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Since the emergence of neoclassical economics, individual decision making has been viewed largely from an outcome-maximizing perspective. Building on previous work, the authors suggest that when people make payment decisions, they consider not only their preferences for different alternatives but also guiding principles and behavioral rules. The authors describe and test two characteristics pertaining to one specific rule that dictates that consumers should not pay for delays, even if they are beneficial: rule invocation and rule override. The results show that money can function as the invoking cue for this rule, that the reliance on this rule can undermine utility maximization, and that this rule may be used as a first response to the decision problem but can be overridden. The article concludes with a discussion of more general applications of such rules, which may explain some of the seemingly systematic inconsistencies in the ways consumers behave.

## Decisions by Rules: The Case of Unwillingness to Pay for Beneficial Delays

Imagine the following scenario: You enjoy smelling the fresh air in the park that you pass on your way to work and mention this enjoyment to a friend. Suppose further that a young entrepreneur overhears your conversation and convinces city hall to charge \$.01 for passage by the park when the flowers are in bloom. How would you react to this new policy? In such a case and despite the high utility of the experience (i.e., breath of fresh air less the cost), many people would refuse to pay merely because they do not believe that anyone should pay for such experiences. This example illustrates a case in which people may rely on a rule rather than anticipated consumption utility when they make purchase choices. In this article, we examine the mechanism for such rule-based decision making through one specific rule for monetary payments.

### *RULES AS DECISION-MAKING MECHANISMS*

Theoretical developments in psychology, decision making, and legal thought (Ainslie 1992; Baron 1994; March

1994; Prelec 1991; Prelec and Herrnstein 1991; Raz 1975) suggest that in many cases, people do not engage in extensive cost-benefit analyses and, instead, resort to a set of “do-and-don’t” principles. Such decision strategies resemble rules in that they may be binary, overgeneralized, culturally specific, and nonreflexive.

Rules divide the space of alternatives into admissible and inadmissible, acceptable and unacceptable, or right and wrong, according to a higher principle or value (Rawls 1999). That is, rules are binary because they divide actions into two sets (e.g., proper and improper), each of which can include many actions. In addition to being binary, rules are also overgeneralizations (Baron 1994; Hsee et al. 2003; Sunstein 2004), in that they try to account for a wide range of activities with a simple-to-apply mechanism. Sunstein (2004) describes the process by which such overgeneralizations take place when people apply a well-known or learned principle to situations, even if that principle may at times be inappropriate. Moreover, rules are likely to be culturally specific because people who grow up in different cultures or subcultures are likely to learn different rules from their environments and experiences (Baron 1994; Gilbert 1995; Nisbett and Wilson 1977; Schwartz 1977). Raz (1975, p. 497) clearly expresses the social-learning aspect of rules:

A person may, however, come to follow a rule without having decided to do so. He may have been brought up from early childhood to believe in the validity of the rule and to respect it. He may have drifted into following the rule as an adult gradually over a period of time without ever really making up his mind to do so.

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Finally, by their very nature, rules are nonreflexive, which means that people do not consider whether the application of rules is appropriate to each case. Again, Raz (1975) clarifies that people seldom question the validity of rules through his “test” of whether a behavioral guideline is a rule. Raz argues (p. 497) that by following a rule,

What I am not doing is assessing the merits of the case taking all the relevant facts into consideration. I am not doing this for I have decided on a rule, that is, I have accepted an exclusionary reason to guide my behavior in such cases. I may occasionally, of course, examine the justification of the rule itself. If I re-examine the rule on every occasion to which it applies, however, then it is not a rule which I have adopted. I may on the other hand examine the rule occasionally even when not confronted with a case to which it applies. This is the test by which to determine whether a person follows a rule.

Together, these four properties of rules (binary, overgeneralized, culturally specific, and nonreflexive) define an idealized version of behavioral rules. Although particular rules may be difficult to identify and articulate, these properties constitute the very definition of rules in general. We return to this issue in the “General Discussion” section.

In terms of effects on decision making, following such rules can create inconsistencies between people’s preferences and their actions.<sup>1</sup> In one important demonstration of such rules, Hsee and colleagues (2003) describe a set of preference–action inconsistencies and categorize them into three subgroups on the basis of the principles that generate them: lay economism, lay scientism, and lay functionalism. The notion of rules that emerges from this research (Baron 1994; Hsee et al. 2003; Raz 1975; Sunstein 2004) proposes that people follow “rationales”—metarules or principles—even when the conditions are such that, on occasion, following the rule might lead to preference–action inconsistencies and, consequently, to the selection of less preferred outcomes. Continuing this line of thought, we focus on a specific rule that causes people to refuse to pay for delays of positive experiences, even when such delays are beneficial. We begin by providing some evidence for this rule; then, we offer a more detailed examination of two specific characteristics of rules—invocation and override—as elements of people’s decision-making machinery. We conclude with a general discussion of rules in decision making.

#### *DOMAIN OF THE RULE*

To identify a rule that people use for decision making, we examine a whole set of domains for potential unacceptable trade-offs that may indicate potential rule violations. Relying on Fiske’s relational theory (Fiske 1992; Fiske and Tetlock 1997), particularly the distinction between market pricing and social markets (community sharing, authority ranking, and equality matching), we focus on money as a domain that is rich in rule-based decisions. Support for the relationship between monetary considerations and a reliance on rules comes from the work of Heyman and Ariely (2004), who show that using money as a payment

modality elicits market-pricing norms (more work for more money), whereas not offering any payment or using candy as the payment medium elicits social norms (creating virtually no relationship between the level of compensation and effort). In turn, we expect that in the domain of monetary transactions, decisions are more likely to be guided by rules (McGraw and Tetlock 2005). In particular, simply mentioning money can be a cue that invokes rule-based decisions.

