



Food, sex and the hunger for distinction^{☆,☆☆}

Jonah Berger^{a,*}, Baba Shiv^b

^a Wharton School, University of Pennsylvania, Philadelphia, PA 19104, USA

^b Stanford Graduate School of Business, Stanford, CA 94305, USA

Received 17 August 2010; revised 26 January 2011; accepted 28 January 2011

Available online 11 March 2011

Abstract

Consumer preferences are often influenced by the distinctiveness of the options involved, but do needs for distinctiveness display motivational reward properties? Four studies suggest that they do. Activating needs for distinctiveness impacts the desirability of other, seemingly unrelated rewards, and reciprocally, preferences for distinctiveness are impacted by the presence of seemingly unrelated reward stimuli. Further, these cross-domain spillover effects were moderated by sensitivity to the general reward system and satiated by even seemingly unrelated intervening rewards. These findings shed light on the nature of distinctiveness and its implications for consumer behavior.

© 2011 Society for Consumer Psychology. Published by Elsevier Inc. All rights reserved.

Keywords: Distinctiveness; Identity; Consumer choice

Distinctiveness is an important identity motive that often impacts consumer preferences. People purchase distinctive clothes, for example, because they want to stand out from others, or order unique entrées to differentiate themselves from their dining partners. Thus how unique a given product or brand is has important implications for evaluation, choice, and preference.

But do preferences for similarity and distinctiveness exhibit motivational reward characteristics? Beyond merely noting that people prefer one thing or another, recent research provides a more nuanced view of preference as driven by a liking component and a more motivational reward component (Berridge & Aldridge, 2008; Higgins, 2006). This difference has important repercussions for understanding the nature of similarity and distinctiveness, as well as their effects on consumer behavior. Rewards are not just welcome positive outcomes but actively “hungered” for in that they arouse drive

states and reward pursuit. For example, they exhibit cross-domain “spillover” such that inducing a drive state for a reward in one domain can increase the attractiveness or desirability of reward stimuli even in seemingly unrelated domains (Knutson et al., 2008; van den Bergh, Dewitte, & Warlop, 2008; Wadhwa, Shiv, & Nowlis, 2008).

Consequently, if distinctiveness possesses motivational reward characteristics, it should have profound downstream effects on consumer behavior. Priming needs for distinctiveness, for example, should not only impact preferences for products that foster distinctiveness, but also spillover and affect the desirability of other rewards, such as one’s favorite food. Similarly, exposure to food, or sexually arousing stimuli, may impact preferences for more unique options.

This research investigates these possibilities. Four studies test whether distinctiveness exhibits motivational reward characteristics, and if so, how this impacts consumer behavior. We find that priming distinctiveness impacts the desirability of rewards, and reciprocally, preferences for distinctiveness are impacted by the presence of seemingly unrelated reward stimuli. Further, these cross-domain spillover effects are moderated by individual differences in sensitivity to the general reward system. Finally, these effects can be satiated by even seemingly unrelated intervening rewards. Taken together, our research provides a

[☆] The authors thank Jennifer Aaker, Ab Litt, Monica Wadhwa, Christian Wheeler, and members of Stanford’s Café Verona sessions for their feedback at various stages of this project.

^{☆☆} Edited by C.W. Park.

* Corresponding author.

E-mail addresses: jberger@wharton.upenn.edu (J. Berger), shiv_baba@gsb.stanford.edu (B. Shiv).

richer understanding of the nature of distinctiveness and its implications for consumer behavior.

Differentiation desires and product preferences

Across the social sciences, research has examined the human desire for differentiation. Though this desire varies across individuals and cultural contexts, at a basic level, individuals want to maintain some difference relative to others (Brewer, 1991; see Vignoles, Chrysoschoou, & Breakwell, 2000 for a review). The uniqueness literature (Snyder & Fromkin, 1980), for example, argues feeling overly similar is an aversive state that individuals attempt to resolve by shifting their attitudes to reassert their individuality.

The desire for differentiation also impacts preferences (Snyder, 1992). Leibenstein (1950) argues that people “search for exclusiveness...through the purchase of distinctive clothing, foods, automobiles, houses, or anything else that individuals may believe will in some way set them off from the mass of mankind” (p.184). A car owned by 10% of people, for example, is more unique than a car owned by 25% of people. Along these lines, individuals made to feel overly similar to others prefer scarce experiences (Fromkin, 1970) and when choosing in group settings, consumers tend to avoid options chosen by other members of the group (Ariely & Levav, 2000).

Individual differences in desires for differentiation also shape preferences. Consumers with higher need for uniqueness (CNFU, Tian, Bearden, & Hunter, 2001) prefer scarce and customized products (Lynn & Harris, 1997) and are more likely to choose products that are distinct (Tian et al., 2001). Similarly, individuals with a dominant independent self-construal (e.g., Americans compared to East Asians) have been shown to exhibit greater preference for more unique products (Aaker & Schmitt, 2001; Kim & Markus, 1999).

But while it is clear that individuals often prefer products that foster distinctiveness, the nature of these preferences is less clear: Does distinctiveness exhibit motivational reward characteristics?

