

The Effect of Scarcity on the Purchase Intentions of Prevention and Promotion Motivated Consumers

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Abstract

This study investigates the influence of consumers' motivational orientations ("prevention" vs. "promotion") on their susceptibility to demand-based versus supply-based scarcity, measured by purchase intention scores. Prevention-focused participants were more inclined to adopt a product when it was perceived to be demand-scarce rather than supply-scarce, while those who were identified as promotion-focused responded positively to scarcity attributed to supply shortfall. In addition, products that could be associated with a prevention motive enhanced purchase intentions when presented as demand-scarce but not if perceived to be supply-scarce; conversely, products associated with the promotion motive scored better if the scarcity was seen to be supply-generated rather than demand-generated. Lastly, messages focused on prevention were more effective than those focused on promotion in the case of perceived demand scarcity, whereas the converse holds true for supply scarcity. These findings highlight the importance of understanding the motivational differences underlying the effectiveness of scarcity appeals. They furthermore suggest the strategic implication that improved intention to purchase occurs when the regulatory focus evoked by a scarcity-related message is compatible with the appeal it communicates. © 2012 Wiley Periodicals, Inc.

"Scarcity effect" describes the influence of perceived scarcity on the subjective desirability of an object (Jung & Kellaris, 2004). *Quantity scarcity* is a possible consequence of changes in demand or supply (Gierl, Plantsch, & Schweidler, 2008); *demand scarcity* results from consumer demand outstripping supply; *supply-generated scarcity* results from a limitation on the available units caused by the vendor. Marketing strategists might choose to communicate the scarcity of a product explicitly, by announcing its imminent out-of-stock status, or they may sometimes release "limited editions," to harness the persuasive power of the scarcity effect. As scarcity appeals have become an important element of marketing strategy, prediction of consumers' acceptance of product scarcity has emerged as a major research focus for both practitioners and academics.

Research studies of the effects and mechanisms associated with demand-scarcity and supply-scarcity appeals have found that both excess demand and limited supply lead to increased product choice, but en-

gender distinct inference processes. The effect of demand scarcity is driven by what Cialdini and Goldstein (2004) call a "social-proof mechanism," in which consumers rely on others' opinions as a clue to the value of a product. According to Worchel, Lee, and Adewole (1975), consumers engage in "bandwagon reasoning," using perceptions of relative demand to assess a product's worth, inferring that fellow consumers' demand implies value. Behind this consideration is the notion that a product that has become scarce through high demand must be a good product, which may induce them to follow the lead of others. Supply scarcity implies that the product is exclusive, and influences consumers' revealed preferences through perceptions of the symbolic benefits the product can deliver, such as uniqueness (Snyder, 1992) and social status (Lynn, 1992).

To gain further insight into these two scarcity effects, several authors have studied the contextual or individual influences on the distinct types of scarcity. For example, Verhallen and Robben (1994) examined the

effects of different kinds of limited availability on preference, and found that results varied according to social constraint. Van Herpen, Pieters, and Zeelenberg (2005) related both demand-scarcity and supply-scarcity effects to consumers' "need for uniqueness." Gierl et al. (2008) investigated the effects of supply, demand, and time scarcity on product desirability in the context of both conspicuous consumption and normal consumption behavior. Higgins (2002) makes the intuitively reasonable assertion that consumers make decisions on the basis of their goals, and Kim (2006) argues that goal-orientation plays an important role in determining the responses to persuasion attempts. However, a good understanding of the effect of different types of goal orientation on the effectiveness of appeals invoking demand and supply scarcity remains lacking.

Recent research studies into consumer motivation have focused on two goals that regulate the evaluation process: "promotion" and "prevention." The former relates to ideals, hopes, and aspirations; the latter to responsibilities, duties, and security (Higgins, 1997). Higgins (2002) has suggested that consumers' evaluation of products and their brand choice decisions are influenced by these self-regulatory goals. More specifically, their attitude toward a product is more favorable when product benefits match their goal (Aaker & Lee, 2001; Cesario, Grant, & Higgins, 2004; Chernev, 2004).

The study reported in this paper adds to the current understandings of scarcity effects by examining the motivational influences behind these decision phenomena. In particular, it investigates the possible influence of consumers' motivational goals on their susceptibility to messages focused on scarcity effects. A better understanding of the compatibility between those goals and the perceived basis of the scarcity has the potential to help marketers increase the persuasiveness of their communication messages by emphasizing the degree of fit between the two.

