

# Choice, Rejection, and Elaboration on Preference-Inconsistent Alternatives

JULIANO LARAN  
KEITH WILCOX

Previous research has demonstrated that rejecting product alternatives (i.e., choosing which alternatives to give up) may cause preference reversals compared to choosing alternatives. We provide an investigation into the psychological processes underlying this phenomenon. These preference reversals can be caused by increased elaboration on the features of preference-inconsistent alternatives when people reject alternatives. When these features are appealing, increased elaboration increases preference for preference-inconsistent alternatives. When these features are unappealing, increased elaboration may reduce preference for preference-inconsistent alternatives. The findings provide insight into how the amount of elaboration on product alternatives may mediate the influence of different decision-making tasks on decision outcomes.

Consumers can make purchase decisions by choosing or rejecting alternatives. Choosing which alternative to purchase typically involves evaluating each product on the dimensions that are consistent with one's preferences (e.g., "I want business features in a phone," "I want comfort in a car"). The process supporting the rejection of alternatives is less clear (Chernev 2009; Dhar and Wertenbroch 2000; Huber, Neale, and Northcraft 1987; Irwin and Naylor 2009; Krishnamurthy and Prokopec 2010; Meloy and Russo 2004; Park, Jun, and MacInnis 2000; Shafir 1993). Dhar and Wertenbroch (2000) propose that rejection tasks increase elaboration on hedonic, indulgent alternatives, resulting in greater preference for hedonic over virtuous alternatives. Park et al. (2000) propose that rejection tasks make it harder for consumers to give up options, which increases spending when consumers are asked to give up rather than choose options. Although these different pieces of research propose different mechanisms and outcomes of rejecting alternatives, all of them

indicate that rejecting alternatives causes deviations in preference relative to choosing alternatives.

We will show that rejecting product alternatives may cause preference reversals more frequently than one would expect from previous evidence. We propose that consumers' decisions are determined by how much they elaborate on information associated with their preferences. The extent to which consumers elaborate on information that is aligned with their preferences depends on whether they choose or reject alternatives. Choosing encourages elaboration on information that is consistent with one's preference, which leads to preference-consistent decisions. Rejecting encourages elaboration on information that is inconsistent with one's preference, which leads to preference-inconsistent decisions. For example, if a consumer is looking for a phone for business, a choice task would lead her to focus mostly on business features and purchase, for instance, a BlackBerry. A rejection task, however, would lead her to elaborate on entertainment features and purchase, for instance, an iPhone. This is especially true in purchase contexts in which consumers have a baseline preference (business) but also want to serve other interests (entertainment) with the purchase.

Our conceptualization is investigated in four studies. Study 1 demonstrates that consumers choose preference-consistent alternatives in a choice task, but preference-inconsistent alternatives in a rejection task. Elaboration on preference-inconsistent information mediates the effect of task type on decisions. Study 2 demonstrates that, because consumers do not elaborate as much on preference-consistent alternatives in a rejection task, making the preference-

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Juliano Laran (laran@miami.edu) is assistant professor of marketing, University of Miami, Coral Gables, FL 33124-6524. Keith Wilcox (kwilcox@babson.edu) is assistant professor of marketing and the Joseph R. Weintraub term chair in marketing, Babson College, Babson Park, MA 02457. The authors thank Lauren Block and Chris Janiszewski for their many helpful comments on an earlier draft of this manuscript. The authors also thank the editor, associate editor, and three reviewers. Both authors contributed equally to this work, and they are listed in alphabetical order.

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consistent alternative more appealing has a larger impact on decisions in choice than in rejection tasks. Similarly, making the preference-inconsistent alternative more appealing has a larger impact on decisions in rejection than in choice tasks. Study 3 examines the role of negative features in our proposed process. The study demonstrates a reversal in preference when people perform rejection tasks if the inconsistent option has negative features, but only when these features are related to one's preference. Study 4 demonstrates that this task effect may be attenuated and result in an additional preference reversal when consumers face cognitive constraints. A rejection task leads consumers to not select a preference-inconsistent alternative when they do not have the cognitive resources available to elaborate on this alternative.

### REJECTION AND CHOICE TASKS LEAD TO DISTINCT OUTCOMES

There has been a high amount of research on reversals of preference due to task characteristics. Shafir (1993) demonstrates that tasks involving giving up alternatives (i.e., rejection tasks) lead to preference reversals compared to selecting alternatives (i.e., choice tasks) because people focus on positive attributes when choosing, but on negative attributes when rejecting. A similar focus explanation is present in the findings of Huber et al. (1987), who demonstrate that people select more job candidates to interview when they are asked which candidates they would reject (i.e., candidates do not report many weaknesses) relative to when they are asked which candidates they would choose (Yaniv and Schul 2000; Yaniv et al. 2002). Dhar and Wertenbroch (2000) find that consumers focus on alternatives that can be justified in choice tasks, resulting in greater preference for virtuous options, but that rejection leads to elaboration on hedonic benefits and increases preference for indulgent options. Krishnamurthy and Prokopec (2010, 70) propose that rejecting options may actually lead to more virtuous behavior when people have mental budgets for indulgences (e.g., a certain amount of dessert to be consumed), because "in rejection tasks people elaborate on reasons to avoid a certain product." These findings imply that rejection and choice tasks lead to elaboration on different types of information, and this differential elaboration pattern often results in preference reversals.

It is not clear, however, whether the elaboration patterns in rejection tasks are restricted to a specific type of information (only hedonic benefits or negative features) or determined by general aspects of the decision, such as task characteristics and the decision context. Krishnamurthy and Prokopec (2010) found that a rejection task leads to more indulgence (e.g., eating dessert) when a mental budget is not present, but to less indulgence when a mental budget is present. Importantly, they suggest that assigning a mental budget for the number of desserts to eat encourages people to think about indulging (Krishnamurthy and Prokopec 2010, 69). The fact that a rejection task led to behavior that is inconsistent with indulgence may signal an additional

process in play. We propose that rejection tasks encourage elaboration on preference-inconsistent information and that this occurs when people's baseline preference is for both indulgent and virtuous alternatives.

