

## Product Aversion Following a Missed Opportunity: Price Contrast or Avoidance of Anticipated Regret?

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Studies have demonstrated that when consumers miss an opportunity to purchase a product for a significantly reduced price, they are less likely to purchase this product later for its regular price or for a less significantly reduced price. Two possible explanations for this inaction-inertia effect were considered: avoidance of regret (reluctance to purchase the product represents an attempt to avoid regret over missing the better price) and price contrast (reluctance to purchase the product results from a simple price comparison process). The results of 3 experiments favored the avoidance-of-regret explanation.

We can probably safely say that most people do not like to pay more for a product when they recently could have had it for less. This, in part, is why a careful consumer invests time in shopping around, comparing prices, and hunting for special sales and bargains. However, even the most careful consumer is apt to miss out on a “good deal” occasionally. What happens when we find out that the power drill we have been craving was the “special buy” of the week—last week? What happens when we realize that if only we had gotten to the store a little sooner, it would not have been sold out and we could have purchased it at a 50% discount? How likely are we to buy the drill now for the full price, or even for a less deeply discounted sale price?

Research on the inaction-inertia effect, using both scenario and actual behavior methodologies, suggests that under these circumstances we will be less likely to buy the product now compared to a person who knew nothing about having missed a previous sale, or compared to a situation in which the difference between the missed sale price and the regular price of the product was not as substantial (Tykocinski & Pittman, 1998; Tykocinski, Pittman, & Tuttle, 1995). For example, using a scenario methodology, Tykocinski et al. (1995, Experiment 1) demonstrated that individuals who, by not acting promptly,

had missed an opportunity to purchase a special ski pass for \$40 were relatively reluctant to purchase this pass for \$90 (even though this price was still \$10 less than the regular price for such a pass). No such reluctance was found with participants in the control condition who were never told about a previous special price deal, or participants for whom the initial price that was missed was \$80 rather than \$40.

Why is it that having missed a “real bargain” makes us less likely to take advantage of something that is merely a good deal? Understanding the reasons for the inaction-inertia effect should be informative about consumer psychology in general and about how to design sales and special promotion programs to maximize or minimize the inaction-inertia after-effects for those who did not take advantage of those programs when they were available.

Tykocinski and her colleagues (Tykocinski & Pittman, 1998; Tykocinski et al., 1995) suggested that the psychological juxtaposition of the current opportunity, with its relatively inferior outcomes, and the relatively superior but forgone opportunity triggers an unpleasant thought process, and that by rejecting the current action opportunity one actually is attempting to avoid experiencing regret.

The realization that the coveted drill could have been purchased for half price just 1 week ago is more likely to trigger thoughts such as “If only I had stopped in this store last Friday, I could have bought this drill for \$75.” These are counterfactual thoughts—thoughts that contrast reality with occurrences that could have taken place but did not

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(Kahneman & Miller, 1986; Kahneman & Tversky, 1982; Roese, 1994, 1997; Roese & Olson, 1995, 1997). For any event, one can construct any number of alternatives, and some of these will probably be less pleasant than others. "If only" thoughts, or upward counterfactuals, tend to be particularly unpleasant because they often illustrate how negative outcomes could have been avoided altogether, and thus are more likely to be associated with negative emotions, self-recrimination, and the experience of regret (Boninger, Gleicher, & Strathman, 1994; Gilovich & Medvec, 1995; Gilovich, Medvec, & Chen, 1995; Gleicher et al., 1995; Landman, 1993, 1995). Tykocinski and Pittman (1998) argued that by rejecting the current action opportunity quickly, one might avoid unpleasant counterfactual thoughts and therefore the experience of self-recrimination and regret. Thus, in the example with which we began, reluctance to buy the drill for the full price may represent an attempt to maintain peace of mind, an attempt to avoid self-reproach for not acting previously. By deciding that we are not going to buy a drill now, we can avoid, at least temporarily, thinking about the whole business.