To test whether monetary aspects can invoke such rules and to select a particular rule for investigation, we asked 30 MBA students to participate in a perceptual map exercise intended to identify the trade-offs among different attributes of retailing Web sites. Each participant marked his or her optimal trade-off position on various attributes (i.e., price, clarity of information, amount of product information, assortment size, reaction time, delivery time, and stability) and crossed out any trade-off that was unacceptable. If participants crossed off a quadrant, we asked them to supply a written explanation. The modal crossed-off quadrant (60%) related to paying more for slower delivery times. Moreover, many of the explanations shared a moral flavor (e.g., “It is wrong,” “That’s absurd,” “I should not be asked to pay more for delaying gratification”). We term this rule “don’t pay to delay good experiences”—in short, “don’t pay for delay”—and use this particular rule as a starting point for our investigation.

To test the don’t-pay-for-delay rule, we identify a case in which people readily recognize the positive value of the delay (Experiments 1 and 2), and then we examine whether people overapply this rule when it comes to monetary decisions (Experiment 3). Having satisfied the basic structure of a rule, we use the subsequent experiments to examine in greater detail the psychological mechanisms that operate and inhibit reliance on this rule.

#### *Experiment 1*

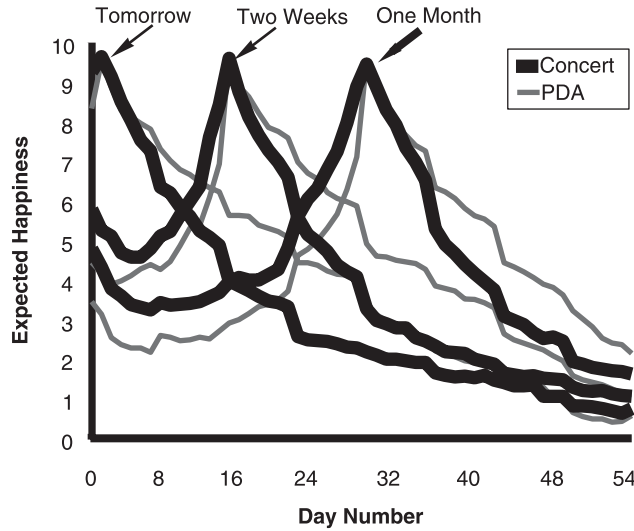
We asked 50 participants to imagine that they had just purchased an item (a ticket to a concert or a new personal digital assistant [PDA]), and we showed them a calendar that depicted the next 60 days with one of three dates (the next day, two weeks from the current date, or one month from the current date) marked in bold. The marked dates represented the actual delivery/consumption time for the given product. This resulted in a 2 (concert versus PDA)  $\times$  3 (delivery versus consumption dates) within-subjects design, for a total of six conditions. Participants reported their expected daily happiness from the experience described to them for every day in the 60-day calendar. They recorded these ratings of daily happiness on a scale that ranged from –10 (“very unhappy with the experience”) to 10 (“very happy with the experience”). Because of the positive value of anticipation for long-awaited, one-time, positive events, such as a kiss from a movie star or a concert by a favorite band (Loewenstein 1987), we expected that happiness from the concert would be significantly different from that related to the PDA, a durable product.

As we show in Figure 1, Panel A, and consistent with our predictions, the expected daily happiness indicates a positive value of anticipation for the concert but not for the PDA ( $F(1, 37) = 10.99, p < .002$ ). In other words, it is better to have the PDA earlier, but the same is not true for the concert, for which respondents indicated a substantial preference for delay.

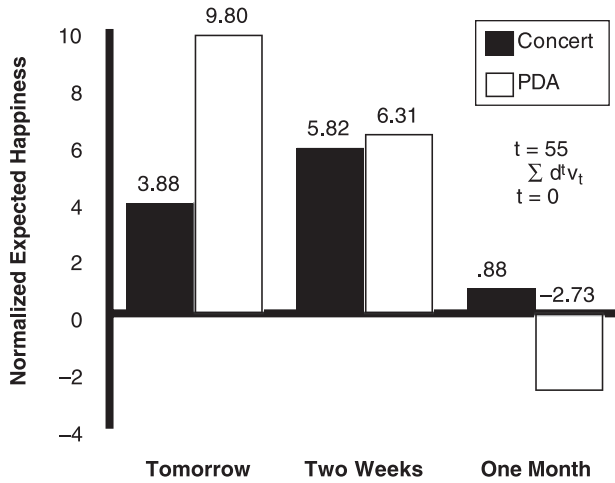
<sup>1</sup>The term “preferences” can become meaningless if it includes anything a person does. Our use of the term refers to the hedonic ordering of outcomes that is at the root of utility theory.

Figure 1  
PREFERENCE FOR DELAYING THE CONCERT DUE TO SAVORING

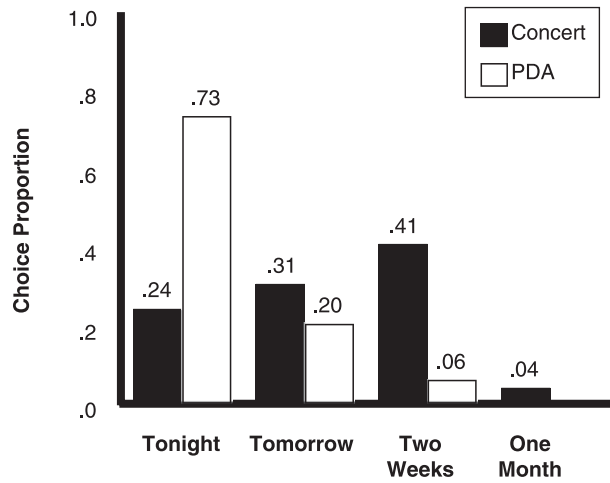
A: Average Expected Daily Happiness for the Three Timing Options Plotted for the Concert and PDA in Experiment 1



B: Preferences Implied by Daily Happiness, Using Exponential Discounting



C: Choice Proportions for the Concert and PDA in Experiment 2, by Date



Another way to view these results is to compound the expected daily happiness into a single measure, which presumably reflects the measure respondents use when they make choices between such options. To calculate this composite measure, we assume exponential time discounting (daily  $\delta = .96$ ) and sum the discounted states across the entire time frame. As we show in Figure 1, Panel B, the hypothesized translation of expected daily happiness into a single overall satisfaction measure reveals a preference for delaying the concert but not the PDA. (We test this translation directly in Experiment 2.)