Reward characteristics

Rewards possess some unique characteristics. First they display drive transference or cross-domain spillover: exposure to reward stimuli in one domain (e.g., erotic pictures) enhances the motivational impetus to seek out rewards in an unrelated domain (e.g., money). Rewards ranging from money, erotic stimuli, and social acceptance activate the same mesolimbic dopamine pathways in the brain, pointing to a literal common currency for rewards in the brain (Saxe & Haushofer, 2008). The existence of this “common currency” led some researchers to propose that if the motivational reward system is potentiated by a reward-cue in one domain, it can also increase the pursuit of alternative rewards in the environment. In other words, the pursuit of rewards need not be specific to a domain but can be “secular.” This proposition has been tested in both behavioral as well as fMRI studies. For

example, Wadhwa et al. (2008) showed that exposure to a tasty beverage enhanced the desire for a romantic movie and for an experience at a spa. Similarly, van den Bergh, Dewitte and Warlop (2008) showed that male participants exposed to erotic pictures exhibited enhanced desire for money. Further, Knutson et al. (2008) showed that exposure to erotic pictures enhanced the desire for more rewarding monetary gambles and that this enhanced desire was mediated by activation in the nucleus accumbens.

Second, rewards display cross-domain satiation, which should moderate the effects of drive transference. Though extreme drives can likely only be satiated by rewards from the same domain (e.g., extreme hunger requires food), research suggests that cross-domain spillover effects can be satiated by rewards from other domains. Giving participants an intervening surprise reward (i.e., a dollar), for example, eliminated the effect of exposure to food on the desirability of other rewards (Wadhwa et al., 2008).

Finally, rewards also display drive-dependent attractiveness. The stronger the felt drive state the more attractive related rewards become. Sugar is tastier when people are hungry (Cabanac, 1979) and water is more refreshing when people are thirsty. Similarly, recovering heroin addicts valued a dosage of a heroin replacement drug twice as much when they had been deprived of their normal dosage (Giordano et al., 2002). These effects also extend to individual differences in reward desirability. Exposing individuals to a frosty mug of beer increased the urge to drink, for example, but only among people who drink heavily (Kambouropoulos & Staiger, 2001).

The current research

We suggest that distinctiveness is rewarding, and as such, should exhibit the characteristics noted above. First, drive transference suggests that cross-domain spillover effects should be reciprocal. Just as one rewarding stimulus (e.g., A) can affect the desirability of another rewarding stimulus (e.g., B) in a different domain, so too should the reverse occur, whereby exposure to B should impact the desirability of A. In the context of distinctiveness, this suggests that presenting a cue related to distinctiveness should enhance the desire for a reward in an unrelated domain (e.g., food). Similarly, the reciprocal effect should also occur, whereby rewards from seemingly unrelated domains should enhance the desirability of unique products.

Second, distinctiveness should also show cross-domain satiation. The effect of a rewarding stimulus on drives for distinctiveness should be able to be satiated by a reward from a different domain.

Finally, though we do not focus on this issue in depth, the combination of drive transference and drive-dependent attractiveness suggest that individual differences in reward value should also moderate the spillover effects of drive activation on rewards in other domains. Exposure to beer also boosted people's desire for cross-domain rewards (e.g., money), for example, but only among heavy drinkers

(Kambouropoulos & Staiger, 2001). This suggests that if distinctiveness is rewarding, priming distinctiveness should have a greater impact on the desirability of other rewards among people who actually desire distinctiveness (e.g., are American or have high needs for uniqueness).

We test these aspects of rewards in the following ways. First, we test whether distinctiveness exhibits drive transference or spillover cross-domain effects. We examine whether priming distinctiveness influences the desirability of other rewards (i.e., food, Experiment 1) and whether activating a drive for food influences preferences for more unique products (Experiment 2). Second, to provide further evidence of the underlying process, we examine whether these cross-domain effects are moderated by individual differences in sensitivity to the general reward system (Experiment 3). Third, we test whether distinctiveness exhibits cross-domain drive satiation (Experiment 4). Finally, though not our main focus, we provide ancillary data that examines whether cross-domain spillover effects involving distinctiveness are moderated by individual and cultural differences in the desirability of distinctiveness (ancillary data in the discussions of Experiment 1 and 4).

Experiment 1: Priming distinctiveness and food

Experiment 1 provides a preliminary test of whether distinctiveness exhibits motivational reward characteristics by examining whether priming distinctiveness influences the desirability of cross-domain rewards. Participants wrote about a time in which they felt distinctive, or a control topic, and then reported how desirable they found their favorite food (i.e., how far they would be willing to walk to get it). We selected this dependent measure because prior work shows that exertion of effort is a measure of reward motivation (Aharon et al., 2001; Dai, Brendl, & Ariely, 2010). If distinctiveness is rewarding, then participants primed with distinctiveness should be willing to walk further to get their favorite food.

Method

Eighty-eight undergraduates completed a pair of surveys as part of a larger packet of materials. They were monetarily compensated for their time.