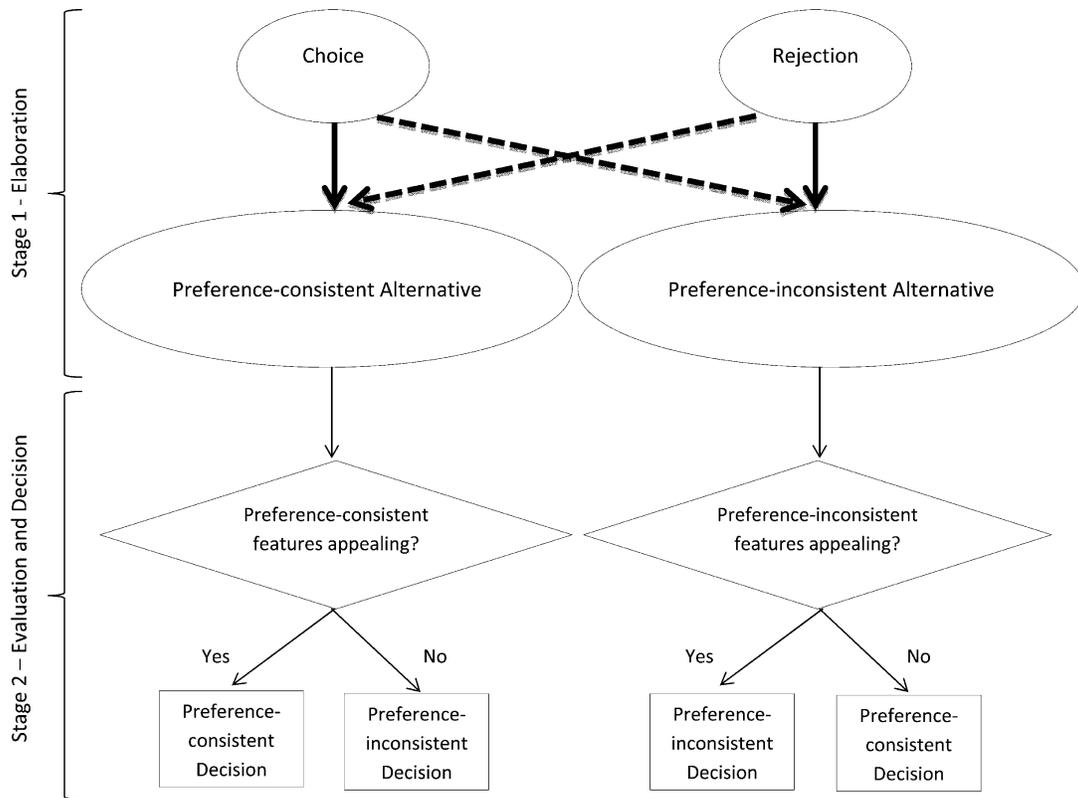
### TASK TYPE AND ELABORATION ON PREFERENCE-INCONSISTENT ALTERNATIVES

A substantial body of research has demonstrated that consumer preferences are often constructed as decisions are made instead of retrieved from memory (Bettman, Luce, and Payne 1998; Simonson 1993; Yoon and Simonson 2008), particularly when preferences are not strongly defined. Shafir (1993, 554) contends that in the presence of an option that dominates the others on all dimensions, preference reversals should not occur as a function of task type. Similarly, Bettman et al. (1998) argue that when people do not have well-defined existing preferences, they construct them using a variety of strategies contingent on task demands. Nevertheless, prior to making decisions, consumers still hold baseline preferences for different alternatives. Baseline preferences can be determined by individual differences, such as people's tendency to have low or high self-control (Laran and Janiszewski 2011; Tangney, Baumeister, and Boone 2004; Wilcox et al. 2009) or to engage in hedonic or utilitarian activities (Babin, Darden, and Griffin 1994; Laran 2010a, 2010b). They can also be determined by information in the current environment that makes certain attributes more accessible (Chartrand et al. 2008; Laran 2010c; Laran, Dalton, and Andrade 2011; Laran, Janiszewski, and Cunha 2008) or one's emotional state (Wilcox, Kramer, and Sen 2011). Typically, when people have a baseline preference, they focus on information (i.e., products, brands, activities) that is consistent with this preference in order to make the decision process efficient. We propose that rejecting alternatives influences preference in a two-stage process. Rejecting alternatives (a) increases elaboration on alternatives that are inconsistent with an individual's baseline preference, and (b) results in preference reversals when the features of the preference-inconsistent alternatives are appealing. Figure 1 presents a summary of our conceptualization.

The first stage of this process is characterized by elaboration. As discussed above, consumers' baseline preferences are determined by individual traits, chronic preferences, or the immediate context. Consumers typically have an array of conflicting interests that shape their preferences (e.g., relax vs. party, spend time with family vs. spend time with friends, price vs. quality). In a choice task, consumers will elaborate on alternatives that are consistent with their baseline preference, as indicated by the solid line in figure 1, and try to inhibit (i.e., not elaborate as much on) alternatives that are inconsistent with their preferences, as indicated by the dashed line in figure 1. Inhibition refers to directing attention away from information that might conflict with a current task (Förster and Liberman 2007; Shah, Friedman, and Kruglanski 2002). Thus, people often make choices that

FIGURE 1

## CONCEPTUAL MODEL OF THE INFLUENCE OF TASK TYPE ON DECISIONS



NOTE.—The thick lines represent elaboration. Dashed thick lines represent weaker elaboration.

are consistent with their baseline preferences by both elaborating on alternatives that are consistent with these preferences and ignoring alternatives that are inconsistent with these preferences. This process results in the features of a preference-consistent alternative having a stronger impact on the decision.

In a rejection task, consumers must decide which alternative they do not want. That is, they focus on the alternatives that are less preferred in order to assess whether the options should be rejected. Therefore, consumers will elaborate more on alternatives that are inconsistent with their baseline preferences, as indicated by the solid line in figure 1. As a consequence, consumers do not elaborate as much on alternatives that are consistent with their preferences, as indicated by the dashed line in figure 1. Previous findings on task framing can be used to support this proposition. Shafir (1993) proposes that rejecting job applicants increases elaboration on applicants' weakness (i.e., what is not wanted), which leads people to select more candidates to interview because resumes are biased toward candidates' strengths. Dhar and Wertenbroch (2000) demonstrate that rejecting alter-

natives leads to more indulgence compared to choosing alternatives, but only when rejection tasks encourage increased elaboration on hedonic product features; thinking of reasons for a decision inhibits elaboration on hedonic features and eliminates this effect. Thus, rejection tasks increase the impact of features of a preference-inconsistent alternative on the decision.

The second stage of this process is characterized by the evaluation of alternatives and a decision. When consumers make a choice, and they are focused on the preference-consistent alternative, they will select the alternative if its features are appealing (see fig. 1). If the features are unappealing, they should not choose this option. Similarly, when consumers reject alternatives, and they are focused on the preference-inconsistent alternative, they will select this alternative if its features are appealing (see fig. 1). If the features are unappealing, they should not choose this option. Thus, when the features of both alternatives are appealing, a reversal in preference will occur because of the different elaboration patterns resulting from choice and rejection tasks. We contend that such situations are very common in

consumer decision making. Consumers may want a nice apartment but still want to save money; they may want a fast car but still care about safety; they may want healthy food but still desire tasty food. Therefore, while consumers prefer certain product alternatives to others, the other alternatives are still appealing (i.e., companies attempt to offer appealing options), which may contribute to the formation of weakly defined preferences.

Consider an opportunity to purchase a Blackberry or an iPhone. If a consumer needs a business phone, our model predicts that, if she makes a decision by choosing an alternative, she will primarily elaborate on and purchase the Blackberry because of its appealing business features. If she makes a decision by rejecting an alternative, she will primarily elaborate on the iPhone (the preference-inconsistent alternative) and become more likely to purchase it because of its appealing features. Importantly, we predict that the opposite pattern will emerge if the consumer wants a phone for personal purposes (e.g., entertainment). If she chooses, she will elaborate more on the iPhone and purchase it because of its appealing entertainment features. If she rejects, she will elaborate more on the Blackberry (the preference-inconsistent alternative) and become more likely to purchase it because of its appealing features.

