What Do Rats Think While They Run?—Goal Distance and Cognitive Effort Acceleration

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From a behaviorist perspective, previous studies have shown that consumers exert greater physical efforts such as purchase in larger quantity when they approach the reward of a reward program (RP). This paper, from a cognitive angle, argues that goal proximity also increases cognitive efforts in information processing. We showed that consumers are more likely to deliberate on information related to the value of the RP reward as they get closer to the goal; the same information might not be considered when the goal is distant. This increased cognitive efforts could sometimes become a counterbalancing force that decreases the occurrence of overt behaviors.

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became less reliant on their previous high school identity. Thus, they move one step closer to reconciling the identity uncertainty the transition from high school to college initiated.

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Extended Abstract
Recent development in consumer goal research pointed out that goal-achieving effort increases as distance from goal decreases (Kivetz, Urminsky, and Zheng 2006). It was found that consumers accelerate their effort (e.g., making purchase more frequently and in larger quantity) when they approach the reward of a reward program (RP). Looking from the behaviorist perspective, these studies regarded the behavior as a manifestation of rats running toward the food. And the inverse relationship between rate of behavior and goal distance are robustly demonstrated in several studies. This paper argues that changes in the physical efforts are just part of the consequence of goal proximity. Cognitive efforts in processing goal-related information should also increase when one gets closer to the goal. Specifically, we propose that the amount of information people will attend to and the depth of processing should increase with goal proximity.

Generally speaking, people are more likely to engage in systematic and thorough cognitive processing when their involvement in a purchase decision is high than when their involvement is low (Bettman, Luce, and Rayne 1998). For people who are far from the goal of an RP (i.e., at the early stage of an RP), their involvement in the purchase decision is probably low because the subjective value of a distant future reward is minimal (Kirby 1997; Kirby and Herrnstein 1995). One consequence of low involvement is the tendency to use heuristics rather than effortful information processing when making decisions. This is consistent with previous findings that decision to join an RP is influenced by heuristics. Kivetz and Simonson (2003) showed that the perception of one’s own effort relative to that of other consumers influences RP joining decisions. This heuristic may even lead to preference for RPs with greater effort requirement. Their findings suggest that, when the RP goal is far away, consumers tend to base their decisions on effort heuristics (e.g., how achievable is the RP goal?) and may overlook the reward implications of a decision. Such type of information will then make little impact on their decisions.

On the contrary, for individuals who are close to the goal in an RP (i.e., at the late stage of an RP), the subjective value of the RP reward is augmented by the short temporal distance (Kirby, 1997; Kirby & Herrnstein, 1995). The increased subjective value of the reward would lead to high involvement in purchase decisions, in turns, individuals are more likely to attend to and subject information to thorough and systematic processing. Thus, we expect consumers will make more effortful decisions rather than using heuristics. Taken together, we predict that information pertaining to reward value should have a greater impact on purchase decisions when the RP goal is near than far away.

As an initial attempt, we tested this idea by assessing the differential influences of unit value of RP reward on people’s purchase decisions across goal proximity. Unit value of RP reward refers to the equivalent reward value earned per purchase. Consider an RP in which participants will be given a $150 cash coupon for every 10 stamps collected. The unit value of the RP reward is $15, which equals to $150 reward value divided by the total number of purchases (i.e., 10). This information informs people the reward implications (i.e., monetary implication of each purchase in terms of the RP reward). In the example, unit value highlights the chance to get $15 in return for each purchase. Our basic tenet is that the unit value information of an RP should have a greater likelihood in altering purchase decisions when people subject incoming information to deliberate and thorough processing, but not so when the processing appears to be heuristics based (unit value does not have implications on effort heuristic). In short, we predict an interaction between unit value of RP reward and goal proximity that the availability of unit value will have strong impacts on individuals’ purchase decisions only when they are close to the goal but not when they are far from the goal.