SELF-REGULATORY FOCUS AND THE RESPONSE TO SCARCITY

"Regulatory focus theory" (Higgins, 1997) classifies consumers' goals as being either promotion-focused or prevention-focused. The former are concerned with attaining such positive outcomes as advancement and achievement, the latter with avoiding negative outcomes with respect to protection and safety (Micu & Chowdhury, 2010; Murali, Böckenholt, & Laroche, 2007). These two modes of self-regulation are associated with distinct individual strategic orientations, the promotion focus relating to an orientation characterized by "eagerness" and the prevention focus to one placing the emphasis on "vigilance" (Lee & Aaker, 2004). Regulatory focus behavior will reflect persistent personal orientations, but can also be primed by specific situations (Higgins, 2002). Studies by Aaker and Lee (2001), Pham and Avnet (2004), and Wan, Hong,

and Sternthal (2009) suggest that the distinction between promotion-focused and prevention-focused self-regulation is a strong predictor of judgment, cognition, and behavior. A basic tenet of regulatory focus theory is that individuals attend especially closely to information relevant to the activated focus and weight compatible product attributes more carefully than others (Chernev, 2004; Florack & Scarabis, 2006).

Acquisition of a product characterized by supply-generated scarcity may confer increased status or uniqueness on its owner, while the possession of a demand-scarce product will offer a sense of security based on identification with many other owners of the same product. Prevention-focused consumers who favor vigilance and the avoiding of mistakes are expected to avoid products that are exclusive due to limited supply, because there is no clue to the buying behavior of other consumers. The choice of such an "extreme" option may contradict the orientation of risk aversion, of preference for stability and caution, implied by the prevention focus. Instead, vigilant consumers would be expected to favor the "safer" demand-scarce options, which they would assume to be superior and capable of offering the security of avoiding the risk of a mistaken choice. By contrast, promotion-focused consumers following a strategy of eagerness for personal advancement might be expected to be more likely to view the option of a supply-scarce product as an opportunity to be seized. When a product is already owned by many others, its appropriateness as a status symbol is diminished, and individuals concerned about advancement would be expected to lose their desire to own it.

It is thus argued, on the basis of the principle of achieving gains and avoiding losses that underpins the concept of regulatory focus, that the principle of compatibility can be extended to link consumers' goal orientation with the supply-side and demand-side reasons for scarcity. Specifically, it is hypothesized that the promotion focus offers a better fit with supply-scarcity appeals, whereas the prevention focus is likely to be more compatible with demand scarcity appeals. Thus:

- H1:** The purchase intentions of prevention-focused consumers will be increased by demand-generated scarcity, and decreased by supply scarcity.
- H2:** The purchase intentions of promotion-focused consumers will be increased by supply scarcity, and decreased by demand-generated scarcity.

Effect of Product's Regulatory Focus

Unlike previous work on regulatory focus theory, which has examined promotion and prevention as pre-existing motivational states influencing judgments and decisions, there is evidence that they can also be triggered by the objects of judgments and decisions (Zhou

& Pham, 2004). If this is the case, then choices among different products should lead to varying proneness to scarcity effects.

Consumers' main concerns when buying or using products associated with a prevention focus would be to avoid or minimize negative outcomes, whereas the main concerns when purchasing products associated with a promotion focus would be to achieve or maximize positive outcomes (Mourali et al., 2007). Since the choice of a demand-scarce product can be seen as a means for minimizing the risk of making a mistake, and products with limited supply confer status on the possessor, decisions among products that consumers associate with a prevention concern are likely to result in purchase intentions that are higher for demand-scarcity options and lower for supply-scarcity options than in the case of choices among products associated with a promotion concern. This also implies that, depending on product type, demand-scarcity appeals could be either a more or less effective strategy for the provider than supply-scarcity appeals. Thus:

- H3:** Products associated with a prevention focus will elicit higher purchase intentions when presented as demand-scarce but lower purchase intentions when presented as supply-scarce.
- H4:** Products associated with a promotion focus will elicit higher purchase intentions when presented as supply-scarce but lower purchase intentions when presented as demand-scarce.

