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# The Influence of Anticipating Regret and Responsibility on Purchase Decisions

ITAMAR SIMONSON\*

It is suggested that consumers' choices between alternatives can be systematically influenced by asking them to anticipate the regret and responsibility they would feel if they made the wrong decision. Specifically, on the basis of the notion that choices of conventional or default options are associated with lower regret and responsibility, it is proposed that consumers who anticipate how they would feel if they made the wrong decision would be more likely to purchase a currently available item on sale rather than wait for a better sale and more likely to prefer a higher-priced, well-known brand over a less expensive, lesser-known brand. These propositions were supported in three studies. The findings also suggest that an error caused by selection of a lesser-known, lower-priced brand is associated with greater responsibility but less regret than an error caused by a choice of a well-known, higher-priced brand.

When looking back at purchase decisions, consumers often regret the choices they have made. For example, a consumer who chose one of two available options may later regret not selecting the other (Festinger 1957). Or a consumer may regret choosing a particular timing for a purchase rather than waiting for a later opportunity (e.g., a sale). Generally, the term *regret* is used to describe the sense of sorrow or disappointment over something done or not done (Landman 1987). Sorrow may result from both the comparison of the actual outcome (e.g., the performance of the chosen brand) with the alternative outcome and from the feeling of responsibility or self-blame for the disappointing outcome.

Consumers can often anticipate how they would feel if their decisions yielded negative or less positive outcomes (Baron 1991). The anticipated regret and responsibility can be incorporated into the evaluation of alternatives and influence the choices made. This research examines the influence of anticipating decision errors and the associated feelings of regret and responsibility on consumer purchase decisions, when one of the considered options is the default choice. In accordance with Kahneman and Miller's (1986) norm theory, people are expected to feel greater regret and responsibility for actions that deviate from the norm or default options because it is easy to imagine doing the conventional thing (Kahneman and Tversky 1982). For example, when searching for a name on a list, it is rea-

sonable to assume that starting at the beginning rather than at the end of the list is seen as the default option. Consequently, an individual who decided to start at the end and finally found the name at the beginning of the list would be expected to feel greater regret and be more upset with the search strategy than one who started at the beginning and found the name at the end of the list.

Building on this notion, it is proposed that one can enhance the choice probability of the default option and cause consumers to act more conservatively by asking them to anticipate how they would feel if their decisions turned out to be wrong. This proposition is examined in the context of (1) a consumer's decision about whether to purchase an item on sale now or wait for a better sale in a later period and (2) a consumer's choice between a well-known, more expensive brand and a lesser-known, less expensive brand (referred to below as the choice between brand name and price).

This article reviews previous research on the role of anticipated regret and responsibility in decision making and how it might apply to the problems of purchase timing and choices between brand name and price. This leads to several hypotheses, which were tested in three studies. The article concludes with a discussion of the implications of the findings and directions for future research.

## REGRET AND RESPONSIBILITY IN DECISION MAKING

In the past, only limited scientific work dealt with regret and responsibility (e.g., Brehm and Wicklund 1970; Festinger 1957). In the 1980s, however, there was a growing interest in regret (see, e.g., Kahneman and

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Tversky 1982; Landman 1987), and two regret theories were proposed (Bell 1982; Loomes and Sugden 1982). These theories assume that the value of choosing an item is dependent on the items simultaneously rejected (Loomes and Sugden 1982) and that people hope to avoid consequences in which they appear, after the fact, to have made the wrong decision (Bell 1982).

While there is still a debate in the literature about whether the concept of regret is needed to explain certain decision phenomena (see, e.g., Loomes 1988; Tversky and Kahneman 1992), it is clear that anticipated regret can play an important role in decision making. Most psychological research on regret has focused on the amount of regret associated with different types of decisions. Specifically, much recent research has examined the regret associated with outcomes resulting from action rather than inaction (e.g., Kahneman and Tversky 1982; Landman 1987; Ritov and Baron 1990; Spranca, Minsk, and Baron 1991). One problem used by Kahneman and Tversky for comparing the regret associated with action versus inaction involves two investors. One investor considers selling his stock, does not sell, and finds he would have done better to sell. The other investor sells his stock and finds he would have done better not to sell. In this problem there is general agreement among subjects that the investor who acted (i.e., sold the stock) would feel greater regret. The greater regret occurs because the investor who sold would be more inclined to compare his outcome with the outcome of doing nothing, whereas the other investor who did not sell will tend to regard his outcome as simply the thing to be expected. In addition, the investor who acted and deviated from the status quo is likely to feel greater responsibility for the outcome.

The finding that actions are associated with greater regret and responsibility than are inactions, referred to as "omission bias," has been replicated by several researchers (see Spranca et al. [1991] for a review). It was suggested that omissions are seen less as the causes of the outcomes and involve less responsibility on the part of the decision maker than commissions. Furthermore, omissions are often the more prudent, conventional choice alternatives and are seen as the norms or default options (Kahneman and Miller 1986). Thus, people tend to feel greater regret and responsibility if they show initiative and deviate from the norm or default option and then find out it was the wrong decision. It can be further assumed that people could anticipate, on the basis of their previous experience, that choices of default options are associated with lower potential regret and responsibility. Such assessments of regret and responsibility, in turn, can influence the choices between the default and the other options.

Generally, different factors might determine which option is the default, such as the status quo (e.g., the option of keeping the same investment), the ordinary or normal way of doing things (e.g., searching for a name on a list from the beginning), and the degree of risk

involved (e.g., making a conservative investment). Many decisions faced by consumers involve a choice between a more conservative alternative, which is often the conventional choice, and a riskier alternative, which is less conventional and requires more initiative on the part of the consumer. In such situations, anticipation of regret and responsibility is expected to increase the choice probability of conventional and more conservative options. Thus, the manufacturer of a more conventional and popular brand (e.g., Kodak film) might enhance its choice probability by causing consumers to consider how they would feel if they found out later that they had purchased the wrong brand.

## INFLUENCES OF ANTICIPATING REGRET AND RESPONSIBILITY ON PURCHASE DECISIONS

The previous discussion suggests that anticipating regret and responsibility can influence purchase decisions whenever the considered options are of different status, in that one alternative is more of a default option than other alternatives. In the context of consumer purchase decisions, the choice is often between selecting an option that appears safer given the available information (e.g., a well-known brand) and a riskier option (an unknown but cheaper brand) that may turn out to be a "better buy." Next, two generic consumer purchase scenarios involving a choice between a safer and a riskier alternative are examined in more detail. A case in which the default option is determined on the basis of the normal way of acting rather than on the risk associated with alternatives is investigated later in this article.

### Choosing Purchase Timing

Consumers often need to determine the optimal time for making a purchase. For example, a consumer may delay purchases (e.g., before Christmas) in anticipation of a later or better sale on the desired product. If the consumer decides to make the purchase early, then there is the possibility of regret if the consumer finds out that the same product was offered on better terms later. Alternatively, if the consumer decides to wait for a better deal, there is the possibility of regret if the earlier (missed) opportunity turns out to be more attractive than later options.