We plan to show that elaboration has a pervasive effect on different types of preference and under different task types. While previous research proposes that increased elaboration on certain features of the alternatives in rejection tasks is unidirectional (e.g., focus on indulgent or virtuous features, focus on positive or negative features), we will show that this elaboration can follow multiple directions and have a distinct impact on decisions. In demonstrating this, we contribute to the literature on constructive choice processes and preference reversals by showing that the nature of a decision task interacts with consumers' baseline preferences and elaboration patterns to influence decisions.

## STUDY 1

Study 1 tests the prediction that rejection tasks direct consumers toward preference-inconsistent alternatives. Participants decided between a cheaper apartment that did not have easy access to nightlife and a more indulgent, more expensive apartment that had easy access to nightlife. We pretested the options to ensure that the indulgent option (i.e., more expensive apartment) would be the baseline preference, but primed the concept of saving money in another condition to shift baseline preference toward the cheaper apartment. To provide process evidence, we asked participants to recall the features they considered when making a decision.

In the indulgent baseline preference condition, we predicted that participants would choose the preference-consistent, indulgent option more often when asked to make a choice, but select the preference-inconsistent, virtuous option more often when asked to make a rejection. When

saving money was primed, there should be a reversal of the results such that participants would choose the cheaper apartment in a choice task, but the more expensive apartment when asked to reject one. In addition, the entire set of results should be mediated by the pattern of elaboration on the preference-consistent versus preference-inconsistent aspects of the alternatives. Because the options were not selected to have a higher or smaller number of positive or negative features, we expected a main effect of task type on thought valence (i.e., more thoughts on negative features in the rejection-task condition), but no effect of the prime.

## Method

*Participants and Design.* Participants were 163 students who participated in exchange for course credit. The design was a 2 (baseline preference: indulgence vs. saving money)  $\times$  2 (task type: choice vs. rejection) between-subjects design.

*Procedure and Stimuli.* Instructions told participants that they would participate in two studies. The first study purportedly examined cognitive processes associated with unscrambling sentences. In truth, the study aimed at priming the concept of saving money (Srull and Wyer 1979). Participants were presented with 10 sets of 5 words and asked to form sentences by unscrambling those words. Each sentence contained a word related to one type of information. While the words were neutral in the no-prime condition, the words were the following in the "saving money" condition: cheap, price, save, economic, frugal, bargain, value, and money. After this task, participants were thanked and told that they were done with the first study.

The second task involved choice/rejection between two apartments and an attribute recall task, order counterbalanced. Instructions were the following in the choice (rejection) task condition: "Imagine that you are deciding between two apartments. The rent on apartment A is \$850 per month. It is not close to nightlife or other entertainment options (e.g., movie theaters). The rent on apartment B is \$940 per month. It is similar to the one above and is close to nightlife and other entertainment options. Which apartment do you choose (reject)?" The attribute recall task had these instructions: "Now list all the attributes that you recall from when you were making a decision. Possible attributes are 'rent,' 'facilities,' and 'location.'" We coded the number of virtuous features listed (of which most were about apartment A), the number of indulgent features listed (of which most were about apartment B), and the number of positive and negative thoughts. For participants performing the recall task first and then a choice/rejection task, we asked them to look at the options and consider which one they would choose/reject. These participants then performed the attribute recall task and made a choice/rejection.

## Results

*Pretesting.* In a pretest conducted with a sample from the same population as that of the main study ( $N = 38$ ), participants were given the description of apartment A and asked to indicate how much more they would be willing to pay per month to rent a similar apartment that was close to nightlife and other entertainment options. The average willingness to pay to be close to nightlife was \$940, so we set this as the rent for apartment B in the main study.

*Decision Times.* Participants made faster decisions in the choice ( $M = 14.65$  seconds) than in the rejection-task condition ( $M = 18.17$  seconds;  $F(1, 159) = 4.40, p < .05$ ). The effect of the baseline preference and the interaction were not significant (both  $F$ 's  $< 1$ ). This result supports the notion that a rejection task distracts people from their focus on the preference-consistent alternative, which leads to increased elaboration on the preference-inconsistent alternative.

*Choices.* Choice shares are presented in table 1. A binary logistic regression shows an interaction between the baseline preference and task-type factors ( $\chi^2(1) = 20.41, p < .01$ ). In the indulgence condition, participants were more likely to choose the preference-consistent option (the apartment close to nightlife) in the choice (75.6%) than in the rejection-task condition (30.6%;  $\chi^2(1) = 15.69, p < .01$ ). In the saving-money condition, participants were also more likely to choose the preference-consistent option (the cheaper apartment) in the choice (63.9%) than in the rejection-task condition (36.0%;  $\chi^2(1) = 5.27, p = .01$ ). This represents a reversal in preference relative to the indulgence condition because, in the saving-money condition, participants were less likely to choose the apartment close to nightlife in the choice ( $100 - 63.9 = 36.1\%$ ) than in the rejection condition ( $100 - 36.0 = 64.0\%$ ). Whether participants performed the attribute recall task or made a decision first did not influence the results ( $\chi^2(1) = .19, p > .66$ ).

*Preference-Consistent versus Preference-Inconsistent Features.* Typical mentions of indulgent features were "convenient for entertainment," "more youthful clientele," and "better lifestyle." Typical mentions of saving money and virtuous features were "would allow me to save money,"

"would be quiet," and "less temptation." Means are presented in table 1. An ANOVA on the number of preference-consistent features recalled showed an interaction between the baseline preference and task type factors ( $F(1, 159) = 14.18, p < .01$ ). In the baseline, indulgence condition, participants reported more indulgent features in the choice ( $M = 5.07$ ) than in the rejection-task condition ( $M = 3.31$ ;  $F(1, 159) = 9.25, p < .01$ ). In the saving money condition, participants reported more virtuous features in the choice ( $M = 5.25$ ) than in the rejection-task condition ( $M = 3.48$ ;  $F(1, 159) = 9.88, p < .01$ ).

An ANOVA on the number of preference-inconsistent features recalled also showed an interaction between the baseline preference and task type factors ( $F(1, 159) = 18.02, p < .01$ ). Means are presented in table 1. In the baseline, indulgence condition, participants reported fewer virtuous features in the choice ( $M = 2.95$ ) than in the rejection-task condition ( $M = 4.64$ ;  $F(1, 159) = 8.23, p < .01$ ). In the saving money condition, participants reported fewer indulgent features in the choice ( $M = 3.28$ ) than in the rejection-task condition ( $M = 4.54$ ;  $F(1, 159) = 5.15, p = .01$ ).