Effect of Message's Regulatory Focus

The claims made in advertisements are a key element of advertising strategy, and therefore have to be carefully developed to address consumers' purchase motivations (Micu & Chowdhury, 2010). The role of regulatory goals and foci in the effectiveness of advertising campaigns has developed as significant area of interest for researchers (Kim, 2006).

It is already seen that demand-scarce products are chosen with a security motive in mind, directed toward avoiding a mistake. In the case of supply-scarce products, on the other hand, the motivation is advancement, manifested in such benefits as symbolic status and uniqueness. Demand-scarce and supply-scarce products may thus help achieve, respectively, prevention goals and promotion goals.

Drawing on the two streams of research on scarcity effects and regulatory focus, it is predicted that persuasive messages emphasizing prevention or promotion benefits that are compatible with a consumer's active goal with respect to the acquisition of demand-scarce versus supply-scarce products will yield enhanced persuasion effects. Specifically, if demand-scarce (vs. supply-scarce) products are advertised with

prevention-focused (vs. promotion-focused) claims, individuals should experience goal compatibility and the advertising achieve increased persuasiveness. Accordingly:

- H5:** Demand-scarcity appeals will elicit higher purchase intentions when framed in support of a prevention focus than when framed in support of a promotion focus.
- H6:** Supply-scarcity appeals will elicit higher purchase intentions when framed in support of a promotion focus than when framed in support of a prevention focus.

STUDY 1

Method

The objective of this study was to test the prediction that prevention-focused consumers experience higher intention to purchase a product under conditions of demand-generated scarcity and lower intention to purchase a supply-scarce product, while the reverse is true for promotion-focused consumers. Two between-participant factors were manipulated in a 3×2 design that consisted of scarcity condition (no scarcity, demand scarcity, or supply scarcity) and goal-orientation factor (prevention-focused or promotion-focused). The experimental subjects were drawn from a sampling frame containing undergraduate students in various management classes at a large university in Taiwan. The 240 participants had an average age of 21 and were divided into females (56%) and males (44%).

Printed scenarios described a hypothetical buying situation centered on a digital camera that was either scarce or readily available for purchase. Prior research suggests that hedonic products may help attain promotion goals, whereas utilitarian products help attain prevention goals (Chernev, 2004). To rule out the influence of hedonic versus utilitarian product type in this experiment, based on a pretest, the digital camera was identified as the most appropriate target product because it could offer both hedonic and utilitarian satisfaction. Following the lead of Jung and Kellaris (2004), the wording of the scenario was varied to manipulate the scarcity level and the reasons for it, as follows:

"Imagine that you go to a shop to buy a digital camera, and find Digital Camera X on display. The sales assistant mentions [*either that*] there are only two of them left in stock as a result of limited supply [*or*] excess demand; [*or that*] there are plenty of them in stock. He also recommends an alternative for your consideration, Digital Camera Y, which matches X in performance, slightly lower in price, and also in plentiful supply though not on display."

Goal orientation as manipulated by combining two frequently used procedures: participants first completed a paper-and-pencil maze (Chernev, 2004) and then they reported their ideals and their sense of duty, obligation, and responsibility (Chernev, 2004; Pham & Avnet, 2004). In the paper-and-pencil maze task, a cartoon mouse was trapped inside a maze. In the promotion-focused condition, participants guided the mouse through the maze to find food outside; in the prevention-focused condition, they helped it to escape from a pursuer. The promotion cue (food) activated a procedural representation of moving toward a desired end state of nurturance, whereas the prevention cue (pursuer) evoked the desired end state of security. Next, participants allocated to the promotion condition were asked to write down their past and current ideals, hopes, and aspirations while those in the prevention condition wrote down their past and current duties, responsibilities, and obligations.

The experiment was administered in two stages. Participants first completed the goal-orientation priming tasks. After reading the scenario, they complete the questionnaire, which included the dependent variable (i.e., purchase intentions), manipulation checks, and personal information questions.

The questions assessing participants' purchase intentions measured their *willingness* to buy the Camera X, the *likelihood* of their purchasing it, and the *probability* that they would consider doing so ($\alpha = 0.95$). Answers were given on scales derived from Dodds, Monroe, and Grewal (1991), anchored by 1 = very low and 7 = very high.