In the former case, the consumer may feel that it was not possible to predict the better sale and, therefore, that s/he is not responsible for the outcome. Buying now on the basis of the currently available information might be seen as the default option that does not involve any initiative or strategy on the part of the consumer. Conversely, deciding to wait for a better deal may be more of a gamble and reflect a deliberate strategy on the part of the consumer for getting a better deal than what is currently available. It is thus expected that a consumer who waited and ended up paying a higher

price would feel greater regret and be more upset with the purchase-timing decision than would one who made the purchase in the current period and later found a better deal. This prediction suggests that consumers who are asked to anticipate how they would feel in these two scenarios would be less likely to wait for a better deal.

### Choosing between Brand Name and Price

A very common problem that consumers face is choosing between an alternative that appears to be a safe choice but has a relatively high price (e.g., a well-known brand) and a cheaper alternative whose quality is associated with high uncertainty (e.g., an unknown brand). Given the uncertainty about the relative qualities of these alternatives, there are at least two outcomes that the consumer might consider. If the cheaper option is chosen, then the consumer may find out later that it is indeed inferior on important dimensions (e.g., dependability) to the more expensive alternative. Alternatively, if the more expensive option is chosen, the consumer may later discover that it is not better in any way (or even worse) than the cheaper alternative.

The amount of regret and responsibility that the consumer would feel in each situation is likely to depend on whether the consumer selected the well-known or the cheaper alternative. Specifically, it might be argued that the more expensive option is the safer bet and the norm, whereas the cheaper option is more of a gamble. If the consumer selected the more expensive alternative and it failed, then the responsibility for the failure would rest on the manufacturer or the retailer rather than on the decision of the consumer. Conversely, if the consumer took a chance and chose the cheaper alternative and it failed, then the consumer might feel responsible for the failure and be more likely to regret the decision ("I should have known better"). This argument suggests that asking consumers to anticipate regret and how upset with themselves they would be if they found out later that they had made the wrong decision would tend to shift their preferences in favor of the more expensive and better-known alternatives.

The above discussion leads to the following hypotheses.

**H1:** In a choice between buying an available product on sale and waiting for a better sale, consumers are less likely to wait after considering how they would feel if their purchase-timing decision turned out to be wrong.

**H2:** Consumers will expect to feel greater regret and be more upset with themselves if they wait for a later sale and find out that they missed a better deal in an earlier period than if they buy a currently available alternative on sale and find out that they missed a better deal later.

**H3:** Consumers will expect to feel more responsible if they wait for a later sale and find out that they missed a better deal in an earlier period than if they buy a currently available alternative on sale and find out that they missed a better deal later.

**H4:** In a choice between a better-known, more expensive brand and a lesser-known, less expensive brand, consumers are more likely to select the better-known brand if they first consider how they would feel if they found out later that they had made the wrong decision.

**H5:** Consumers will expect to feel greater regret and be more upset with themselves if they choose a lesser-known, lower-priced brand that later turns out to be inferior than if they choose a well-known, higher-priced brand that turns out not to be better than the less expensive option.

**H6:** Consumers will expect to feel more responsible if they choose a lesser-known, lower-priced brand that turns out to be inferior than if they choose a well-known, higher-priced brand that turns out not to be better than the less expensive option.

These hypotheses were examined in three studies, which also provided insights into the decision processes involved in the anticipation of regret and responsibility.

## STUDY 1

### Method

*Subjects.* The subjects were 218 undergraduate marketing (80 percent) and psychology (20 percent) students in a West Coast university, with about an equal number of males and females. Participation was a course requirement. The task had two parts, the first dealing with purchase timing and the second with choices between brand name and price.

*Purchase Timing.* For the purchase-timing task, subjects were asked to assume that the current time was July and that they needed to buy a present for a close family relative who was getting married at the end of August. They were told to assume that they had already decided to buy the gift at the Best store, from which they received a catalog with items on sale each month. It was emphasized that the dilemma facing them was whether to make the purchase in July or to wait for a better sale in August given that the store did not accept returns on sale items. Subjects were informed that the product alternatives included in the study were actual brands that were on sale at Best stores in the summer of 1989.

Four product categories (camcorder, bicycle, gas barbecue, and 35-millimeter camera) were considered in this part of the questionnaire. In each case, the alternatives on sale in July were described in terms of their key features, their regular prices, and the July sale prices. In the gas barbecue and camera categories there were only two alternatives. In the other two categories there were three alternatives, with one option dominating (i.e., better or equal on all dimensions) one of the other options. The dominance relationship in these sets was not directly related to this research and was intended to examine another factor that might influence the purchase-timing decision.

For the purchase-timing manipulation, subjects were randomly assigned to one of four conditions in a between-subjects design. In the control condition, subjects indicated in which month they would make the purchase and, if they selected July, which of the presented products they would choose.

In a second condition, referred to hereafter as the regret condition, respondents were told that after completing the questionnaire they would receive a second handout with the products that were on sale in August. This second handout would also show the products that were on sale in July so that subjects could see which month had better sales and what they had gained or missed by buying in the month they had selected. Subjects were reminded in each choice problem that they would find out which month had better sales. Telling subjects that they would receive this information was designed to make the anticipation of regret more realistic and meaningful.

Subjects in the regret condition indicated in which case they would be more upset with themselves and feel greater regret: if they bought the gift on sale in July and found out later that there were much better sales in August, or if they bought the gift in August and found out that the July sales were much better. An example of the task of subjects in the regret condition is presented in Exhibit 1. The two items, "more upset with yourself" and "greater regret," were designed to elicit thoughts about possible decision errors and to test Hypothesis 2. Specifically, the first item relates to the assessment of self-blame or responsibility, whereas the second item deals directly with the assessment of regret. The rest of the instructions in this condition were the same as those in the control condition.

Examination of the tasks in the control and regret conditions indicates that there were two key differences between them. First, subjects in the regret condition expected to discover which month had better sales and thus to receive feedback on their performance. And, second, respondents in the regret condition were explicitly asked to anticipate how they would feel if they made the wrong decision. These differences create the possibility that subjects in the regret condition might be more likely to make the purchase in July merely because they expected to receive feedback and not be-

## EXHIBIT 1

### EXAMPLE OF THE PURCHASE-TIMING TASK IN THE REGRET CONDITION

#### MOVIE CAMERA (Camcorder)

Imagine that you have decided to buy a movie camera ("camcorder") as the wedding present. The following items are on "sale" in July:

| July "sales"           |                        |
|------------------------|------------------------|
| Sharp VL-25            | Magnavox CV22          |
| 8:1 power zoom         | 8:1 power zoom         |
| Auto-focus             | Auto-focus             |
| Self-timer             | Self-timer             |
| Regular price: \$1,125 | Regular price: \$1,125 |
| "Sale" price: \$999    | "Sale" price: \$999    |

Remember, you will find out at the end of this study which month had better "sales."