However, against this image of the "emotional" consumer—one who is willing to forego a current good deal simply to avoid anticipated pangs of regret over missing an even better bargain that is no longer available—we can suggest a very different image. Perhaps the consumer is simply being price sensitive. The consumer is comparing prices, and when comparing a deal of \$150 on a drill that cost \$75 just a week ago, this is simply not an appealing prospect even if the current \$150 price represents a 10% discount off the full price. Similarly, one could argue that for participants in the ski pass scenario experiment, \$90 for a ski pass seemed like a lot of money when judged in the context of an earlier \$40, but not so much when judged in the context of a previous price of \$80. Certainly contrast effects exist; one could argue that inaction inertia represents nothing more than a simple contrast effect (Helson, 1964; Jacoby & Olson, 1977).

At least two important differences exist between these alternative accounts of inaction inertia. The first concerns the way the current opportunity is perceived. The price contrast explanation suggests that as a result of the comparison process, the current price seems less appealing when judged against a much better previous price. No such devaluation is expected to occur when the difference between the current price and that which was forgone is relatively insignificant, or in the absence of a prior price to serve as a criterion for comparison. According to this account, the current action opportunity is rejected, not because it triggers any unpleasant thoughts or the anticipation of regret, but simply because it is judged to be unattractive. The avoidance of anticipated regret explanation, however, requires no such assumption concerning changes in the appeal of the available action opportunity. These two processes are, of course, not necessarily mutually exclusive and may actually operate in tandem in some instances.

To test the adequacy of the contrast and regret accounts, in our experiment we tried to minimize the likelihood of contrast processes by holding the price of the offer in question constant, varying instead the size of a no-longer-available additional bonus in nonmonetary terms. By obtaining direct evaluations of the attractiveness of this action opportunity, we were able to assess directly the operation of contrast processes and to compare any differences (or lack thereof) in rated attractiveness to the pattern of likelihood of engaging in the activity. The avoidance-of-regret explanation of inaction inertia would lead us to expect differences in the willingness to take this opportunity as a function of the size of the missed bonus, even in the absence of any differences in rated attractiveness of the currently available opportunity.

The second important difference between the two accounts concerns the nature of the proposed process. Although the contrast account depicts a "cold" cognitive process, the avoidance-of-regret explanation assigns a major role to an emotion, namely regret. If indeed we avoid action so that we can avoid regret, we may reasonably expect that factors that are more likely to increase the magnitude of anticipated regret would act to increase inaction inertia.

According to Kahneman and Tversky (1982), one is more likely to experience regret over a negative outcome if one believes that this unfortunate outcome could have been easily avoided. If one is able, without much effort, to come up with alternative scenarios in which this negative outcome is evaded, the outcome appears less preordained and hence more regrettable. Thus, for example, we probably would regret more missing a hardware sale that had ended just 5 min before we entered the store than missing a sale that ended last week; creating scenarios that could have placed us in the store 5 min earlier is easier than thinking of events that rear-range several days.

Because the avoidance account of the inaction-inertia effect mandates a major role to upward counterfactual thoughts and anticipated regret, any variable that will probably increase the likelihood or frequency of upward counterfactuals—and consequently, the likelihood and extent of anticipated regret—is predicted to increase inaction inertia. A similar prediction could not be made as directly based on the contrast explanation of the effect. If all that is required to obtain the effect is the presentation of the current action opportunity in a context of a superior (but no longer available) past opportunity, the question of when exactly this superior opportunity ceased to exist is secondary. As long as the better price seems relevant, it can serve as an anchor and allow for a contrast effect that would reduce the perceived value of the item and consequently reduce the willingness to purchase it. Thus knowing that the power drill one desired was sold at a 50% discount should, according to the contrast explanation, have the same effect whether the discount offer was terminated last week or only yesterday.

The price contrast and avoidance-of-regret accounts for the inaction-inertia effect were tested using a scenario con-

cerning a tour to Italy (a modification of one of the scenarios in Tykocinski & Pittman, 1998). Unlike previous inaction-inertia scenario experiments in which the participant was said to have missed a better price for the same deal, in this scenario the price of the “deal” stayed the same. What the participant was said to have missed was the opportunity to receive a bonus that was unfortunately discontinued. The size of the no-longer-available bonus and the timing of its discontinuation were the two variables manipulated in this experiment. Assuming that the magnitude of anticipated regret would increase with an increase in the size of the bonus and a more recent discontinuation, a consequent increase in inaction inertia would lend support to the avoidance-of-regret explanation over the contrast account of the effect.

