The stimuli listed the four features vertically on the same page. As in Study 1, half of the participants encountered a mixed description of the features (the promotion and prevention features arranged alternatively) and the other half of the participants encountered a blocked description of the features (e.g., the two promotion features arranged before the two prevention features, or vice versa). Within each sequence condition, we counter-balanced the order of presentation such that either a promotion feature appeared first and a prevention feature last, or a prevention feature appeared first and a promotion feature appeared last.

After participants had read the list of features, we asked the importance they attached to each feature (7-point scale anchored on important/unimportant). Next we asked to what extent they thought that Toothpaste X offered variety (*Toothpaste X contains many different features*, *Toothpaste X contains a wide variety of features*, and *Toothpaste X is very different from the standard toothpaste*, all on 7-point scales anchored on agree/disagree). Finally, we asked them to evaluate the toothpaste using following three items (7-point scales anchored on agree/disagree): (1) *I like Toothpaste X*, (2) *Toothpaste X is very good*, and (3) *I would definitely buy Toothpaste X*.

#### 4.2.2. Participants

One hundred thirty-one undergraduate students (51 females) participated in the study. We randomly assigned participants to one of the four experimental conditions obtained by crossing sequence (mixed, blocked) with presentation order (promotion feature first/prevention feature last, prevention feature first/promotion feature last).

#### 4.3. Analysis and results

The results support our manipulation of promotion focus. Consistent with an active promotion focus, participants were more happy ( $M = 4.87$  on a 7-point scale, significantly greater than 4.0 or the neutral mid-point;  $t(130) = 8.11, p < .0001$ ) and focused on what they wanted to do ( $M = 5.05$  on a 7-point scale, significantly greater than 4.0 or the mid-point;  $t(130) = 7.33, p < .0001$ ).

As in Study 1, we created composite (average) attribute importance scores for the promotion and prevention features. The three attitude measures and the three variety measures were sufficiently correlated to merit creating a composite (average) attitude score ( $\alpha = 0.90$ ) and a composite (average) variety score ( $\alpha = 0.70$ ). We modeled brand attitude as a function of sequence (mixed, blocked), and added controls for order (promotion feature first/prevention feature last, prevention feature first/promotion feature last), the importance of the promotion features, the importance of the prevention features, and gender. As in Study 1, we used Generalized Least Squares (GLS) regression for model estimation to correct for data heteroskedasticity (White's  $\chi^2(11) = 36.10, p < .001$ , rejecting the null hypothesis of constant error variance). As in Study 1, we used dummy coding for sequence (mixed = 1, blocked = 0), order (promotion feature first/prevention feature last = 1, prevention feature first/promotion feature last = 0) and gender (males = 1, females = 0). We treated the importance of the promotion and prevention features as continuous variables.

We performed diagnosticity checks for possible collinearity among the predictors. All VIF's were below the cut-off 10.0. Consistent with our hypothesis and Study 1, mixing features improved brand attitudes significantly ( $\beta = 0.31, t(125) = 8.36, p < .0001$ ;  $M$ 's of 5.33 and 4.39 for mixed and blocked features, respectively). As in Study 1, the

control variables were significant. The gender effect was significant, and as in Study 1, males liked the brand less than females ( $\beta = -0.49, t(125) = 9.45, p < .0001$ ). The order effect was also significant ( $\beta = -0.24, t(125) = -4.96, p < .0001$ ) suggesting a recency effect of sorts – brand attitudes were superior when promotion features appeared last instead of first in the sequence. Finally, the weights participants put on the promotion and prevention features reflected in their brand attitude. Thus, feature importance was positively correlated with brand attitude (for promotion features:  $\beta = 0.10, t(125) = 2.71, p < .01$ ; for prevention features:  $\beta = 0.11, t(125) = 3.53, p < .001$ ).

To test if perceived variety mediated the feature-sequencing effect on brand attitude, we followed the procedure outlined in Baron and Kenny (1986) and tested for the Sequence  $\rightarrow$  Variety  $\rightarrow$  Attitude mediation path. First, feature-sequence was correlated with brand attitude ( $\beta = 0.33, t(129) = 21.19, p < .0001$ ), establishing that there is a path that may be mediated by perceived variety. Second, feature-sequence was significantly correlated with the potential mediator, variety perception ( $\beta = 0.27, t(129) = 8.78, p < .0001$ ). The positive sign of the coefficient suggests that a mixed sequence enhances the perception that the brand offers more feature-variety relative to a blocked sequence. Third, including perceived variety as a covariate in the brand attitude model reduced the feature-sequence effect but did not eliminate it ( $\beta = 0.22, t(129) = 9.00, p < .0001$ ). Follow-up tests showed that the amount of mediation was significant (Sobel's statistic = 5.23,  $p < .0001$ ) suggesting that perceived variety partially mediates the feature-sequencing effect on brand attitude.

#### 4.4. Discussion

Study 2, in addition to replicating the feature-sequencing effect on brand attitude among promotion-focused consumers, showed that a mixed sequence of brand features enhances the perception that the focal brand offers greater variety of features (relative to a blocked sequence), the latter partially mediating the effect of feature sequencing on brand attitude.

### 5. General discussion

This study examines how a consumer's prevention/promotion orientation moderates the effect of feature sequencing on brand evaluation. We find that promotion-focused consumers evaluate a brand more positively when the promotion and prevention features of the brand appear alternatively in the feature sequence, relative to when the sequence blocks the prevention and promotion features together. The brand attitudes of prevention-focused consumers, on the other hand, evidence no such effect. Among promotion-oriented consumers, a mixed sequence enhances the perception that the brand offers greater variety of features and benefits, which partially mediates the effect of feature sequencing on brand attitude.

From a managerial perspective, the current research goes beyond examining the simple fit between the number of promotion and prevention features of the product and a consumer's regulatory focus (Aaker and Lee, 2001; Cesario et al., 2004) to studying the fit between the sequence of promotion and prevention features and the consumer's regulatory focus. For marketers who often have to appeal to a diverse audience with one message communicating promotion as well as prevention benefits, our results suggest that the marketers consider featuring the benefits alternatively, not in blocks. Presenting promotion and prevention in an alternating sequence increases brand evaluation among promotion-focused consumers without degrading brand evaluation among prevention-focused consumers. This study, therefore, begins addressing the very important question of designing mixed appeals (i.e., combining promotion and prevention appeals) for a heterogeneous audience (Wang and Lee, 2006; Page 37).

An important avenue for future research will be to examine the process underlying the preferences of prevention-focused consumers.

The data in Study 1 indicates that their preferences are largely unaffected by changes in feature sequencing. One speculation is that prevention-focused consumers, more concerned with avoiding losses, are careful decision makers who are able to transcend contextual manipulations (see for example, Chatterjee et al., 2000). However, more careful process tests are necessary to establish these sorts of deliberate decision-making processes. More importantly, in addition to a mixed sequence enhancing variety perceptions, the former may also provide a sense of balance (and less discomfort; see Lau-Gesk, 2005). To the extent that a sense of balance conveys stability, the mixed sequence might appeal to prevention-focused consumers for this reason (Liberman et al., 1999). One useful avenue for future research, therefore, will be to investigate how these conflicting forces add up to shape the brand attitude of prevention-focused consumers.

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