In which case would you be more upset with yourself? (mark one)

- If you decided to purchase one of the above products on "sale" in July and later found out that the August "sales" were much better.
- If you decided to wait till August and later found out that the July "sales" were much better.

In which case would you feel greater regret? (mark one)

- If you decided to purchase one of the above products on "sale" in July and later found out that the August "sales" were much better.
- If you decided to wait till August and later found out that the July "sales" were much better.

Would you purchase the camcorder in July (and choose one of the above), or would you purchase the camcorder in August? (circle one)

July

August

If you selected July, which camcorder would you choose? (circle one)

Sharp VL-25

Magnavox CV22

cause of anticipation of regret. Also, given that subjects in the regret condition were explicitly asked to think about the possibility of committing decision errors, these subjects might have been concerned about being negatively evaluated by the researchers.

Thus, to assess the net effect of anticipating regret, two conditions were added. In one condition, referred to hereafter as the feedback condition, respondents also expected to receive feedback on their decisions but were not asked how they would feel if they made the wrong choice. It was expected that the mere mention of feedback, which was repeated in each choice problem, might cause respondents to anticipate how they would feel given various possible outcomes. However, without explicitly assessing regret and responsibility, this effect should be much weaker than is the case in the regret condition.

In another condition, referred to hereafter as the evaluation condition, subjects were told that the re-

searchers conducting the study were primarily interested in how effective students were as consumers. This condition was designed to test whether expecting to be evaluated by the researchers caused respondents to purchase the gift in July rather than in August. If an explicit manipulation of anticipated evaluation by the researchers did not lead to more purchases in July, then we could say with confidence that the implicit evaluation of decision errors incorporated in the regret condition cannot account for the predicted effect of the regret task on purchase timing.

As in the regret and feedback tasks, subjects in the evaluation condition were informed that they would receive feedback at the end of the study, and this information was repeated in each problem. In addition, subjects were told that the researchers would rate the effectiveness of the participants in the study and might use these responses to illustrate effective or ineffective decision making. Subjects predicted whether the researchers would (1) consider it a bigger mistake, and (2) give them a lower rating, if they selected July and there were better sales in August, or if they waited until August and there were better sales in July. The other instructions were similar to those in the control condition, except that subjects in the evaluation condition were also asked to provide brief justifications for their decisions.

*Choices between Brand Name and Price.* In the second part of the questionnaire subjects were asked to assume that they wanted to purchase several products for themselves. In each product category they considered and subsequently chose between two alternatives: a well-known brand that was more expensive and a lesser-known brand that was less expensive. The two brands in each product category were selected on the basis of the results of a pilot test in which familiarity with and perceptions of various brand names were examined. The brands selected in the VCR category were Panasonic and SounDesign, the brands of compact disk (CD) players were Pioneer and Yorx, and the electronic typewriter brands were Smith Corona and Adler. Both brands in each category were described as having the same features, except for the price. It was emphasized, however, that information about the reliability of the two brands was not available.

The last page of the questionnaire included three manipulation checks. Subjects were asked to indicate (1) whether they expected to find out at the end of the study which month had better sales (relating to the first part) and what were the better choices according to *Consumer Reports* (for the second part), (2) the likelihood that the main objective of the research was to examine whether students were effective consumers, and (3) the likelihood that the researchers would rate the effectiveness of the decisions. Subjects were then told that the experimenter had the list of alternatives that were the better choices in the questionnaire. Most

**EXHIBIT 2**  
**EXAMPLE OF THE BRAND-PRICE CHOICE TASK**  
**IN THE REGRET CONDITION**

**VIDEO CASSETTE RECORDER (VCR)**

Imagine that you would like to buy a new VCR and the salesperson at the store offers you a choice between the two brands described below.

|                                    | SounDesign    | Panasonic     |
|------------------------------------|---------------|---------------|
| 4-event/14-days programmable timer | Yes           | Yes           |
| 110-channel quartz tuner           | Yes           | Yes           |
| Remote control                     | Yes           | Yes           |
| On-screen programming              | Yes           | Yes           |
| Price                              | \$209         | \$299         |
| Reliability (frequency of repair)  | Not available | Not available |

Remember that at the end of this experiment you will be told which of the above two alternatives is a better choice.

**In which case would you be more upset with yourself? (mark one)**

- If you chose the SounDesign and found out later that it is less reliable and inferior compared to the Panasonic.
- If you chose the Panasonic and found out later that it is not better in any way than the less expensive SounDesign.

**In which case would you feel greater regret? (mark one)**

- If you chose the SounDesign and found out later that it is less reliable and inferior compared to the Panasonic.
- If you chose the Panasonic and found out later that it is not better in any way than the less expensive SounDesign.

Evaluate the two brands based on the information available above and then enter the name of the brand (out of these two) that you would choose.

I would choose \_\_\_\_\_

participants stayed after the experiment ended to read the feedback information.

The specific condition instructions paralleled those in the first part of the questionnaire (see Exhibit 2 for an example of the task in the regret condition). The respondents in the regret, feedback, and evaluation conditions were informed that they would learn at the end of the experiment which of the two options was the better choice. This information was described as "based on data from *Consumer Reports* regarding the actual reliability and durability of each product."

## Results

With respect to the first manipulation check, 86 percent of the subjects in the regret, feedback, and evaluation conditions indicated that they expected to find out at the end of the experiment which alternatives were the better choices, compared with 32 percent in the control condition ( $t(1) = 8.1, p < .01$ ). On the two other manipulation checks, subjects in the evaluation condition perceived, on average, a higher likelihood than respondents in the three other conditions that (1) the main purpose of the study was to evaluate the effectiveness of students as consumers ( $\bar{X} = 6.1$  and  $4.7$ ,

respectively;  $t(1) = 2.7, p < .01$  and that (2) the researchers would rate the effectiveness of their decisions ( $\bar{X} = 6.1$  and 5.2, respectively,  $t(1) = 2.1, p < .05$ ).

*Purchase Timing.* In the first part of the questionnaire, subjects indicated in which month they would make the purchase and, if they selected July, which of the available alternatives they would choose. As shown in Table 1, in the control condition 54 percent of the subjects selected July, compared with 63 percent in the regret condition, 56 percent in the feedback condition, and 51 percent in the evaluation condition. These results indicate that subjects who were first asked in which case they would feel greater regret and be more upset with themselves were more likely than the control group to select July rather than wait for the August sales ( $t(1) = 2.0, p < .05$ ). The results also indicate that merely informing respondents that they would find out which month had better sales (the feedback condition) or that their decisions would be evaluated by the researchers (the evaluation condition) did not significantly influence the purchase timing.