To verify that the manipulation of goal orientation had been successful, drawing on the precedent of Chang and Chou (2008), participants were presented with the statement "In the digital camera purchase, you tend to" The option "avoid making a wrong decision" was scored as 1, and "choose the ideal brand" as 7. Scarcity manipulation was checked by the question, "How do you rate the availability of Camera X?" answered on a scale adapted from Eisend (2008), anchored at 1 = rather inadequate and 7 = rather adequate. In both the demand-scarcity and supply-scarcity experimental conditions, participants who rated the product to be relatively inadequate, by scoring its availability at less than 4, were further asked to explain the reason that triggered product scarcity: excess demand or limited supply.

Results

As expected, promotion-focused participants exhibited a higher level of goal orientation than prevention-focused participants ($M_{\text{pro}} = 5.79$; $M_{\text{pre}} = 2.34$; $F(1, 238) = 721.97$, $p < 0.001$). That is, those in the promotion-focused experimental condition placed relatively greater emphasis on choosing the ideal brand than on avoiding a wrong decision, when thinking about buying a digital camera. Paired comparison tests

of the success of scarcity manipulation resulted in significantly lower perception of sufficient availability of the product in both the limited-supply scenario ($M_{\text{supply scarcity}} = 2.26$) and the excess-demand scenario ($M_{\text{demand scarcity}} = 2.41$), compared with the no-scarcity condition ($M_{\text{nonscarcity}} = 5.18$; $F(1, 159) = 391.42$, $p < 0.001$ and $F(1, 164) = 340.27$, $p < 0.001$, respectively). Furthermore, no difference was found between the perceived availability for the two scarcity appeals: $F(1, 151) = 1.18$, $p = 0.2782$. All participants in both scarcity conditions identified the reasons for product scarcity correctly.

A 3×2 ANOVA indicated a significant interaction of scarcity condition and goal orientation in influencing purchase intentions: $F(2, 234) = 58.32$, $p < 0.001$. Contrast analysis found that, compared to no-scarcity condition ($M = 3.95$), prevention-focused consumers were more inclined to buy a product in demand-generated scarcity ($M = 5.28$; $t(83) = 6.56$, $p < 0.001$) and more reluctant to do so when the scarcity was supply-generated ($M = 3.35$; $t(74) = 2.52$, $p < 0.05$). In contrast, promotion-focused consumers declared higher purchase intention with respect to products in supply scarcity ($M = 5.27$; $t(83) = 4.35$, $p < 0.001$) and lower intention in the case of demand scarcity ($M = 3.64$; $t(79) = 2.68$, $p < 0.01$), compared to no-scarcity condition ($M = 4.24$). These findings support H1 and H2.

Discussion

The results show an interaction between scarcity appeal and goal orientation. Specifically, demand scarcity generated higher purchase intentions among prevention-focused consumers, whereas supply scarcity resulted in lower purchase intentions. On the other hand, promotion-focused consumers' purchase intentions increased as a result of supply scarcity and decreased in response to demand-scarcity.

STUDY 2

Method

The objective of this second study was to determine whether the findings of Study 1, relating to purchase intentions and demand-versus-supply generated scarcity, would hold true when goal orientation was manipulated in terms of consumers' persistent, rather than primed, traits. The product to which participants in the study reacted was again required to offer both hedonic and utilitarian benefits; after a pretest, a "cruiser bike" was chosen.

The sample was again drawn from a sampling frame comprising undergraduate students in various management classes at a large university in Taiwan. The 279 participants in Study 2 had an average age of 21

and were divided into females (54%) and males (46%). They read the same printed scenario as that in Study 1, and responded to a questionnaire, which included items relating to the dependent variable (purchase intentions, $\alpha = 0.94$), manipulation-checking questions about the scarcity statements, and items from the Regulatory Focus Questionnaire devised by Lockwood, Jordan, and Kunda (2002). Following their research design, this study applied a two-step procedure to the classification of participants as either promotion-focused or prevention-focused. A measure of dominant regulatory focus was first created by subtracting an individual's score on their prevention-goal subscale from the scores on their promotion-goal subscale, a higher score indicating a relatively stronger focus on promotion than on prevention. Participants were then classified around the median split of the measure of dominant regulatory focus (median = 0.44; $n_{\text{pro}} = 136$; $n_{\text{pre}} = 143$).

