Thinking That Choices Reflect the Self Leads to Maximizing Behavior

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Why would people decision maximize when maximizing, compared to satisficing, lowers decision satisfaction and heightens regret? We hypothesized that consumers who feel that choices reflect the self are more likely than others to exhibit maximizing tendencies. Three studies using measured and manipulated variables and self-reports supported this hypothesis.

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**SESSION OVERVIEW**

What does it mean to make a choice? From exerting agency, to drawing conclusions about the self’s values, to wanting to produce a normatively right outcome, to expressing one’s preferences, choice is a fundamental route by which the self is empowered to “make a difference” (as per the theme of ACR 2013).

Theorists (e.g., Baumeister 1998) depict the self as housing three processes that drive behavior: executive functioning, which is comprised of self-regulation and decision making, interpersonal processes, and self-evaluation (e.g., self-esteem). The executive functioning aspect of the self is that which makes humans unique among animals (Baumeister 2005). Hence, there is a special relationship between the self and decision making, one with practical implications for everyday choices as well as ramifications for big decisions about well-being.

The first paper offers a new connection between the self and decision making via maximization tendencies. Vohs and Olson wondered why people would elect to engage in maximization, given its associations with regret, uncertainty, and decision stress. They predicted and found such tendencies arise from the belief that choices represent the self, which explains why and to what degree people exhibit maximizing tendencies.

The second paper builds on the first by overlaying the notion of attribution to choices and the self. Sela and Berger predicted and found that the interpretation of unexpectedly difficult decisions varied by culture. The authors demonstrated that priming American and Indian consumers with the notion that choices represent the inner-self versus societal roles leads to different interpretations about what choice difficulty means for the self.

The third paper tackles the motivational side of the choice-self connection. When people are faced with a consumption decision with a host of options, how might they decide? In a further instantiation of constructed preferences, Goodman and Vohs demonstrated people with limited mental resources tend to seek variety. Furthermore, this effect is especially strong in people who often rely on System 1 processing, compared to those who generally rely on System 2 processing. These results suggest a variety-seeking heuristic exists, which helps consumers with a constrained capacity for decision processing.

The fourth paper takes a physical tack on the issue of the self and choices. One would think humans’ sophisticated capacity for self-expression would render all forms psychologically equivalent, but that is not what Klesse, Levav, and Goukens found. They found that when choice is expressed vocally (that is, through speech), consumers make decisions that are more consistent with their automatic, emotional reactions (i.e., choosing unhealthy foods) compared to those who express choices non-vocally (such as by pushing a button).

With new and counterintuitive findings that nonetheless follow from established theories, this session will be of interest to a host of consumer behavior scholars. Most centrally, scholars interested in the self, choice, and choice processes, as well as those interested in expressiveness, self-regulation, ego depletion, and meta-cognition will find a home in this session, as will policy makers seeking to nudge consumers toward making decisions that ‘make a difference’ on the self and society.

**EXTENDED ABSTRACT**

Consumers must often employ one of two goals when making choices. They can satisfice and seek any option that meets some minimum standard, or they can maximize and attempt to find the best possible option available. Research suggests that while consumers’ tendency to maximize may vary depending on characteristics of the decision (Simon 1956; Levav, Reinholtz, and Lin 2012), maximizing is also an individual difference (Schwartz, Ward, Monterosso, Lyubomirsky, White, and Lehman 2002). Certain people, known as maximizers, display high chronic levels of maximizing behavior and often endeavor to make the optimal choice for every decision. They engage in this behavior despite the many negative effects caused by maximization, such as less decision satisfaction, higher regret, and longer decision times compared to those who chronically satisfice (Schwartz et al. 2002; Levav et al. 2012). Furthermore, even when maximizing creates objectively better outcomes than satisficing, maximizers are subjectively less happy with the outcome than are satisficers (Iyengar, Wells, and Schwartz 2006).

