

The Effect of Mind-Sets on Consumer Decision Strategies

ALISON JING XU
ROBERT S. WYER JR.*

When consumers consider their preference for one of a set of products without having decided whether or not they want to buy something, they develop a "which-to-buy" mind-set that increases their likelihood of making a purchase both in the situation at hand and in subsequent unrelated situations. The effect of this mind-set is evident regardless of the commonality of the alternatives' features and regardless of whether or not the purchase decision is revocable. The mind-set that is induced by stating preferences in one situation influences the thoughts that people generate in response to other unrelated situations they encounter subsequently and consequently affects their actual purchase behavior in these situations.

Purchase decisions often occur in two steps. First, consumers tentatively decide whether or not they want to make a purchase, based on the options available and their need for the type of product being considered. Then, if this decision is affirmative, they consider which of the alternatives they prefer. Sometimes, however, consumers consider their preference for one product over others before they make a decision to buy something. For example, customers who are browsing or window-shopping might be asked by an acquaintance or an enterprising salesperson which of several products they prefer. They might not have had any prior intention to make a purchase. Having computed their preference, however, they might proceed as if a decision to make a purchase has already been made. Consequently, they might be more likely to make a purchase than they would if they had explicitly considered whether they wanted to buy something at the outset.

We propose a theoretical account of this phenomenon. We assume that the process of determining which of several options one would prefer to buy presupposes that a decision to purchase something has already been made. As a result,

*Alison Jing Xu (jingxu@ust.hk) is a doctoral student and Robert S. Wyer Jr. (mkwyer@ust.hk) is a visiting professor in the Department of Marketing, Hong Kong University of Science and Technology. The authors appreciate the helpful comments of faculty members and doctoral students in the marketing department of Hong Kong University of Science and Technology, Michel Pham, Amnon Rapoport, and three *JCR* reviewers. They also extend their thanks to Xuefeng Liu for his help on data collection. This research was supported in part by grants HKUST6053/01H, HKUST6194/04H, and HKUST6192/04H from the Research Grants Council, Hong Kong. Correspondence on the article should be sent to Alison Jing Xu.

John Deighton served as editor and Stephen Nowlis served as associate editor for this article.

Electronically published June 20, 2007

it creates a mind-set that directs thoughts away from the option of not buying anything at all and consequently increases the likelihood of making a purchase in the situation at hand. Furthermore, once this mind-set is activated, it generalizes to other, unrelated situations, increasing the likelihood of making a purchase in these situations as well.

Four studies support this possibility. Experiment 1 showed that consumers evaluate choice alternatives more favorably, and are more disposed to purchase one of the alternatives, if they have previously indicated which alternative they prefer than if they have not. Experiment 2 showed that the mind-set induced by reporting a preference can increase the likelihood of making a purchase in situations that are unrelated to the one in which the mind-set was activated. Thus, for example, consumers who have decided which product they would prefer in one domain (computers) become more inclined to make a purchase in another, quite different domain (vacation packages). Experiment 3 identified a situation in which the mind-set breaks down and also related our findings to the shopping momentum effect (cf. Dhar, Huber, and Khan 2007). Finally, experiment 4 showed that inducing a which-to-buy mind-set can influence actual purchase decisions (i.e., the purchase of candy that is on sale on completion of the experiment).

THEORETICAL BACKGROUND

The Impact of Mind-Set on Judgments and Decisions

A mind-set is characterized by the persistence of cognitive processes and judgmental criteria that are activated in the course of performing a task. Once activated, it generalizes to other situations, affecting responses in these situations as

well. In a classic demonstration of this tendency, Luchins (1942; Luchins and Luchins 1959) found that once participants had learned a complex rule for solving an initial series of problems, they persisted in applying this rule to later problems that could actually be solved much more simply.

The processes that give rise to a mind-set can be conceptualized in terms of theory and research on knowledge accessibility (for reviews, see Förster and Liberman 2007; Higgins 1996; Wyer, forthcoming). This research indicates that once a judgment has been made, it is used as a basis for subsequent judgments independent of the original information on which it was based (Carlston 1980; Sherman et al. 1978). E. R. Smith (1990, 1994) proposed a conceptualization of particular relevance to the issues of concern in this article. He argued that cognitive procedures, like other types of knowledge, can vary in their accessibility in memory. Consequently, if a procedure is used in one situation, it becomes more accessible and is likely to be reactivated and used to make judgments and decisions in later situations to which it is applicable. The effect of a mind-set may be one manifestation of this persistence.

