The influence of priming reward stimuli and need for uniqueness on the effectiveness of scarcity as an influencing strategy

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Abstract

Scarcity is often used to persuade people in a variety of domains, for example in the marketing domain to buy more books or in the health domain to decrease snacking behavior. Still, using scarcity as an influencing strategy is not always effective, and many questions remain with regards to when scarcity is effective and when it is not. In the current research we investigated the combined influence of need for uniqueness (i.e., person characteristic) and priming reward stimuli (i.e., situation characteristic) on the effectiveness of scarcity. In an online experiment, participants were either primed with reward stimuli or not, then assessed scarce and non-scarce books, and filled out the need for uniqueness questionnaire. A linear mixed model analysis revealed that participants, regardless of the priming manipulation, valued scarce books more compared to non-scarce books (i.e., stronger purchase intentions and more favorable attitude). This effect was moderated by participant’s need for uniqueness. An explanation for the latter result might be that need for uniqueness has a deprecating effect on the valuation of non-scarce books. The results did not reveal the predicted combined influence of need for uniqueness and priming reward stimuli on the effectiveness of scarcity. Concluding, these results replicate the finding that scarcity is an effective influencing strategy, and that its effectiveness depends on a person’s need for uniqueness. Finally, implications for marketing and persuasive technology are discussed.

Keywords: scarcity, priming reward stimuli, need for uniqueness, social influence
The influence of priming reward stimuli and need for uniqueness on the effectiveness of scarcity as an influencing strategy.

Imagine you are browsing on amazon.com to buy a book for the upcoming holidays, you notice a book advertised as “Limited edition”, which draws your interest and ultimately you buy this specific book. Marketeers often use the influencing strategy of scarcity (such as in this example, “Limited edition”), to increase people’s valuation of products. They use scarcity in every situation imaginable, but, importantly, without considering the effects of situation and person characteristics on the effectiveness of scarcity. This is surprising, because research shows that the influencing strategy of scarcity is not always effective, and certainly, person and situation characteristics do affect the effectiveness of scarcity (van Herpen, Pieters, & Zeelenberg, 2005; Cialdini, Griskevicius, Sundie, & Kenrick, 2007). Furthermore, many questions remain with regards to when scarcity is effective and when it is not (van Herpen, Pieters, & Zeelenberg, 2012).

The overall goal of influencing strategies is to influence people’s behavior or attitudes. More specifically, influencing strategies are used for many different purposes, such as to persuade people to buy products but also to help people improve their behavior. The influencing strategies often used are social proof, scarcity, liking, authority, reciprocity and commitment (Cialdini, 1993). For example in the domain of Persuasive Technology, influencing strategies are used to help people to smoke less, to move more or to eat healthier (Fogg, 2002). Moreover, researchers in the field of Human-Technology Interaction recognized that there is a growing role for Persuasive Technology in society (IJsselsteijn, de Kort, Midden, Eggen, & van den Hoven, 2006). Often these persuasive technologies make use of influencing strategies to change human behavior (Fogg, 2002).

In the current work we focused on the influencing strategy of scarcity. The principle of scarcity holds that items are perceived as more valuable when they are not readily available
(Cialdini, 1993; Brock, 1968). For example a bookstore could use scarcity phrases such as “limited edition”, “24 hours offer” and “only 2 left” to promote a book to their customers. Furthermore, there are two types of scarcity: demand scarcity and supply scarcity. That is, demand scarcity (e.g., “Only 2 items left due to high demand”) signals that products are popular and therefore that they must be good. Supply scarcity (e.g., “Limited edition”) signals that the product is unique and therefore might attract people who want to stand out (van Herpen et al., 2005).

Although it is believed that the effect of the influencing strategy scarcity is robust (Cialdini, 1993), in recent research a more tempering perspective is suggested. That is, an early meta-analysis on the effect of scarcity (Lynn, 1991) showed that the effect of scarcity on perceived value is only modest ($r = .12$). Furthermore, recent research notes that while scarcity can have important implications for choice of products in general, it is largely unknown when exactly the influencing strategy scarcity is effective and when it is not (van Herpen et al., 2014).