*Positive versus Negative Features.* Typical mentions of positive features were "inexpensive," "quiet," and "would allow me to entertain." Typical mentions of negative features were "would take me longer to get to places," "more expensive," and "nightlife would keep me awake when I am not participating." Positive and negative features could be both preference-consistent and inconsistent, but they allowed us to measure what participants focused on when considering a decision. An ANOVA on the number of positive features listed showed a main effect of task type ( $F(1, 159) = 7.88, p < .01$ ) and no main effect of baseline preference or an interaction (both  $F$ 's  $< 1$ ). Participants reported more positive features in the choice ( $M = 6.39$ ) than in the rejection-task condition ( $M = 5.03$ ). An ANOVA on the number of negative features listed also showed a main effect of task type ( $F(1, 159) = 7.05, p < .01$ ), but in the opposite direction. Participants reported fewer negative features in the choice ( $M = .94$ ) than in the rejection-task condition ( $M = 1.89$ ).

*Mediation Analysis.* A mediation analysis (Baron and Kenny 1986; Muller, Judd, and Yzerbyt 2005) was per-

TABLE 1  
STUDY 1 RESULTS

Baseline preference	Choice	Rejection
<i>Indulgence baseline:</i>		
Selection of indulgent apartment (preference-consistent)	75.6%	30.6%
Selection of cheaper apartment (preference-inconsistent)	24.4%	69.4%
Preference-consistent features recalled	5.07	3.31
Preference-inconsistent features recalled	2.95	4.64
<i>Saving money baseline:</i>		
Selection of indulgent apartment (preference-inconsistent)	36.1%	64.0%
Selection of cheaper apartment (preference-consistent)	63.9%	36.0%
Preference-consistent features recalled	5.25	3.48
Preference-inconsistent features recalled	3.28	4.54

formed to test the prediction that elaboration mediates the effect of the interaction between baseline preference and task type on decisions. As a mediator, we used an elaboration index that indicates the difference between the number of indulgent and virtuous features recalled. First, the interaction between baseline preference and task type predicted elaboration ( $\beta = -1.70$ ;  $t(159) = -4.92$ ,  $p < .01$ ) and choice ( $\beta = 1.78$ ;  $t(159) = 5.22$ ,  $p < .01$ ). Next, elaboration predicted choice ( $\beta = -.45$ ;  $t(161) = -6.36$ ,  $p < .01$ ). When both elaboration and the interaction were included as predictors of choice, elaboration remained a significant predictor ( $\beta = -.45$ ;  $t(158) = -6.34$ ,  $p < .01$ ), while the interaction became nonsignificant ( $\beta = -.01$ ;  $t(158) = -.14$ ,  $p > .89$ ). A Sobel test confirmed that the mediation was significant ( $z = -4.09$ ,  $p < .01$ ).

## Discussion

The results of study 1 support our predictions. A rejection task did not lead to the selection of a specific type of product, but to selection of an alternative that was inconsistent with one's baseline preference. In addition, the pattern of elaboration on the alternatives determined preference. In a choice task, consumers elaborate more on the preference-consistent alternative. This was indicated by the high number of indulgent, apartment B features considered in the indulgence condition, and high number of virtuous, apartment A features considered in the saving money condition. In a rejection task, consumers elaborate more on the preference-inconsistent alternative. This was indicated by a complete reversal in the pattern of feature recall compared to when participants made a choice. Moreover, a choice task seemed to invoke more positive features about the options, while a rejection task seemed to invoke more negative features about the options, which is consistent with Shafir (1993). In the next study, we seek to demonstrate that the reversals in preference between choice and rejection tasks are not only due to differential elaboration, but also to the attractiveness of the alternatives' features. Specifically, we manipulated the attractiveness of the preference-consistent and preference-inconsistent alternatives to examine how this affects preference in choice and rejection tasks.

## STUDY 2

This study used a consequential choice in which participants could win an iPad or money for participating in an experimental session. We pretested the alternatives to make sure that winning an iPad would be the baseline preference in a control condition. In a second condition, we increased the attractiveness of the preference-consistent alternative by offering participants a choice between an iPad with more memory and the same amount of money offered in the control condition. In a third condition, we increased the attractiveness of the preference-inconsistent alternative by offering participants a choice between the same iPad as that in the control condition and more money than offered in the control condition. We expected that increasing the attrac-

tiveness of the preference-consistent alternative would have a more positive impact on preference in a choice task than in a rejection task because people would not focus as much on the preference-consistent alternative in a rejection task. Increasing the attractiveness of the preference-inconsistent alternative would have a more positive impact on preference in a rejection task than in a choice task because people would not focus as much on preference-inconsistent alternatives in a choice task.

## Method

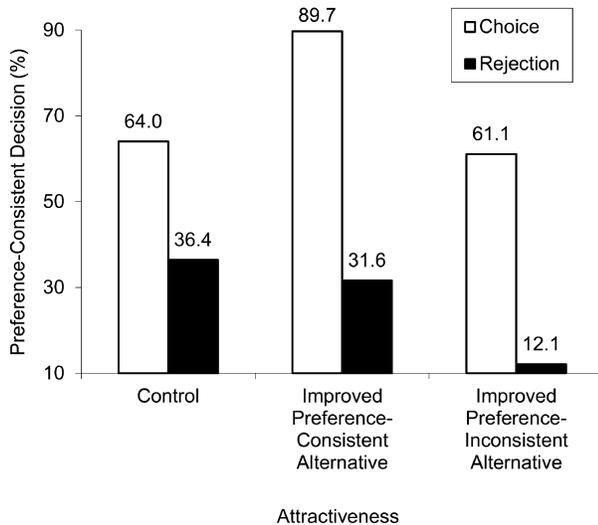
*Participants and Design.* Participants were 240 students who participated in exchange for course credit. The design was a 3 (attractiveness: control, improved preference-consistent alternative, improved preference-inconsistent alternative) by 2 (task type: choice vs. rejection) between-subjects design.

*Procedure and Stimuli.* Before the experimental session began, we told participants that we were selecting one participant among those doing the study to receive a gift for their participation. They could either receive an iPad or a certain amount of money. In the control condition, they were told they could receive a 16 GB iPad or \$300. This amount was pretested so that it was not enough to make participants prefer to receive the money over a 16 GB iPad. In the improved preference-consistent alternative condition, participants were told they could receive a 32 GB iPad or \$300. In the improved preference-inconsistent alternative condition, they were told they could receive a 16 GB iPad or \$350. Participants were asked which one they would choose/reject. All participants were asked to provide their e-mail so they could be contacted later to receive the selected gift in case they won. We then asked participants how satisfied they were with their decision (1 = Not at all satisfied, 9 = Extremely satisfied) in order to examine whether outcomes from different decision tasks, which are differentially associated with one's baseline preference, have a distinct impact on decision satisfaction. After participants made a decision and performed 45 minutes of unrelated tasks, we told them they could revise their decision, and offered them to make a choice (or rejection) again.