A binary logit analysis was used to test the effect of the task condition on the month choice, with each choice of each subject serving as one observation. The 0-or-1 dependent measure received a value of 1 if the selected month was July. There were four 0-or-1 dummy independent variables, three of which represented the regret, feedback, and evaluation conditions. The fourth variable received a value of 1 if the choice set available in July included a dominated option and 0 otherwise.

The coefficient representing the regret condition was positive and statistically significant ( $\chi^2(1) = 4.2, p < .05$ ), indicating that subjects in this condition were more likely to select July than subjects in the control condition. The coefficient of the feedback condition was positive but not statistically significant ( $p > .5$ ), and the coefficient of the evaluation condition was negative but not statistically significant ( $p > .5$ ). The coefficient of the dominance variable was positive and statistically significant ( $\chi^2(1) = 18.4, p < .001$ ), indicating that respondents were more likely to select July if there was a dominated option in the July choice set. In another logit run, the regret condition was contrasted with the three other conditions combined. Again, the coefficient of the regret condition was statistically significant ( $\chi^2(1) = 6.2, p < .05$ ). These results support Hypothesis 1.

Before entering the month choice, subjects in the regret condition were asked to anticipate which of the two possible errors would cause them to be more upset with themselves and feel greater regret. Sixty-one percent of the respondents indicated that they would be more upset with themselves if they waited for better sales in August and found out later that there were better sales in July ( $z = 3.2$ , from binomial test,  $p < .01$ ). Similarly, 60 percent said that they would feel greater regret if they waited for better sales in August ( $z = 2.9, p < .01$ ) and missed a better price. This result supports

TABLE 1  
STUDY 1: THE EFFECT OF TASK CONDITION ON PURCHASE TIMING AND CHOICE BETWEEN BRAND NAME AND PRICE

| Task condition        | <i>n</i> <sup>a</sup> | Current month (July) (%) | Next month (August) (%) |
|-----------------------|-----------------------|--------------------------|-------------------------|
| Purchase-timing task: |                       |                          |                         |
| Control               | 235                   | 54                       | 46                      |
| Regret                | 216                   | 63 <sup>b</sup>          | 37                      |
| Feedback              | 220                   | 56                       | 44                      |
| Evaluation            | 198                   | 51                       | 49                      |
| Brand-price task:     |                       |                          |                         |
|                       | <i>n</i> <sup>a</sup> | Better-known (%)         | Lesser-known (%)        |
| Control               | 176                   | 50                       | 50                      |
| Regret                | 160                   | 67 <sup>b</sup>          | 33                      |
| Feedback              | 165                   | 58                       | 42                      |
| Evaluation            | 150                   | 55                       | 45                      |

<sup>a</sup>The number of observations is based on the four purchase-timing and three brand-price decisions of each respondent.

<sup>b</sup>The difference between the regret and control conditions is statistically significant at the .05 level. The difference between the regret and the three other conditions combined is statistically significant at the .05 level.

Hypothesis 2. In the evaluation condition, 54 percent ( $z = .8, p > .4$ ) and 55 percent ( $z = 1.35, p > .15$ ) of the subjects expected that the researchers would consider it a bigger mistake and give a lower rating, respectively, if the subject waited until August and found out later that the July sales were better. The small difference in the shares of the two options suggests that subjects had difficulty in deciding which response would be evaluated more favorably (Simonson 1989) and what a "smart" shopper should do.

Finally, the effect of the responses to the upset-with-yourself and regret items on the month choice (in the regret condition) were examined using binary logit (in 31 percent of the choices, subjects gave different responses for the two items). The dependent measure received a value of 1 if July was chosen. Two 0-or-1 dummy independent variables representing the two response items received a value of 1 if subjects indicated that they would be more upset with themselves or feel greater regret if they made the purchase in July and found better sales in August. The third independent variable received a value of 1 if the choice set in July included a dominance relationship.

The coefficient of the more-upset-with-yourself item was negative and statistically significant ( $\chi^2(1) = 5.4, p < .05$ ). The coefficient of the greater-regret item was also negative and marginally statistically significant ( $\chi^2(1) = 2.9, p < .10$ ). As would be expected, the negative coefficients indicate that subjects who said they would be more upset with themselves or feel greater regret if they waited until August and found that the sales were better in July were more likely to make the purchase in July.

*Choice between Brand Name and Price.* In the control condition, the share of the better-known brands was 50 percent, compared with 67 percent in the regret condition (relative to control,  $t(1) = 3.2, p < .01$ ), 58 percent in the feedback condition ( $t(1) = 1.5, p < .15$ ), and 55 percent in the evaluation condition ( $t(1) = .9, p < .4$ ; see Table 1). Thus, in accordance with Hypothesis 4, subjects who first anticipated how they would feel if they made the wrong decision were more likely to choose the better-known brand. The effect of anticipating feedback (without anticipating regret) also approached statistical significance.

A binary logit analysis was used to test the effect of the task condition on the brand choice, with each choice of each individual serving as one observation. The 0-or-1 dependent measure received a value of 1 if the better-known brand was selected. There were three 0-or-1 dummy independent variables, representing the regret, feedback, and evaluation conditions. The coefficient representing the regret condition was positive and statistically significant ( $\chi^2(1) = 9.7, p < .01$ ), indicating that subjects in the regret condition were more likely to select the better-known brand than were subjects in the control condition. The coefficient representing the feedback condition was positive and approached statistical significance ( $\chi^2(1) = 2.3, p < .15$ ). The coefficient of the evaluation condition was positive but not statistically significant ( $\chi^2(1) = .9, p > .3$ ). In another logit run, the regret condition was contrasted with the three other conditions combined. Again, the coefficient of the control condition was statistically significant ( $\chi^2(1) = 7.6, p < .01$ ). These results support Hypothesis 4.

As indicated, subjects in the regret condition were asked before entering the brand choice to anticipate how they would feel if they selected the wrong brand. In accordance with Hypothesis 5, 57 percent ( $z = 1.7, p < .05$ ) of subjects expected to be more upset with themselves if they chose the lesser-known and cheaper brand and found out later that it was inferior compared with the better-known brand. However, on the second item, 59 percent ( $z = 2.1, p < .05$ ) of subjects said that they would feel greater regret if they bought the better-known brand and found out later that it was not any better than the cheaper brand. This latter result is inconsistent with Hypothesis 5.

The effect of the responses (in the regret condition) to the two items relating to decision errors on the brand choice was examined by binary logit (in 30 percent of the choices, subjects gave different responses for the upset-with-yourself and regret items). The dependent measure received a value of 1 if the better-known brand was chosen. Two 0-or-1 dummy independent variables, representing the two response items, received a value of 1 if subjects indicated that they would be more upset with themselves or feel greater regret if they chose the lesser-known brand and found out later that it was less reliable.