The impact of mind-sets has only recently begun to attract attention in consumer research. Briley and Wyer (2002) found that inducing individuals to think of themselves as members of a group led them to acquire a general disposition to avoid potentially negative consequences of their decisions (e.g., a prevention focus; see Higgins 1997). Once activated, this disposition generalized to situations to which the individuals' group membership was totally irrelevant. For example, participants preferred products that had the least negative features without considering the positive features that accompanied them. Furthermore, they distributed outcomes equally in a resource allocation situation (thereby minimizing the negative feelings that the parties involved might experience) and chose candies of different kinds when leaving the experiment (thereby minimizing the consequences of making a "wrong" choice).

The impact of mind-set in other consumer research has been stimulated by Gollwitzer and his colleagues (Gollwitzer and Bayer 1999; Gollwitzer, Heckhausen, and Steller 1990). They argued that a decision to pursue a particular goal requires an evaluation of its pros and cons and, therefore, induces a deliberative mind-set. In contrast, considering the sequence of actions that are necessary to attain a chosen goal activates an implemental mind-set. Once activated, these mind-sets persist to influence reactions to subsequent activities. For example, participants process mind-set-congruent information more extensively and generate more mind-set-congruent thoughts than mind-set-incongruent thoughts in response to novel stimulus situations (Gollwitzer et al. 1990).

This conceptualization has implications for consumer behavior. Dhar et al. (2007) proposed that consumers approach a purchase situation with a deliberative mind-set. That is, they decide whether or not they want to buy the particular product that they are considering. After making an initial purchase, they acquire an implemental mind-set, and this

mind-set, having been activated, persists. Consequently, stimulating consumers to make an initial purchase increases the likelihood of making a second, unrelated purchase.

Evidence that inducing an implemental mind-set can increase participants' likelihood of making a purchase was also obtained by Chandron and Morwitz (2005). Moreover, this mind-set can be induced either directly (by performing a task that requires thinking about how to attain a goal; see Taylor and Gollwitzer 1995) or indirectly (by engaging in a participative pricing exercise). Lee and Ariely (2006) confirmed the assumption that consumers spontaneously acquire different mind-sets at different stages of a shopping experience and found that promotions have greater effect when consumers are at the initial stage (and thus have a deliberative mind-set) than when they are more clear about their purchase decisions.

In summary, these studies provide evidence that deliberative and implemental mind-sets come into play at different stages of a shopping experience and that once they are induced, they influence purchase decisions. Although our conceptualization is not incompatible with the implications of this research, the mind-set we assume to be operating is somewhat different. We are primarily concerned with the mind-sets that occur in the course of deliberating about a purchase, before a consideration of how to implement the purchase comes into play. In our research paradigm, more than one choice alternative is involved. We distinguish between two steps in the deliberation processes: (a) a decision as to whether or not to buy anything at all and (b) a decision concerning which of several alternatives to buy.

The Present Conceptualization

We assume that the cognitive procedure that governs a mind-set is represented in memory as a sequence of temporally related segments similar to that of a script (Schank and Abelson 1977) or goal schema (Wyer and Srull 1989) and that this representation is called upon and used to guide goal-directed behavior to which it is relevant. The segments of a procedure can often be viewed as subgoals, each of which is a precondition for the attainment of the subgoals that follow it. A mental representation of the procedure for dining at a restaurant, for example, presumably includes entering, ordering, eating, and paying. Each of these subgoals, in turn, may be attained through a sequence of actions that are defined at a higher level of specificity.

Situational conditions that require the attainment of one subgoal in a procedure can often be sufficient to activate the procedure as a whole. However, the subgoals that comprise a procedure are pursued in a specified order. (That is, restaurant customers do not eat their meal before ordering it and do not leave before paying the bill.) Consequently, the activities that are involved in attaining one subgoal are more likely to stimulate thoughts about subgoals that follow it than about those that precede it. The reverse is true only if the outcome of activity directed toward a subgoal is unsatisfactory. (Thus, a person who finds that his meal is taste-

less might think about what he might have ordered instead, or a person who finds the bill to be higher than expected might wish she hadn't eaten so much.)