## Results

*Choices.* Choice shares are presented in figure 2. Importantly, when offered the opportunity to revise their decision 45 minutes later, only one participant in the control, choice task condition, and one participant in the improved preference-inconsistent alternative, rejection-task condition changed their decision. This demonstrates that possible preference reversals are not due to decision errors occurring in rejection tasks. A binary logistic regression shows an interaction between the attractiveness and task-type factors ( $\chi^2(2) = 6.58$ ,  $p < .05$ ). In the control condition, participants were more likely to choose the preference-consistent option (iPad) in the choice (64.0%) than in the rejection-task con-

**FIGURE 2**  
STUDY 2 RESULTS



dition (36.4%;  $\chi^2(1) = 7.15, p < .01$ ). In the improved preference-consistent alternative condition, participants were also more likely to choose the preference-consistent alternative in the choice (89.7%) than in the rejection-task condition (31.6%;  $\chi^2(1) = 27.38, p < .01$ ). Choice shares of the preference-consistent alternative were higher than those in the control condition in the choice condition ( $\chi^2(1) = 7.80, p < .01$ ), but not in the rejection condition ( $\chi^2(1) = .21, p > .64$ ). In the improved preference-inconsistent alternative condition, participants were also more likely to choose the preference-consistent alternative in the choice (61.1%) than in the rejection-task condition (12.1%;  $\chi^2(1) = 17.60, p < .01$ ). Choice shares of the preference-consistent alternative were smaller than those in the control condition in the rejection condition ( $\chi^2(1) = 5.76, p < .05$ ), but not in the choice condition ( $\chi^2(1) = .08, p > .78$ ).

**Decision Satisfaction.** Analysis of decision satisfaction did not produce an interaction ( $F < 1$ ) or a main effect of task type ( $F(1, 234) = 1.38, p > .66$ ). The only significant effect was that of attractiveness ( $F(2, 234) = 4.07, p < .05$ ). Participants in the control condition ( $M = 7.56$ ) were less satisfied than both participants in the improved preference-consistent alternative ( $M = 8.04; F(1, 234) = 4.19, p < .05$ ) and the improved preference-inconsistent alternative condition ( $M = 8.18; F(1, 234) = 4.29, p < .05$ ). These results indicate that satisfaction was higher when participants chose from a set of alternatives that was more attractive overall, but that task type did not influence satisfaction.

## Discussion

The results demonstrate that the preference reversals observed in choice and rejection tasks are due to different

elaboration patterns and the attractiveness of the alternatives. When a preference-consistent alternative was made more attractive, preference for the alternative increased in a choice task, but not in a rejection task. When a preference-inconsistent alternative was made more attractive, preference for the alternative increased in a rejection task but not in a choice task. Our theory suggests that preference reversals in rejection tasks occur when the features of the preference-inconsistent alternative are appealing. The purpose of the next study is to examine the role of unappealing features in choice versus rejection tasks.

## STUDY 3

In study 3, we examine how different types of negative features, related and unrelated to one's baseline preference, influence decisions. Participants were recruited based on interest in renting an apartment over the course of the semester. The study had a control condition in which participants' baseline preference was an apartment close to nightlife, an indulgent alternative. In a second (third) condition, both the preference-consistent and the preference-inconsistent alternatives received an additional negative feature that was unrelated (related) to indulgence, which characterized the apartment preferred at baseline. When a negative feature related to indulgence was added, if people elaborate primarily on the preference-consistent alternative during choice, then adding a negative feature should reduce preference for this alternative during a choice task. Similarly, if people elaborate primarily on the preference-inconsistent alternative during rejection, then adding a negative feature should reduce preference for this alternative during a rejection task. We expected that adding a negative feature, to both alternatives, that is unrelated to indulgence (i.e., the baseline preference) would carry less weight and not have a significant impact on decisions.

## Method

**Participants and Design.** Participants were 290 students who participated in exchange for course credit. The design was a 3 (negative feature: none, unrelated to baseline preference, related to baseline preference)  $\times$  2 (task type: choice vs. rejection) between-subjects design.

**Procedure and Stimuli.** This study was similar to study 1, and it involved the same control condition in which participants preferred an apartment that was close to nightlife to an apartment with cheaper rent. An announcement of the study emphasized that an apartment rental company was offering two apartments for rent and that it was looking for people who were interested in renting an apartment over the course of the semester (the study was run in the beginning of the fall semester). In the unrelated negative feature condition, the following feature was added to both apartments: "Some tenants have stated that the apartment is outdated." In the related negative feature condition, the following feature was added to both apartments: "The apartment does not

have a swimming pool.” These features were pretested so that the first feature was not as associated with indulgence ( $M = 2.54$  on a scale of 1 to 9) as the second one ( $M = 5.54$ ;  $F(1, 144) = 13.79$ ,  $p < .01$ ). Relative to study 1, the instructions differed in that participants were told that University Apartment Finders were offering these two options and were asked to release their e-mail address so that the company could contact them for further information on the selected alternative. All participants released their e-mail address, which is congruent with the fact that these were all students interested in renting an apartment. This task was counterbalanced with an attribute recall task, and participants were also asked about their actual willingness to pay for each option offered. As in study 2, participants were offered an opportunity to revise their decision after 45 minutes, but no participant changed a previous decision.