The coefficient of the more-upset-with-yourself item was positive and statistically significant ( $\chi^2(1) = 7.5, p < .01$ ). The coefficient of the greater regret item was negative but not statistically significant ( $p > .9$ ). Thus, subjects who indicated that they would be more upset with themselves if they chose the less expensive brand and found out later that it was inferior were more likely to select the better-known brand. It is interesting that the same did not hold for the greater regret item, which suggests that the two items measure different aspects that do not necessarily converge.

In the evaluation condition, 58 percent ( $z = 1.8, p < .10$ ) of the subjects expected the researchers to consider it a bigger mistake and to give a lower rating in the case in which the subject selected the better-known brand and found out later that it was not better than the less expensive brand. Note that this somewhat unexpected result is not inconsistent with the notion that the better-known brand is the default and safe option. Apparently, some respondents expected to be evaluated more favorably by the researchers if they did not select the more expensive option, possibly because they thought that a "smart" shopper should not pay for a name. In other words, in choices between brand name and price, the default option may be seen by respondents as more susceptible to criticism.

## Discussion

The results of study 1 suggest that both purchase timing and choices between brand name and price can be influenced by asking consumers to imagine how they would feel if they made the wrong decision. The results also ruled out alternative explanations based on anticipation of feedback and concerns about evaluation by the researchers. With respect to purchase timing, a majority of the respondents expected to be more upset with themselves and feel greater regret if they waited until August and found out later that there were better sales in July. The respondents were subsequently more likely to indicate that they would make the purchase in July. These results were replicated in a follow-up study in which only the four purchase-timing problems were included, using the same task conditions as in study 1.<sup>1</sup>

The results of study 1 also indicate that anticipating how one would feel if the brand choice turned out to be wrong can affect the preference between a well-known, high-priced brand and a lesser-known, lower-priced brand. Specifically, respondents in the regret condition were significantly more likely to select the better-known brand, which was consistent with the re-

<sup>1</sup>The main purpose of the follow-up study was to examine further the effect of a dominance relation in the set on the purchase-timing decision. Specifically, there were two versions of each problem, one with and one without a dominated option. As was expected, a dominance relationship in the July set had a positive and statistically significant effect on the likelihood of making the purchase in July ( $\chi^2(1) = 13.5, p < .001$ ).

sponse of the majority of these subjects that they would be more upset with themselves if they selected the cheaper brand and found out later that it was inferior to the more expensive brand. Surprisingly, a majority of the respondents in the regret condition indicated that they would feel greater regret if they bought the more expensive brand and found out later that it was not better in any way. The distinction that some subjects appear to make between regret and being upset with themselves is discussed further below.

In sum, the results of study 1 are consistent with the proposition that anticipating how one would feel in the case of failure caused the effect on purchase timing and brand choice. These findings, however, do not allow much insight into the decision processes involved and the causes of the differences in choices between the control and regret conditions. Furthermore, it is clear that there are other factors that influenced the decisions, as illustrated by the subjects who selected options that they expected to be associated with greater potential regret. To get a better understanding of the decision processes underlying the findings of study 1, a second study using think-aloud protocols was conducted. Specifically, the objectives of study 2 were (1) to contrast the decision processes of subjects in the control and regret conditions and (2) to examine the factors that subjects in the regret condition consider when determining in which situation they would be more upset and feel greater regret.

## STUDY 2

### Method

The subjects were 41 undergraduate students, who were randomly assigned to the control and the regret conditions. The main difference between this study and study 1 was that respondents were instructed to think aloud as they made their decisions. The think-aloud protocols were later analyzed by two independent judges who were unaware of the research hypotheses. Specifically, the judges were asked (1) to determine whether the respondent explicitly considered the possibility of making the wrong decision, (2) to determine the main cause of subjects' choices of month (in the first part) and brand (in the second part), and (3) to code the thoughts that subjects in the regret condition had when they evaluated the scenario in which they would be more upset with themselves and feel greater regret. As the earlier discussion indicated, it was expected that the choice processes of respondents in the regret condition would be significantly influenced by the earlier consideration of how they would feel if they made the wrong decision.

With respect to the second and third tasks of the judges, it was not known before the protocol analysis what types of causes and thoughts respondents had provided. Therefore, the judges' first task was to define several categories of decision causes and thoughts on the

basis of a preliminary evaluation of the protocols (the cause and thought categories are listed below). They then categorized each decision cause and thought. The interjudge reliability was 76 percent; that is, the judges coded 76 percent of the items (including uncodable responses) similarly. Disagreements were resolved by discussion.

### Results

The month- and brand-choice results were similar to those found in study 1 (the month-choice difference was larger). In the control condition, July was selected in 61 percent of the cases, compared with 77 percent in the regret condition. In the second part, the share of the better-known brand was 52 percent in the control condition and 67 percent in the regret condition. The results of the protocol analyses with respect to purchase timing and brand-price choice tasks are discussed next.

*Purchase Timing.* In 99 percent of the choices in the regret condition the respondent referred to the possibility of making the wrong decision, compared with 51 percent in the control condition. This test can be seen as a manipulation check because consideration of decision errors was part of the task in the regret condition. The judges identified four categories for the main causes of the month choice, including (1) the likelihood of getting a better deal in the month they selected (e.g., "Twenty dollars is not much; there will probably be a better sale in August," or "There will probably be a big sale on grills at the end of the summer"), (2) whether the respondent expected to feel worse if July was selected and August had better sales, or vice versa (e.g., "because I would feel much worse if I missed an opportunity in July"), (3) the attractiveness of the alternatives available in July (e.g., "Minolta makes good cameras"), and (4) a desire to complete the purchase as soon as possible (e.g., "just to get it out of the way"). Each brand choice was assigned to one of these four decision-cause categories. In 15 percent of the choices the judges could not determine the cause.

In the control condition, 46 percent of the choices were in category 1, 7 percent were in category 2, 41 percent were in category 3, and 7 percent were in category 4. In the regret condition, 33 percent of the choices were in category 1, 30 percent were in category 2, 27 percent were in category 3, and 10 percent were in category 4. The main difference between the two conditions is in the share of causes in category 2, which were based on the feeling expected if the wrong month was selected ( $t(1) = 3.8, p < .01$ ).

The thoughts that subjects in the regret condition had when determining the scenario in which they would be more upset with themselves and feel greater regret were assigned to seven categories. These thought categories included subjects' beliefs (1) that there was the possibility of missing an opportunity (35 percent of the thoughts), (2) that the magnitude of the July sale was

large (small) and was thus associated with large (small) potential regret (24 percent), (3) that they "should have" or "could have" made the purchase in July (16 percent), (4) that the product would be returned to the store if the price was reduced in August (13 percent), (5) that waiting meant taking a chance (8 percent), and two other categories accounting for 3 percent of the thoughts. Categories 1, 3, and 5, representing 77 percent of the thoughts of those in the regret condition who expected to be more upset and feel greater regret if they waited, are of most interest. Thoughts in these categories suggest that respondents were more concerned about missing a currently available opportunity than they were about missing a possible future opportunity.