To see the implications of these processes in the present context, assume for simplicity that consumers in a shopping situation activate and apply a procedure consisting of three general subgoals. The first two occur at the deliberative stage as conceptualized by Gollwitzer et al. (1990), and the third pertains to the implemental stage, specifically, decide whether to buy, decide which to buy, make a purchase.

Shoppers who are confronted with a purchase opportunity and activate this procedure will normally identify the first subgoal in the sequence (deciding whether to buy) and engage in the operations required to attain it. Then, if their decision at this stage is affirmative, they proceed to the next subgoal in the sequence, and so on, until they have attained their primary objective. If, however, their initial decision is negative, the remaining subgoals in the sequence become irrelevant. Consequently, they are likely to stop processing without performing the cognitive activities required to attain them.

However, suppose that consumers are induced to consider the second subgoal in the sequence (deciding which to buy) without having thought about the first one. They will presumably select a routine that is relevant to the attainment of this subgoal and will perform the activities it specifies. In doing so, however, they are unlikely to consider subgoals that precede the one being pursued. In other words, deciding which product to buy may not activate thoughts about whether to buy. Instead, the consumers may implicitly assume that the first subgoal has already been pursued and the resulting decision is affirmative. As a consequence, they are more likely to make a purchase than they would if the first subgoal actually had been pursued. In short, computing a relative preference for one alternative over the others may induce a which-to-buy mind-set that, once activated, is applied without consulting segments that precede it in the purchasing procedure as a whole. As implied by our restaurant example, these earlier segments may be activated only if all choice alternatives are particularly undesirable.

To evaluate these possibilities in our research, participants in one condition were asked to indicate which of two products they would prefer to buy. We assumed that in the course of performing this task, these participants would activate the second subgoal of the shopping procedure described earlier and, therefore, would acquire a which-to-buy mind-set. Participants in a second condition were asked to decide whether they would want to purchase one of a set of products without indicating which alternative they preferred. We assumed that these latter participants would activate the first subgoal of the shopping procedure but would only pursue the remaining subgoals if their decision at the first stage was affirmative and they were motivated to make a final purchase decision in the situation at hand. These considerations suggest the following hypothesis:

H1: Consumers are more disposed to purchase one of two alternative products if they have previ-

ously decided which alternative they prefer than if they have not.

A second hypothesis follows from the assumption that consumers who have tentatively decided to make a purchase at the first stage tend to focus on reasons that support this decision (i.e., positive features of the choice alternatives) rather than reasons for not doing so (negative features). That is, they adopt a promotion focus (Higgins 1997). If this is so, consumers with a which-to-buy mind-set would focus their attention on positive features of the choice alternatives, rather than on negative ones, and consequently should evaluate these alternatives more favorably.

H2: Consumers will evaluate purchase alternatives more favorably if they have previously decided which product they prefer than if they have not.

Finally, if stimulating participants to form a preference for the alternatives induces a which-to-buy mind-set, the effects of this mind-set should theoretically persist to affect behavior in situations that are unrelated to the one in which it is induced. Thus, the following hypothesis is viable:

H3: Consumers who have stated a preference for choice alternatives in one product domain are more willing to make a purchase in other, unrelated product domains than are consumers who have not stated such a preference.

Alternative Conceptualizations

Several alternative theoretical formulations potentially have implications for the phenomena under consideration. Three in particular are worth noting.

Shopping Momentum Effect. The focus of our research and the conceptualization underlying it should be distinguished from the shopping momentum effect identified by Dhar et al. (2007). They showed that making an initial purchase increased the likelihood of making a later purchase in an unrelated domain. However, two features distinguish our research from theirs. First, participants in Dhar et al.'s research were given only one choice alternative and asked to decide whether they wanted to purchase it. Thus, the deliberative stage of processing consisted of only one stage (deciding whether to buy), and the stage we considered in the present research (deciding which to buy) was not relevant. Second, participants in Dhar et al.'s research actually made a purchase and, therefore, were motivated to attain the last (implemental) subgoal of the procedure we assume to underlie purchase decisions. In contrast, participants in the present research were only asked to make a tentative purchase decision (i.e., whether they would want to buy one of the computers). In this case, participants might perform the activities relevant to the first subgoal of the procedure (deciding whether to buy) without being motivated to perform later stages. To this extent, an implemental mind-set was unlikely to be activated. (The implications of this pos-

sibility are discussed in more detail in the context of experiments 3 and 4.)