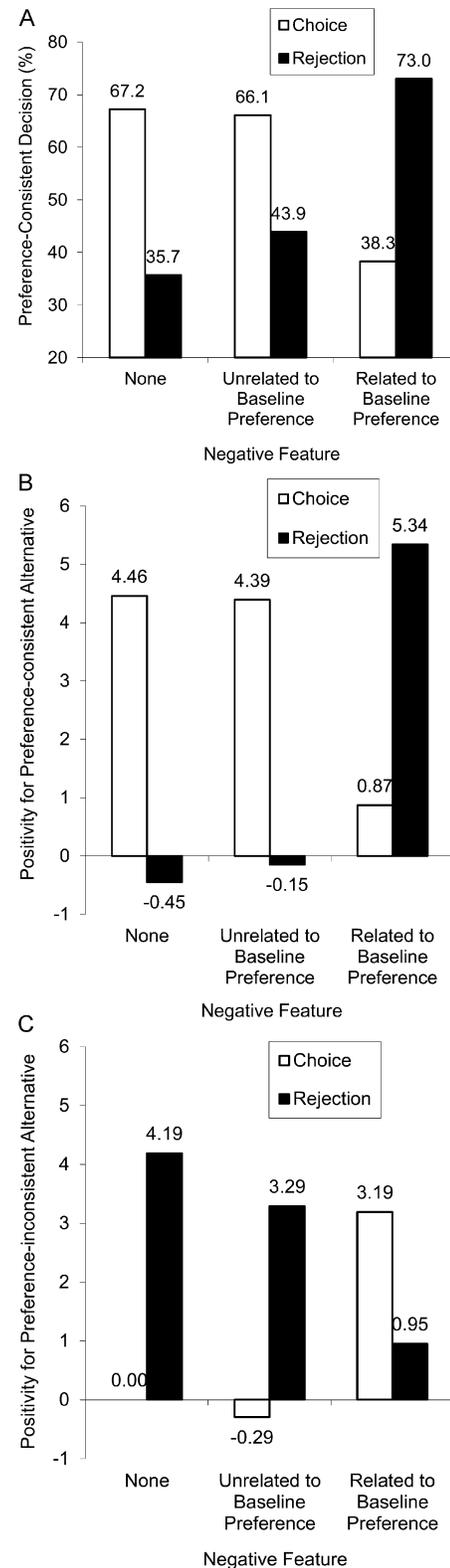
## Results

**Choices.** Choice shares are presented in figure 3. A binary logistic regression shows an interaction between the negative feature and task-type factors ( $\chi^2(2) = 21.63$ ,  $p < .01$ ). In the none (no negative feature) condition, participants were more likely to choose the preference-consistent alternative in the choice (67.2%) than in the rejection-task condition (35.7%;  $\chi^2(1) = 10.32$ ,  $p < .01$ ). In the unrelated negative feature condition, participants were also more likely to select the preference-consistent alternative in the choice (66.1%) than in the rejection-task condition (43.9%;  $\chi^2(1) = 4.74$ ,  $p < .05$ ). The choice shares did not differ from those in the no negative feature condition, both in the choice ( $\chi^2(1) = .02$ ,  $p > .89$ ) and in the rejection condition ( $\chi^2(1) = .58$ ,  $p > .44$ ). In the related negative feature condition, however, participants were less likely to select the preference-consistent alternative in the choice (38.3%) than in the rejection-task condition (73.0%;  $\chi^2(1) = 10.00$ ,  $p < .01$ ). In the choice task condition, participants were less likely to choose the preference-consistent alternative than in the no negative feature condition ( $\chi^2(1) = 9.31$ ,  $p < .01$ ). In the rejection-task condition, participants were more likely to choose the preference-consistent alternative than in the no negative feature condition ( $\chi^2(1) = 10.97$ ,  $p < .01$ ). Thus, as expected, the related negative feature had a stronger impact on preference than the unrelated feature.

**Positive versus Negative Features.** As opposed to study 1, in which the features were not explicitly negative, this study examines how positive (e.g., close to nightlife) and negative features (e.g., outdated) influence people’s decisions. Although participants mentioned more positive than negative features, the number of negative features was sufficient to influence decisions, which was not the case in study 1. To simplify the analysis, we created a positivity index for each apartment by subtracting the number of negative features from the number of positive features recalled. In general, the number of features listed was higher than the number of features explicitly provided because, as in study 1, participants listed attributes in addition to the ones

FIGURE 3

### STUDY 3 RESULTS



provided (e.g., “close to nightlife” led to mentions of entertaining others, better lifestyle). For the same reason, adding negative features did not necessarily increase the number of negative features mentioned in absolute terms, but did influence decisions, as shown below.

An ANOVA on the positivity index of apartment B, the preference-consistent alternative, showed an interaction between the negative feature and task-type factors ( $F(2, 284) = 30.08, p < .01$ ). Means are presented in figure 3B. In the no negative feature condition, participants recalled more positive features of apartment B in the choice ( $M = 4.46$ ) than in the rejection-task condition ( $M = -.45; F(1, 284) = 30.89, p < .01$ ). In the unrelated condition, participants also recalled more positive features of apartment B in the choice ( $M = 4.39$ ) than in the rejection-task condition ( $M = -.15; F(1, 284) = 21.14, p < .01$ ). In the related condition, however, participants recalled fewer positive features of apartment B in the choice ( $M = .87$ ) than in the rejection-task condition ( $M = 5.34; F(1, 284) = 20.82, p < .01$ ).

An ANOVA on the positivity index of apartment A, the preference-inconsistent alternative, showed an interaction between the negative feature and task-type factors ( $F(2, 284) = 14.87, p < .01$ ), but in the opposite direction. Means are presented in figure 3C. In the no negative feature condition, participants recalled fewer positive features of apartment A in the choice ( $M = .00$ ) than in the rejection-task condition ( $M = 4.19; F(1, 284) = 24.26, p < .01$ ). In the unrelated condition, participants also recalled fewer positive features of apartment A in the choice ( $M = -.29$ ) than in the rejection-task condition ( $M = 3.29; F(1, 284) = 16.22, p < .01$ ). In the related condition, however, participants recalled more positive features of apartment A in the choice ( $M = 3.19$ ) than in the rejection-task condition ( $M = .95; F(1, 284) = 5.59, p < .05$ ).

*Mediation Analysis.* To perform a mediation analysis, we subtracted the positivity index of apartment B from the positivity index of apartment A and used this measure as a mediator. The interaction between negative feature and task type predicted elaboration ( $\beta = 1.42; t(286) = 6.72, p < .01$ ) and choice ( $\beta = -1.01; t(286) = -4.52, p < .01$ ). Elaboration predicted choice ( $\beta = -.60; t(288) = -12.71, p < .01$ ). When both elaboration and the interaction were included as predictors of choice, elaboration remained a significant predictor ( $\beta = -.60; t(285) = -11.39, p < .01$ ), while the interaction became nonsignificant ( $\beta = -.17; t(285) = -.85, p > .39$ ). A Sobel test confirmed that the mediation was significant ( $z = 6.70, p < .01$ ).

*Willingness to Pay.* When we asked participants how much they were willing to pay for the chosen alternative, there was only an effect of negative feature condition. Participants were willing to pay more when no negative feature was included in the description ( $M = \$944.57$ ) than when an unrelated ( $M = \$872.62$ ) or a related negative feature was added ( $M = \$879.04; F(2, 284) = 15.96, p < .01$ ). When we asked participants how much they were willing to pay for the forgone alternative, there was no significant

effect. Participants were willing to pay the same when no negative feature was included ( $M = \$799.44$ ) as when an unrelated ( $M = \$781.33$ ) or a related negative feature was added ( $M = \$791.28; F(2, 284) = 1.23, p > .29$ ). Naturally, participants were willing to pay more for the chosen ( $M = \$899.23$ ) than the forgone alternative ( $M = \$792.17; t(289) = 14.06, p < .01$ ). The results suggest that even though participants were interested in renting the selected apartment, when it came to stating how much they were actually willing to pay in rent, willingness to pay was affected by the number of negative features but not by task type.

## Discussion

The results of study 3 provide insight into the role of elaboration, and feature valence, in choice versus rejection tasks. It seems that preference reversals in rejection tasks occur when preference-inconsistent alternatives have appealing features, which, upon elaboration, influence decisions. When there are negative features, the extent to which these features influence preferences depends on whether the features are related or unrelated to the baseline preference. Features that are unrelated to the baseline preference have little effect on the outcome of choice and rejection tasks. Given that our procedure was stimulus-based rather than memory-based, it is reasonable to assume that participants noticed the unrelated features but did not consider them to a great extent when making a decision. Importantly, when the negative features are related to the baseline preference, they reverse preferences. A negative feature receives a high amount of elaboration on a choice task, which decreases preference for a preference-consistent alternative. In a rejection task, the feature reduces the attractiveness of the preference-inconsistent alternative, which increases preference for the preference-consistent alternative. The purpose of the next study is to examine how preference is affected when consumers cannot elaborate on preference-consistent or inconsistent information.