Earlier research findings suggested that person characteristics and situation characteristics can independently influence the effectiveness of scarcity. That is, in a study by van Herpen et al. (2005) the researchers showed that the effect of scarcity was moderated by the person characteristic of need for uniqueness. Participants evaluated wine, advertised as supply scarce, better when they had a higher need for uniqueness. The notion that person characteristics are responsible for the effectiveness of scarcity is also supported in recent studies by Kaptein (2012). Although Kaptein did not suggest specific person characteristics that lead to the effectiveness of scarcity, he proposed that the effectiveness of influencing strategies (including scarcity) are primarily determined by personality compared to situation characteristics (2012). In addition, there are studies suggesting that situation characteristics could affect the effectiveness of scarcity. For example, in a study by Cialdini et al. (2005),
motives that were instilled by the situation influenced the effectiveness of various influencing strategies (including scarcity). Specifically, scarcity was effective in the situation that made the motive of uniqueness salient (i.e., in the domain sports cars), whereas scarcity was ineffective in the situation that made the accuracy motive salient (i.e., in the domain home security). Furthermore, in a different study (Griskevicius, Goldstein, Mortensen, Sundie, Cialdini, & Kenrick, 2009), situations that induced specific emotions also influenced the effectiveness of influencing strategies. That is, in situations that induced romantic desire, scarcity was effective, whereas in situations that induced fear, scarcity was ineffective.

While previous studies examined either the effects of person characteristics or situation characteristics on the effectiveness of scarcity, no research, to our knowledge, studied the combined effect of person and situation characteristics on scarcity. In line with the field theory of Lewin (i.e., Behavior = Person x Environment; 1951), we propose that an interaction between person and situation characteristics could influence the effectiveness of scarcity. Therefore, in the current research, we investigated the combined influence of a person characteristic and situation characteristic on the effectiveness of scarcity.

More specifically, in the current research, the person characteristic we investigated was people’s need for uniqueness and the situation characteristic, presence of priming reward stimuli. Berger and Shiv (2011) showed that priming reward stimuli (i.e., sample of a beverage or photos of swimsuit models) influenced a person’s preference for unique products. That is, participants that were exposed to priming reward stimuli, wanted to have unique products more compared to participants that were not exposed to priming reward stimuli. The reasoning of the researchers is that people have a general reward system with a common currency for rewards (Saxe & Haushofer, 2008), and situations with priming reward stimuli present can motivate reward-seeking behavior by stimulating the general reward system (Berger & Shiv, 2011). Examples of priming reward stimuli that stimulate the general reward
system include samples of beverages, pictures of swimsuit models (for men) and underwear of men (for women) (Berger & Shiv, 2011; van den Bergh, Dewitte, & Warlop, 2008; Festjens, Bruyneel, & Dewitte, 2013). Furthermore, the study of Berger and Shiv (2011) showed that this effect might be moderated by a person’s need for uniqueness, as people with a higher need for uniqueness find unique products more rewarding.

In the current research, we expected that the combined influence of need for uniqueness and priming reward stimuli could also affect the preference for supply-scarce products. We expected so, because supply-scarcity is used to signal product uniqueness, and therefore we expected similar effects as shown in the study by Berger and Shiv (2011). That is, when people are exposed to priming reward stimuli their general reward system gets stimulated, this should lead to increased reward seeking behavior, and because people with a high need for uniqueness find supply-scarce products rewarding, we expected people’s preference for supply-scarce products to increase.

Specifically, we predicted a three way interaction effect of people’s need for uniqueness, priming reward stimuli (absent vs present) and scarcity (non-scarcity vs scarcity) on people’s valuation of products (i.e., purchase intentions and attitude). We expected that participants exposed to priming reward stimuli will have stronger purchase intentions and evaluate supply-scarce products better compared to participants that were not exposed to priming reward stimuli, and that this effect is moderated by a person’s need for uniqueness. Furthermore, we expected this effect not to occur for non-scarce products.