Results

The manipulation checks for scarcity statements mirror those from Study 1. Participants who had read the limited-edition scenario perceived the product to be significantly more scarce than did those who had been given the version in which the product was plentiful ($M_{\text{supply scarcity}} = 2.24$; $M_{\text{nonscarcity}} = 5.22$; $F(1, 189) = 589.01$, $p < 0.001$). Similarly, those who read the demand-scarcity scenario ($M_{\text{demand scarcity}} = 2.40$) rated the level of product availability lower than those reacting to the no-scarcity scenario ($F(1, 194) = 537.02$, $p < 0.001$). Furthermore, there was no significant difference in mean availability scores between participants assigned to the demand-scarcity condition and those whose scenario contained limited-edition statements ($F(1, 169) = 2.21$, $p = 0.1390$). The reason for scarcity was identified correctly by all participants in both the demand-generated and supply-generated conditions.

The interaction between scarcity statements and goal orientation in the influencing of purchase intentions was significant ($F(2, 273) = 53.73$, $p < 0.001$). Specifically, participants with a persistent focus on prevention expressed stronger purchase intentions when they knew that the target product was scarce because of excess demand than when they were not told of any scarcity ($M = 5.19$ and 4.01 , respectively; $t(92) = 4.50$, $p < 0.001$). Their intention to purchase was substantially lower in the presence of an explanation in terms of supply ($M = 3.40$; $t(90) = 3.2$, $p < 0.01$). By comparison, among participants with a persistent focus on promotion, information about the reason of demand-scarcity resulted in significantly lower purchase intentions than when none was given ($M = 3.66$ and 4.28 , respectively; $t(100) = 3.13$, $p < 0.01$). In the presence of a limited-edition statement, purchase intentions increased from 4.28 to 5.37 ($t(97) = 5.09$, $p < 0.001$). The findings offer further support to H1 and H2.

Discussion

The results of Study 2 suggest that the interaction of reasons for scarcity and goal orientation does influence purchase intentions. Specifically, for participants habitually focused on prevention, intention will be enhanced in the face of demand-scarce options, and decreased by exposure to supply-scarce options. In contrast, for participants habitually focused on promotion, purchase intentions will be increased by supply-generated scarcity, and decreased for products in demand scarcity.

STUDY 3

Method

Study 3 was designed to test H3 and H4, which predicted that different products prompted different regulatory concerns and led to different patterns of susceptibility to scarcity statements. The design of Study 3 followed the pattern of Study 1, with one modification: product types associated with either a promotion focus or a prevention focus were used to manipulate participants' goal orientation, rather than the tasks performed in Study 1. As in Study 1, participants responded to purchase intention questions ($\alpha = 0.94$) and manipulation check measures.

The sampling frame was the same as for Study 1. The 216 selected participants had an average age of 21 and were divided into females (57%) and males (43%). Two products were chosen as the experimental stimuli on the basis that they would evoke different self-regulatory concerns from participants contemplating purchase and use. One was judged to be prevention-priming (sunscreen) and the other to be promotion-priming (perfume). Specifically, consumers' main concerns with respect to sunscreen would be to avoid or minimize such negative outcomes as sunburn, whereas they would be to achieve or maximize such positive outcomes as pleasure in the case of the perfume. To test this distinction, following the lead of Murali et al. (2007), participants were asked at the end of the questionnaire to distribute 100 points between the general goals of achieving a positive outcome or avoiding a negative outcome, in purchasing either sunscreen or perfume.

Results

As expected, the mean score for promotion orientation in the case of perfume ($M = 76.42$) was significantly higher than that for sunscreen ($M = 29.03$; $F(1, 214) = 530.34$, $p < 0.001$). The scarcity manipulation was also perceived as intended. The scenario describing a limited-edition situation ($M_{\text{supply scarcity}} = 2.43$) and that featuring a statement related to excess demand ($M_{\text{demand scarcity}} = 2.51$) both evoked significantly lower

perceptions of sufficient availability compared with the no-scarcity condition ($M_{\text{nonscarcity}} = 4.85$; $F(1, 144) = 257.85$, $p < 0.001$; $F(1, 146) = 248.97$, $p < 0.001$, respectively). Furthermore, no difference was found between the perceived availability with respect to the two types of scarcity ($F(1, 136) = 0.56$, $p = 0.4539$). All participants in both scarcity conditions correctly identified the reasons for the scarcity.