Participants first completed a “Handwriting Study” that primed some of them with distinctiveness (adapted from Wheeler & Berger, 2007). To obscure the true nature of the study, we used a cover story suggesting that the experimenters were interested in “how whether people write with their dominant hand, as opposed to non-dominant hand, influences their writing style” and participants were asked to write 4–5 sentences about a topic with either their dominant or non-dominant hand. In actuality, all participants were told to write with their dominant hand, but the topic they were asked to write about varied between conditions. In the distinctiveness condition, participants were asked to: “Write about a time you felt extremely distinctive. That is, a time you felt extremely separate and different from the people around you” (used by

Brewer & Pickett, 1999 to prime distinctiveness). In the control condition, participants wrote about an innocuous topic (i.e., California geography) to complete the cover story.

Participants then completed an ostensibly unrelated study. They listed their favorite food and were then asked to: “Imagine that you happen to be on a trip and you learn that the food you like is available, but you’ll have to walk some distance to get it. How many blocks would you be willing to walk to get your favorite food?” The number of blocks participants reported served as the key dependent variable. This number was skewed so the log was taken for all statistical analyses (untransformed means are reported to make the data more interpretable).

Results and discussion

Participants listed a variety of foods, including chocolate mousse cake, burritos, and sushi. As predicted, activating distinctiveness increased the desirability of tasty food; participants who were primed with distinctiveness reported they would walk a greater number of blocks to get their favorite food ($M=12.28$, $SD=12.73$), than participants in the control condition ($M=7.82$, $SD=4.98$, $F(82)=4.56$, $p=.04$).

Results of Experiment 1 provide preliminary support for our underlying conceptualization. Consistent with the notion that distinctiveness exhibits motivational reward characteristics, it displayed drive transference or cross-domain spillover effects. Priming participants with distinctiveness increased their desire for reward stimuli even from a seemingly unrelated domain (i.e., food).

A follow-up study replicated these results, and consistent with drive-dependent attractiveness, found that they are stronger among people who should find distinctiveness particularly rewarding (i.e., people with high needs for uniqueness, NFU). Participants completed a shape task shown to prime distinctiveness (Maimaran & Wheeler, 2008) and then listed their favorite food and how much they would be willing to pay for it. After completing filler tasks, they also filled out the NFU scale (Snyder & Fromkin, 1977). Regression results revealed a significant distinctiveness by need for uniqueness interaction ($\beta=.17$, $t(124)=2.28$, $p<.03$). Among participants primed with distinctiveness, those with higher needs for uniqueness were willing to pay more for their favorite food ($\beta=0.30$, $t(124)=2.89$, $p<.005$). There was no corresponding effect in the control condition ($p>.65$). Looking at the data another way, priming distinctiveness among participants who find distinctiveness rewarding (i.e., +1 SD NFU) increased their willingness to pay for their favorite food by over 70% ($\beta=5.19$, $t(124)=3.07$, $p<.005$). There was no corresponding effect among participants who do not find distinctiveness rewarding (i.e., -1 SD NFU, $p>.85$).

That said, one could argue that these results are just due to the nature of distinctive food. If people in the distinctive condition listed more unique food items, and unique food just requires walking farther or paying more, then this might explain the results. Such an explanation has more difficulty explaining the interaction observed in the follow-up study, but to more

conclusively rule out this possibility we make all options equally easy to acquire in the next experiment, but make some more unique by not being chosen by a prior participant.

Experiment 2: Hunger and preferences for distinctiveness

While experiment 1 examined whether priming distinctiveness impacts the desirability of rewards, experiment 2 looked for further evidence that distinctiveness exhibits motivational reward characteristics by examining reciprocal effects (i.e., the effects of hunger on preferences for unique products). Respondents were asked to choose between more or less unique options, but we varied whether they provided their preferences right before a meal, when they were hungry, or after. The drive transference property of rewards suggests that drive states in one domain can increase the desirability of reward stimuli in unrelated domains. Consequently, if distinctiveness is rewarding, respondents who have not yet eaten dinner should prefer more unique products.

Method

Thirty-seven university undergraduates were approached outside a dining hall either right before or after they had eaten dinner.

Participants were asked to choose which of three options they preferred in each of five different product categories (e.g., automobiles, printers, and televisions). In the automobile category, for example, participants were shown images of an Infiniti Q45 luxury sedan, a Lexus GS performance sedan, and an Infiniti M performance sedan, given prices, and asked which they would buy. To measure choice of distinctive products, we used a two-respondent methodology (Simonson, Nowlis, & Simonson, 1993). Participants were told that to save paper and duplicating costs, each survey was designed to be used by two respondents. There was space available for both “Respondent 1” and “Respondent 2” to provide the option they preferred. Participants were instructed that if they did not see any previous answers, they were Respondent 1, but if the answers of Respondent 1 were already marked, they were Respondent 2.

In all cases, participants received a survey that had already been completed by a “prior participant” and thus for each category, the survey contained information about what the other respondent had chosen. This methodology made it possible to examine the effect of our grouping manipulation on whether participants choose more unique products—in this case, options not chosen by a purportedly previous participant.

Results and discussion

The number of times each participant selected something different from the “prior participant” was summed across the five domains, creating a unique preference score (theoretical and actual range 0–5).

