Preference Versus Freedom: Two Psychological Meanings of Scarcity and Their Influences on Consumer Choice

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This article conceptualizes two distinct types of scarcity, namely unit scarcity and option scarcity, and shows that unit (option) scarcity decreases (increases) variety seeking. Focus on preference (freedom of choice) mediates the effect. Both effects are present only when a favorite option is included in the choice set.

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EXTENDED ABSTRACT

Marketers frequently use scarcity appeals, such as “while supplies last” and “nearly sold out.” The key message is that product units will soon become unavailable. However, some natural settings may create the feeling of scarcity even when item units are not limited. For example, a store may offer a price discount on only a subset of the entire product category. In this case, even assuming that all sale and non-sale items are fully stocked, the restricted sale promotion may make consumers feel that options available for sale are scarce. Despite this conceptual distinction, prior literature has largely focused on unit scarcity, concealing potential differential effects of the two types of scarcity behind the broad label of “scarcity effects.” This article seeks to address this issue by examining how they may exert different influences on consumer choice, particularly their tendency to seek variety.

We posit that unit scarcity and option scarcity may trigger distinct psychological processes. Based on the finding that scarcity (as operationalized by limited availability of units) polarizes preferences (Zhu and Ratner 2015), we argue that unit scarcity highlights one’s preferences, leading consumers to narrow their item selections to choices that they strongly prefer. Conversely, option scarcity highlights consumers’ freedom of choice (Kim and Drolet 2003), leading them to widen their item selections to re-attain their restricted behavioral freedom (Brehm 1966). Accordingly, we propose that unit scarcity decreases choice variety, while option scarcity increases choice variety.

Study 1 (N=489) tested and contrasted the two scarcity effects. Participants in the control condition read a scenario about a store offering a price discount on 9 soda brands (with pictures), all of which were fully stocked. Participants in the option scarcity condition read the control scenario and were also told that the store had been offering the discount on all of its 21 soda brands but starting this week the discount is limited to 9 brands. Participants in the unit scarcity condition read the control scenario, but were told that there are not many units remaining for each brand. To control for potential confounds due to varied set sizes/brands, the same choice set was used in all three conditions. Participants then indicated which brand(s) of soda and how many bottles of each they would select. There was no restriction on total purchase quantity. Two choice variety measures were used: (1) proportion (i.e., number of different brands chosen relative to total number of brands); and (2) Herfindahl index (Nowlits et al. 2010). The Herfindahl index measure was additionally used because it controls for purchase quantity. As predicted, the results using the proportion/Herfindahl index revealed that compared to those under no scarcity (control), participants made a less varied selection of soda brands under unit scarcity (F(1, 330) = 8.89/5.19, p < .01/0.5; for proportion/Herfindahl-index, respectively), while participants made a more varied selection of soda brands under option scarcity (F(1, 321) = 9.12/10.56, p < .01/0.01), supporting the existence of two scarcity effects that exert opposite influences on variety seeking.

Study 2 (N=191) provided real-world evidence for the proposed scarcity effects. A field experiment was conducted at an Asian supermarket. Four brands of cookies were selected as the target brands, and were placed together in an endcap display. A total of 411 boxes of cookies across 191 purchase cases were checked during a two month period. The control (product display) setting only used a regular sale tag. The unit scarcity setting used, in addition to the regular sale tag, a tag saying “Limited Quantity.” One option scarcity setting used, in lieu of “Limited Quantity,” a tag saying “Sales Limited to Four Flavors.” A second option scarcity setting only included three out of the four brands of cookies and only used the regular sale tag as in the control setting. As earlier, the unit scarcity setting yielded less choice variety than did the control setting (F(1, 94) = 5.86/6.69, p < .05/0.05 for the proportion and Herfindhal-index variety-seeking measures, respectively), while the option scarcity setting yielded more choice variety than did the control setting (F(1, 91) = 4.95/5.37, p < .05/0.05, for first option scarcity setting; F(1, 85) = 14.54, p < .01, for second option scarcity setting).

Study 3 (N=290) examined participants’ focus on preference (for unit scarcity) and focus on freedom of choice (for option scarcity) as factors underlying the relation between the two types of scarcity and variety seeking. Separate mediation analyses were conducted for each process. The indirect negative effect of unit scarcity on choice variety was significantly mediated by focus on preference (95% CI = [0.0010, 0.0281]; [0.0017, 0.0414] for the two variety-seeking measures). The indirect positive effect of option scarcity on choice variety was significantly mediated by focus on freedom of choice (95% CI = [0.0005, 0.0279]; [0.0035, 0.0212]).

Study 4 (N=570) examined the presence of the favorite option as a boundary condition. If our theorizing regarding the process is correct, we should observe both scarcity effects only when the favorite option is included in the set. A 3(type of scarcity: control vs. unit scarcity vs. option scarcity) x 2(inclusion of favorite: favorite included vs. favorite not included) design was used. As expected, there was a significant interaction between scarcity and inclusion of favorite (F(2, 564) = 3.07, p < .05; proportion measure). Both scarcity effects were replicated when the favorite was included (F(1, 210) = 2.87, p < .08 for unit scarcity; F(1, 228) = 4.20, p < .05 for option scarcity). However, scarcity had no impact on variety seeking among participants whose favorite was not present (Fs < 1).

To conclude, our work extends the scope of scarcity research by conceptualizing a new dimension of scarcity. Further, it provides an integrative framework suggesting why unit scarcity decreases variety seeking (preference mechanism), while option scarcity increases variety seeking (freedom mechanism). A successful manipulation of option scarcity in the retail environment may provide potential benefits, including balanced sales, prevention of stock-outs, inventory cost reduction, and customers’ increased frequency of visiting the store.

REFERENCES