In addition, with this experiment we tested for the main effect of scarcity on people’s evaluation and purchase intentions of products and for the two-way interaction effect of scarcity and need for uniqueness on people’s evaluation and purchase intentions of products. Testing for the main effect of scarcity is important because recent research suggests this effect does not occur in all situations (Cialdini et al., 2005; Van Herpen et al., 2014). In addition, for
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a similar reason, we tested for the two-way interaction effect of scarcity and need for uniqueness. That is, although some previous research showed that need for uniqueness enhanced the valuation of scarce products (van Herpen et al., 2005; Snyder & Fromkin, 1980; Lynn, 1987), there are also several studies where this effect could not be replicated (Atlas & Snyder, 1978; Dutcher, 1975; Lynn, 1989). As possible explanation, research suggested that these opposing findings might be attributable to the need for uniqueness questionnaire as it is not sensitive to private need for uniqueness (Lynn & Snyder, 2002).

In accordance to earlier research findings and our proposed theories, the current work has the following hypotheses:

H1: People will have a higher evaluation and stronger purchase intentions of scarce items compared to non-scarce items.

H2: People’s evaluation and purchase intentions of items will be moderated by need for uniqueness only for scarce items, not for non-scarce items.

H3: Scarcity will be more effective in situations with priming reward stimuli present compared to situations without priming reward stimuli present, and this effect will be moderated by people’s need for uniqueness. Furthermore, we predict no such effect for non-scarce items.

We conducted an online experiment to test our hypotheses. In this experiment half of the participants were shown priming reward stimuli while the other half of the participants were not. Then all participants had to evaluate both scarce and non-scarce books. For the evaluation of each book, we tapped each person’s attitude towards the book and each person’s purchase intentions of the book. We chose these dependent measures, because according to the theory of planned behavior a person’s attitude and intention are the most important
determinants for predicting actual behavior (Ajzen, 1991). Afterwards each participant’s need for uniqueness was measured by letting the participants fill out the need for uniqueness questionnaire (Snyder & Fromkin, 1977).

Method

Participants

One hundred thirty male participants from the United States of America were recruited using Amazon’s Mechanical Turk to participate in an online experiment. We chose a sample of American males to closely resemble the sample of participants in the study by Berger and Shiv (2011). In our experiment, we used a image exposure task (c.f., Berger & Shiv, 2011), which, for participants in the prime condition, consisted of images of women in swimsuits. These images were hypothesized to activate the general reward system for American males in particular (Berger & Shiv, 2011). Furthermore, in our sample ages ranged from 19 to 58 years ($M = 30.51, SD = 8.13$). The participants were randomly assigned to one of the two prime conditions (control vs. prime). The participants earned 1.50 U.S. dollars for completion of the survey that took them approximately 15 minutes.

Materials

In this experiment we used a method comparable to the method of the study by Berger and Shiv (2011). That is, we used an image exposure task as a prime manipulation similar to theirs and we measured a person’s need for uniqueness using the same questionnaire (Snyder & Fromkin, 1977). Because in the current study we were interested in people’s evaluation and purchase intentions of scarce and non-scarce products, instead of measuring if people preferred unique products, we measured people’s purchase intentions and evaluation of scarce products (i.e., books with supply-scarcity appeals) and non-scarce products (i.e., books without scarcity appeals).
Because we recruited the participants using Amazon’s Mechanical Turk, we needed a platform that allowed us to administer the questionnaire online. Qualtrics proved useful, as it allowed us to have participants rating images shown in random order (of swimsuit models, dogs and images of online bookstore). Furthermore, online participant recruitment using Amazon’s Mechanical Turk was particularly valuable. We could quickly find participants for our experiment while only giving them a relative (compared to lab studies) small reward.

For our prime manipulation, we used an image exposure task (c.f., Berger & Shiv, 2011). That is, previous research showed that sexually arousing stimuli instigate a greater urgency to consume anything rewarding (van den Bergh, Dewitte, & Warlop, 2008). In the study by Berger and Shiv (2011), an image exposure task was used as manipulation to show participants (i.e., male participants only) in the prime condition images of swimsuit models, whereas in the control condition, participants were shown images of dogs. In their study, participants preferred more unique products when they had been exposed to arousing images as opposed to control images. Therefore, we used a similar image exposure task as prime manipulation. That is, in the current study participants in the prime condition evaluated nine images of swimsuit models, and participants in the control condition evaluated nine images of dogs. Specifically, the participants were asked to rate how much they liked the photos they were shown (nine in total, 1=Don't like at all, 9=Like a great deal). Only the images of swimsuit models should prime the general reward system, and thereby increase reward-seeking behavior.