As predicted, a naturally occurring difference in hunger impacted preferences for unique products. Participants

approached right before dinner were more likely to select options not chosen by the “prior participant” ($M=4.12$, $SD=0.60$) than those whose hunger should have been satiated (i.e., those approached after they had consumed dinner, $M=3.35$, $SD=1.13$, $F(1, 36)=6.25$, $p=.02$). Treating choice category as a repeated measure and using a logistic regression finds similar effects ($B=-.30$, $S.E.=.35$, $p=.07$).

Results of Experiment 2 suggest that distinctiveness displays drive transference and illustrate the reciprocal nature of these effects. Not only does priming distinctiveness influence the desirability of rewards in other domains (e.g., food, Experiment 1), but the reverse is also true. Specifically, naturally occurring differences in one drive (i.e., hunger) were linked to differential preferences for distinctiveness. People who were hungry preferred more unique products.

Though these results are supportive, we note that they are not without alternative explanation. For example, one could argue that post-dinner participants were in a rush and consequently selected options chosen by others because they were more focal. Alternatively, if participants just finished a large dinner, they may have felt lazier and just selected whatever someone else chose because it required less effort.

Ancillary data, however, cast some doubt on these possibilities. In addition to making product choices, participants in the post-dinner condition were asked how much they had eaten for dinner (1=very little, 7=a great deal). Eating a larger dinner should satiate the motivational system, and consistent with the notion that satiating an appetitive drive should reduce the desirability of other rewarding stimuli, there was a negative relationship between dinner size and the choice of distinctive products ($r=-.44$, $p=.05$). Participants who reported eating a larger dinner, and thus whose motivational system should be more satiated, showed a reduced preference for more unique options. This result is consistent with a motivational drive perspective and casts at least some doubt on alternative explanations. If post-dinner participants were just in a rush, there is little reason there should be a relationship between dinner size and choice of more unique products. We address these alternatives even more directly in Experiment 3, however, by using products in which no particular option is focal.

Experiment 3: Moderation by reward sensitivity

Our third experiment returned to testing how cross-domain reward stimuli impact preferences for more unique products. Prior research finds that sampling a tasty cold beverage can activate drive states (Wadhwa et al., 2008). Building on this work, we had half our participants sample a cold, refreshing beverage. Then, in the context of a different experiment, participants made choices among options that differed in their distinctiveness.

To further test the hypothesized underlying process, we also examined whether the effects were moderated by individual differences in sensitivity to the general reward system. The Behavioral Activation System (BAS) is one such system, and individuals high in BAS have been shown to respond to reward stimuli with greater reward seeking motivation than individuals

low in BAS (Carver, 2004; Van den Bergh et al., 2008; Wadhwa et al., 2008). If the effects are truly driven by the drive system, as we suggest, then sampling the refreshing beverage should have a greater impact on preferences for distinctiveness among high BAS individuals.

Method

Fifty-six European American undergraduates completed a number of studies as part of a larger group of experiments.

First, participants completed the BAS scale (Carver & White, 1994). The scale is comprised of thirteen items that measure motivational response to reward cues (e.g., “When I go after something, I use a ‘no holds barred’ approach” and “When I see something I want, I usually go all out to get it”, 1=strongly disagree, 4=strongly agree). Responses to the items were averaged to form a composite BAS sensitivity score ($\alpha=.79$), which was then subject to a median-split for the various analyses.

Half the participants were then randomly assigned to sample approximately 1 oz. of an appetizing beverage (Hawaiian Punch) under the guise of testing a new sports drink (adapted from Wadhwa et al., 2008). They were told that a leading beverage manufacturer was introducing a new drink and asked to rate its taste.

Finally, all participants then completed an ostensibly unrelated study that measured their preferences for unique products. They were asked to choose between three options that varied in their distinctiveness from each of 10 preference domains (e.g., cars and clothing, adapted from Berger & Heath, 2007). For example, in the car brand domain, they were asked: “Suppose that you are in the market for a product and have a general idea about the preferences of your fellow students (e.g. in relation to car brands, you knew that 65% of students owned Brand A, 25% owned Brand B, and 10% Brand C). Which model would you be likely to purchase?”.

Each participant's choices across the 10 domains were averaged to form a distinctive product preference score ranging from 1 (selected the option preferred by 65% of others in every domain) to 3 (selected the option preferred by 10% of others in every domain). Thus higher values on this measure indicated a greater desire for unique products, or those owned by fewer others. A 2 (reward state: present vs. absent) $\times$ 2 (BAS sensitivity: high vs. low) ANOVA examined preferences for more unique options.

Results and discussion

In addition to a main effect of condition ($F(1, 52)=6.03$, $p<.05$), analysis revealed the predicted reward state $\times$ BAS sensitivity interaction ($F(1, 52)=4.82$, $p<.05$), see Fig. 1. Specifically, while sampling a refreshing beverage increased preferences for unique options among high BAS individuals ($M=2.03$ vs. 1.62; $SD=0.38$ vs. 0.30; $F(1, 52)=11.03$, $p<.005$), it did not have a corresponding effect among low BAS individuals ($M=1.77$ vs. 1.75; $SD=0.39$ vs. 0.30; $F<.1$, $p>.80$).