In light of these findings, one could reasonably wonder why consumers would ever be motivated to maximize. We hypothesized that one possible cause of maximization is the belief that one’s choices reflect the self, which is to say that choices are a representation of one’s identity. We specifically predicted that those who strongly believe that one’s choices reflect the self will be more likely to maximize compared to those who only weakly believe this notion. Three experiments provided support for this hypothesis.

Experiment 1 tested whether people who generally think that their choices are representative of the self also tend to exhibit maximizing behaviors. Participants completed a scale that measured the extent to which they believed that choices reflect the self (Choices Reflect the Self scale). They then completed two additional scales that measured their tendency to maximize and experience regret. Previous research suggests that in addition to maximizing more frequently, chronic maximizers also experience more regret than those who maximize less (Schwartz et al. 2002). Based on these results, we expected that Choices Reflect the Self scores would have a positive relationship with maximizing and regret scores.
The results were consistent with predictions. Choices Reflect the Self scores were positively and significantly correlated with both maximizing and regret scores. The more participants thought their choices reflected them, the more they tended to maximize and experience regret.

Experiment 2 tested whether a situational manipulation could induce participants to think that choices either reflect the self or do not reflect the self. Participants were asked to write an essay that purportedly would be used to help middle schoolers who were having trouble making choices. Participants were randomly assigned to one of two groups for this essay: the choices are the self group and the choices are not the self group. They were then instructed to complete the Choices Reflect the Self scale.

In the choices are the self condition, participants were told middle schoolers today were underestimating how much their choices say about who they are, an attitude that leads them to make decisions that reflect poorly on them. Participants were instructed to help middle schoolers with their supposed problem by writing an essay to make kids realize that choices reflect them. The choices are not the self condition used an identical procedure, except in this condition participants were told middle schoolers cared too much about what their choices said about them. Participants were instructed to help middle schoolers with this purported issue by writing an essay to let the kids know they are more than just the choices they make. After writing the essays, participants in both conditions completed the Choices Reflect the Self scale. Results show that those in the choices are the self condition had significantly higher Choices Reflect the Self scores than those in the choices are not the self condition, indicating the manipulation.

Experiment 3 replicated and extended experiment 2 in that in addition to manipulating the idea that choices do or do not reflect the self, experiment 3 tested whether these beliefs would influence maximizing tendencies. Participants were again instructed to help middle schoolers who, it was reported, were bringing about negative consequences for themselves either because they underestimate how much their choices reflect them (choices are the self condition) or overestimate how much their choices reflect them (choices are not the self condition). Participants then wrote an essay that purportedly would be used to help these middle schoolers who were having trouble making choices. They were then instructed to complete the Choices Reflect the Self scale. Finally, participants indicated their tendency to maximize.

As predicted, the results from experiment 3 show that those in the choices are the self condition (vs. choices are not the self condition) indicated significantly stronger beliefs that choices reflect the self, suggesting our manipulation was effective. This condition also reported stronger maximizer tendencies. Furthermore, the extent to which participants believed that choices reflect the self mediated the effect of condition on maximizer scores. This experiment showed that manipulating the idea of choices signifying individuals was effective in eliciting maximizer behavior insofar as the manipulation caused participants to actually believe choices represent the self, which further supports our hypothesis that it is specifically the thought that choices reflect individuals that is leading to maximizer behavior.

Summary: With all of the choices afforded to consumers in society today, it is no wonder that those who frequently attempt the daunting task of maximizing each decision often end up less satisfied than those who merely satsisfy. By recognizing why certain consumers feel compelled to strive to select the best option, people can better comprehend the merits of such behavior and ways of countering its adverse effects.

On Metacognition and Culture

EXTENDED ABSTRACT

Metacognitive experiences have an important impact on judgment and decision-making. How difficult information is to process, for example, influences liking (Reber, Winkielman, and Schwarz, 1998), perceived distance (Alter and Oppenheimer, 2008), perceived uniqueness (Pocheptsova, Labroo, and Dhar, 2010), and frequency estimates (Tversky and Kahneman, 1973).