Finally, examination of the protocols of subjects in the regret condition suggested that some respondents confused the question "In which case would you be more upset with yourself?" with "In which case would you be more upset?" (ignoring the words "with yourself"). Some of these subjects later indicated that they did not see the difference between "more upset" and "greater regret."

*Choices between Brand Name and Price.* In accordance with the task manipulation employed, in 94 percent of the choices in the regret condition respondents explicitly mentioned the possibility of selecting the wrong brand, compared with 44 percent in the control condition.

The judges identified four categories for the main causes of the brand choice, including (1) the likelihood of failing with the particular brand (e.g., "I never heard about Yorx"), (2) whether the respondent expected to feel worse if s/he made the wrong choice by selecting the better-known or the less expensive brand ("because I would feel I took an unnecessary chance"), (3) the attractiveness of a particular brand (e.g., "Panasonic makes good VCRs"), and (4) a combination of categories 1 and 3. Each month choice was assigned to one of these four decision-cause categories; in 3 percent of the choices the judges could not determine the cause. In the control condition, 33 percent of the choices were in category 1, none were in category 2, 54 percent were in category 3, and 13 percent were in category 4. In the regret condition, 32 percent of the choices were in category 1, 23 percent were in category 2, 32 percent were in category 3, and 12 percent were in category 4. As was expected, the main difference between the two conditions is in the share of causes found in category 2, which were based on the feeling expected if the wrong brand was selected (0 percent vs. 23 percent).

The thoughts that subjects in the regret condition had when determining the scenario in which they would be more upset with themselves and feel greater regret were assigned to one of the following categories: (1) the magnitude of the price difference between the two brands, with larger difference leading to an assessment that they would feel greater regret if they chose the more

expensive brand, and vice versa (34 percent of the thoughts), (2) you get what you pay for, should have known better, or should have taken the brand name (23 percent), (3) the overall cost of the alternatives (17 percent), (4) thoughts related to the specific product category (12 percent), (5) choosing the more expensive brand reduces the risk of being stuck with a low-quality product (7 percent), and two other categories representing 5 percent of the thoughts. Among those who indicated that they would be more upset and feel greater regret if they chose the cheaper brand, thoughts in category 2 relating to the default status of the better known brand were most common (39 percent of the thoughts). In contrast, category 1 accounted for most of the thoughts (52 percent) of those indicating that they would be more upset and feel greater regret if they erred by choosing the more expensive brand.

Finally, as in study 1, a small majority of the subjects in the regret condition expected to be more upset with themselves if they erred by choosing the less expensive brand, whereas a small majority indicated that they would feel greater regret in the other case. Subjects did not explain why they responded differently to the two items. Also, as in the purchase-timing problems, some subjects interpreted "more upset with yourself" as "more upset" and made no distinction between the upset and regret items.

## Discussion

The results of study 2 provided insights into the causes of the differences in choice behavior that were observed in study 1. As expected given the task manipulation, the main difference between the regret and control conditions was in the likelihood of basing the choices on anticipation of decision errors. In particular, subjects in the regret condition were more likely to select July and to choose the better-known brand in anticipation of how they would feel if their decision turned out to be wrong. With respect to the determinants of anticipated regret and being upset in each scenario, the protocols revealed a variety of influencing factors. As hypothesized, subjects implicitly referred to the unique status of the default options and the greater potential responsibility and self-blame for not choosing that option, using such terms as "I should have taken the brand name," "I could have bought it in July," and "I should have known better."

The protocols did not provide much insight into the causes of the distinction that some subjects made between the assessments of how upset with themselves they would be and how much regret they would feel if they made the wrong brand choice. It is also noteworthy that, although subjects in the regret condition in the brand-price part of studies 1 and 2 were divided on the issue of which error scenario would cause them to be more upset with themselves and to feel greater regret, there was a relatively large difference in the choices

subjects made in the control versus the regret conditions. A possible explanation for this result is related to the finding that subjects in the regret condition were more likely to consider the possibility of making the wrong decision. Specifically, respondents in the regret condition who assessed the *magnitude* of regret and being upset might have also considered the *likelihood* of regret and being upset in each scenario. If these respondents felt that they were more likely to regret and to be upset with themselves for choosing cheaper brands, they would tend to prefer the better-known brands.

Finally, the protocols suggest that, although the more-upset-with-yourself item appears to elicit thoughts on feelings that would occur in the event of failure, it is misinterpreted by some subjects. Furthermore, because respondents apparently make a distinction between regret and responsibility, the results would have been clearer if each respondent had considered just one of the two items and a between-subjects design had been used.

In study 3, assessments of responsibility in the two purchase scenarios of studies 1 and 2 were examined more directly. This allowed testing of Hypotheses 3 and 6, which propose that choices of default options that fail are associated with lower perceived responsibility on the part of the consumers who made the decisions. In addition, study 3 included a third scenario in which the default option represented the conventional and more natural choice, although it was as risky as the other alternative.

## STUDY 3

### Method

The subjects were 122 undergraduate marketing students. Participation in the study was a course requirement. The questionnaire included three problems, two of which related to the purchase-timing and choice-between-brand-and-price scenarios of studies 1 and 2. In the introduction to the questionnaire, it was emphasized that there were no right or wrong answers and that the researchers were only interested in the participants' judgments. Subjects were also informed that responses would remain confidential to ensure that their answers were not influenced by concerns about being evaluated by others.

One problem, entitled "The Best Time to Buy," dealt with purchase timing. As in the cover story of studies 1 and 2, subjects were asked to imagine that they intended to buy a VCR as a wedding present for a close friend, that the wedding would take place two weeks later, that they had decided to buy the VCR at a particular store and would buy only a VCR that was offered on sale, and that the problem facing them was whether to purchase one of the items on sale in the current week or to wait for the sales in the following week (the store

did not accept returns on sale items). Given this problem, subjects were asked to consider two possible scenarios. If they purchased the VCR in the current week, they might discover later that they had missed a much better sale on a similar VCR the following week. Or, if they waited for the following week, they might find out that they could have purchased a similar VCR for a much better price in the previous week.

Subjects then responded to three items. First they were asked in which of the two scenarios they would feel that the outcome was more their fault and responsibility. A second item was designed to assess perception of responsibility on the basis of another person's evaluations. Specifically, subjects were told to assume that they were out of town during the two weeks before the wedding and that they had asked a friend to buy the VCR for them. The question was whether they would be more upset with their friend if she made the purchase in the first week and there were better sales the following week or if she made the purchase in the second week and the sales in the first week turned out to be better. The third question related to what the respondents considered the norm or most common decision of people faced with this problem. They were asked what they thought most consumers would do in this situation (buy in the current week or in the following week). After answering each question, subjects were asked to provide a brief explanation.