The interaction between statements about scarcity and the promotion- or prevention-evoking nature of the product in influencing purchase intentions was significant ($F(2, 210) = 101.68$, $p < 0.001$). Compared with the nonscarcity condition ($M = 3.82$), products associated with a prevention focus enhanced purchase intentions when presented as demand-scarce ($M = 5.84$; $t(73) = 13.90$, $p < 0.001$), but reduced intentions when presented as supply-scarce ($M = 3.29$; $t(67) = 2.35$, $p < 0.05$). When products associated with a promotion focus were compared with the nonscarcity condition ($M = 4.23$), purchase intentions were enhanced if the scarcity was presented as supply-generated ($M = 5.64$, $t(75) = 7.95$, $p < 0.001$), but diminished when it was presented as demand-scarce options ($M = 3.64$, $t(71) = 2.26$, $p < 0.05$). These findings support H3 and H4.

Discussion

The results from Study 3 confirm that the effect of the scarcity statement on purchase intentions depends on which type of consumer focus the product evokes. Specifically, a prevention focus product enhances purchase intentions when the scarcity is said to be demand-generated, not supply-generated, whereas the opposite is true for a promotion focus product.

STUDY 4

Method

Study 4 tested H5 and H6, relating to the joint effects of the stated reason for scarcity and the regulatory focus of the message on purchase intentions. The sample for Study 4 was again drawn from the cohort of undergraduate students; the 198 participants had an average age of 21 and were split 63: 37% female: male.

Participants were randomly assigned to one of the four experimental conditions in a between-subjects design: demand-scarcity versus supply-scarcity appeal \times message's regulatory focus on promotion versus prevention. Participants were given a booklet containing an experimental scenario, which invited them to imagine themselves shopping for a notebook PC, and noticing a point-of-sale poster promoting Brand X. Versions of the text described it as being scarce on account of either high demand or short supply, and further manipulated the message to be either prevention-focused or promotion-focused. A reproduction of the appropriate version of this hypothetical poster accompanied

each booklet. The stimulus product was chosen after a pretest showing that it offered both hedonic and utilitarian benefits, and could thus rule out the confounding effect of product type.

The headline of the demand-scarcity promotion-focused poster read, in the local language: "Brand X: best-selling notebook. Stock running low." The main text presented the promotion appeal: "Buy the Brand X notebook to get an upgrade. Brand X contributes to the enhancement of work performance." For the prevention-focused version of the demand-scarcity message, the headline was unchanged, but the main text read "Buy the Brand X notebook to avoid a bad choice. Brand X notebook can help reduce the risk of seeming unprofessional." In the supply-scarcity promotion-focused experiment, the headline read "Brand X: limited-edition notebook. Only a few remaining" and the main text added: "Brand X notebooks can give you a unique self-image and let you enhance your professionalism." For the prevention-focused counterpart, the headline was followed by: "Buy the Brand X notebook to avoid mediocrity and the risk of seeming unprofessional." Participants were free to study the poster for as long as they liked, as in real-life circumstances. They then completed a questionnaire related to the purchase intention and the manipulation checks. Purchase intention was measured by the same three items as used in Study 1 (Cronbach's $\alpha = 0.96$).

Results

To check which form of personal goal the message invoked, following the lead of Kim (2006) and Micu and Chowdhury (2010), participants was asked to rate the extent to which they considered a given message to be about either enhancement (promotion-framed messages) or protection (prevention-framed messages), on scale from 1 = definitely not to 7 = definitely. Paired comparison testing indicates that for the demand-scarce notebook, participants in the promotion focus condition thought the message said more about enhancement than about protection ($M = 6.07$ vs. $M = 2.44$; $t(44) = 21.82$, $p < 0.001$), whereas participants in the prevention focus condition thought the opposite ($M = 2.12$ vs. $M = 6.15$; $t(51) = 28.32$, $p < 0.001$). In the case of the supply-scarce notebook, participants in the promotion focus condition considered the message to be more about enhancement than about protection ($M = 5.94$ vs. $M = 2.91$; $t(53) = 24.51$, $p < 0.001$) while those in the prevention focus condition reported the opposite opinion ($M = 2.43$ vs. $M = 6.23$; $t(46) = 23.40$, $p < 0.001$). The message's regulatory focus manipulation was thus shown to have been successful.