## EXPERIMENT 1

### Method

**Participants.** One hundred fifteen introductory psychology students (84 women and 31 men) at Ben-Gurion University participated in this study in exchange for course credit.

**Procedure.** The experimental session was conducted in several small classes. Participants read a scenario concerning a charter tour to Italy and were randomly assigned to one of four groups in a  $2 \times 2$  design. The design included two levels of difference in the size of bonus that could have been obtained had the participant booked the tour earlier (a small bonus or a large bonus), and two schedules for bonus discontinuation (the bonus was either discontinued yesterday or 5 days ago). In addition, the experimental design included a control group that read the same scenario, but with no mention of a bonus ever being offered or discontinued. Participants were given the appropriate stimulus material and after reading the scenario, they responded to the two dependent-measure questions.

**Materials.** The scenario consisted of a short paragraph. In the large bonus discontinued yesterday condition, this paragraph read as follows (the text for the other conditions is shown in parentheses):<sup>1</sup>

At last schoolwork pressure has eased off a bit, and you intend to go on a short vacation to Italy. At the beginning of the week you saw a newspaper ad for “Fun Tours” Travel Agency offering a special flight and hotel deal in Tuscany for \$600 (not including airport taxes). Although you thought about the deal, and it

sounded good, you did not manage to get to the travel agency to find out more about this deal before Friday.

At the travel agency you find out from the agent that the deal includes the flight, and six nights in a three-star hotel including breakfast, all for \$600. The agent tells you that it is unfortunate that you did not get to the travel agency sooner, because until yesterday (five days ago) clients who decided to join the tour received as a special bonus two elegant leather suitcases and a matching toiletry bag (a toiletry bag), compliments of the travel agency. The bonus offer, however, was good only as long as supplies lasted, and it ended yesterday (five days ago).

The agent also adds that for airport fees you will have to pay an additional \$53, and that although the hotel is not of the highest quality it is clean and comfortable.

For participants in the no-bonus control condition the two sentences referring to the bonus offer and its discontinuation were omitted.

All participants were then asked to rate the likelihood that they would join the tour. Participants indicated their responses on an 11-point scale ranging from 0 (*not at all likely*) to 10 (*extremely likely*).

In addition, participants were asked to indicate how good they judged the deal to be by marking a continuous line, which was later converted into a 50-point scale ranging from 1 (*not good at all*) to 50 (*extremely good*).

### Results

Table 1 shows the mean likelihood of action ratings and the judgements concerning the attractiveness of the deal. To compare the control group with each of the other four groups, the results were first analyzed using a one-way analysis of variance (ANOVA). The analysis of the participants’ mean likelihood of joining the tour ratings yielded a significant effect,  $F(4, 114) = 4.31, p < .003, R^2 = .12$ .<sup>2</sup> Table 1 also includes the results of a set of *t* tests comparing the five means. These results indicated that the only group significantly different from the control group, and indeed from all other groups, was the large bonus discontinued yesterday condition. In addition, when compared to all other groups combined, this group had significantly lower likelihood of action ratings,  $F(1, 114) = 15.84, p < .0001, R^2 = .12$ . A similar one-way ANOVA on the attractiveness ratings of the deal was not significant,  $F(4, 114) = 1.15, p > .05, R^2 = .04$ . The partial correlation between likelihood and attractiveness ratings was, however, positive and significant ( $r = .40, p <$

<sup>1</sup>The original stimulus materials for all of the reported experiments were written in Hebrew and have been translated into English here by Orit Tykocinski.

<sup>2</sup>For each analysis,  $R^2$  indicates the ratio of the sum of squares for the effect to the total sum of squares.