Cancellation Effects on Choice Behavior. The present research should also be distinguished from the work of Dhar and Nowlis (2004). Using different experimental procedures than we employed in the present research, they found that participants were more willing to purchase a product if they were given three options (to choose product A, to choose product B, or to defer) than if they were given only two options (to choose one of the products or to defer). However, this difference occurred only if the alternatives shared negative features and had unique favorable ones. The authors concluded that the effect of considering which product to buy at the outset on their ultimate likelihood of making a purchase was largely a consequence of cancellation effects that occur when comparing individual features of the products in this condition. (That is, if the products have common negative features, the cancellation of these features leads the choice alternatives to be seen as more favorable, consequently increasing the willingness to purchase one of them; Brunner and Wänke 2006; Dhar and Sherman 1996; Houtson and Sherman 1995; Wang and Wyer 2002.)

Although the comparison processes identified by Dhar and Nowlis (2004) could contribute to the effects implied by hypotheses 1 and 2, the which-to-buy mind-set we postulate should influence decisions over and above the effects of these processes. Thus, the mind-set effect will operate regardless of the commonality of stimulus features. Finally, note that cancellation processes are specific to the set of products that participants are evaluating. In contrast, the effect of inducing a which-to-buy mind-set should generalize to other product judgment situations as well, as implied by hypothesis 3. The research to be reported permitted these possibilities to be evaluated.

Endowment Effects. A third conceptualization is suggested by research on endowment effects (Thaler 1980; Zhang and Fishbach 2005). That is, once people state a preference, the preferred alternative might be seen as part of one's endowment. If this is so, the failure to choose it subsequently might be seen as a loss compared to conditions in which a preference had not been stated. This tendency could account for a greater tendency to buy a product after stating a preference than would otherwise be the case. Note, however, that this conceptualization would not predict an effect of stating a preference in one product domain on the likelihood of making a purchase decision in other, unrelated domains, as implied by hypothesis 3. Thus, support for this hypothesis would argue against this alternative interpretation.

EXPERIMENT 1

Experiment 1 provided preliminary evidence of the effect of inducing a which-to-buy mind-set on purchase decisions. In addition, it determined if the effect occurred over and above the effects assumed by Dhar and Nowlis (2004) to underlie purchase decisions.

Participants received information about two equally attractive products, each described by six features: two positive, two negative, and two neutral. In one condition, participants first decided whether they would want to buy one of the two products or would rather not buy anything at all. Then, after making this decision, they had to consider which of the products they preferred. In a second condition, participants first indicated which of the two products they preferred and then, having done so, indicated whether or not they would want to make a purchase. In all cases, participants evaluated each product separately after making their decisions. According to hypothesis 1, asking participants to state their preference first should induce a which-to-buy mind-set and, therefore, should increase their willingness to make a purchase relative to individuals who are asked whether they wanted to buy something at the outset.

Two additional variables were manipulated. First, to evaluate implications of Dhar and Nowlis's (2004) conceptualization, we constructed choice alternatives that had (a) unique positive and common negative features, (b) unique negative and common positive features, or (c) all unique features. Second, we varied implications of the no-purchase option that participants were given. In previous research (Dhar and Sherman 1996; Dhar and Simonson 2003; Tversky and Shafir 1992), participants were usually told to assume that they could either make a purchase immediately or defer their choice until a later point in time. That is, the decision to forgo making a purchase was revocable. In these circumstances, there is no necessary cost to defer choice, as the original alternatives can be reconsidered if nothing better comes along.

In many purchase situations, however, alternatives become unavailable if customers do not take advantage of a purchase opportunity when they have a chance. In these situations, people are likely to consider their decision more carefully and, therefore, to evaluate each alternative individually on the basis of its common as well as its unique features. To this extent, cancellation effects on purchase decisions and evaluations should be less apparent. If reporting preferences induces a which-to-buy mind-set, however, the effects of this mind-set should affect purchase decisions regardless of whether these decisions are revocable or irrevocable.