Based on existing research, one might assume metacognitive effects are universal. But could they differ by culture? We suggest this possibility based on the notion that metacognitive effects on judgment are largely inference-based (Schwarz 2004) and that there are cultural differences in the lay theories that give rise to such inferences (Markus and Kitayama, 2003). What people infer from metacognitive experiences depends on their lay theory regarding what makes information easy or difficult to process in a particular situation (Winkielman and Schwarz, 2001). Given culture’s ability to shape people’s lay theories in general (Briley, Morris, and Simonson 2010), it should also impact the inferences people draw from metacognitive experiences.

Consider the act of choice. A European-American cultural context is characterized by independent self-construal and a disjoint model of agency, where people see choice as reflecting or corresponding to the inner-self (Markus and Kitayama, 2003). An Indian cultural context, however, is characterized by interdependent self-construal and a conjoint model of agency, in which, choice is seen less as self-expression and more as reflecting contextual influences such as social roles (Kim and Drollet, 2003; Kim and Markus, 1999; Savani, Markus, and Conner 2008). Building on these two streams of research, we suggest the inferences people draw from the cognitive experience of choice difficulty should depend on cultural differences in self-construal and related models of agency.

We test this possibility by examining how culture moderates the tendency to infer decision importance from decision difficulty. Prior research (Sela and Berger, 2012) has shown people perceive unexpectedly difficult decisions as more important and therefore deserving of increased deliberation. Ironically, such a metacognitive inference is more likely to happen for decisions that initially seemed unimportant, because people expect them to be easy, whereas important decisions are expected to be difficult to begin with (Schwarz 2004; Wänke, Schwarz, and Bless 1995).

Importantly, inferring decision importance from difficulty is based on the lay-theory that a difficult decision is likely to also be of personal/inner importance. We hypothesize that this lay-theory is more salient in cultures characterized by independent self-construal and a disjoint agency model and less salient in cultural contexts characterized by interdependent self-construal and a conjoint agency model.

In Study 1, we presented American and Indian participants with a choice between two university courses and manipulated decision urgency based on initial personal importance (important versus unimportant) and processing difficulty (fluently versus disfluently). We measured how long participants spent deciding (Sela and Berger, 2012, experiment 4). We predicted processing difficulty under unimportant framing to increase perceptions of decision importance and consequently the amount of time spent deciding, but only among American participants. To examine the mediating role of perceived decision importance, participants also rated the extent to which it was important to make a good decision.

A 2(importance framing) x 2(process difficulty) x 2(culture) ANOVA on time spent revealed the predicted 3-way interaction.
Consistent with prior research, American participants spent more time deciding in the disfluent than in the fluent condition, but only in the unimportant framing condition. However, Indian participants spent slightly less time in the disfluent compared with the fluent condition when the decision was framed as unimportant. Processing difficulty did not influence decision time in the important framing conditions.

A moderated-mediated-moderation analysis suggested that the effect of processing difficulty on time spent, through perceived decision importance, was significant among Americans under unimportant framing but not among Indian participants or under important framing.

Studies 2 and 3 examine whether manipulating the salience of disjoint versus conjoint agency models can reverse the effect of culture on metacognitive inferences. In study 2, we expected priming Indian participants with the notion that choice reflected their inner-self would lead them to spend more time on unexpectedly difficult decisions. We first asked half the participants to describe a choice they had made that strongly expressed who they were, their individual preferences, beliefs, emotions, or goals (e.g., an item they bought because they felt it communicated their identity as individuals). In the control prime condition, we asked participants to list all the food items they consumed that day.

In the next task (borrowed from Sela and Berger 2012), participants chose between two flight options. All the participants chose a flight option and the decision was framed as unimportant. We manipulated decision difficulty (fluent versus disfluent). The dependent variable was the amount of time participants spent deciding.