TABLE 1  
Mean Likelihood of Action Ratings and Mean Evaluations of Deal Attractiveness in the Five Groups

Rating	Small Bonus Discontinued				Large Bonus Discontinued				Control <sup>e</sup>	
	5 Days Ago <sup>a</sup>		Yesterday <sup>b</sup>		5 Days Ago <sup>c</sup>		Yesterday <sup>d</sup>			
	M	SD	M	SD	M	SD	M	SD	M	SD
Likelihood of action	7.0 <sub>a</sub>	2.52	7.3 <sub>a</sub>	1.90	6.6 <sub>a</sub>	1.70	4.9 <sub>b</sub>	2.65	7.0 <sub>a</sub>	2.06
Attractiveness	31.3 <sub>a</sub>	10.47	32.9 <sub>a</sub>	11.54	29.9 <sub>a</sub>	10.84	27.9 <sub>a</sub>	12.49	34.2 <sub>a</sub>	9.91

Note. Participants indicated their likelihood that they would join the tour on an 11-point scale ranging from 0 (*not at all likely*) to 10 (*extremely likely*). The attractiveness of the deal was indicated on a 50-segment line, with higher numbers indicating greater attractiveness. For each dependent measure, means appearing with the same subscript are not significantly different.

<sup>a</sup> $n = 23$ . <sup>b</sup> $n = 24$ . <sup>c</sup> $n = 23$ . <sup>d</sup> $n = 22$ . <sup>e</sup> $n = 23$ .

.001), indicating that some overall relation existed between rated attractiveness and likelihood.<sup>3</sup>

To examine the possible interaction between the size of the bonus and the schedule of discontinuation, a two-way ANOVA with two levels of bonus size (large and small) and two schedules for discontinuation of bonus (yesterday, 5 days ago) was conducted on the likelihood of action ratings for the experimental conditions only ( $n = 92$ ). This analysis revealed a significant main effect for the likelihood of action ratings, replicating the basic inaction-inertia effect,  $F(1, 88) = 9.04$ ,  $p < .003$ ,  $R^2 = .09$ . Participants who had missed a large bonus were less likely to join the tour compared to those who had missed a small bonus ( $M_s = 5.74$  vs.  $7.14$ ). This main effect was qualified, however, by a significant interaction,  $F(1, 88) = 4.41$ ,  $p < .03$ ,  $R^2 = .04$ . Simple effect contrasts revealed that the two small bonus groups did not differ significantly,  $F(1, 88) = 0.20$ ,  $p > .05$ ,  $R^2 = .00$ , but the schedule of discontinuation had a significant effect in the large bonus condition. Participants in this condition were significantly less likely to join the tour if the bonus was discontinued yesterday compared to a discontinuation 5 days ago,  $F(1, 88) = 6.25$ ,  $p < .01$ ,  $R^2 = .06$ .

A similar two-way ANOVA conducted on the mean ratings of the attractiveness of the current deal yielded no significant findings. As in the one-way analysis, the participants differing in the size and recency of the bonus in this  $2 \times 2$  analysis did not differ in their general evaluations of the attractiveness of the currently available opportunity, all  $F_s \leq 0.82$ ,  $p_s > .05$ ,  $R^2 \leq .03$ .

## Discussion

Consistent with the anticipated regret analysis of the inaction-inertia phenomenon, Experiment 1 showed that both

the size of the missed bonus and when the bonus was discontinued were important, so that participants who discovered that a large bonus was discontinued yesterday were least likely to be interested in joining the currently available tour. Contrary to the predictions of the contrast account, no differences in the rated attractiveness of the currently available tour were obtained.

Although these findings were in line with the predictions of the regret model, dismissing the contrast account based on the inability to reject the null hypothesis may be problematic. In addition, any single scenario, in general, may be open to alternative interpretation. Experiment 2 was designed to assess the regret and contrast accounts of the inaction-inertia effect in a different but complementary way.

The existence of a previous opportunity can be seen to play a different role in the regret and contrast accounts for inaction-inertia effects. First, the avoidance-of-regret explanation assumes that the person realizes both that a previous opportunity to purchase the product with a much better price had existed and that it was missed. Without this realization, one is less likely to come up with counterfactual alternatives in which the opportunity was not missed (because it was never available), and consequently one is unlikely to be as susceptible to regret or in need of avoiding it. Thus, the avoidance-of-regret explanation would lead us to expect that the inaction-inertia effect would be most likely to occur when there clearly was a previous (missed) opportunity. On the other hand, if the reduced tendency to act is the result of a simple price comparison and a resulting contrast effect, whether one actually had the opportunity to purchase the product for the better price is less crucial than having the context of a previous price. Even if one had no actual previous opportunity, knowledge of a substantially lower comparison price should produce inaction inertia if price contrast is indeed the sole underlying mechanism. We tested these predictions in Experiment 2. Participants in this study were presented with previous prices for a tour to Italy in a context that either implied that a previous opportunity existed or implied that it had not existed. The avoidance-of-regret account would predict that inaction inertia would be most likely to occur in the conditions in which there was an actual previous