Overall, the results from Experiment 1 indicate that a class of products/experiences exists, such as a concert, for which the general rule of not delaying positive outcomes is unsuitable. If consumers were to use the don't-pay-for-delay decision rule when they purchase concert tickets,

their actions would not correspond to their anticipated pleasure and would result in suboptimal choices.

Experiment 2

To examine preferences for delay more directly, we asked 100 participants to imagine that they had just purchased a PDA or a ticket to a concert (manipulated between-subjects) and to indicate their preferences for delivery/consumption times for four possible dates. The timing options (current day, following day, two weeks from the current date, or one month from the current date) appeared on a two-month calendar, as in Experiment 1, and respondents circled their preferred timing. For their answers, we asked the participants to ignore their schedule constraints, which is crucial to obtain a clearer measure of preferences

for timing because decision makers presumably are more likely to have plans for the near rather than the far future.

As we show in Figure 1, Panel C, the modal choice for the PDA was “tonight,” whereas the modal choice for the concert was “two weeks from tonight.” Furthermore, the mean desired delay for the PDA was 1.06 days, and for the concert, it was 7.25 days ( $t(98) = 6.07, p < .001$ ). For the concert, two respondents preferred to delay the experience by a whole month. In examining these results, we note the similarity between Figure 1, Panel B (the composite measure based on anticipation), and Figure 1, Panel C (choice proportions). Keeping the  $\delta = .96$  discount factor, we obtain a high correlation for both the PDA ( $r = .99$ ) and the concert ( $r = .89$ ). Furthermore, these high correlations between the implied preference from Experiment 1 and the actual choices in Experiment 2 hold for any daily time-discounting factors that signify impatience in the case of the PDA (i.e.,  $\delta < .98$ ) but only for the daily time-discounting factors that signify patience for the concert (i.e.,  $\delta > .94$ , including levels above 1).

In summary, the results from these two experiments show that for certain classes of experiences (e.g., concerts), consumers prefer to delay. Therefore, in the subsequent experiments, we use the concert as a stimulus to test the conditions in which respondents reveal a positive preference for delay (consistent with their preferences) and those in which they reveal a negative preference for delay, consistent with their use of the general don't-pay-for-delay rule.

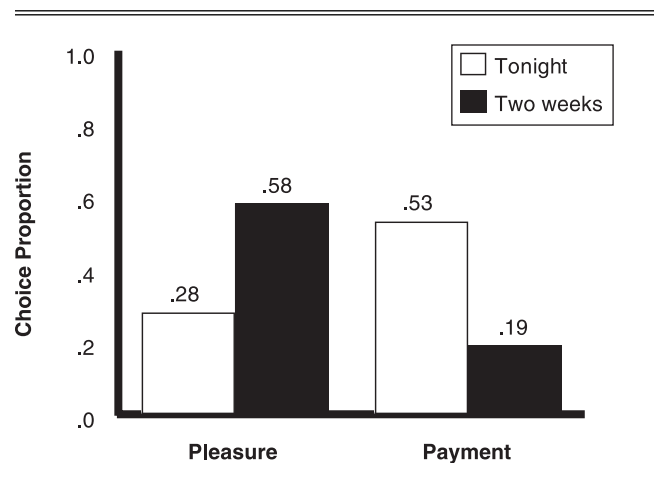
#### Experiment 3: Preference–Payment Dissociation

Experiments 1 and 2 demonstrate that people would rather attend a concert at a later date (as long as it is not too far in the future) and that this preference corresponds to the happiness they expect to derive from savoring such experiences (Loewenstein 1987). Therefore, the logical question to ask is whether the invocation of money will activate the don't-pay-for-delay rule and cause decision makers to behave in a way that is inconsistent with their preferences for delaying the concert. We hypothesize that when money is involved, the rule becomes activated and causes their choices to be based on the rule, not on their preferences.

**Method.** We asked 160 participants to choose their preferred timing for a concert by their favorite band (current day, two weeks from the current day, or indifferent). Half of the participants chose which concert date would yield the greatest overall pleasure for them, and the other half chose the date for which they were willing to pay more to attend. We expected that the latest date would be the modal choice for respondents whom we asked about maximizing pleasure, but the soonest date would be the modal choice when they considered payments.

**Results and discussion.** The results confirm our hypothesis (see Figure 2). Preference for delay was higher in the pleasure condition (58%) than in the payment condition (19%), in which there was a substantial preference for immediacy. We analyzed the three-level choice data further with an ordered probit model,<sup>2</sup> with a dummy variable for the payment–pleasure condition. In this analysis, a negative coefficient represents a preference for immediacy (impa-

Figure 2  
PROPORTION OF CHOICES IN EXPERIMENT 3



tience), a coefficient not different from 0 represents indifference, and a positive coefficient represents a preference for the delayed concert (patience). The ordered probit analysis confirms participants' significant preferences for delay in the pleasure condition compared with the payment condition ( $\beta = .875, t(159) = 4.66, p < .001$ ).

The results of the first three experiments show that people can appreciate the benefits of delaying a pleasurable experience. At the same time, Experiment 3 indicates that decisions about payments do not always fall in line with pleasure-based preferences. Jointly, these three experiments provide evidence of a case in which delaying positive consumption is preferred but not when respondents consider payment, thus demonstrating the basic dissociation between choice and judgment. In turn, we demonstrate the basic dissociation between pleasure- and monetary-based judgments. Using these findings as a starting point, we now turn to the main part of the current work, in which we examine in greater detail two specific characteristics of rules as decision-making machinery: rule invocation and rule override.