Method

Subjects and Design. One hundred twenty-four undergraduates at the Hong Kong University of Science and Technology participated to fulfill a course requirement. They were randomly assigned to the 12 conditions of a 2 (preference-decision order: preference first vs. decision first) \times 2 (the implication of taking the no-purchase option: revocable vs. irrevocable) \times 3 (feature similarity: unique positive/common negative features vs. unique negative/common positive features vs. all unique features) design.

Stimulus Materials. The favorableness and importance of 17 attributes were determined on the basis of pretesting.

Twenty subjects rated each attribute along scales from -5 (not at all favorable) to 5 (very favorable) and from 0 (not at all important) to 10 (very important). Twelve attributes were selected, of which four were favorable ($M = 3.75$) and important ($M = 8.56$), four were unfavorable ($M = -3.96$) and important ($M = 8.59$), and four were relatively neutral ($M = 0.57$) and unimportant ($M = 5.16$). These attributes, shown in the top section of table 1, were divided into two sets of six (two at each level of favorableness) and used to construct two stimulus replications. Each replication consisted of one pair of products with unique positive and common negative features, a second pair with unique negative and common positive features, and a third pair with all unique features. This was done in such a way that pooled over replications. All product features were represented an equal proportion of times in pairs pertaining to each stimulus type.

Thus, for example, consider pairs with unique positive and common negative features. In one replication, computer *A* was described by features labeled P1, N1, and O1, as shown in the bottom half of table 1, and computer *B* was described by the features P2, N1, and O2. In the second replication, computer *A* was described by P2, N2, and O2, and computer *B* was described by P1, N2, and O1. Thus, pooled over the two replications, each of the 12 product features was used twice. Descriptions of pairs with unique negative and common positive features, and pairs whose features were all unique, were constructed in an analogous manner, as shown in the bottom half of table 1. Consequently, each of the 12 features was used the same number of times at each level of product similarity.

Procedure. Participants were informed that we were interested in how people make purchasing decisions on the basis of limited information about the products they consider. Then, in preference-first conditions, they received descriptions of two computers, *A* and *B* (which were presented sequentially on the same page), and indicated which one they would prefer if they had to decide between them. Then, on the next page of the form, participants under revocable decision conditions were told to assume that they could either decide to buy one of the two computers or could postpone their choice until they saw what else was available. They needed to indicate whether they would choose *A*, choose *B*, or defer their choice. In irrevocable decision conditions, they were told to assume that these were the only computers available at a price they could afford and to decide whether they would choose *A*, choose *B*, or buy no computer at all. Finally, all participants evaluated each product separately along a scale from -5 (dislike very much) to 5 (like very much).

In decision-first conditions, participants were asked at the outset to indicate whether they would choose "one of the computers" or not. Then, having done so, they reported their preference for *A* or *B*. Finally, all participants were asked to report their final decision to choose *A*, to choose *B*, or to choose neither (to defer a choice in revocable decision conditions or to buy no computer at all in irrevocable de-

TABLE 1
ATTRIBUTES USED AS BASES FOR CONSTRUCTING
STIMULUS MATERIALS—EXPERIMENT 1

	Favorableness	Importance
A. Favorableness and importance of stimulus features:		
Positive features (P):		
High RAM (P1)	3.93	9.00
Good postpurchase repair service (P1)	3.57	7.86
Stable operation (P2)	3.86	8.93
Two-year warranty with no extra cost (P2)	3.64	8.43
Negative features:		
Insensitive mouse (N1)	-3.93	8.43
Low CPU speed (N1)	-4.21	9.21
Poor sound quality (N2)	-4.00	8.07
Low hard-disk capacity (N2)	-3.71	8.64
Neutral features:		
Recommended by friend (O1)	.57	5.86
Installment payments (O1)	.50	4.07
Sold in a reputable store (O2)	.79	6.00
Keyboard with new design (O2)	.42	4.71
	Replication 1	Replication 2
B. Features used to construct choice alternatives:		
Unique positive/common negative features:		
Computer <i>A</i>	P1, N1, O1	P2, N2, O2
Computer <i>B</i>	P2, N1, O2	P1, N2, O1
Unique negative/common positive features:		
Computer <i>A</i>	P1, N1, O1	P2, N2, O2
Computer <i>B</i>	P1, N2, O2	P2, N1, O1
All unique features:		
Computer <i>A</i>	P1, N1, O1	P2, N1, O2
Computer <i>B</i>	P2, N2, O2	P1, N2, O1

cision conditions), and to evaluate each product separately along a scale from -5 (dislike very much) to 5 (like very much).