<sup>3</sup>Analyses of gender differences in Experiments 1 and 2 indicated no significant effects, all  $F_s \leq 1.11$ ,  $p_s > .05$ ,  $R^2 \leq .019$ . In Experiment 3, no significant main or interaction effects of gender for likelihood or anger were found,  $F_s \leq 1.37$ ,  $p_s > .05$ ,  $R^2 \leq .024$ . There was a significant effect on regret,  $F(1, 55) = 12.47$ ,  $p < .01$ ,  $R^2 = .185$ , such that women reported more regret than men; note, however, that there were 47 women and only 10 men in this comparison.

opportunity, whereas the price contrast account led us to expect that inaction inertia would occur in both conditions in which a previous price was mentioned regardless of whether an actual prior opportunity was described.

## EXPERIMENT 2

### Method

**Participants.** Ninety-two introductory psychology students (13 men and 79 women) at Ben-Gurion University participated in this study in exchange for course credit.

**Procedure.** The experimental session was conducted in several small classes. Participants were randomly assigned to one of the four groups in a 2 × 2 design, with two levels of difference between the price of an initial and a current tour offer (small difference and large difference) and two types of reasons for the unavailability of the initial deal (never existed or sold out). Participants were given the appropriate stimulus material and after reading the scenario, they responded to the dependent measure of likelihood of signing up for the current tour.

**Materials.** The scenario consisted of a short paragraph again concerning a tour abroad. In the large-difference/sold-out condition this paragraph read as follows (the value for the small-difference condition is in parentheses):

At last you have graduated. Before you start looking for a job, you intend to go on a short vacation. A week ago you saw a travel agency newspaper ad promoting a special, time limited deal: a tour to Italy called “The magic of Tuscany” for \$400 (\$800) instead of the regular price of \$1000. Although you thought about the deal, and it sounded good, you did not manage to get to the travel agency right away; in fact almost a week went by before you managed to get to the travel agency.

In the travel agency you find out from the clerk that all tickets for this tour were already sold. She suggests that you may be interested in joining a similar tour to Italy which is scheduled to leave two days after the tour you had missed, and is priced at \$900 instead of the \$1000 regular price.

For the conditions in which the offer never existed, the last paragraph read as follows (the value for the small-difference condition is in parentheses):

In the travel agency you find out from the clerk that there was an unfortunate typing mistake in the ad that you saw. She explains that instead of the \$400 (\$800) price that appeared in the ad, the correct price which should have appeared was \$900, and that they had published a correction notice as soon as they found out

about the mistake. She apologizes and asks if you are still interested in joining the tour.

All participants were then asked to rate the likelihood that they would join the tour for \$900. Participants indicated their responses on an 11-point scale ranging from 0 (*not at all likely*) to 10 (*extremely likely*).

### Results

The mean likelihood of action ratings are shown in Table 2. A two-way ANOVA with two levels of difference between the price of an initial tour and a current tour offer (small difference and large difference) and two types of contexts for the unavailability of the initial deal (never existed or sold out) on likelihood of action yielded a significant main effect for difference size,  $F(1, 88) = 44.58, p < .0001, R^2 = .32$ , replicating the basic inaction-inertia effect. Participants in the large-difference condition reported being less likely to join the tour compared to those in the small-difference condition (mean of 3.37 vs. 6.65). This main effect was qualified, however, by a significant interaction,  $F(1, 88) = 8.26, p < .005, R^2 = .06$ . An analysis of the simple effects of difference size at each level of opportunity indicated that the inaction-inertia effect was significant in both the typing error,  $F(1, 88) = 7.23, p < .01, R^2 = .05$ , and the sold-out conditions,  $F(1, 88) = 45.70, p < .001, R^2 = .32$ , indicating that the inaction-inertia effect was significantly stronger in the sold-out condition.