A 2(prime) x 2(difficulty) ANOVA on time revealed the predicted prime x difficulty interaction. Disfluency had no effect on time in the control prime condition. However, in the choice-as-self-expression prime condition, participants spent more time deciding in the disfluent than the fluent condition.

In Study 3, American participants completed a similar sequence of tasks as in Study 2, but this time half of them described a choice they had made that was strongly influenced by a societal imperative (e.g., an item they bought because they were expected to). The other half listed foods they consumed that day, as in Study 2. The remainder of the procedure was identical to Study 2.

We expected the social-imperative prime to eliminate American participants’ baseline tendency to spend more time on unexpectedly difficult decisions. A 2(prime) x 2(difficulty) ANOVA on time revealed the predicted prime x difficulty interaction. As expected, in the control prime condition, participants spent more time deciding in the disfluent than the fluent condition. However, in the social- imperative prime condition, disfluency had no effect on time spent. See Table 1.

This research makes an important contribution by showing that susceptibility to metacognitive influences may differ by culture and that these differences may reflect cultural differences in the lay-theories people recruit to interpret their metacognitive experiences. The findings suggest limitations to the idea that metacognitive effects are universal.

### One of Each: Variety Seeking to Avoid Choice Difficulty

#### EXTENDED ABSTRACT

When consumers are faced with a choice conflict from information overload, they use heuristics and non-compensatory choice processes, such as elimination-by-aspects and conjunctive models, to reduce the consideration set and come to a choice (Broniarczyk 2008; Payne 1976; Payne, Bettman, and Johnson 1993). Yet in so many modern-day choice situations, consumers are able to choose multiple options. Moreover, decision difficulty seems to propel consumers to purchase more options (Goodman, Broniarczyk, Griffin, and McAlister 2013). Consumers may seek variety as a way to minimize the conflict and difficulty associated with choice. Consumers seek variety due to actual or anticipated satiation (McAlister 1982), a desire to reduce preference uncertainty (Kahn and Lehman 1991), anticipated satiation (Simonson 1990).

We propose that consumers possess and use a variety-seeking heuristic to relieve choice conflict and information overload, and provide evidence that variety seeking increases when consumers’ mental resources are taxed. We tested our hypotheses by both manipulating participant’s mental resources (via ego depletion) and measuring consumer’s decision-making processing tendencies (by measuring System 2 processing via a Cognitive Reflection Test). Depletion served as a unique test of our theory because it does not create conflict, per se, but rather reduces the resources available to deal with the existing conflict and difficulty. Three studies tested and found support for our hypotheses.

In study 1, we used a traditional ego depletion manipulation (Vohs et al. 2008). We asked 186 undergraduate participants to watch a video of a woman being interviewed for 4 minutes, with random words flashed on the side of the video. Participants in the depletion condition were instructed to not look at the words. The nondepletion condition was not instructed to control their attention. Participants then completed an unrelated study to measure variety-seeking. Participants imagined that they were purchasing ice cream and asked to choose how many of each flavor (chocolate, vanilla, and strawberry) and size (small, medium, large) they would buy. As expected, the results showed that depleted participants chose more variety ($M = 3.27$) compared to nondepleted participants ($M = 2.45$). This effect was not driven by a difference in quantity, as the depletion condition did not increase quantity purchased ($F < 1$).