A 2×2 ANOVA (scarcity appeal \times message's regulatory focus) with purchase intention as the dependent variable indicated a significant interaction between the two independent variables ($F(1, 194) = 85.05$, $p < 0.001$). Contrast analysis found that, in the case of the demand-scarce product, the message aimed at

engendering a prevention focus achieved higher purchase intention scores than its promotion-focus counterpart ($M = 4.97$ vs. $M = 3.31$; $t(95) = 6.09$, $p < 0.001$). For the supply-scarce product, the outcome was reversed ($M = 4.96$ vs. $M = 3.28$; $t(99) = 7.01$, $p < 0.001$). These results support H5 and H6.

Discussion

The analysis indicates an interaction between the form of scarcity message and the scarcity type. Specifically, demand-scarce products advertised with claims focused on prevention versus promotion enhanced participants' purchase intentions, while a promotion focus was more effective than a prevention focus if the advertised product was in limited supply.

GENERAL DISCUSSION

Though the literature has effectively examined types of scarcity and the mechanisms explaining the effects of demand-generated versus supply-generated scarcity, it has so far paid relatively little attention to consumers' motivations underlying their responses to those two scarcity situations. To fill that gap in the body of knowledge, this study adopted regulatory focus theory (Higgins, 1997)—which organizes the motives determining consumers' goals and actions into a focus on either “promotion” or “prevention”—as a framework for analyzing consumers' responses to scarcity effects.

The results from the four experiments suggest that consumers exposed to different scarcity messages demonstrate unique patterns of purchase intention, depending on their goal orientation. These influences apply to both situational and individual differences. Specifically, when Studies 1 and 2 tested H1 and H2 by priming participants to adopt a certain goal orientation and by measuring their habitual goal orientation, respectively, then manipulating the attributed source of the scarcity and measuring the resultant intention to purchase, prevention-oriented participants were found to be more susceptible to demand-generated than supply-generated scarcity. Those whose focus was on the promotion goal exhibited exactly the converse tendency. Study 3, which tested H3 and H4 by manipulating the nature of the product with respect to the kind of goal orientation it evoked, found that one which elicited a prevention-focused regulatory orientation enhanced purchase intentions if the scarcity was perceived to be demand-generated rather than supply-generated, while the converse applied when the product evoked a promotional focus. Lastly, Study 4, which tested H5 and H6 by manipulating the framing of the messages contained in the point-of-sale posters and the cause of the scarcity, found that those which elicited a promotional focus were more effective than those evoking a prevention focus, in generating intention to purchase, if the scarcity was perceived to be supply-

generated, whereas the relationship was exactly reversed if it was demand-generated. Thus, the present findings have enriched those of previous consumer behavior research studies by suggesting that a consumer's goal orientation may play an important moderating role in the impact of scarcity on purchase intentions.

The findings reported here have significant practical implications. First, even if marketing managers cannot determine their target consumers' personal regulatory orientations in advance of strategy formulation, they can prime them in such a way as to influence the effect of scarcity in broadly predictable directions. Second, marketing planners should consider the type of the product they are offering when developing scarcity strategies. Specifically, if the product is likely to evoke a prevention focus, attributing the scarcity to demand will be a more effective strategy than linking it to supply, and vice versa. Third, this findings offer practical insights into the tailoring of advertising claims to elicit promotion or prevention goals in potential purchasers' decision making, with respect to products that are demand-scarce or supply-scarce. If the tactic is to attribute the scarcity of the product to excess demand, advertising strategy should emphasize prevention-focused messages in pursuit of enhanced intention to purchase; if it is to attribute the scarcity to limited supply, then promotion-focused messages are indicated.

Several features of this study impose limits on the generalization of our findings, each of those in turn representing an opportunity for further research. For example, it focused on products that could be judged to be both hedonic and utilitarian whereas, in reality, products may be consumed for *predominantly* hedonic or utilitarian satisfaction: for example, ice cream on the one hand and mineral water on the other. Chernev (2004) suggests that hedonic and utilitarian products may help to attain promotion and prevention goals, respectively. Future research could examine the joint effects of scarcity-based appeals and utilitarian-hedonic attributes on consumers' purchase intentions. It must furthermore be acknowledged that scarcity may not necessarily enhance intention to purchase a product, and that intention does not always result in behavior.

Given that other studies have shown loss-framed appeals to be more persuasive when focused on a prevention orientation and gain-framed appeals to be more effective when the focus is on promotion goals (Lee & Aaker, 2004), future studies could investigate how consumers respond to scarcity perceived to be demand-generated or supply-generated by manipulating promotion or prevention foci framed and gain or loss framing.

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