### Discussion

The results from Experiment 2 provide some support for both models. The existence of an inaction-inertia effect in the typing error condition is compatible with, and perhaps most easily accounted for by, the contrast explanation: The knowledge of a much lower previous price, even though it was never a real opportunity, did lead to a lower likelihood of taking the current opportunity in the large-difference than in the small-difference condition. On the other hand, the results also showed that this difference was much stronger when there was an actual previous opportunity, a finding that is

TABLE 2  
Likelihood of Action Ratings as a Function of Difference Size and Context for the Unavailability of Initial Tour Offer in Experiment 1

Context	Difference Size			
	Large		Small	
	M	SD	M	SD
Sold out	2.65	2.29	7.34	2.23
Typing error	4.08	2.68	5.95	2.20

*Note.* Participants indicated the likelihood that they would join the second tour on an 11-point scale ranging from 0 (*not at all likely*) to 10 (*extremely likely*).  $n = 23$  participants in each cell.

clearly consistent with the anticipated regret analysis, but one that is difficult to explain with a simple contrast account.

Although the results from the first two experiments are consistent with the assumption that the avoidance of regret is an important element of the inaction-inertia process, we obtained no direct evidence for the actual experience of regret. Experiment 3 was designed to obtain such direct evidence, but we were concerned that this might be difficult for two reasons. First, it could be hard to obtain measurable levels of self-reported negative emotional experience when the participants are imagining this negative experience rather than actually experiencing it. Second, if indeed avoidance of action allows successful avoidance of regret, then there may be no regret left to be measured by the time the participants are asked to report their mood. We attempted to overcome these potential difficulties by taking the following steps. First, we chose a situation with which the participating students were very familiar so that a vivid image of the situation readily could be brought to mind. Second, we tried to tease out emotional reactions by framing the questions in more tentative terms (e.g., I will probably experience regret), matching the form of the question to the nature of counterfactual thinking that we postulated. Most important, we attempted to obtain evidence of regret by mentally “forcing” the participant back into the situation that he or she was perhaps trying to avoid. Finally, we included an assessment of another possible emotional reaction to the scenario—anger—to see if the emotional reaction obtained was specifically regret or a more general state of emotional lability.

### EXPERIMENT 3

#### Method

**Participants.** Fifty-seven introductory psychology students (9 men and 48 women) at Sapir College (a college associated with Ben-Gurion University) participated in this study in exchange for course credit.

**Procedure.** The experimental session was held in a large classroom. The students were randomly assigned to one of two levels of difference in lecturer expertise (small difference and large difference) and were given the appropriate stimulus material. After reading the scenario, the participants responded to the dependent measure of likelihood of signing up for the class and to two additional questions concerning emotional reactions of anger and regret.

**Materials.** The scenario consisted of a short paragraph concerning registering for a class next semester. In the large-difference-in-expertise condition this paragraph read as follows (the value for the small-difference condition is in parentheses):

At the beginning of the year you considered the list of elective courses that will be offered and one course attracted your attention. The course title was “Psychological Approaches to Human Motivation” and it was indicated in the course catalogue that it would be taught by Dr. Ben-Ami, an experienced professor who is known for his ability to captivate his audience with his excellent lectures (... Dr. Ben-Ami, a professor who is considered to be an acceptable lecturer and even somewhat above the average). The course hours are compatible with your schedule so you plan to sign-up for this course. On the day of registration you find yourself detained at the library and with several errands so that it is already late when you arrive at the registrar’s office. There, you find out that the course “Psychological Approaches to Human Motivation” had just filled to capacity, and was now closed. The secretary tells you, however, that in view of the demand they decided to open a parallel section that will be taught by Mr. Dan Ben-Ari, a new doctoral student with whom you are not familiar.

After reading the scenario, all participants were asked to rate the likelihood that they would join the course taught by Mr. Ben-Ari using an 11-point scale ranging from 0 (*not at all likely that I will join this course*) to 10 (*extremely likely that I will join this course*). After responding to this question, all participants turned to the next page and read the following instructions:

Imagine that you decide to sign up for the course taught by Mr. Ben-Ari, and from the very beginning of the semester you feel that the lecturer’s lack of experience interferes with the course’s academic quality and impedes its progress. In situations such as this one people experience various feelings. Please rate the following statements according to the extent to which it describes emotions that you are likely to experience in such a situation.