#### CHARACTERISTICS OF RULE-BASED MECHANISMS

The first proposed characteristic of rules as a decision-making mechanism pertains to their invocation. Because rules are not a part of the direct cost or benefit analysis of a decision, they are less likely to be invoked when abstract decisions, such as a choice between two gambles with different probabilities and payoffs, are encountered. Instead, the context of the decision governs the activation of the rule (Fiske 1992; March 1994). In one example of the effect of the environment on the invocation of behavioral norms, Ariely, Gneezy, and Haruvy (2005) demonstrate that when transactions entail financial costs, people use market norms, but when the costs are reduced to zero, social norms may take the place of these market norms. From their experimental sale of cookies at a university student center, they find that when they offered the cookies at a large discount, many students purchased dozens, but when the price was reduced further, such that the cookies were free, demand changed dramatically, and almost no student took more than one cookie. These results suggest that when a monetary

<sup>2</sup>In all following analyses, reduction of the data to a binary measure by either splitting indifference into the two polar choices or ignoring it yields similar results.

transaction is involved, people activate market-pricing principles that influence their behavior, but when no monetary transaction is involved, social norms are activated and influence behavior (see also Gneezy and Rustichini 2000; McGraw and Tetlock 2005). Thus, the norms or rules that apply to particular cases appear to be sensitive to the invocation cues (Fiske and Tetlock 1997; Reagan and Fazio 1977). If the norms in a given situation radically conflict, the decision problem may form trade-offs that are unacceptable to make or are taboo. Fiske and Tetlock (1997) argue that the local context may actually help prevent the emergence of taboo trade-offs, for example, by obfuscating the trade-off and reframing the decision task in more comparable terms, thus preventing the invocation of some norms (see also Ratner and Miller 2001). For example, although it is not considered appropriate to pay hosts cash for a dinner at their home, it is acceptable (and even recommended) to “pay” them back with a gift, such as wine or flowers (Ainslie 1992).

Although preventing the invocation of a rule might lead to behavior that is inconsistent with the rule, the mechanism of decisions in accordance with rules implies an even stronger negation property: the person’s ability to override a rule. Because following a rule means not actively considering its applicability, the decisions-by-rules perspective suggests that people can override a rule when they explicitly consider the facts of the case at hand (“the balance of reasons”; Raz 1975). Therefore, our second proposed characteristic of rules as a decision-making mechanism pertains to their override. As Raz (1975) suggests, rules are only occasionally examined, but under such examination, the lack of fit of a rule to the particular situation might become apparent, in which case the person may override the rule. Thus, rules may exist and exert influence on people’s behavior, but they also may be overridden in some cases and therefore have no effect on choice.

With these two proposed characteristics of rule-based mechanisms, we use the next set of experiments to examine the don’t-pay-for-delay rule more specifically. In Experiment 4, we test the effect of money as an invocation cue, and in Experiments 5a and 5b, we investigate whether rules are applied mindlessly and whether additional considerations can lead to their override. Finally, in Experiment 6, we examine the relationship between the application of this rule and a personality trait, namely, conscientiousness. Together, these experiments provide more information about the mechanism that underlies the activation of the don’t-pay-for-delay rule and offer a starting point from which to explore other rules.

#### *Experiment 4: Invocation Cue*

We hypothesize that the disassociation between choices in the pleasure and payment conditions stems from the (mis)use of rules. In particular, the need to make monetary judgments invokes the rule, and when invoked, the rule is followed, which leads respondents to make choices that do not match their pleasure-based decisions. However, there may be other causes for such preference reversals, such as biases in the consideration of any future action. Indeed, a substantial body of literature on the nature of predicting future affect and well-being suggests that people can

experience a bias in their process of predicting their future happiness (Gilbert et al. 1998; Trope and Liberman 2003).

To examine the role of money as an invoking cue, we replicate the design of Experiment 3 but add a condition that involves action and future predictions, but not money. For this third condition, we selected effort as a dependent measure because it is theoretically close to payment. As with money, effort is associated with giving up something that is limited in quantity, and expending effort also means making sacrifices as a consequence of this action. However, if money is the invoking cue, a situation that involves effort but not money should not invoke this rule. Therefore, we hypothesize that preferences in the effort condition will be similar to those in the pleasure condition and different from those in the payment condition.

*Method.* One hundred eighty-four people participated in Experiment 4. Again, we replicated the basic question of the concert timing choice (current day, two weeks from the current day, or indifference) but used three dependent measures (payment, pleasure, and effort) in a between-subjects design. In the payment condition, participants indicated the timing option for which they would be willing to pay more; in the pleasure condition, they noted which timing option would give them greater overall happiness; and in the effort condition, they indicated the timing option for which they would be willing to drive farther that same day to purchase the tickets (driving to buy tickets the same day was important to control for any temporal effect on the perceived effort involved).

*Results and discussion.* As we show in Figure 3, Panel A, the results support the idea that rules are activated when they require monetary-related judgments, sometimes out of sync with preferences. Again using probit analysis, we find that participants expected to enjoy the delayed concert more but would pay more for the earlier date ( $\beta = -.495$ ,  $t(181) = 2.38$ ,  $p = .017$ ). More central to this experiment, when we asked participants about the concert for which they would drive farther to get the ticket, they were as patient as those in the pleasure condition ( $\chi^2(1) = .45$ , not significant [n.s.]) and significantly more patient than those in the payment condition ( $\beta = .633$ ,  $t(181) = 2.98$ ,  $p = .003$ ).