Experiment 3 provides evidence for the underlying process behind these effects. Building on work showing that sampling a

refreshing beverage can activate drive states, this study found that sampling increased European Americans' preference for unique products. Further, consistent with the notion that these effects are driven by the motivational nature of rewards, they were stronger among individuals who have high responsiveness to reward cues. Finally, manipulating an alternate reward domain (i.e., a tasty beverage) as well as a different method of measuring preference for distinctive products further illustrates the generalizability of these effects.

Experiment 4: Satiating the reward system

Our final study had two main goals. First, we wanted to further extend the generalizability of the effects by demonstrating they extend to yet another reward domain (i.e., sexual arousal). Past research has shown that attractive pictures of the opposite sex have high reward value for men (Aharon et al., 2001; Ariely & Loewenstein, 2005) and that men are more aroused by visual stimuli than women (Hamann, et al., 2004; Herz & Cahill, 1997). Based on these findings, we exposed heterosexual male participants to either sexually arousing (i.e., swimsuit models) or control images. Then, in the context of a different experiment, participants made choices among options that differed in their distinctiveness.

Second, we test whether distinctiveness exhibits another defining feature of rewards, namely cross-domain drive satiation. As noted earlier, drive states that are activated by one reward can even be satiated by alternate rewards from seemingly unrelated domains. If distinctiveness is rewarding, it should show similar properties. To test this possibility, we gave half the participants a surprise reward before they made their product choices. We predicted that receiving the surprise reward would satiate the induced drive state, and consequently, attenuate the effect of exposure to sexual images on participants' preferences for unique products.

Method

Ninety Caucasian males were approached on a university campus and asked to complete two surveys. They were given

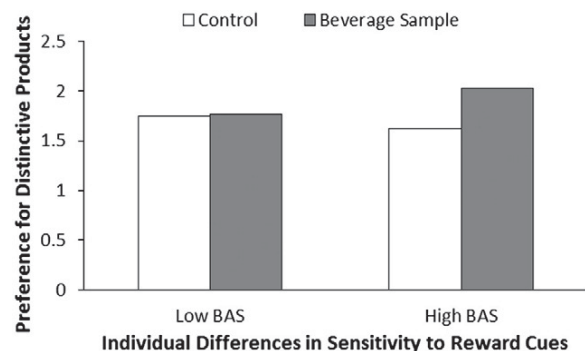


Fig. 1. Cross-domain spillover effects on distinctive choices are stronger among individuals who respond to rewards more strongly (Experiment 3).

the first survey and asked to bring it back to the experimenter once completed to receive the second.

The first survey manipulated sexual arousal through an image exposure task. Participants were told the experimenters were interested in the relationship between personality characteristics and preferences, and they were asked to rate how much they liked various photos (nine in total, 1 = Don't like at all, 9 = Like a great deal). The only difference between conditions was the content of the photos. Some participants rated pictures of attractive swimsuit models (sexual arousal condition), while others (control condition) rated pictures of innocuous stimuli (i.e., dogs).

Once participants completed and returned this survey, they were thanked and given the second survey. In addition, half the participants (satiated condition) were given a surprise reward in the form of a candy bar (procedure adapted from Wadhwa et al., 2008). They were told: "Oh, and by the way, here is a candy bar as thanks for completing the surveys." They were then given a regular sized Hershey's chocolate bar. Importantly, none of the participants consumed the surprise reward before the choice task. Participants in the non-satiated condition received the same candy bar and thank you statement, but only after they had completed the second survey.

We then measured participants' preference for unique products using the survey from Experiment 3 (i.e., do you prefer the option owned by 65%, 25%, or 10% of others, adapted from Berger & Heath, 2007).

Results

Responses across the various choice items were again averaged and participants' preferences for distinctive products were examined in a 2 (reward state: sexual arousal vs. control) by 2 (drive satiation: present vs. absent) ANOVA.

In addition to a main effect of drive satiation ($F(1, 86) = 7.12, p = .01$), results revealed the predicted drive state $\times$ drive satiation interaction ($F(1, 86) = 5.40, p = .02$), see Fig. 2. Specifically, consistent with the prior experiments, participants who had not been satiated preferred more unique products when they had been exposed to arousing images ($M = 2.15, SD = 0.33$) as opposed to control images ($M = 1.91, SD = 0.37; F(1, 86) = 4.17, p = .04$). For example, while 65% of control participants avoided the most preferred option, this increased to 78% among participants exposed to arousing images. The patterns of results differed, however, for participants who received a surprise reward. For these participants, viewing arousing images ($M = 1.77, SD = 0.34$) as opposed to control images ($M = 1.88, SD = 0.37$), had no influence on their preference for distinctive products ($F(1, 86) = 1.43, p > .20$).