A second problem was similar to the brand-price choice questions of studies 1 and 2. Subjects were asked to imagine that they wanted to buy a new CD player. They were debating between two brands (brand names were not given). One brand was well known for its reliability and durability. The other alternative was significantly less expensive and lesser known, and the subjects had no information about its reliability and durability. Both CD players had the same features. Subjects were asked to assume that soon after the purchase they expected to find out from *Consumer Reports* how the two brands compared in terms of reliability and durability. They were then asked the same three questions as in the purchase-timing problem, relating to the following two scenarios: (1) they purchased the better-known brand and found out later that the less expensive brand was just as reliable and durable and (2) they purchased the less expensive brand and found out later that it was less reliable and durable than the better-known brand.

The questionnaire of study 3 included a third problem, designed to assess both negative and positive regret and responsibility, that was associated with a different type of a default option than was the case in the two other scenarios. Specifically, subjects were asked to imagine that they were looking for a *Journal of Marketing* article that was assigned by their instructor. The instructor said that the article was published sometime in the 1970s but that he did not know when in the 1970s it appeared. Subjects were then asked whether they

would be more upset with themselves and feel greater regret (1) if they started searching from the first issue of the 1970s (January 1970) and finally found the article in the last issue of the decade (October 1979) or (2) if they started searching from the last issue and finally found the article in the first issue.

On the basis of the assumption that starting at the beginning was the default option, it was expected that subjects would be more upset with themselves and feel greater regret if they deviated from the default option and failed. Two additional questions asked whether subjects would be happier and whether they would be more satisfied with their search strategy if they started searching from the first (last) issue and found the article in that issue. To gain greater insight into the causes and considerations underlying the responses of subjects in study 3, a follow-up study was conducted in which 17 subjects were asked to think aloud as they responded to the problems of study 3. The protocols were analyzed by two independent judges. Specifically, for each of the three problems, the judges first defined several categories of thoughts (on the basis of a preliminary evaluation of the protocols) and then assigned each thought to one category. The interjudge reliability across all coded responses was 81 percent. Disagreements were resolved by discussion.

## Results

In the problem dealing with purchase timing, in accordance with the results of studies 1 and 2, 78 percent of subjects indicated that they would feel that the outcome was more their fault and responsibility if they waited for the following week, compared with 22 percent who selected the other response ( $z = 6.1$ , binomial test,  $p < .01$ ). Most explanations of respondents revolved around the missed opportunity and the fact that waiting for the second week requires taking a risk despite one's having no information about future sales. Conversely, buying now and finding a better sale later is not the consumer's fault, because one cannot predict the future.

Similarly, 78 percent of subjects said that they would be more upset with their friend if she made the purchase the following week and missed a better sale the week before ( $z = 6.1$ ,  $p < .01$ ). These results support Hypothesis 3, indicating that most consumers feel more responsible if they wait for a better deal and consequently miss an opportunity. Finally, 66 percent of the respondents expected most consumers in this situation to make the purchase in the current week, which is consistent with the notion that this option is seen as the norm or default.

In the problem relating to the choice between a well-known brand of CD players and a lesser-known, less expensive brand, 67 percent of the subjects indicated that they would feel more responsible if they purchased the less expensive brand and found out later that it was

less reliable and durable, compared with 33 percent who chose the other scenario ( $z = 3.7$ ,  $p < .01$ ). These results are consistent with those of studies 1 and 2. Some typical explanations provided by respondents include: "I took the risk," "You get what you pay for," and "I should have known better." The most common explanation given by the minority of subjects who selected the other option was that, if they paid less, they expected to get lower quality and thus would not be upset or feel regret if that were indeed the case. Conversely, if they paid more and the brand were not better than the less expensive one, they would feel cheated and upset.

Similarly, 82 percent of subjects indicated that they would be more upset with their friend if he purchased the less expensive brand and later it turned out to be less reliable than the well-known brand ( $z = 7.0$ ,  $p < .01$ ). These results support Hypothesis 6, indicating that the person who selects the lesser-known brand and fails is seen as more responsible for the outcome. In addition, 84 percent thought that most consumers in this situation would buy the better-known brand ( $z = 9.0$ ,  $p < .01$ ), which is consistent with the notion that preferring the better-known brand is perceived as the norm and as the conventional choice.

In the problem involving the search for a journal article, 58 percent ( $z = 1.7$ ,  $p < .05$ ) of the respondents indicated that they would be more upset with themselves and 69 percent ( $z = 4.1$ ,  $p < .01$ ) expected to feel greater regret if they started from the last issue and found the article in the first issue. In the other two questions, relating to the case in which the search strategy turns out to be a lucky choice, 62 percent ( $z = 2.6$ ,  $p < .01$ ) of the respondents expected to feel happier and 58 percent ( $z = 1.7$ ,  $p < .05$ ) indicated that they would be more satisfied with their search strategy if they started from the last issue and found the article in that issue.

With respect to the follow-up protocol study, the responses of subjects were similar to those of respondents in study 3. In the purchase-timing problem, the main categories of thoughts of respondents who said that they would feel more responsible if they waited (88 percent of the responses; 77 percent of subjects said they would be more upset with a friend who waited) were as follows: (1) "It is best not to wait," "Not waiting is the usual way of shopping," and feeling that they should have or could have made the purchase earlier (49 percent), (2) feeling that an opportunity was missed (33 percent), and (3) feeling that they took a chance by waiting (19 percent). Most subjects who said that they would feel more responsible if they did not wait referred to the possibility that prices would go down or that it was not good to be impatient.

In the brand-price choice problem, the main categories of thoughts of respondents who said that they would feel more responsible (and be more upset with their friend) if they chose the less expensive brand (82 percent) were as follows: (1) "You get what you pay for," "I should have known better," "I should have

taken the brand name" (63 percent), and (2) "I took a chance" (29 percent). Subjects who said that they would feel more responsible if they chose the better-known brand talked about the cost of the alternatives and the specific characteristics of the product category. Finally, in the journal-search problem, the main categories of thoughts were as follows: (1) the subject usually searches in a particular way or should have searched the article in a certain way (58 percent), (2) the subject took a chance with the search strategy (21 percent), and (3) "A particular search strategy brings good luck" (12 percent).

In sum, the results of study 3 provided support for the predictions that selecting a better-known over a less expensive brand and making a purchase now rather than waiting for a better deal are seen as the norms and are associated with less responsibility on the part of the consumer in the event of failure. In the journal-search problem, as expected, a majority of the respondents indicated that they would feel greater regret if they deviated from the default option and failed. This problem also extends the results to the positive domain, indicating that a majority of the subjects expected to be more satisfied if they succeeded by choosing an option other than the default.

## GENERAL DISCUSSION

The findings of this research suggest that decisions regarding purchase timing and brand choice can be systematically influenced by asking consumers to consider possible decision errors. These results generally are consistent with the notion that when consumers evaluate alternatives that are associated with different levels of regret and responsibility (e.g., one option is a default), preferences can be influenced by making the possibility of failure more salient.