Results

Purchase Likelihood. According to hypothesis 1, participants should be more willing to make a purchase if they have previously reported their preferences for the choice alternatives than if they have not. This hypothesis was supported. The top half of table 2 summarizes the proportion of participants who indicated they would make a purchase in each order condition, pooled over three levels of feature similarity. (No effects involving the latter variable were significant, $p > .10$.) Participants were generally more likely to make a purchase if they had stated their preference at the outset than if they had decided whether to buy at the outset (.47 vs. .17, Wald $\chi^2 = 10.59$, $p < .01$). (Wald chi-squares reported in this article were analyzed by employing Catmod procedure in SAS.) This difference did not depend on whether the choice alternatives had positive, negative, or no features in common ($p > .10$). However, the effect of reporting preferences had a greater effect when the decision

TABLE 2

LIKELIHOOD OF DECIDING TO PURCHASE AND PRODUCT EVALUATIONS AS A FUNCTION OF PREFERENCE-DECISION ORDER AND DECISION REVOCABILITY—EXPERIMENT 1

	Preference first	Decision first
Likelihood of deciding to make a purchase:		
Revocable decision	.23	.12
Irrevocable decision	.70	.21
Evaluations:		
Revocable decision	.25	.39
Irrevocable decision	.40	-.78

was irrevocable (.70 vs. .21) than when it was not (.23 vs. .12). Although the difference in these effects was not significant ($p > .10$), it is worth noting in light of other results to be reported.

Product Evaluations. According to hypothesis 2, participants should evaluate choice alternatives more favorably under preference-first conditions than under decision-first conditions. Data bearing on this hypothesis are shown in the bottom half of table 2. Participants' overall evaluations of the products (averaged over the two alternatives) were more favorable under preference-first conditions ($M = 0.33$) than under decision-first conditions ($M = -0.19$) as hypothesized, $F_{dir}(1, 112) = 2.51, p < .06$.¹ Moreover, the magnitude of this effect, like the corresponding effect of preference-decision order on purchase likelihood, did not depend significantly ($p > .10$) on whether the choice alternatives had unique positive (and common negative) features (0.82 vs. 0.29), unique negative (and common positive) features (0.20 vs. -0.25), or all unique features (-0.05 vs. -0.63; $p > .10$). However, the interaction of preference-decision order and choice revocability was significant ($F(1, 112) = 4.12, p < .05$) and is attributable to the fact that the effect of stating preferences on product evaluations, like its effect on purchase likelihood, was greater when the decision to buy was irrevocable (0.40 vs. -0.78, $F(1, 112) = 6.56, p < .05$) than when it was revocable (0.25 vs. 0.39, $p > .10$).²

¹Here and elsewhere, predicted effects were evaluated on the basis of a directional F -test (F_{dir}). These tests, which involve a comparison of half of the cells of the design with the mean of the other half, are equivalent to a one-tailed t -test, where $F = t^2$ (for further discussion, see Keppel [1991, 122–23]).

²Evaluations under revocable-decision conditions were more favorable when the choice alternatives had unique positive (and common negative) features ($M = 1.48$) than when they had unique negative (and common positive) features ($M = 0.03, F(1, 112) = 6.70, p < .05$), and this was true under both preference-first conditions (1.55 vs. -0.25) and decision-first conditions (1.41 vs. 0.30). However, evaluations when the decision was irrevocable did not appreciably depend on feature similarity ($p > .10$), and this was also true regardless of whether preferences or decisions were reported first. The interaction of feature similarity (unique positive vs. unique negative) and choice revocability was significant, $F(1, 112) = 4.75, p < .05$.

Supplementary Data. To summarize, both purchase decisions and evaluations were greater under preference-first than under decision-first conditions when the decision not to buy was irrevocable, as we hypothesized. When the decision not to buy was revocable, however, inducing a which-to-buy mind-set had relatively little impact. However, the likelihood of deciding to make a purchase under revocable choice conditions was generally very low (.23 vs. .12 under preference-first and decision-first conditions, respectively; see table 2). This suggests that when choice alternatives were relatively unattractive, participants were generally reluctant to make a purchase if a decision could be deferred.