For our dependent variable measure the participants evaluated books in an imitation online bookstore (see Figure 1). Each participant assessed six books (i.e., books that were non-popular, and were not targeting a specific audience), three random books were presented with a supply-scarcity appeal (c.f., Kaptein, 2012; Table 1) and three random books were
presented without scarcity appeal. We chose for supply-scarcity appeals because this type of scarcity is used to signal product uniqueness (van Herpen et al., 2005).

Table 1

<table>
<thead>
<tr>
<th>Scarcity Messages (supply-scarcity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Edition. This book is a limited edition and signed by the author. Availability is limited.</td>
</tr>
<tr>
<td>Almost Out of Stock. This book is almost out of stock. There are only a few copies left so make your purchase now.</td>
</tr>
<tr>
<td>Collector’s Item. There are a limited number of prints of this edition and each book is signed and numbered. A pure collector’s item.</td>
</tr>
</tbody>
</table>

Figure 1. Example of a book page with scarcity appeal.
For each of the six books, each participant assessed three statements with regards to their purchase intentions of the book (7 points scale; $a = .98$; Dodds, Monroe, & Grewal, 1991), and responded to four questions that measured their evaluation of the book (10 points scale; $a = .93$; Kaptein, 2012).

After the participants assessed the books, the participants filled out the need for uniqueness questionnaire (32 items, $a = .89$; Snyder & Fromkin, 1977).

**Design**

The study had a continuous (need for uniqueness) x 2 (prime: control vs prime) x 2 (scarcity: scarcity vs non-scarcity) mixed design. Need for uniqueness and prime were between participants factors and scarcity was a within participants factor. Specifically, prime and scarcity were manipulated independent variables, and need for uniqueness was a measured independent variable.

**Procedure**

Participants first were introduced to the study and were shown the informed consent form. By pressing on the continue button, the participants gave their informed consent. Then they had to take part in the image exposure task. Participants in the prime condition were asked to evaluate nine photos of swimsuit models and participants in the control condition were asked to evaluate nine photos of dogs (“How much do you like this photo?”, 1 = Don't like at all, 9 = Like a great deal.). Then in the next part of the experiment the participants had to assess six books (i.e. in random order, three scarce books and three non-scarce books), and they were told: “In the next part you will visit an online bookstore. The online bookstore wants to know which books people find interesting. Therefore, they are asking you to give your judgment about a couple of books in their collection. You will be asked to judge six books randomly chosen from the total book collection of the online bookstore. Please have a
good look at the information of each book (cover picture + description), then answer the questions below each book item.” Each book was shown on a new page with three purchase intentions statements and four evaluation questions below the book item. After assessing the statements and answering the questions, the participants had to press the continue button to go to the next page and to go to the next book. Then after assessing the six books, the participants were asked to fill out the need for uniqueness questionnaire. After filling out this questionnaire, the participants, as a manipulation check, were asked if they could recall what they saw during the image exposure task (“During the first part of the survey you had to rate photos. What did you see on these photos?”), open question) and if they wanted to see more of these photos (“How much would you like to see more of these photos?”, 1 = not at all, 7 = very much). Then the participants were asked to answer questions with regards to their demographics (i.e, country, age, gender, education level, Amazon’s MTurk worker id). Finally, the participants were shown a debriefing page that included a code that participants had to use on Amazon Mechanical Turk to receive their reward for participation.