Discussion

Experiment 4 provides further evidence regarding the nature of distinctiveness. Consistent with drive transference, exposure to sexually arousing images again impacted preferences for distinctive products. More importantly, consistent with the cross-domain drive satiation characteristic of rewards, these

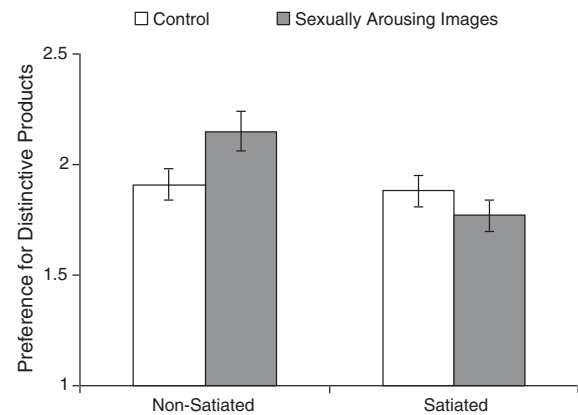


Fig. 2. Cross-domain spillover effects on distinctive choices are satiated by an alternate reward (Experiment 4).

effects were attenuated by an intervening surprise reward. When participants were given a surprise candy bar between the sexually arousing images and their product choices, cross-domain spillover effects disappeared. While some prior work shows that temptation can intensify drives, these studies usually involve situations where people not already in a reward state. Consistent with prior work on activated reward states (Wadhwa et al., 2008), however, we show that an activated reward state can be satiated by the presence of another reward.

Ancillary data also casts doubt on an arousal based explanation for the results. After making their choices, participants also completed a 20-item PANAS mood scale (Watson, Clark, & Tellegen, 1988). Exposure to images of swimsuit models versus dogs had no effect on reported mood ($M = 1.26$ vs. $1.24, F < 0.1, p > .90$). Not surprisingly, participants who received the surprise reward before completing the PANAS scale reported feeling marginally more positively ($M = 1.43$) than participants who received the reward after they had completed the scale ($M = 1.07; F(1, 86) = 3.38, p = .07$). This marginal main effect cannot explain the interactive pattern of results on distinctive choices, however, and there was no significant interaction ($F(1, 86) = 1.54, p > .20$). Further, reported mood was not significantly correlated with choice of distinctive products ($r = -.02, p > .85$). This makes it unlikely that mood is driving our effects.

A follow-up study further illustrates that, consistent with drive-dependent attractiveness, the effects of sexual arousal on preferences for distinctive products vary based on cultural differences in the value of distinctiveness. Americans tends to value distinctiveness, East Asians tend to value assimilation (Aaker & Schmitt, 2001; Kim & Markus, 1999). Thus while exposure to swimsuit models should be sexually arousing for both American and Asian men, and thus have cross-domain spillover effects on preferences for unique products, the direction of these effects should depend on whether assimilation or distinction is valued in that particular culture. Indeed, we found that exposure to other reward cues had opposite

effects on European Americans and East Asians. While sexual arousal increased European Americans' preference for unique options, it decreased Asians' preferences for unique options.

General discussion

This article examined the nature of distinctiveness and its implications for consumer behavior. While prior work has shown that differentiation motives have a strong impact on consumer preferences, little work has examined the underlying nature of these motives. Building on recent work suggesting dual drivers of preferences, we investigated whether distinctiveness is rewarding.

The results of four studies suggest that distinctiveness exhibits motivational reward characteristics, and they demonstrate how this impacts consumer behavior. First, distinctiveness exhibited drive transference or spillover cross-domain effects. Priming distinctiveness, for example, impacted the desirability of other rewards, such as how far people were willing to walk for their favorite food (Experiment 1). Moreover, these effects also worked in the opposite direction: other drives such as hunger (Experiment 2), thirst (Experiment 3), or sexual arousal (Experiment 4) impacted preferences for unique products. Exposing participants to sexually arousing images, for example, influenced whether they preferred products owned by more or less others.

Second, consistent with our hypothesized underlying process, these effects were moderated by individual differences in sensitivity to the general reward system (Experiment 3).

Third, the effects exhibited cross-domain satiation. Drive states that are activated by one reward can even be satiated by alternate rewards from seemingly unrelated domains. In our case, giving participants a surprise intervening reward reduced the cross-domain spillover effects on preferences for unique products (Experiment 4). Finally, consistent with drive-dependent attractiveness, ancillary data suggest that the cross-domain spillover effects involving distinctiveness were moderated by individual and cultural differences in the desirability of distinctiveness (see the discussions of Experiment 1 and 4).

Marketing implications and directions for future research

These findings have a number of important marketing implications. First, when deciding where to place products in a store, or locate stores in a mall, it may be useful to consider that distinctiveness exhibits cross-domain spillover effects. Products related to distinctiveness (e.g., fine wine) might benefit from being placed near appetizing food samples, for example, and brands positioned around distinctiveness might want to locate near the mall food court, as they might benefit from the hunger inducing smells (and vice versa). Second, the results provide some support for the old adage that sex sells, with an important caveat. Exposure to sexually arousing images may have spillover effects that impact consumption in other domains, but these effects should be more beneficial for certain types of

brands. Sexual arousal may help brands like Gucci or BMW, for example, because they provide distinctiveness, but might hurt brands like Gap and Ford, which are more mainstream. Consequently, the success of sex-based advertising appeals may depend in part on whether the product is pitched as providing differentiation.