The above prediction was supported in a study using the RP described above. Participants (180 undergraduate students) were asked to imagine that they joined the reward program of Supermarket A. In the reward program, they would obtain one stamp for every certain amount of purchase at Supermarket A, and would receive HK$150 cash coupon once they accumulated ten such stamps. Goal proximity was manipulated by the number of stamps (one vs. eight stamps) participants got. Unit value information was manipulated by the information printed on the stamps—“$15 reward” in the unit value conditions whereas “reward” in the control conditions. Also, a statement “Each stamp is equivalent to $15 in cash reward!” was included on the stamp cards in the unit value conditions. Participants had to decide whether to do their purchases at Supermarket A or Supermarket B. While Supermarket B did not have any promotional offers, it is more accessible than Supermarket A.

Consistent with our predictions, unit value influenced repurchase intention only when participants were at the late stage of the RP (M absent = 5.78, M present = 4.71; F (1, 88) = 15.12, p < .001), but not when they were at the early stage (M absent = 3.73, M present = 3.89; F < 1). We also found that perceived ability to complete the RP (i.e., effort heuristic) influenced purchase decisions only at early stage but not at late stage. One interesting finding of this study is that effort acceleration (Kivetz et al. 2006) is actually reduced by the presence of certain reward information (lower purchase intention when unit value information is available during late stage). It suggests a possible boundary condition of the goal-gradient effect. While physical efforts to attain a goal increase with goal proximity, this study highlights that cognitive efforts increase in a similar fashion. Increased cognitive effort leads to processing of more information and more effortful decision-making.

References
The Influence of Consumer Altruism on Complaining Behavior
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Extended Abstract
This paper examines the effects of consumer altruism on complaining behavior in the context of a dissatisfactory marketplace experience. Complaining behavior is conceptualized as consumer voicing directed at the company at fault and negative word-of-mouth communicated to others (Singh 1988). Altruism can be conceptualized as a constellation of actions performed by individuals to assist others that make people performing these acts feel good about themselves. Price, Feick, and Guskey (1995) introduced the concept of market helping behavior defined as “acts performed in the marketplace that benefit others in their purchases and consumption.” Although market helping behavior was studied in the context of consumers helping each other in shopping tasks and providing marketplace information, this construct also captures altruistic tendencies that might motivate dissatisfied consumers to warn others of negative experiences in the marketplace context. Past research has investigated a number of antecedents of complaining behavior including severity of dissatisfaction leading to complaining (Singh and Wilkes 1996), consumer self-confidence (Bearden and Teel 1980), a psychological need to vent dissatisfaction (Kowalski 1996) and culture (Huang 1994, Keng 1995).

Altruism has been examined in past research in the context of charitable donations (Strahilevitz 1997); however, research has not examined the potential influence that altruism may have on consumer complaining behaviors. The purpose of this study is to examine whether consumer altruism is indeed related to the likelihood for both consumer voicing and negative word-of-mouth. Importantly, research on complaining behavior has demonstrated the impact of the severity of consumer satisfaction. Specifically, Singh and Wilkes (1996) have shown that dissatisfaction intensity affects the consumer complaint response process: the greater the dissatisfaction the more likely the consumer is to engage in a complaint action. Bearden and Oliver (1985) provided evidence that a greater problem cost stimulates both voicing and negative word-of-mouth. Additionally, Richins (1983) has shown that severity of the problem experienced by consumers increases the likelihood of negative word-of-mouth. Thus, severity of dissatisfaction is included as a control variable in this study for both voicing and negative word-of-mouth.