If this is so, however, making the choice alternatives more attractive should increase the overall likelihood of making a purchase and should make the effects of a which-to-buy mind-set more apparent. To examine this possibility, we constructed a partial replication of the study under revocable decision conditions in which the negative features “low CPU speed” and “poor sound quality” (see table 1) were replaced by the less negative attributes “little software included” and “energy consuming.” This follow-up experiment was done under conditions in which all features were unique, thus providing the strongest test of our mind-set conceptualization. Eighty-nine additional participants were assigned randomly to either preference-first or decision-first conditions. As expected, the overall purchase likelihood increased from 19% in the main experiment (revocable/all-unique conditions) to 47% in the present follow-up study, confirming the assumption that purchase likelihood would be greater when the product attributes were more favorable. Furthermore, their likelihood of making a purchase was greater when they had reported preferences at the outset (.60) than when they had not (.34). This difference, which was reliable (Wald $\chi^2 = 5.85, p < .05$), contrasts with the difference obtained in the main experiment under all unique conditions (.20 vs. .18). Moreover, it is similar in magnitude to the difference observed under irrevocable choice conditions of the main experiment when features of the alternatives were all unique (.64 vs. .30). Thus, the difference strengthens our assumption that the effect of a which-to-buy mind-set generalizes over revocable and irrevocable choice conditions.

Discussion

The results of this experiment confirm both hypothesis 1 and hypothesis 2. Therefore, they provide indirect support for the assumption that reporting preferences induces a which-to-buy mind-set that increases both the willingness to make a purchase and evaluations of the choice alternatives. The effect of preference-decision order on both purchase likelihood and product evaluations was somewhat greater in the main experiment when the choice was irrevocable. As we noted, however, this difference is at least partially attributable to the fact that the choice alternatives employed in the main experiment were rather unfavorable. It seems reasonable to conclude that although reporting preferences at the outset produces a general increase in the will-

ingness to make a purchase, the effect may be greater when the choice alternatives are relatively favorable.

Furthermore, the effect of the mind-set did not depend on the similarity of the features of the choice alternatives. This indicates that the effects of mind-set occurred over and above the effects that Dhar and Nowlis (2004) postulated. (In Dhar and Nowlis's research, the opportunity to defer making a choice was provided at the outset along with the options "choose A" and "choose B." Under preference-first conditions of the present study, participants were only asked to state a preference at the outset and were not asked to make a purchase decision until later.)

Although the results of experiment 1 are consistent with our assumption that a which-to-buy mind-set underlies the effects of stating preferences on purchase likelihood, more direct evidence of such a mind-set is necessary. The next two studies provided this evidence, showing that which-to-buy mind-set developed in one situation can persist and influence thoughts or decisions in subsequent, unrelated situations.

EXPERIMENT 2

Both Gollwitzer et al. (1990) and Dhar et al. (2007) found a carryover effect of mind-sets. Correspondingly, we expected that if reporting preferences induces a which-to-buy mind-set, this mind-set should carry over to other situations to which the mind-set is potentially relevant. In particular, the effect of a which-to-buy mind-set, if activated in one domain, should influence participants' willingness to make a purchase in domains that are unrelated to the one in which the mind-set is induced. Experiment 2 provided support for this possibility.

Participants were instructed either to state their preferences for one product (without making purchasing decisions) or to decide whether to make a purchase at the outset (without stating preferences). Then, they were exposed to a second decision task involving the choice of two vacation packages. If reporting preferences about computers induces a which-to-buy mind-set, and if this mind-set remains activated when participants consider the vacation tasks, it should increase the willingness to choose a vacation package.

Method

One hundred MBA students at Shanghai University of Finance and Economics participated as part of a classroom exercise. Participants were asked to consider two computers (*A* and *B*) whose features were all unique. After reviewing the product descriptions, participants in decision-only conditions indicated whether they would want to choose one of the computers (either *A* or *B*) or defer making a choice. Participants in preference-only conditions stated their preference for the computers. Unlike previous experiments, however, evaluations of the computers were not assessed. (This was done to avoid possible contamination by factors other than the initial instructional manipulations.)