Future research in the area might delve deeper into the difference between primary and secondary reinforcers in such cross-domain spillover effects. While prior work has focused on primary (unconditioned) reinforcers like sex or food (Van den Bergh et al., 2008; Wadhwa et al., 2008), this work is the first to document behavioral effects of secondary (conditioned) reinforcers like distinctiveness. Future research might examine why distinctiveness is rewarding in the first place. Behaving in culturally desirable ways might make individuals more likely to receive other rewards. In American culture, for example, consuming in unique ways may help individuals stand out and be more likely to attract members of the opposite sex (see Griskevicius et al., 2007 for a related discussion). This is analogous to the notion that money has become rewarding because it enables individuals to obtain other desired rewards. Distinctiveness may also have become rewarding through its repeated pairing with other rewards. A child who behaves differently than the rest, for example, may be more likely to get parental attention. Work might also examine whether similarity and distinctiveness are opposite ends of a continuum or whether they might be more differentiated.

It is also interesting to compare our results with those predicted by a hierarchy of needs framework. In addition to suggesting that humans have basic motives (e.g., hunger and thirst), as well as more complex motives (e.g., order, beauty, and self-actualization), Maslow's (1943) theory of human motivation also suggests that these needs are organized hierarchically. Though it has never really been directly tested, this theory also suggests that the more basic needs such as hunger must be met before less basic needs become active. Thus people should not care about self-actualization if they are hungry. We did not deprive our participants to the point of extreme hunger or thirst, but it would be interesting to examine whether deprivation of such needs might lead to different effects than those shown here. In such instances, reward stimuli might have much more specific effects, focused mostly on the active need (Shiv, Wadhwa, & Nowlis, 2008). This may also help reconcile these findings with work showing that activating a need devalues objects unrelated to that need (e.g., Brendl, Markman, & Messner, 2003). It would also be interesting to examine instances where motives explicitly compete. Our studies all used instances where the pursuit of one motive (e.g., distinctiveness) did not interfere with another (e.g., hunger), but different effects would likely occur if pursuing one reduced the ability to pursue others. In such instances, effects might be stronger for the originally activated motive.

Future work might also investigate whether other identity motives display similar reward properties. In addition to preferences for differentiation, people also tend to prefer products that reflect or signal desired social identities (Berger & Heath, 2007; Escalas & Bettman, 2005). Consumers tend to

select products associated with their in-group or aspiration group, for example, and avoid products linked to out-groups or dissociative reference groups (Berger & Heath, 2008; White & Dahl, 2006). But might social identity related preferences display similar effects to those shown here? Might sexual arousal, for example, lead consumers to prefer products that communicate group identity and avoid products linked to out-groups? Similarly, might activating group signaling motives increase consumers' preferences for their favorite food? These are only a few of the questions that would be interesting to examine in further detail.

In summary, this research illustrates that distinctiveness exhibits motivational reward characteristics. Our findings are also consistent with the oft-repeated suggestion that humans are "social animals" (Aronson, 1972). While things like food and sex are described as basic or even animal needs, these findings suggest that more social behaviors have similar reward properties.