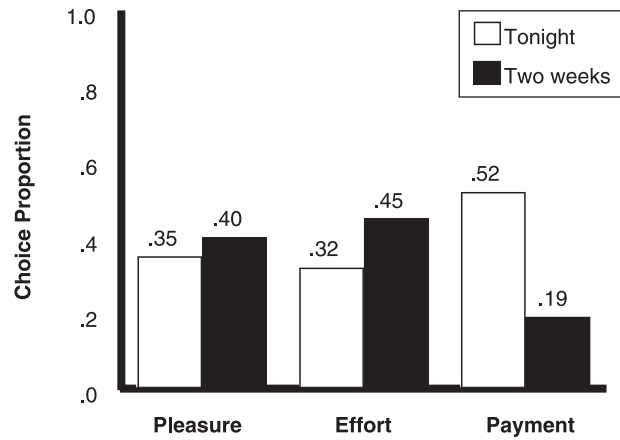
The consistency between the effort- and pleasure-based judgments, as well as their inconsistency with the payment-based judgment, suggests that the difference is not due to the action implied by the monetary decisions or to a bias in respondents’ abilities to predict their happiness or future actions. Instead, monetary assessments appear to invoke a rule for action that dictates the choice, which causes the inconsistency between choices in the payment and the other two conditions.

#### *Experiment 5a: Consideration Override*

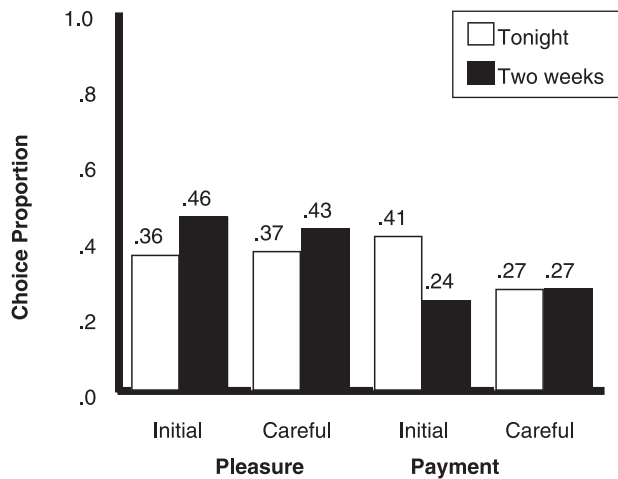
Thus far, our results support the notion that people sometimes make choices that are not in line with their preferences and that this tendency may result from following rules for action in a moral-like manner (i.e., do the right thing) that are invoked by the need to make money-related judgments. The next aspect of the rule-based decision mechanism we examine is whether rules can be overridden. As Raz (1975) indicates, rules can be mindlessly followed (see also Langer 1989), and as March (1994) suggests, the

Figure 3  
TIMING PREFERENCES

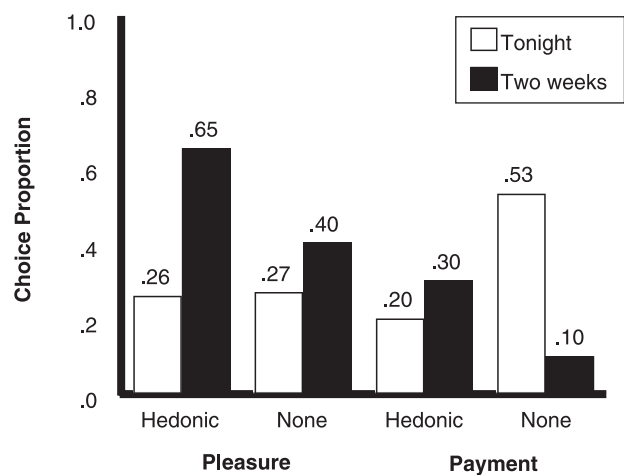
A: The Different Conditions (Dependent Measures) in Experiment 1



B: The Different Conditions (Dependent Measures) and Level of Consideration in Experiment 5a



C: The Different Conditions (Dependent Measures) and Hedonic Priming in Experiment 5b



Notes: For simplicity, we present the two timing choices without indifference.

activation and override of such rules can be contextually based. We use Experiments 5a and 5b to test the nondeliberative aspect of rules. We hypothesize that more deliberative thinking about the task reduces both the dependency on the rule as a decision-making mechanism and the inconsistency between the pleasure and the payment conditions. In Experiment 5a, we ask respondents to consider their decisions more carefully; thus, we aim for a “System 2” override (Kahneman and Fredrick 2003). In Experiment 5b, we manipulate the deliberative nature of the task more implicitly by causing participants to be more cognizant of their true preferences.

*Method.* Three hundred thirty-seven people participated in a short online experiment that replicates the basic question of the concert timing choice (current day, two weeks

from the current day, or indifference) with two different dependent measures (payment and pleasure). The added manipulation in this experiment is the level of consideration; we asked half of the participants to answer with the first response that came to their minds and the other half to answer only after careful consideration. This method resulted in a 2 (payment versus pleasure) × 2 (initial reaction versus careful consideration) between-subjects design in which concert timing choice was the main dependent measure and time to make the decision was a manipulation check.

*Results and discussion.* As a manipulation check, respondents took longer to read and answer the question when they were instructed to answer carefully ( $M = 66$  seconds) than when they were instructed to use their first reaction

( $M = 46$  seconds;  $F(1, 336) = 6.26, p = .0128$ ). If we assume that the time participants spend reading the question is roughly similar across the conditions, this proportional difference greatly understates the impact of the manipulation.

Next, we consider whether the level of consideration influences respondents' propensity to use the rule. As we show in Figure 3, Panel B, in the immediate reaction conditions, the results replicate the previous findings: Participants in the payment condition are much more impatient in their choices than their pleasure counterparts ( $\beta = -.348, z(175) = 2.02, p = .044$ ). In contrast, we find no such overall effect when participants considered their choices more carefully ( $\beta = -.087, z(160) = .49, n.s.$ ). When we compare the pleasure and payment conditions across the greater consideration and immediate reaction conditions, we find the same basic effect in the pleasure condition but not in the payment condition. When participants consider their choices carefully in the payment condition, they no longer exhibit impatience and are as likely to choose the immediate concert as the delayed one (Figure 3, Panel B). In other words, when people make monetary judgments with greater consideration, the don't-pay-for-delay rule is more likely to be overridden ( $\beta = -.333, t(335) = 2.21, p = .027$ ), in support of the notion that monetary considerations invoke the rule but careful analysis can override it.