A survey methodology with scenarios manipulating the severity of marketplace encounter failure was used in this study. A mailing of 321 questionnaires to a convenience sample of adult, non-student consumers (25-54 years old) recruited by college students resulted in 280 complete and valid responses (87 percent response rate). Respondents were asked to read a description of a dissatisfactory consumption experience and then indicate their likelihood to engage in voicing (i.e., complaining directly to the company at fault) and negative word-of-mouth (i.e., letting others know about the negative experience). The measure of voicing included two items (Pearson r=.78) and the construct of word-of-mouth included three items (Cronbach’s alpha=.88). Both measures of consumer complaining were derived from past literature (Day and Bodur 1978, Villarreal-Camacho 1983, Blodget and Tax 1993). Additionally, a five-item measure of consumer altruism, developed based on the market helping behavior measure (Price, Feick, and Guskey 1995), was included in the survey (Cronbach’s alpha=.85).

Two multiple regression equations were used to examine the relationships between consumer altruism, the severity of the dissatisfaction with the encounter and the dependent measures of voicing and negative word-of-mouth. The results indicate that consumer altruism is a statistically significant predictor for both voicing (Adjusted R²=.23, β=.223, t=4.24, p<.001) and negative word-of-mouth (Adjusted R²=.28, β=.266, t=5.24, p<.001), when controlling for the severity of the encounter failure (also a statistically significant predictor, β=.455, t=8.98, p<.001, β=.418, t=7.94, p<.001, accordingly).

These results have important implications for marketers and consumer protection agencies. Past research has indicated that, in general, the incidence of consumer voicing is low and this behavior needs to be facilitated (TARP 1986, Vavra 1992). Additionally, past studies have provided ample evidence that consumer voicing can be beneficial to companies in providing negative feedback quickly, improving consumer satisfaction, and preventing negative word-of-mouth among consumers (Fornell and Wernerfelt 1987, Tax et al. 1998, Nyer 2000).

The findings of this research imply that one of the important motivators for consumer complaining is an inclination of consumers to help others by warning them about dissatisfactory marketplace experiences and preventing them from experiencing such negative encounters. It appears that the greater the consumer altruism, the greater the likelihood for voicing the concerns to the company at fault and the greater the propensity to engage in negative word-of-mouth to others. Companies interested in facilitating consumer voicing to find out problems quickly so they can be addressed before a major fallout occurs could use altruism appeals to encourage consumers to voice their concerns by emphasizing the helpfulness of complaining not only for the company at fault but also for the welfare of the current and future consumers. Consumer protection agencies might also consider the use of altruistic appeals in soliciting information about shoddy practices in the marketplace.
The Impact of Culture Orientation on Consumption Impulsiveness and Beer Consumption
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EXTENDED ABSTRACT
Beer consumption is an extremely important consumer phenomenon. Given this importance, the lack of research examining the determinants of consumer beer consumption is striking. Further, research has never investigated the role of culture orientation in consumers’ beer consumption decision. In this paper, we propose that individualism versus collectivism culture orientation has a systematic impact on beer consumption and consumers’ self-construal and the consequent consumption impulsivity are two factors that systematically affect consumers’ likelihood of engaging in beer consumption.

Examining the role of self-construal in impulsive consumption decision like beer consumption is a unique contribution of our work. More generally, this research is important for four reasons. First, we fill a conceptual gap in the beer consumption literature by investigating the role of culture orientation. Second, we provide ways to reconcile the seemingly conflicting results in the literature. Our results provide a plausible conceptualization to reconcile the divergent results in the literature. Third, we provide both managerial and public policy implications. Through demonstrating the impact of culture orientation and self-construal on beer consumption, we provide a constructivist view on beer consumption, suggesting that beer consumption is a malleable process and there is ample room for policy makers to exert efforts. Fourth, we offer the first ever experimental evidence on the relationship between self-construal and consumption impulsiveness. Accordingly, we provide the complete causal knowledge among the constructs of culture orientation, self-construal, consumption impulsiveness and beer consumption.

Hypothesis Development
What determines consumers’ beer consumption tendency? As reviewed by Hirschman (1992), impulsiveness plays a large role in beer consumption tendency. Given this underlying process, our key argument is that a construct that can systematically affect consumers’ impulsive tendency should theoretically affect their beer consumption. We posit self-construal to be one such construct.