References

- Aaker, Jennifer, & Schmitt, Bernd (2001). Culture-dependent assimilation and differentiation of the self. *Journal of Cross Cultural Psychology*, 32(5), 561–576.
- Aharon, Itzhak, Etcoff, Nancy, Ariely, Dan, Chabris, Christopher F., O'Connor, Ethan, & Breiter, Hans C. (2001). Beautiful faces have variable reward value: fMRI and behavioral evidence. *Neuron*, 32, 537–551 November.
- Ariely, Dan, & Levav, Jonathan (2000). Sequential choice in group settings: Taking the road less traveled and less enjoyed. *Journal of Consumer Research*, 27, 279–290 December.
- Ariely, Dan, & Loewenstein, George (2005). The heat of the moment: The effect of sexual arousal on sexual decision making. *Journal of Behavioral Decision Making*, 19(2), 87–98.
- Aronson, Elliott (1972). *The social animal*. New York: W. H. Freeman.
- Berger, Jonah, & Heath, Chip (2007). Where consumers diverge from others: Identity-signaling and product domains. *Journal of Consumer Research*, 34(2), 121–134.
- Berger, Jonah, & Heath, Chip (2008). Who drives divergence? Identity signaling, outgroup dissimilarity, and the abandonment of cultural tastes. *Journal of Personality and Social Psychology*, 95(3), 593–607.
- Berridge, Kent C., & Aldridge, J. Wayne (2008). Decision utility, the brain, and the pursuit of hedonic goals. *Social Cognition*, 26(5), 621–646.
- Brendl, C. Miguel, Markman, Arthur B., & Messner, Claude (2003). Devaluation of goal-unrelated choice options. *Journal of Consumer Research*, 29, 463–473.
- Brewer, Marilynn B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin*, 17(5), 475–482.
- Brewer, Marilynn B., & Pickett, Cynthia L. (1999). Distinctiveness motives as a source of the social self. In Tom R. Tyler, Roderick M. Kramer, & Oliver P. John (Eds.), *The Psychology of the Social Self* (pp. 71–87). Mahwah, NJ: Lawrence Erlbaum.
- Cabanac, Michel (1979). Sensory pleasure. *The Quarterly Review of Biology*, 54, 1–29.
- Carver, Charles S. (2004). Negative affects deriving from the behavioral approach system. *Emotion*, 4, 3–22 March.
- Carver, Charles S., & White, Teri L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, 67, 319–333 August.
- Dai, Xianchi, Miguel Brendl, C., & Ariely, Dan (2010). Wanting, liking, and preference construction. *Emotion*, 10(3), 324–334.
- Escalas, Jennifer Edison, & Bettman, James R. (2005). Self-construal, reference groups, and brand meaning. *Journal of Consumer Research*, 32, 378–389 December.
- Fromkin, Harold L. (1970). Effects of experimentally aroused feelings of indistinctiveness upon valuation of scarce and novel experiences. *Journal of Personality and Social Psychology*, 16, 521–529.
- Giordano, Louis A., et al. (2002). Mild opioid deprivation increases the degree that opioid-dependent outpatients discount delayed heroin and money. *Psychopharmacology*, 163, 174–182.
- Griskevicius, Vladas, Tybur, Joshua M., Sundie, Jill M., Cialdini, Robert B., Miller, Geoffrey F., & Kenrick, Douglas T. (2007). Blatant benevolence and conspicuous consumption: When romantic motives elicit strategic costly signals. *Journal of Personality and Social Psychology*, 93(1), 85–102.
- Hamann, Stephan, Herman, Rebecca A., Nolan, Carla L., & Wallen, Kim (2004). Men and women differ in amygdala response to visual sexual stimuli. *Nature Neuroscience*, 7(4), 411–416.
- Herz, Rachel S., & Cahill, Elizabeth D. (1997). Differential use of sensory information in sexual behavior as a function of gender. *Human Nature*, 8(2), 275–286.
- Higgins, E. Tory (2006). Value from hedonic experience and engagement. *Psychological Review*, 113(3), 439–460.
- Kambouropoulos, Nicolas, & Staiger, Petra K. (2001). The influence of sensitivity to reward on reactivity to alcohol-related cues. *Addiction*, 96, 1175–1185 August.
- Kim, Heejung, & Markus, Hazel R. (1999). Deviance or uniqueness, harmony or conformity? A cultural analysis. *Journal of Personality and Social Psychology*, 77(4), 785–800.
- Knutson, Brian, et al. (2008). Nucleus accumbens activation mediates the influence of reward cue on financial risk taking. *NeuroReport*, 19(5), 509–513.
- Leibenstein, Harvey (1950). Bandwagon, snob, and Veblen effects in the theory of consumers demand. *Quarterly Journal of Economics*, 64(2), 183–207.
- Lynn, Michael, & Harris, Judy (1997). The desire for unique consumer products: A new individual differences scale. *Psychology and Marketing*, 14, 601–616 September.
- Maimaran, Michal, & Wheeler, S. Christian (2008). Circles, squares, and choice: The effect of shape arrays on uniqueness and variety seeking. *Journal of Marketing Research*, 45(6), 731–740.
- Maslow, Abraham H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396 July.
- Saxe, Rebecca, & Haushofer, Johannes (2008). For love or money: A common neural currency for social and monetary reward. *Neuron*, 58(2), 164–165.
- Shiv, Baba, Monica Wadhwa, and Stephen M. Nowlis (2008), "Can a Taste Stimulate the Reward Appetite", Working Paper.
- Simonson, Itamar, Nowlis, Stephen M., & Simonson, Yael (1993). The effect of irrelevant preference arguments on consumer choice. *Journal of Consumer Psychology*, 2(3), 287–306.
- Tian, Kelly T., Bearden, William O., & Hunter, Gary L. (2001). Consumers need for uniqueness: Scale development and validation. *Journal of Consumer Research*, 28, 50–66 June.
- Snyder, Charles R. (1992). Product scarcity by need for uniqueness interaction: A consumer catch-22 carousel? *Basic and Applied Social Psychology*, 13(1), 9–24.
- Snyder, Charles R., & Fromkin, Harold L. (1977). Abnormality as a positive characteristic: The development and validation of a scale measuring need for uniqueness. *Journal of Abnormal Psychology*, 86, 518–527 October.
- Snyder, Charles R., & Fromkin, Harold L. (1980). *Uniqueness*. New York: Plenum.
- Van den Bergh, Bram, DeWitte, Siegfried, & Warlop, Luk (2008). Bikinis instigate generalized impatience in intertemporal choice. *Journal of Consumer Research*, 35, 85–97.
- Vignoles, Vivian L., Chrysoschoou, Xenia, & Breakwell, Glynis M. (2000). The distinctiveness principle: Identity, meaning, and the bounds of cultural relativity. *Personality and Social Psychology Review*, 4(4), 337–354.
- Wadhwa, Monica, Shiv, Baba, & Nowlis, Stephen M. (2008). A bite to whet the reward appetite: The influence of sampling on reward-

- seeking behaviors. *Journal of Marketing Research*, 45, 403–413 August.
- Watson, David, Clark, Lee Anna, & Tellegen, Auke (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063–1070 June.
- Wheeler, S. Christian, & Berger, Jonah (2007). When the same prime leads to different effects. *Journal of Consumer Research*, 34(3), 357–368.
- White, Kate, & Dahl, Darren (2006). To be or not be? The influence of dissociative reference groups on consumer preferences. *Journal of Consumer Psychology*, 16(4), 404–414.