The overall picture that emerges from Experiment 5a is that monetary considerations can invoke the rule for decision making and that when such a rule is invoked, people follow it without engaging in deep considerations of its appropriateness (Langer 1989; Raz 1975). However, if people are instructed to do so, they can pay more attention to the decision problem at hand and may subsequently override the rule.

#### *Experiment 5b: Hedonic Override*

Another situation that may encourage overriding emerges when people's true preferences become more salient. When preferences are heightened, people might seek more deliberately to maximize their outcomes and therefore pay greater attention to their own preferences when they form judgments. We use Experiment 5b to test this idea by priming the primitives of preferences—in this case, the hedonic aspects of the concert. We hypothesize that when participants are more cognizant of certain hedonic aspects, they will pay more attention and be more likely to optimize their choices using their own preferences, not the rule.

*Method.* For the central manipulation, we primed half of the participants with hedonic thoughts by asking them to write about eating their favorite foods and having a full-body massage before they made their choice in the main task. Thus, the design is a 2 (hedonic priming versus no priming)  $\times$  2 (payment versus pleasure) between-subjects design in which the main dependent measure is the timing choice for the concert. One hundred forty-five respondents participated in this experiment.

*Results and discussion.* As in the previous experiments, we subjected participants' choices to an ordered probit analysis that included dummies for both factors. As we show in Figure 3, Panel C, the main effect for the type of dependent measure replicates our previous findings; we find

a preference for delay in the pleasure conditions and a preference for immediacy in the payment conditions ( $\beta = -.706, t(141) = 4.21, p < .001$ ). The effects of the priming manipulation indicate that hedonic priming has an overall significant, positive effect on participants' choice of dates (i.e., induces patience) relative to the no-priming condition ( $\chi^2(1) = 6.70, p = .009$ ).<sup>3</sup> This interaction is driven largely by increased patience displayed in the payment condition after the hedonic prime, which caused the delayed concert to appear more rather than less desirable.

In summary, the results from Experiment 5b support the results of Experiment 5a by providing convergent evidence for rule override. In particular, Experiment 5b demonstrates that making participants more aware of their own preferences increases their ability to base their decisions on those preferences (in this case, the hedonic aspect of the experience) and decreases their tendency to follow the rule. Importantly, similar to Experiment 5a, the cause for this interaction lies in the monetary decision condition and not in the pleasure prediction condition, in support of the rule override interpretation.

#### *Experiment 6: Individual Differences*

The results of the previous experiments support the use of a rule at an aggregate level. Moving to an analysis at the individual level would increase our understanding of the specific phenomenon and may provide additional support for the rule-based mechanism. The approach we adopt here is to examine the relationship between the concert timing choice discrepancy across the pleasure and payment conditions and relate it to one of the "big-five" personality traits (Costa and McCrae 1988), namely, conscientiousness, which includes the tendency to obey and follow rules (self-discipline). We hypothesize that greater reliance on the rule (as exhibited by preferences for higher willingness to pay for earlier concerts) will be associated with higher scores on the conscientiousness scale.

*Method.* One hundred nineteen participants indicated their concert timing choice (current day, two weeks from the current day, or indifference) according to one of the two basic dependent measures (willingness to pay and pleasure). After providing their response, participants responded to the ten-item personality test (Gosling, Rentfrow, and Swann 2003), a seven-point measurement scale of the big-five personality dimensions.

*Results and discussion.* Similar to previous experiments, we subjected the participants' choices to an ordered probit analysis, which included a dummy variable for the condition, the personality scale measure, and their interaction. The main effect of asking about willingness to pay as opposed to happiness replicates our previous findings ( $\beta = -.626, t(118) = 3.00, p = .003$ ), which demonstrates that participants predicted that they would enjoy the later concert more but were willing to pay more for the earlier one.

Most important for the current experiment, the role of personality traits confirms our hypothesis. We predicted that participants with higher conscientiousness would exhibit a greater discrepancy between their choices in the pleasure

<sup>3</sup>Our manipulation also might have increased arousal. However, arousal is an unlikely cause of our findings because, if anything, arousal generates impatience, whereas we observe increased patience.



and payment conditions, and we find that more conscientious participants exhibit greater inconsistency, as evidenced by the significant interaction between the type of dependent measure and conscientiousness ( $\beta = -.416$ ,  $t(116) = 2.27$ ,  $p = .023$ ).

Another way to view these results is to examine the levels of individual conscientiousness as a function of the choice (current day or two weeks from the current day) across the two conditions. As we show in Figure 4 and consistent with the aforementioned interaction, a greater tendency toward self-discipline is associated with a delay in the pleasure condition but impatience in the payment condition. These results further support the idea that the choice of an immediate or delayed concert—and, in particular, the preference reversal we observed across all experiments—is connected to the tendency to obey and follow rules. As we predicted, a higher tendency to obey and follow rules is associated with a greater dissociation between the choices in the payment and pleasure conditions. In general, our hypothesis for Experiment 6 postulates that personality differences, in terms of conscientiousness, are linked to the tendency to follow the don't-pay-for-delay good experiences rule; the results support this hypothesis.

#### GENERAL DISCUSSION

Many scholars have proposed rule following as a decision-making mechanism (Ainslie 1992; Baron 1994; Fiske 1992; Hsee et al. 2003; March 1994; McGraw and Tetlock 2005; Prelec 1991; Prelec and Herrnstein 1991; Raz 1975; Sunstein 2004). Following rule-based decisions means that people sometimes make decisions according to preset rules, and because of the overgeneralized nature of rules, these decisions may undermine their best interests. The general perspective on rules is that they are learned from either experience or social exchange and are followed when invoked.