Results

To check whether our prime manipulation successfully activated the general reward system, we asked the participants whether they could correctly recall what they saw on the photos during the image exposure task and how much they wanted to see more photos of the ones they saw during the image exposure task. The manipulation seemed adequate. Results of the first question indicated that every participant correctly recalled what they saw on the photos during the image exposure task. Furthermore, results of the second question were submitted to an independent samples t-test with the two prime conditions (control vs prime) as groups. The results showed a significant difference between the prime groups, $t(128) = 4.06, p < .001, r = .34$, indicating that participants in the prime condition ($M = 5.78, SD =$
1.52) wanted to see more photos compared to participants in the control condition ($M = 4.61$, $SD = 1.77$).

To test our hypotheses, we built two linear mixed models. That is, one linear mixed model for each dependent measure: evaluation and purchase intention. Both models included participants as random intercept, and scarcity (no scarcity vs scarcity\(^1\)), need for uniqueness (continuous) and prime (control vs prime) as fixed factors. Furthermore, because analyses revealed a main effect of book on evaluation and purchase intentions, both models also included book as a random factor.

Our first hypothesis predicted a main effect of scarcity on evaluation and purchase intentions of products. To investigate this hypothesis, we looked at the results in both linear mixed models. Results of the first model showed a significant main effect of scarcity on evaluation, $F(1, 645.55) = 13.13, p < .001$. Participants evaluated books with scarcity ($EMM = 4.91, SE = 0.32$) better than books without scarcity ($EMM = 4.44, SE = 0.32$). Furthermore, in the second model also showed a main effect of scarcity on purchase intentions, $F(1, 645.55) = 9.39, p < .001, r = .55$. Participants’ purchase intentions were stronger for books with scarcity ($EMM = 3.21, SE = 0.22$) compared to books without scarcity ($EMM = 2.92, SE = 0.22$).

To test the second hypothesis, that an interaction effect of scarcity and need for uniqueness on evaluation and purchase intention of products will exist, we looked at the results for this interaction in both models. Results of the first model showed a marginal significant interaction effect of scarcity and need for uniqueness on product evaluation, $F(1, 644.96) = 2.74, p = .099$. In the second model the results revealed no significant interaction effect of scarcity and need for uniqueness on purchase intention, $F(1, 644.96) = 2.61, p = \ldots$

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\(^1\) Analyses revealed no significant differences among the three supply-scarcity appeals on the two dependent measures, Evaluation: $F(2, 387) = .667, p = .514$, Purchase intentions: $F(2, 387) = .637, p = .529$. 


.107. Looking at Figure 2, the results in the first model showed that people with a high need for uniqueness (> mean + 1 SD), evaluated scarce books better ($EMM = 4.93, SE = .35$) compared to non-scarce books ($EMM = 4.26, SE = .35$), $F(1, 645.24) = 14.09, p < .01$.

To further analyze the interaction effect of scarcity and need for uniqueness on product evaluation we submitted the data to a linear regression analysis. That is, we argue that this analysis provided us valuable information as it allowed us to extract the standardized regression coefficient of the interaction effect, and to do simple slope analyses (for scarcity x need for uniqueness and non-scarcity x need for uniqueness). The regression results revealed a non-significant (but similar to the result in the mixed model analysis) scarcity by need for uniqueness interaction ($\beta = .14, t(776) = 1.65, p = .100$). Furthermore, simple slope analyses revealed that participant’s evaluation of non-scarce books was negatively influenced by need for uniqueness ($\beta = -0.26, t(776) = 2.20, p < .05$). There was no corresponding effect for need for uniqueness on participant’s evaluation of scarce books ($p = .901$).

Figure 2. The interaction effect of scarcity and need for uniqueness on book evaluation.
To test our third hypothesis, the existence of a three-way interaction effect of scarcity, need for uniqueness and prime on evaluation and purchase intentions of products, we again assessed the results of both models. Results of the first model did not reveal a significant effect for the three way interaction on evaluation, $F(1, 645.38) = 2.19, p = .140$. Also in the second model there was no significant effect for the three way interaction on purchase intention, $F(1, 645.35) = 1.22, p = .269$.