Two statements followed this paragraph: “In this situation I will probably feel angry at myself for having decided to sign up for this course,” and “In this situation I will probably regret having decided to sign up for this course.”

The participants were asked to rate each statement on an 11-point scale ranging from 0 (*not at all descriptive of me*) to 10 (*very descriptive of me*).

#### Results

The mean likelihood of action ratings and the ratings for anger and regret are shown in Table 3. We used a one-way ANOVA to compare the responses of participants in the two lecturer expertise groups. An analysis of the likelihood of action ratings replicated the basic inaction-inertia effect,  $F(1, 55) = 10.60, p < .002, R^2 = .16$ . Participants who missed the exceptional lecturer were significantly less likely to sign up

TABLE 3  
Mean Likelihood of Action Ratings and Mean Emotional Responses  
to Consequent Disappointment as a Function of Size  
of Difference in Lecturer Expertise

Measure	Difference in Lecturer Expertise			
	Large <sup>a</sup>		Small <sup>b</sup>	
	M	SD	M	SD
Likelihood of action	6.62 <sub>a</sub>	2.77	8.43 <sub>b</sub>	1.16
Anger	5.03 <sub>a</sub>	3.06	4.40 <sub>a</sub>	2.29
Regret	6.77 <sub>a</sub>	2.83	5.30 <sub>b</sub>	2.42

Note. Within each measure, means not sharing a common subscript are significantly different,  $p < .05$ .

<sup>a</sup> $n = 27$ . <sup>b</sup> $n = 30$ .

for the graduate student parallel section compared to participants who missed out on an “acceptable” lecturer. Consistent with the hypothesis that regret mediates the effect of lecturer expertise on likelihood of action, participants in the large-difference-in-expertise condition expected to experience significantly higher levels of regret if the course ended up being disappointing compared to participants in the small-difference condition,  $F(1, 55) = 4.50, p < .04, R^2 = .07$ . Furthermore, when the effect of regret was removed, the effect of lecturer expertise on likelihood of action was somewhat reduced (but still significant),  $F(1, 55) = 8.02, p < .01, R^2 = .13$ . Together these results indicate that regret is a partial mediator of the effect of the manipulation on likelihood of action (Baron & Kenny, 1986).

Analysis of the emotion items revealed no significance of lecturer expertise on the experience of self-directed anger,  $F(1, 55) = 0.80, p > .05, R^2 = .01$ . Analysis of the correlations among the three dependent variables revealed negative correlations between likelihood and anger ( $r = -.51, p < .001$ ) and likelihood and regret ( $r = -.14, p < .30$ ), and a positive correlation between anger and regret ( $r = .50, p < .001$ ).

## Discussion

Experiment 3 provided us with another demonstration of the inaction-inertia effect using a third scenario and provided the most direct evidence for the role of anticipated regret in producing the effect. When mentally forced into the situation that participants in the large-difference condition are presumably trying to avoid, those participants were more likely to expect to feel regret than the participants in the small-difference condition. It is important to note that the two groups were not significantly different in their expectations concerning the experience of self-directed anger, suggesting that the regret difference was not merely the result of increased emotional lability. Inaction inertia does not seem to be driven by an attempt to avoid some generalized negative psychological experience, but rather by a specific attempt to avoid anticipated regret.

## GENERAL DISCUSSION

Why are we reluctant to settle for a good deal once we realize we have missed a real bargain? Is it because the available deal loses its appeal as soon as it is compared to the bargain that was missed? Or, is it because rejecting this deal allows us to avoid a host of nagging counterfactual thoughts and the anticipated bitter experience of regret? These two alternative accounts for the inaction-inertia effect were tested in our studies. Overall, the results clearly favored the avoidance-of-regret explanation.