## STUDY 4

Study 4 examines the influence of the amount of available processing resources on the outcome of choice and rejection tasks. We used the same stimuli as those of study 1. When high amounts of processing resources are available, we expected choice consistent with people’s baseline preference (apartment with easy access to nightlife), and rejection inconsistent with this preference. When low amounts of processing resources are available, we expected a breakdown in the elaboration pattern observed in the previous studies. In the choice condition, participants should not be able to elaborate as much on the preference-consistent alternative, which should lower preference for this alternative compared to when high amounts of resources are available. In the rejection condition, participants should not be able to elaborate as much on the preference-inconsistent alternative, which should lower preference for this alternative compared to when high amounts of resources are available.

## Method

**Participants and Design.** Participants were 274 students who participated in exchange for course credit. The design was a 2 (information load: low vs. high)  $\times$  2 (task type: choice vs. rejection) between-subjects design.

**Procedure and Stimuli.** We told participants that we wanted to understand people's processing when performing two tasks simultaneously. These were the instructions in the low (high) information load condition: "While you perform the next task, we want you to memorize the following number: 3245 (324578014). Keep this number in mind at all times while performing the next task. You cannot write anything down. Some students in the Business School have been able to memorize this number for extended periods of time." After the following (choice/rejection) task, participants were asked to write down the number so we could see whether they were able to memorize it. The second task involved choices between two apartments, described exactly as in study 1. Because we did not use a priming task, the baseline preference in all conditions was indulgence, as indicated in the study 1 pretest. The only change was the wording of the decision question. We asked "Would you choose (reject) apartment B?" Making apartment A the reference alternative (Dhar and Wertenbroch 2000) allows us to extend the scope of our findings beyond simple choice to a broader array of situations where consumers make decisions about trading up from their current state.

After making a decision, instead of asking participants to recall features, we asked them directly about their pattern of elaboration: "How much did you elaborate on features associated with saving money versus having fun when making your decision? Please indicate which percentage of time you spent elaborating on each one of these factors (remember, there are not right or wrong answers)." A slider and a scale ranging from 1 to 100 became available. Whether 1 or 100 represented "Only elaborated on saving money" or "Only elaborated on having fun" as scale ends was randomized. This question was asked in random order among a series of filler questions to control for participants who might have a hypothesis about what we wanted them to answer.

## Results

**Manipulation Check.** In the low-load condition, 96.5% of the participants recalled the number they were asked to memorize correctly. In the high-load condition, 78.2% of the participants recalled the number they were asked to memorize correctly. Because choices and the process measure did not differ between the people who correctly recalled the number versus not (both  $F$ 's  $< 1$ ), we used the entire sample in the following analyses.

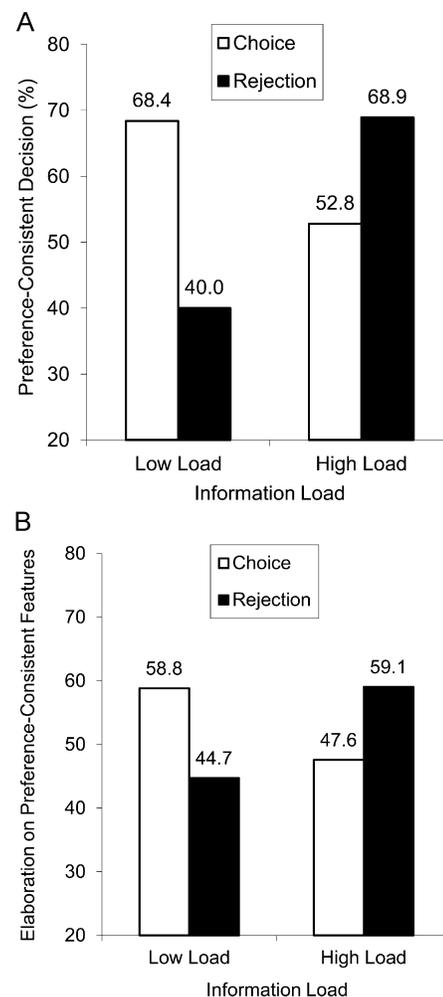
**Decision Times.** Participants made marginally faster decisions under low information load ( $M = 17.74$  seconds) than under high information load ( $M = 19.38$  seconds;  $F(1, 270) = 2.81, p = .10$ ), which could be expected given the

additional information that high-load participants needed to keep in their working memory while making a decision.

**Choices.** Choice shares are presented in figure 4. A binary logistic regression shows an interaction between the information load and task-type factors ( $\chi^2(1) = 13.46, p < .01$ ). In the low information load condition, participants were more likely to choose the preference-consistent alternative (apartment closer to nightlife) in the choice (68.4%) than in rejection-task condition (40.0%;  $\chi^2(1) = 11.45, p < .01$ ). In the high information load condition, participants were less likely to choose the preference-consistent alternative in the choice (52.8%) than in rejection-task condition (68.9%;  $\chi^2(1) = 3.56, p < .05$ ). Looked at differently, in the choice condition, participants were less likely to choose the preference-consistent alternative in the high-load than in the low-load condition ( $\chi^2(1) = 3.80, p < .05$ ). In the rejection

FIGURE 4

### STUDY 4 RESULTS



condition, participants were less likely to choose the preference-inconsistent alternative in the high-load than in the low-load condition ( $\chi^2(1) = 10.55, p < .01$ ).

*Elaboration.* Means are presented in figure 4. An ANOVA on the elaboration measure showed an interaction between the information load and task-type factors ( $F(1, 270) = 13.35, p < .01$ ). In the low information load condition, participants elaborated more on features associated with the preference-consistent option in the choice ( $M = 58.84$ ) than in the rejection-task condition ( $M = 44.74; F(1, 270) = 8.37, p < .01$ ). In the high-load condition, participants elaborated less on features associated with the preference-consistent option in the choice ( $M = 47.60$ ) than in the rejection-task condition ( $M = 59.07; F(1, 270) = 5.22, p < .05$ ). Looked at differently, in the choice condition, participants elaborated less on the preference-consistent alternative in the high-load than in the low-load condition ( $F(1, 270) = 5.62, p < .05$ ). In the rejection condition, participants elaborated less on the preference-inconsistent alternative in the high-load than in the low-load condition ( $F(1, 270) = 7.76, p < .01$ ).

*Mediation Analysis.* A mediation analysis was performed to test the prediction that elaboration mediates the effect of the interaction between information load and task type on decisions. First, the interaction between information load and task type predicted elaboration ( $\beta = 25.57; t(270) = 3.65, p < .01$ ) and choice ( $\beta = .45; t(270) = 3.80, p < .01$ ). Next, elaboration predicted choice ( $\beta = .01; t(270) = 22.00, p < .01$ ). Finally, when both elaboration and the interaction were included as predictors of choice, elaboration remained a significant predictor ( $\beta = .01; t(269) = 21.18, p < .01$ ), while the interaction became nonsignificant ( $\beta = .11; t(269) = 1.44, p > .15$ ). A Sobel test confirmed that the mediation was significant ( $z = 3.66, p < .01$ ).