**Exploratory analysis**

In addition, in the first model (dv: evaluation), the results showed a marginal significant interaction effect for prime and need for uniqueness on evaluation (i.e., not distinguishing between scarce and non-scarce books), $F(1, 129.30) = 3.40, p = .068$ (see Figure 3). Furthermore, when we submitted the data to a linear regression analysis, the results revealed a significant interaction effect of prime and need for uniqueness on book evaluation ($\beta = .24, t(776) = 2.85, p < .01$). In addition, the simple slope analyses showed that for participants that were not primed with rewarding stimuli, need for uniqueness had a negative effect on product evaluation ($\beta = -.32, t(776) = 2.82, p < .01$). For participants that were primed with rewarding stimuli need for uniqueness did not have a significant effect on product evaluation ($p = .204$).

Furthermore, in the second model (dv: purchase intentions), the results showed a marginal significant effect for prime on purchase intentions, $F(1, 129.31) = 2.79, p = .097$. Participants who were primed with swimsuit models had less purchase intentions ($EMM = 2.90, SE = .25$) compared to participants that were in the control condition ($EMM = 3.23, SE = .25$). Also, did the results show a marginal significant effect for prime and need for uniqueness on purchase intentions, $F(1, 129.31) = 3.43, p = .066$ (see Figure 3). Furthermore, when we submitted the data to a linear regression analysis, the results revealed a significant
interaction effect of prime and need for uniqueness on purchase intention ($\beta = .18, t(776) = 2.94, p < .01$). In addition, the simple slope analyses showed that for participants that were not primed with rewarding stimuli, need for uniqueness had a negative effect on purchase intentions ($\beta = -.30, t(776) = 3.52, p < .01$). For participants that were primed with rewarding stimuli need for uniqueness did not have a significant effect on purchase intentions ($p = .46$).

![Figure 3](image)

**Figure 3.** The interaction effect of prime and need for uniqueness on evaluation (left) and purchase intentions (right).

Lastly, when we did our mixed model analyses on each of the prime conditions alone, we found some interesting results. That is, the results showed a significant interaction effect of scarcity and need for uniqueness on book evaluation in the control condition, $F(1, 325.29) = 5.31, p < .05$ (see Figure 4). For the prime condition the results did not show this interaction effect. Furthermore, the results showed a similar result for the interaction effect of scarcity and need for uniqueness on purchase intentions. That is, in the control condition this interaction effect showed a significant result, $F(1, 325.29) = 4.28, p < .05$ (see Figure 4). Also, the results did not show a significant interaction effect in the prime condition.
Discussion

In the current research, we investigated whether the effect of scarcity is moderated by a person’s need for uniqueness and priming reward stimuli. To investigate this, in our experiment, participants were asked to assess books with supply-scarcity appeal and without scarcity appeal. Half of the participants were shown priming reward stimuli before assessing the books, while the other half of the participants were not. Furthermore, each participant filled out the need for uniqueness questionnaire. We predicted that priming reward stimuli would stimulate the general reward system and that for people with a high need for uniqueness, these priming reward stimuli would affect the evaluation and purchase intentions of scarce products. The results did not support this hypothesis. However, the results did show a main effect of scarcity on product valuation and the results showed a marginal significant interaction effect of scarcity and need for uniqueness on product valuation.

The present research provides empirical support for the hypothesis of the main effect of scarcity. That is, our experiment showed that the social influence strategy of scarcity (i.e., supply-scarcity) is useful to persuade people to buy books: participants valued scarce books
more compared to non-scarce books (i.e., stronger purchase intentions and more favorable attitude). Therefore, scarcity can be seen as an effective influencing strategy. These results replicate earlier research findings that scarcity is an effective influencing strategy (e.g., Cialdini, 1993; van Herpen et al., 2014).

Interestingly, the current study sheds a novel light on the interaction effect of scarcity and need for uniqueness. That is, while previous studies suggest that people’s need for uniqueness enhances preference for supply-scarce products (van Herpen et al., 2005; Fromkin & Snyder, 1980; Lynn, 1991), we only found that people with a high need for uniqueness prefer non-scarce products less compared to people with a lower need for uniqueness. For scarce products we did not find an effect of need for uniqueness. In addition, our exploratory results suggest that this interaction effect only existed when people were primed with non-rewarding stimuli (i.e., dogs). Although some previous research showed that need for need uniqueness enhanced the valuation of scarce products (van Herpen et al., 2005; Fromkin & Snyder, 1980; Lynn, 1991), there are also several studies where this effect could not be replicated (Atlas & Snyder, 1978; Dutcher, 1975; Lynn, 1989). This non-robustness of the scarcity and need for uniqueness interaction effect could explain why in the current study need for uniqueness did not enhance the valuation of scarce products. However, to our knowledge, no previous research showed a depreciation effect of need for uniqueness on valuation of non-scarce products. This is a possible avenue for future research.