With respect to purchase timing, consumers are often concerned that if they make a purchase they will miss a sale later and that if they wait for a sale they may find out later that the current price was better. For example, prospective car buyers may debate between buying the car with the currently offered rebate or waiting for an even larger rebate later in the year. The present research suggests that, if the buyers consider how they would feel if they made the wrong choice, they would be more likely to make the purchase earlier. The second problem investigated in this research, involving choices between brand name and price, relates to a common dilemma consumers face. On the one hand, the difficulty of assessing product quality in many purchases makes brand name an important cue. On the other hand, many previously highly differentiated products have become more like commodities (e.g., personal computers), and consumers today are more likely to question whether paying premium prices for brand names is justified. The present findings suggest that manufacturers of better-known brands that are competing with less expensive

alternatives might increase their market shares if they can cause consumers to anticipate how they would feel if they made the wrong decision. For example, a recent Kodak ad shows a consumer who regrets, after the fact, buying a cheaper film.

The conclusion that consideration of decision errors tends to increase the preference for earlier purchases and better-known brands may not hold in situations in which other relevant factors influence assessments of regret and responsibility. For example, in some markets the timing and magnitude of sales over time are not random variables. Thus, car manufacturers tend to offer better sales and rebates later in the model year, and, therefore, purchases made earlier in the year are more prone to being perceived as errors later. Indeed, in 1990 Chrysler offered the "guaranteed rebate," which assured buyers that they would be compensated for any rebate offered in 1990 that was greater than the current rebate. Similarly, some stores guarantee the price for 30 days, such that if the store or other stores offer a better price during that period, the buyer is reimbursed for the difference. Another situation in which anticipation of decision errors may not lead to early purchases is if the choice is between a current purchase and an indefinite delay, in which case delay may be the default option that is associated with lower responsibility and regret.

## Theoretical Implications

Previous research on regret and responsibility has often been vague about the exact meaning of these constructs, the relation between them, and how they affect choice. The present research does not resolve these issues, but it does provide some insights. Building on previous work, it was assumed that regret and responsibility were highly positively correlated, with a higher sense of responsibility leading to greater regret (see, e.g., Spranca et al. 1991). In accordance with this notion, subjects in the regret condition were asked to anticipate in which situation they would feel more upset with themselves (measuring self-blame and responsibility) and feel greater regret. The findings, however, indicate that regret and responsibility may sometimes lead in different directions; in particular, selections of better-known brands were associated with less responsibility and greater regret.

A closer examination of this pattern of results suggests that it is quite logical in the context of risky choice. To illustrate, consider a person at a horse-race track who is debating between betting on a long shot and a favorite. That person would be likely to feel more responsible for the outcome if s/he selected the long shot and the favorite won, because the favorite was the more conventional and safer choice. Conversely, the person would be expected to feel greater regret if s/he chose the favorite and the long shot won, because s/he missed an opportunity to earn a large sum of money. Similarly, the choice of a better-known brand might be associated

with less responsibility because the consumer should have chosen the safe option, but greater potential regret because of the missed opportunity. By contrast, in the purchase-timing scenario, there is no a priori long-shot option that would represent a big loss if it were missed.

Thus, regret and responsibility should be regarded as separate constructs. Regret represents the sorrow over something done or not done, regardless of whether the decision maker was responsible for the outcome. The magnitude of regret is likely to depend on the difference between the actual and the alternative outcomes and, to a lesser degree, on whether the selected option was the norm and was thus the thing to be expected (Kahneman and Miller 1986). For example, suppose a consumer is debating whether to bet in the state lottery with a particular number combination and then decides not to bet. If that number combination is subsequently selected for the first prize, the consumer is likely to feel great regret, even though not winning in the lottery is the norm. Assuming there is no difference between the two outcomes (e.g., as in the journal-search problem), one is expected to feel greater regret for deviating from the default because it is easier to imagine doing the conventional thing. The magnitude of responsibility, on the other hand, represents the degree of self-blame (or self-congratulation) for the decision that led to the obtained outcome. It is likely to be determined by the ease of justifying or avoiding blame for the choice made given the available options and information.

This distinction between the two constructs can account for the result that an error resulting from a purchase of a less expensive and lesser-known brand is associated with greater responsibility but lower regret. The distinction, however, cannot fully explain the finding of study 1 that, while most subjects expected to feel greater regret if they erred by selecting the better-known brand, 67 percent of them subsequently chose that brand over the cheaper alternative. A possible explanation for this seemingly inconsistent behavior relates to the perceived likelihood of each type of error. Specifically, respondents in the regret condition who were asked to compare the magnitude of regret and responsibility in each scenario might have also considered the likelihood of feeling regret and responsibility. If the perceived likelihood of regretting the choice of a lesser-known, lower-priced option is higher, respondents might select the more expensive option even though it is associated with greater potential regret and responsibility. Indeed, the think-aloud protocols in study 2 revealed that the likelihood of each type of error was considered by many respondents.

The previous discussion proposes that choice can be influenced by anticipating the magnitude and/or likelihood of regret and responsibility. Furthermore, the magnitude and likelihood of regret and responsibility are closely related. In particular, the prior probability of success associated with an option (e.g., a favorite horse, a well-known brand) determines the likelihood

of regret and responsibility as well as the magnitude of responsibility.

Finally, this research has focused on the role of anticipated regret and responsibility in choices between a default and a less conventional option. A question that naturally arises is whether anticipating regret and responsibility can influence choices only when there is a default option. Clearly, whenever consumers need to make a choice, they might consider the possibility of later regret and self-blame (Festinger 1957). However, in order that anticipation of regret and responsibility will have a systematic effect on choices, there must be perceived asymmetry between the considered alternatives in terms of the likelihood and/or magnitude of regret and responsibility. Default options represent one such asymmetry, and future research might reveal other factors that cause some alternatives to be associated with more or less anticipated regret and responsibility.

## Limitations and Future Research Directions

The present research suggests that regret and responsibility can systematically influence consumer purchase decisions and might thus have significant managerial and theoretical implications. This research, however, was conducted in the laboratory and used a paper-and-pencil task. Although these restrictions helped in testing the hypotheses and in interpreting the results, future research should test whether anticipation of possible errors affects purchase timing and choices between brand name and price in more natural consumer environments. Future research should also extend the findings to other domains and examine the factors determining which option is perceived as the default. Another interesting question relates to the impact on choice of anticipating the opposites of regret and responsibility, namely, the satisfaction and self-congratulation associated with a decision that turned out right. If a consumer anticipates both the possibility of making the wrong decision and the possibility of making the right decision, one might expect the former to have a stronger effect on subsequent choices, although the two might also cancel each other.

With respect to the distinction between regret and responsibility, future research might examine the relationship between the two constructs and their relative effects on consumer choices. Finally, future research should further investigate the influences of anticipating decision errors on purchase timing and choices between brand name and price. For example, the effect of anticipating regret and responsibility on choices between brand name and price may depend on whether the consumer expects to make repeated purchases in the same product category.

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