Building on Fiske's (1992) relational theory, we propose that monetary decisions may themselves be an invoking cue for the use of such rules. A set of experiments that focus on one such rule (i.e., don't pay to delay good experiences) provides support for the decisions-by-rules mechanism and shows that in some cases, people are willing to pay more for outcomes that do not maximize happiness, that this discrepancy is caused by following the rule, that the rule is invoked by monetary considerations, that the rule is an initial reactions to decisions but can be overridden by careful thought, and that personality traits influence people's propensity to follow the rule.

Using these ideas, we propose five general predictions:

1. Any rule-based decision mechanism implies that there are cases in which the application of the rule is inappropriate and generates behaviors that do not match preferences (i.e., will not deliver the happiness-maximizing alternative).
2. The domain of monetary transactions is likely to invoke the use of and reliance on rule-based decisions (e.g., don't pay for delay).
3. People follow rules for decision making when context (e.g., in our case, monetary transactions) strongly invokes these rules.
4. People follow rules for decision making when they make decisions mindlessly (Langer 1989). Overriding rules by directly considering the situation or altering the context is possible.
5. Given the nature of rule following as a decision-making mechanism, there is personality-driven heterogeneity in the tendency to use such mechanisms.

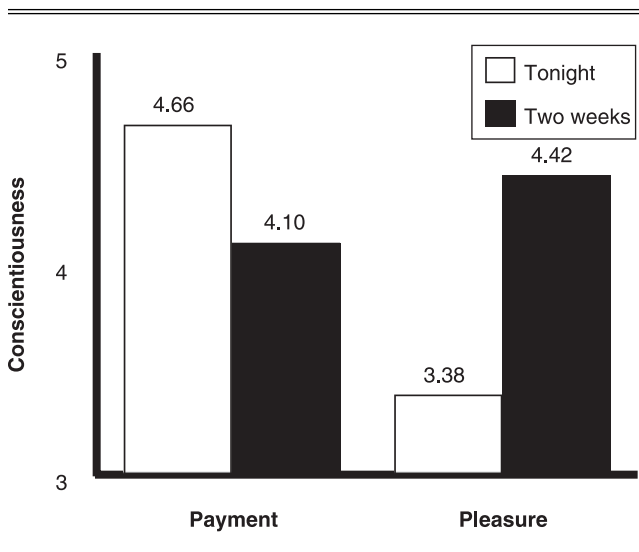
The results from our experiments support these predictions. Experiments 1 and 2 demonstrate that in some desirable experiences (e.g., concerts), delayed consumption increases overall pleasure. Using a concert as the stimulus, Experiment 3 demonstrates a payment–pleasure disassociation such that respondents expect the delayed concert to bring about more pleasure but are willing to pay more for the immediate one.

Experiment 4 provides evidence of people's reliance on money as an invoking cue for the rule; it contrasts payment with a different method of expressing preferences, namely, willingness to exert effort. When respondents were asked about effort, they did not exhibit an effort–pleasure inconsistency but, instead, made effort-based choices that were consistent with their preferences for the delayed concert. This result further supports the contention that money is the invoking cue for the rule that prohibits payment for delay; without this cue, participants remained true to their preferences. Experiments 5a and 5b offer evidence regarding the override process. Experiment 5a demonstrates that by default, people apply the rule initially unless they are asked to consider the decision carefully, at which point the rule may be overridden. Similarly, Experiment 5b indicates that when participants are primed to think more about their hedonic states, they are more likely to override the rule. Finally, Experiment 6 provides additional support for the underlying mechanism by demonstrating that people with a greater tendency to follow rules have a greater propensity to exhibit this disassociation.

A possible concern with regard to asking participants to indicate the concert for which they are willing to pay more

Figure 4

AVERAGE PERSONALITY RATINGS ACROSS THE TWO CHOICES AND TWO CONDITIONS (DEPENDENT MEASURES)





is that this measure might not reflect their willingness to pay but rather their beliefs about what they would need to pay in the marketplace. To test the extent to which this argument might explain our basic results, we use the basic design from Experiment 3 and add measures of respondents' beliefs about market prices. Again, the main dissociation between pleasure and willingness to pay is evident, and participants in the pleasure condition are more in favor of the delayed concert ( $\beta = .7$ ,  $t(204) = 4.35$ ,  $p < .001$ ). Moreover, we do not find any dominant belief that the immediate concert is more expensive (modal belief was similar prices), and beliefs about market prices have no mediating role in the choices of concert timing.

In summary, the common view that both laypeople and decision scientists alike hold is consequentialist. That is, people make decisions according to their set of preferences by searching for an optimum, a local optimum, or a close enough estimate when exact algorithms are too costly (use of heuristics). In contrast, we provide empirical evidence that people sometimes use the don't-pay-for-delay rule when they make choices and that the use of such rules can come at the expense of the happiness-maximizing alternative. Moreover, although the don't-pay-for-delay rule represents just one simple example, focusing on it enables us to examine two specific characteristics of rules—invocation and override—as characteristics of this decision-making machinery.

#### Further Research

As an initial step, this research leaves many open questions for further study. First, additional work should consider how general the reliance on such rules in decision making is and what other rules exist. We believe that reliance on such rules is prevalent; other domains in which rules can be found and examples of such rules include (1) moral, such that taking home company office supplies is acceptable but taking money from the petty cash box is prohibited; (2) volunteering, such that people are more likely to volunteer outside their professional domain than within it; (3) purchasing, for which coupons are acceptable price discrimination but online price discrimination is not (e.g., the Amazon.com case; see Rosencrance 2000); (4) negotiations, in which people offer and expect better-than-equilibrium divisions in ultimatum games (for a review, see Roth 1995; see also Frederick 2002); (5) etiquette, which requires people to hold their forks in their left hands even if it is not comfortable; (6) valuation, in which people make choices according to perceived monetary value rather than true preferences (Hsee 1999; Hsee et al. 2003); (7) fairness, which might suggest that it is unfair for Coca-Cola to charge more for a cold drink on a warm day (King and Narayandas 2000); and (8) interpersonal relationships, in which people find it objectionable to pay others to smile or be nice to them and prefer paying a babysitter out of their children's sight. As these examples illustrate, there are likely many domains in which people use rules to make decisions, which implies that rules may be prevalent in daily decision making.