Self-construal has been defined as “the relationship between the self and others and, especially, the degree to which they [people] see themselves as separate from others or as connected with others” (Markus & Kitayama, 1991, p. 226). Two prominent dimensions of self-construal include the degree of independence and/or interdependence of a person.
Research also posits a relationship between self-construal and consumption impulsivity (Kacen & Lee, 2002). Specifically, when an independent self-construal is activated consumers tend to be impulsive. In contrast, when an interdependent self-construal is activated, consumers tend to be less impulsive.

If self-construal systematically affects beer consumption tendency, then consumers from collectivist cultures should show less beer consumption tendency than those from individualistic cultures. Formally:

**H1:** Cultural orientation will influence consumers’ beer consumption tendency. Specifically, consumers with a collectivist orientation will tend to have lower beer consumption tendency than consumer with an individualistic orientation.

**H2:** Self-construal will influence consumers’ beer consumption tendency. Specifically, consumers with an interdependent self-construal will tend to have lower beer consumption tendency than consumers with an independent self-construal.

**H3:** Consumption impulsivity will mediate the effect of self-construal on beer consumption tendency.

Next we report results from three studies. Study 1 and 2 are designed to test hypothesis 1, while Study 3—building on Study 1 and 2—tests hypotheses 2 and 3.

**Study 1a,b, & 2**
Beer consumption per capita data of forty-two countries in 1999 were used to test hypothesis 1. The consumption per capita of liters serves as the measure of central tendency of each specific country’s beer consumption.

Country scores on culture orientation are taken from the Hofstede’s cultural analysis website (2005). Income data are from United Nation’s website.

**Hypothesis 1.** We ran a regression on per capita beer consumption level. Specifically, the effect of individualism versus collectivism was significant ($t (1, 40)=3.29, p<.05$). Thus, hypothesis 1 was confirmed.

Beer consumption tendency data of fifty states in 2002 were used to test hypothesis 1 in Study 2. State scores on culture orientation are taken from existing study (Vandello and Cohen, 1999). Hypothesis 1 was confirmed through this approach too.

**Study 3**
A total of 75 undergraduates from a large southwestern U.S. university participated for course credit. We used a 2 (Self-Construal: Interdependent vs. Independent) between-subjects design.

Participants were told that they were taking part in two different studies. The first study consisted of the priming material for activating the self-construal. This approach of priming self-construal was adapted from past studies (Mandel, 2003).

After this, participants were probed on their attitude toward drinking beer on question of “How do you feel about drinking beer at this moment?” They rated drinking beer on bad vs. good and dislike vs. like ($r=0.92$), with higher scores indicate more positive attitude.

Lastly participants were asked their thoughts on the study purpose and then debriefed. No one was correct in guessing the research purpose.

**Hypothesis 2.** To test hypothesis 2, we ran a regression on the beer consumption attitude scale. We coded the independent self-construal as 1 and interdependent self-construal as -1. Specifically, the effect of self-construal was significant ($t (1, 73)=2.29, p<.05$), indicating that independent tends to hold more positive attitude toward drinking beer than those with interdependent. Thus, hypothesis 2 was supported.

**Hypothesis 3.** We ran a set of regression analyses based on Baron and Kenny’s (1986) suggestions for testing for mediation. We found that consumption impulsivity mediated the effect of self-construal on the beer consumption tendency. These results fully support hypothesis 3.

**General Discussion**
Our results are consistent with the existing literature on self-construal and impulsiveness. For example, Kacen & Lee (2002) found that consumers with independent self-construals tend to be more impulsive than those consumers with interdependent self-construals. We extend this literature in a number of ways. We provided a stronger test of this connection by manipulating self-construal rather than measuring self-construal only. In addition, we extended the causal linkage between self-construal and consumption impulsiveness to the domain of beer consumption.

**References**