The contrast account postulates a shift in the evaluation of the current opportunity following a comparison process in which the forgone opportunity serves as an anchor against which the current opportunity is contrasted. The magnitude of this shift is determined directly by the relative attractiveness of the two action opportunities. A greater devaluation of the current opportunity is expected when it follows a much superior opportunity. In Experiment 1 this view led to the expectation that the current no-bonus tour deal would be evaluated differently by those who missed a substantial bonus compared to those who missed the relatively insignificant present of a toiletry bag. Contrary to these expectations, we found no evidence that such shifts in perceived attractiveness of the current opportunity had occurred. Evaluations of the available tour were not significantly different despite differences in the attractiveness (or even the existence) of a bonus included in a previous offer. Thus, the fact that participants in the large-bonus group were significantly less likely to join the tour compared to participants in the small-difference and the control groups could not be attributed to contrast-driven changes in the perceived attractiveness of the current tour deal.

In addition, the contrast explanation could not easily account for the effects of the timing of bonus discontinuation in Experiment 1. One could, of course, argue that in time certain comparison criteria may become irrelevant and hence less likely to serve as anchors in a comparison process. For example, one is unlikely to use oil prices prior to 1973 to assess the current oil market. It would be a stretch, however, to maintain that such changes in criterion relevance could transpire in the brief interval of 4 days. Although contrast effects do clearly exist (Helson, 1964; Jacoby & Olson, 1977) and are no doubt often an important aspect of one's reactions to a current opportunity, a contrast account alone does not appear to account for the results obtained in this study.

In contrast, the integral role designated to counterfactual thinking in the avoidance-of-regret account would lead us to expect that the timing of the bonus discontinuation would indeed affect inaction inertia. In this perspective any event that facilitates the creation of upward counterfactual alternatives is likely to increase the magnitude of anticipated regret and consequently to increase inaction inertia. It is of course much easier for one to come up with scenarios that shift the event of visiting the travel agency back in time by just 1 day rather than by 5 days.

In Experiment 2, we evaluated the regret account's prediction that having an actual initial opportunity plays an important role in whether the avoidance of regret will be necessary. In the price contrast perspective, however, the existence of an actual previous opportunity is of no consequence. In this perspective it is enough that the perceiver is judging the current price in the context of a much better previous price for the effect to be obtained, even if the previous price is presented in a context that did not constitute an opportunity to purchase the product. Although in Experiment 2 we obtained the inaction-inertia effect for both contexts, it was clearly stronger for the context implying that an initial opportunity did exist. Thus, although this experiment does not allow us to rule out the price contrast account altogether, it lends additional support to the avoidance-of-regret account by demonstrating that having an actual opportunity does contribute to increasing the magnitude of the effect.

In Experiment 3 more direct evidence for the role of anticipated regret was obtained. When asked to imagine a future scenario that contained the very features that the regret account suggests participants are trying to avoid, we obtained evidence of increased regret in the large-difference condition.

In sum, although the contrast model could neither predict nor, in retrospect, explain the pattern of results obtained in our experiments, these same results are clearly consistent with the avoidance-of-regret account of the inaction-inertia effect. Because we find evidence of inaction inertia even in the absence of clear contrast indicators, these results clearly favor the avoidance-of-regret motive as the primary process underlying inaction inertia.

It seems then that by declining the current action opportunity, we are trying to avoid an unpleasant thought process and save ourselves from the pangs of regret. However, by doing so are we not buying ourselves peace of mind at the cost of inadequate decision making? Is it reasonable for the consumer to judge the current action opportunity not solely based on its intrinsic qualities, but also with regard to exogenous factors such as the attractiveness of a previous deal or the magnitude of the regret over missing it? The avoidance-of-regret model depicts an image of the consumer that some may find unflattering. In contrast to the calculated, systematic, price-sensitive consumer, we present an image of a consumer whose decisions are sometimes affected by emotional motives. It is thus important to point out that allowing emotionality into a model of consumer behavior does not necessarily portray the consumer as irrational. Although not directly translated into gains in any strict monetary sense, avoiding regret has clear and direct implications for our psychological well-being (Landman, 1993; Tykocinski & Pittman, 1998).

Finally, these findings suggest that understanding potential consumers' reactions, both cognitive and emotional, to missed opportunities could be valuable in designing the way sales promotions and special deals are offered and withdrawn. The results of our study suggest that procedures can be designed to minimize regret without abandoning such marketing

strategies entirely, but that failure to do so may lead to reactions on the part of those not lured into action that blunt or even nullify the long-term effectiveness of such programs.

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