In study 2 we examined a common method by which consumers become depleted in the shopping environment by manipulating consumption decisions. We also tested whether the use of the variety-seeking heuristic can be reduced after resources are replenished. We paid 88 participants $7 as part of a longer 40-minute study. Participants in the depletion condition made 24 choices and received one of the products that they chose at the end of the study (Vohs et al. 2008). Participants in the control condition indicated whether they

### Table 1: Results for these studies

#### SUMMARY OF FINDINGS

<table>
<thead>
<tr>
<th>Study 1 (N = 250)</th>
<th>Culture</th>
<th>Importance Framing</th>
<th>Difficulty</th>
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<tr>
<td></td>
<td>Americans (N = 123)</td>
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<td></td>
<td></td>
<td>Important</td>
<td>Disfluent</td>
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<tr>
<td></td>
<td>Indians (N = 133)</td>
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<td>Disfluent</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Disfluent</td>
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<th>Study 2 – Indians (N = 113)</th>
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<th>Difficulty</th>
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<tr>
<td>Choice as Self-Expression</td>
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<td>Choice by Social Impressive</td>
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</table>
had used each specific product. Participants were then instructed to take a break and choose four snacks, in any combination. This choice task served as our dependent measure, and the snack and break also served to replenish participants’ resources. As expected, depleted participants chose more variety ($M = 2.81$) compared to the nondepleted participants ($M = 2.40, t (87) = 2.10, p < .05$). After replenishing their resources, participants responded to the same ice cream choices as in study 1. As expected, there was no longer any difference in variety seeking after replenishment ($M = 2.35$ vs. $M = 2.40, t < 1$).

In study 3 we measured individual differences in System 1 versus 2 processing by administering the Cognitive Reflection Test (CRT, Frederick 2005) after the choice task. We also manipulated depletion as in Study 2. If variety is used as a heuristic, then low CRT participants should exhibit more variety seeking. As in study 2, depleted participants showed more variety seeking ($M = 4.52$) than nondepleted participants ($M = 4.25, t (513) = 2.05, p < .05$), and participants that scored low on the CRT chose more variety ($M = 4.57$) than those high on CRT ($M = 4.11, t (513) = 2.61, p < .01$).

These results support the presence and use of a consumer variety-seeking heuristic. Furthermore, they suggest that consumers use variety seeking as a shortcut to manage the decision process. Further, the results have important implications for the myriad decision situations that evoke depletion, such as long shopping trips or multi-stage product customizations.

At a theoretical level, these findings imply that consumers who have limited executive resources might variety seek in order to mitigate the potential for future losses, which could be a boon to overall well-being. Yet a contrary view suggests that variety seeking can be a recipe for dissatisfaction. Future work will unravel the consequences of heuristic-driven variety seeking, drawing a pathway from documenting the prevalence of this new heuristic to its implications for consumer welfare.

**Imago Animi Sermo Est – Speech is the Mirror of the Mind: The Effect of Vocal Expression on Preferences**

**EXTENDED ABSTRACT**

The marketplace affords consumers different modes by which to express their preference. These include, but are not limited to, pressing a button, noting something on paper, and vocal expressions. New technologies enable consumers to interact with vending machines and even kitchen devices. Normatively these different modes of expression should not yield different choices, as there is nothing about the option (or the consumer) that differs as a function of expression mode. Yet, we find in our research that mode of expression has a substantial effect on people’s choices.

The study of response mode effects is not new; four decades of research on decision-making show that preference construction can be influenced by the form in which these preferences are elicited (Lichtenstein and Slovic 1971; Tversky, Slovic, and Kahneman 1990; Nowlis and Simonson 1997). However, to date no studies have tested the effect of response modality—that is, the form in which the preference is expressed—on people’s choices. Previous research hints at the possibility of differences due to modality. In particular, vocal and non-vocal preference elicitation modes differ in what is required to translate one’s preference into the desired outcome. Most non-vocal preference elicitation modes—such as pushing a button at a vending machine—require the translation of one’s choice (e.g., Snickers) into another medium (e.g., button B4) to obtain the desired outcome. Speech, on the other hand, is directly connected to emotionality: During a child’s emotional development, speech serves as a main vehicle for emotional expression (Chen, Kennedy, and Zhou 2012). Numerous studies have shown that speech and emotionality are indeed strongly interlinked (e.g., Pavlenko 2002). We conjecture that translating one’s choice into another medium might therefore reduce emotional resonance, which suggests that the more that the situation calls for explicitly vocalizing one’s preferences, the more that emotional, automatic preferences will guide choice outcomes. This would imply that speech, more than non-vocal expressions, would produce decisions reflective of automatic emotional reactions, a prediction that was confirmed in three experiments.