Second, further research should test the generalizability of the two characteristics of the rule we investigate. Are invocation and override specific to our particular rule or more general and applicable to other rules as well? In terms

of invocation, research on social norms and money (Heyman and Ariely 2004) suggests that money might be a general cue for some norms and perhaps for rules. For example, Western society considers exchanges of sex for money fundamentally different and somewhat less moral than similar exchanges that involve flowers and dinner. Similarly, exchanges of human organs for cash seem less appropriate than exchanges of organs for social capital or for another organ (e.g., an eye for a liver). Thus, it seems that monetary considerations might be a strong invoking cue for rule-based decision making. At the same time, we hasten to note that invocation not only occurs when the invoking cue is monetary but also is likely to include other abstract notions, such as social roles and norms (March 1994).

In terms of override, the vast literature on context effects suggests that additional thinking or reframing can dramatically influence the ways that people view a particular decision problem, which suggests that override is possible. However, it is unlikely that such override is common without external demands for it (Langer 1989). More research is needed into the natural antecedents for rule override and people's ability to learn and internalize such overrides.

#### Related Perspectives

A discussion of rules as decision-making mechanisms would not be complete without relating these ideas to other theories of individual decision making—namely, reason-based choice, heuristics, and social norms. In this section, we elaborate on the relationship between the rule-following mechanism and these three perspectives.

According to the reason-based choice view (Shafir, Simonson, and Tversky 1993), people rely on reasons to justify choices, especially when they are confronted with conflict, and sometimes they search for them when the reasons are not obvious. Although reasons and rules may be considered close relatives, there are also some important differences. Perhaps the most prominent is hierarchical asymmetry; rules can provide and function as reasons, but reasons seldom become rules. Moreover, although reasons are related to the elements of the specific situation, rules impose a constraint that, by definition, excludes the use of the specific elements of the situation (for an in-depth discussion of a hierarchy of reasons, see Raz 1975). Another difference lies in the hypothesized process behind rules and reasons. We demonstrate that people use rules on the fly and at a low level of thoughtfulness, whereas analyses of reason-based choice envision an elaborate process of weighting and comparing positive and negative reasons for each available choice alternative. Finally, the situations we investigated herein do not seem to be cases that would lend themselves as naturally to a reason-based process, but nevertheless, the use of rules may provide easy *ex post* reasons to explain the choices participants made.

The views about and definitions of heuristics vary significantly. The most general view—any process that comes short of a strict optimization of the specific judgment or decision problem at hand (Simon 1957)—encompasses the mechanism of following rules. As general as this broad view may be, it may not be useful in trying to study and understand behavior. To illustrate the relationship between heuristics and rules, a common but more restrictive definition of heuristics as an information-processing shortcut

might be examined. With this definition in mind, heuristics have some similarities to and important differences from the decisions-by-rules mechanism. The first main difference pertains to the goal of heuristics and rules. According to this definition, heuristics are procedures that decision makers use to limit the amount of information processed or the complexity of the ways it is combined (Frederick 2002). Therefore, heuristics are useful for simplifying computations when there is uncertainty, when cognitive resources are scarce, or when full computation is infeasible. Heuristics, such as elimination by aspects (Tversky 1972) and representativeness (Kahneman and Tversky 1982), are examples of such mechanisms. The rules we investigated here differ because they do not describe a computational approach but rather provide do-and-don't action plans that are not meant to simplify decisions but rather to enforce certain conventions.

The second main difference is related to preferences. Heuristics “work” at the service of preferences and aim to maximize preferences within a certain set of constraints (e.g., cost of thinking, time, effort). Multiple examples of this type of heuristics exist, but the most notable may be the accuracy–effort trade-off framework (Payne, Bettman, and Johnson 1993). In contrast, rules are not related to a sacrifice of utility for local effort–benefits considerations. For example, consider a choice between an option that is a “better deal” (e.g., two products cost the same, but one has a higher original price) and one that provides higher personal utility (e.g., preferred product). Hsee (1999) demonstrates that in such conditions, people are likely to choose the better deal option, which implies that they follow the value-seeking rule rather than their own preferences (for a detailed discussion of this rule, see Hsee 1999; Hsee et al. 2003). Thus, rules guide decision making even when the complexity of the task is trivial and when there are no repercussions for not doing so (as in the case of the choice of concert timing we presented herein).

Finally, we relate rules to norms of action. Broadly defined, norms include many mechanisms for guiding human behavior and usually are related to the social and cultural environment (Cialdini and Trost 1998). In particular, some norms represent principles (e.g., be nice, be fair), whereas others are similar to rules in that they provide specific action instructions (e.g., display the flag on Independence Day). The rules we discussed herein may be derived from norms and principles, but unlike some principles, rules always bear clear prescriptions for action in the specified conditions. Some rules may be regarded as a subcategory of norms, and others may be personal creations that lack any foundation or common grounding in social life. Therefore, we view norms and rules as related, partly overlapping categories of behavioral guides. The distinctions between them stem from their source, their scope, their prescription of behavior, and the manner in which they are acquired and applied. Further work is needed to define norms, rules, their interplay, and their effects on decision making.

The use of rules as a decision-making mechanism may be similar in some ways to the aforementioned mechanisms, but they are also importantly distinct. Understanding this mechanism of decision making may enable market actions or interventions that would increase welfare (Baron 1994), such that rules that lead to mistakes can be overridden

whereas those that lead to positive outcomes can be invoked and encouraged. Therefore, we encourage additional research into this important mechanism.

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