The current study did not find support for the three-way interaction effect of scarcity, priming reward stimuli and need for uniqueness. Furthermore, the results suggest that priming reward stimuli do not influence high need for uniqueness people’s preference for scarcity products. In the current study we did not directly measure the general reward system, as this would require a fMRI scanner (Saxe, & Haushofer, 2008). Therefore we cannot with certainty know whether the prime stimuli were affecting the general reward system and if scarce
products were perceived as rewards. To our defense, our method closely resembled the methods of previous studies that were used to influence the general reward system (Berger & Shiv, 2011). However, future studies could examine the effects of priming reward stimuli (such as the image exposure task in our experiment), and scarce products on the general reward system using a direct measure of the general reward system.

In an attempt to explain our results, we propose that people’s need for uniqueness influenced the results in a different way than expected. Previous research suggested that people with a high need for uniqueness just want to show that they are different from ordinary people (Lynn & Snyder, 2002). Furthermore, preferring scarce products over non-scarce products is not the only way for people to show their uniqueness (Lynn & Snyder, 2002). For example, people with a high need for uniqueness might prefer unconventional and novel reasons to explain their consumer decisions (Simonson & Nowlis, 2000). We argue that in our experiment we provided participants with a different option to signal their uniqueness. That is, when participants were first asked to evaluate photos of swimsuit models and then books, the stereotypical view predicts that ordinary males find books dull compared to swimsuit models. However, people that want to show that they are different (i.e., people with a high need for uniqueness), might instead show their interest for books to stress their uniqueness, and deviate from the stereotypical view. This is exactly what the results showed. When we showed participants priming reward stimuli (i.e., swimsuit models), need for uniqueness enhanced book valuation and there was no significant interaction effect of scarcity and need for uniqueness on book valuation. Furthermore, when we did not show participants priming reward stimuli (i.e., we showed photos of dogs), we did not provide the participants with the possibility to differentiate from the stereotypical view. Instead the results showed an interaction effect of scarcity and need for uniqueness on book valuation. To show their
uniqueness, participants with a high need for uniqueness disliked non-scarce books compared to scarce books.

The current study showed that scarcity is an effective influencing strategy, and that its effectiveness seemingly depends on a person’s need for uniqueness. We were unable to demonstrate that the effectiveness could be affected by an interaction of a person characteristic and a situation characteristic. Nonetheless, the current study showed some interesting outcomes. That is, in a situation where people evaluate both scarce and non-scarce products (i.e., like many real-life shopping situations), need for uniqueness has a depreciating effect on the valuation of non-scarce products. Furthermore, to explain our results we propose that people’s need for uniqueness manifests itself to the extent people want to be different from ordinary people. Ultimately, the situation dictates which options for differentiation are available.

Furthermore, the current study provides several notions that are fruitful for exploration for future research, such as testing the effects of priming reward stimuli and scarcity on the general reward system with an fMRI scanner, the depreciation effect of need for uniqueness on non-scarcity product valuation, and the combined influence of need for uniqueness and situation characteristics on consumer behavior.

To summarize, it seems beneficial for practitioners and marketers to use the influencing strategy scarcity. While the current study did not provide definite answers to the question of when scarcity is effective or not, it does show practitioners the importance of considering how person and situation characteristics (e.g., need for uniqueness and reward stimuli) might influence overall behavior. Moreover, the current study showed that scarcity, in general, is an effective influencing strategy, and therefore it has the potential to be used by persuasive technology to persuade people to be healthier, or in online marketing to persuade people to buy the latest science-fiction book.
References