We tested this conjecture in three lab studies. In Study 1 ($N = 101$), we let participants choose between vices and virtues. Generally, individuals prefer vices because they are inferred to be tastier, but this initial impulsive response can be overridden if more cognitive evaluation takes place (Shiv and Fedorikhin 1999). In this study, participants chose a snack from a vending machine with healthy (e.g., apple slices, cereal bar, etc.) and unhealthy snacks (e.g., M&Ms, Kit Kat, etc.). Depending on condition, participants expressed their choice non-vocally (i.e., by pushing a button) or vocally (i.e., by speaking in a microphone attached to vending machine).

Based on participants’ choices, we computed the average calorie content of the snack selected in each condition. Participants who expressed their choice vocally chose snacks significantly higher in calorie content ($Mv = 239.56$) than participants who expressed their choice by pushing the button ($Mb = 209.04, F(1,99) = 5.81 p < .05$). A logistic regression with choice of snack as a dichotomous variable (i.e., unhealthy vs. healthy) revealed a significant effect of condition ($b = -1.06, p < .05$). Participants that expressed their choice vocally were less likely to choose a healthy snack.

In Study 2 ($N = 59$), we let participants choose between regular and low-fat ice cream. Based on research that shows that perceived healthiness and inferred tastiness are negatively correlated (Raghubathan, Naylor, and Hoyer 2006), we assumed that participants’ initial impulsive reaction would be to go for the regular version. During the study, participants were asked to choose an ice cream flavor among three different flavors available in a regular or a non-fat version. Participants expressed their choice either by using the computer mouse or by expressing it vocally into a microphone that was connected to voice recognition software. We conducted a logistic regression with ice cream flavor as the outcome and preference elicitation mode as the predictor. The results revealed an effect of condition, such that participants who expressed their choice vocally were less likely to choose a low-fat ice cream.

Study 3 ($N = 132$) was designed to provide evidence that expressing one’s choice vocally fosters choices that are more in line with an individual’s automatic emotional reactions. We therefore focused on the special situation of dieting. For dieters, high calorie food is implicitly associated with positive affect, even though at an explicit level they endeavor to override this natural response (Strack and Deutsch 2004). We therefore measured individuals’ dieting status (e.g., ‘I am on a diet’) and expected an interaction effect with preference elicitation mode so that dieting increases the likelihood of choosing a snack higher in calorie content when expressing one’s preferences vocally. An ANOVA conducted on calorie content of the chosen snack revealed a (marginally) significant main effect of condition ($F(1,130) = 3.02, p < .09$): Participants who expressed their choice vocally chose snacks higher in calorie content ($Mv = 220.64$) than participants who expressed their choice by pushing the button ($Mb = 196.397$). A logistic regression with choice of snack (i.e., unhealthy vs. healthy) revealed a significant effect of condition ($b = -.691, p < .05$). Participants who expressed their choice vocally were less likely to choose a healthy snack. Further, we find a
(marginally) significant interaction effect between preference elicitation mode and being on a diet (p < .09). Using ‘floodlight’ analysis (Spiller, Fitzsimons, Lynch and McClelland, forthcoming) to probe the interaction we find that the region of significance for preference elicitation mode is all values of being on a diet equal to or higher than 1.696. This indicates that dieters choose snacks higher in calorie content.

Our findings highlight that consumer preferences differ depending on whether they are expressed in spoken word or otherwise. Spoken choices appear to be more congruent with initial emotional reactions, while the translation into another medium (e.g., button B4) acts as a distancing function, promoting more reflective decision-making.

REFERENCES