## Discussion

Study 4 demonstrates the consequences of processing resource constraints. When individuals were able to elaborate on the alternatives, the results were similar to those in previous studies: people preferred the preference-consistent alternative in a choice task and the preference-inconsistent alternative in a rejection task. However, when participants were unable to elaborate on the alternatives, they had lower preference for the consistent alternative in a choice task and lower preference for the inconsistent alternative in a rejection task. It is interesting to note that this resource constraint led those in a rejection task, where it is hard to elaborate on preference-inconsistent alternatives, to go back to their baseline preference and make preference-consistent decisions. We speculate, with caution, that when a decision task becomes extremely difficult, people protect themselves from this difficulty by going back to their baseline preference.

Finally, the results in the rejection condition are consistent with previous research showing that information load makes consumers more likely to select indulgent options (Shiv and

Fedorikhin 1999). We extend these findings by showing that cognitive constraints can lead to less indulgence in choice tasks when the baseline preference is indulgence.

## GENERAL DISCUSSION

This article examined patterns of preference resulting from choosing and rejecting alternatives. Choice tasks encourage a focus on preference-consistent alternatives and motivate efficient, preference-consistent decision making, while rejection tasks encourage a focus on preference-inconsistent information. This phenomenon causes preference reversals in rejection tasks compared to choice tasks and is mediated by the extent to which people elaborate on preference-inconsistent alternatives in rejection tasks. In addition, this phenomenon is moderated by whether the features of the preference-consistent and preference-inconsistent alternatives are appealing or unappealing.

Our findings complement previous research on the different patterns of elaboration and preference resulting from choosing versus rejecting alternatives (Dhar and Wertenbroch 2000; Krishnamurthy and Prokopec 2010; Levin et al. 2002; Park et al. 2000; Shafir 1993). Shafir (1993) found that people are more likely to choose and reject the same enriched option (i.e., one with more positive and negative features) because people focus on positive attributes in choice tasks and negative attributes in rejection tasks. Since consumers typically prefer an outcome with positive benefits, focusing on positive attributes would be analogous to elaborating on preference-consistent information. We add to these findings by showing how elaboration on preference-inconsistent information can influence decisions, even when there is not a single option that has both more positive and more negative features. Other research has demonstrated that consumers select more unnecessary features during product customization when they reject features compared to when they choose features (Levin et al. 2002; Park et al. 2000; Wilcox and Song 2011). It is reasonable to presume that consumers prefer to minimize spending on unnecessary features during customization. Thus, rejecting features should lead consumers to elaborate on preference-inconsistent information, which would result in consumers selecting more unnecessary features. This research also resolves inconsistent findings, which have found that rejection tasks can increase (Dhar and Wertenbroch 2000) or decrease (Krishnamurthy and Prokopec 2010) indulgence, by demonstrating that preference for indulgence during rejection tasks depends on whether consumers have a baseline preference for exerting self-control or indulging.

Moreover, these results shed light on preference formation by uncovering an important factor that leads consumers to make decisions that are consistent or inconsistent with their preferences. Consumers may be able to adjust how they frame decisions according to their baseline preference. For instance, after a good workout, when people are tired, depleted, or feel licensed to indulge (Khan and Dhar 2006), dieters may be more effective at controlling their eating by framing subsequent food decisions as rejection tasks. It is

also possible that consumers may use decision framing as a way to justify indulging. One natural extension of this research is to examine whether people who are generally more effective at avoiding indulgence use decision framing, consciously or nonconsciously, as a self-control strategy. For example, people who are chronically high in self-control may be more effective at adjusting how they frame decisions to ensure that they act consistently with their chronic preferences.

Our research points to several interesting directions for future studies. In this article, we investigated consumer preference between two options, but future research should examine how such effects would materialize in larger consideration sets. For instance, large assortments often increase preference for virtuous options in choice tasks, unless situational factors provide reasons for indulgence, which shifts preference toward indulgent options (Sela, Berger, and Liu 2009). Although it is possible that rejection tasks may reverse preference in these situations, the increased difficulty from considering a large number of options may impair elaboration on preference-inconsistent information. Thus, it is uncertain whether rejection tasks will reverse preference compared to choice tasks in large choice sets as they do in smaller sets. In addition, research suggests that sale promotions are more effective when the benefits associated with the promotion (e.g., free gift vs. saving money) are compatible with consumers' preference (e.g., hedonic vs. utilitarian products; Chandon, Wansink, and Laurent 2000). Future research should examine how different decision tasks influence promotion compatibility to find ways to enhance sale promotion effectiveness. Understanding for what type of individuals the effects demonstrated in this essay are most likely to emerge is another important research area. People who are typically high in self-control are more likely to choose virtuous options over indulgent options even when situational factors (e.g., indulgence primes) attempt to alter their restrictive tendencies (Poynor and Haws 2009; Ramathan and Menon 2006). It is unclear whether this greater focus on self-control would make them less likely to elaborate on indulgent information during a rejection task or intensify the effects demonstrated in this article.

The process evidence we currently have shows that people elaborate more on preference-inconsistent features in rejection tasks. Future research should examine whether this elaboration actually drives preference shifts on a moment-to-moment basis. Preference for an alternative set of features could be measured sequentially, as the decision-making process progresses, in order to understand whether consumers' goals and preferences shift (e.g., "I want comfort" to "I want a fair price") during the elaboration process or at the evaluation stage, when a decision needs to be made. Future research could also examine how the different sources of preference strength (e.g., goal conflict, preferences constructed on the spot) influence decisions in rejection tasks. While one could argue that preferences constructed during the decision-making process are more subject to the influence of tasks that change elaboration patterns, it is also

possible that conflicts between goals (Laran and Janiszewski 2009), when not resolved prior to exposure to the alternatives, could be resolved through the differential elaboration patterns of a choice and a rejection task. Finally, it is important to understand the consequences of decisions made under rejection tasks. An interesting avenue for future research is to investigate, once consumption takes place, whether satisfaction is determined by the originally defined, preference-consistent attributes, or by the attributes that received more elaboration during the rejection-based decision-making process.

In addition to the understanding of preference at the individual level, examining the role of different decision processes can be of substantial importance to the understanding of broader issues such as obesity and the credit crises. Problems such as obesity and debt are the result of repeated indulgent choices, which can be a consequence of constant elaboration on information associated with indulgence and inhibition of information associated with virtue. The current research takes a step forward in developing knowledge on how people can be encouraged to focus on virtuous information and perform virtuous behavior. Short of simply telling people what "the right thing to do is," using the framing of people's decisions to influence elaboration and subsequent behavior may be helpful in solving behavioral issues that appear epidemic and virtually unsolvable. Although we have offered an initial contribution in this direction, applying this knowledge in a broader context and with different populations should be of high relevance in future research endeavors.

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