Participants then considered a second choice situation in-

volving two equally attractive vacation packages. The descriptions used in the second task were based on materials used in earlier research (e.g., Dhar and Sherman 1996; Houston and Sherman 1995). Specifically, descriptions were constructed from a pool of six positive features (beautiful scenery, plenty of nightspots, etc.) and six negative features (expensive, crowded, etc.). Pairs of alternatives (*A* and *B*), each described by a unique set of three positive and three negative features, were constructed in a manner analogous to those used to construct the computer descriptions. Participants read the two descriptions and then indicated whether they would want to choose vacation package *A*, to choose package *B*, or to defer making a choice.

Results and Discussion

We expected that participants would be more likely to choose a specific vacation package if they had stated their preference for the computers they considered in domain 1 than if they had considered whether to make a purchase in the first domain. This was the case. Specifically, 68% of the 47 participants in preference-only conditions chose one of the two vacation packages in domain 2, whereas only 42% of the 53 participants in decision-only conditions did so (Wald $\chi^2 = 6.90$, $p < .01$).

Our results are also consistent with our conjecture concerning the conditions that underlie shopping momentum (Dhar et al. 2007). If making a tentative decision to purchase were sufficient to induce the implemental mind-set that leads to shopping momentum, participants in decision-only conditions should be more likely to choose a vacation package in domain 2 if they had reported being willing to purchase one of the computers in domain 1 than if they had decided to defer making a choice. In fact, however, they were equally likely to choose a vacation package in the former case (.42, $N = 19$) than in the latter (.41, $N = 34$). Thus, simply making an affirmative decision in the first step of deliberation was not sufficient to activate the implemental mind-set that underlies shopping momentum. Experiment 3 examined this possibility further.

EXPERIMENT 3

The development of a which-to-buy mind-set is obviously not the only determinant of purchase decisions. Other factors (cost, the similarity of the alternatives to a product one already owns, or the inherent unattractiveness of the alternatives available; see experiment 1) may often lead individuals to forgo a purchase even if a which-to-buy mind-set has been activated. The question arises as to whether the effect of the mind-set induced by reporting preferences would persist in these conditions. To examine this possibility, experiment 2 was replicated with one modification. That is, participants who reported their preferences in the first domain (computers) were asked after doing so to indicate their final purchase decision. These participants should be generally more inclined to make a purchase than participants in decision-only conditions. If the mind-set ac-

tivated by reporting preferences in this domain generalizes to other domains, these participants should also be more inclined to make a purchase in domain 2 (vacation packages) independent of the purchase decision they made in the first domain. If the decision to forgo a purchase in the first domain breaks the mind-set that was formed in the course of reporting preferences, however, this generalization should occur only among participants who make a purchase in the first domain and should not be evident among participants who decline to do so.

Method

Subjects and Design. Fifty-six undergraduate students at Hong Kong University of Science and Technology were paid HKD\$40 to participate. The materials and procedure were similar to those employed in experiment 2. However, both feature similarity and choice conditions were manipulated. Thus, the conditions of task 1 varied over cells of a 2 (preference first vs. decision only) \times 3 (feature similarity: unique positive/common negative vs. unique negative/common positive vs. all unique) design.

Procedure. Product descriptions for the first decision task were constructed from the same materials employed in experiment 2 but varied over conditions to provide three levels of feature similarity similar to those shown in the bottom half of table 1. Subjects in preference-first conditions were asked after reading the product descriptions to indicate which computer they preferred. Then, they made a purchase decision by checking one of three options: choose *A*, choose *B*, and defer choice. In contrast, participants in decision-only conditions were first asked to decide if they wanted to purchase "one of the alternatives" (without indicating which one) or to defer a choice. Then, all subjects estimated how much they liked each of the computers by circling a number along a scale from -5 (dislike very much) to 5 (like very much).

All participants then proceeded to the second decision task. In this case, they considered two vacation packages (also denoted *A* and *B*), based on the same sets of features used in experiment 2. The feature similarity of the vacation packages that participants considered was in all cases the same as that of the computers they had judged earlier. (For example, if the two computers had unique positive and common negative features in the first task, the two alternative vacation packages also had unique positive and common negative features.) After reading the descriptions, they reported whether they wanted to choose *A*, choose *B*, or defer their choice.

Results

Decisions and Judgments, Domain 1. Participants were more likely to make a purchase in preference-first conditions (.54) than in decision-only conditions (.25), Wald $\chi^2 = 4.63$, $p < .05$, consistent with hypothesis 1 and the results of experiment 1. However, neither the main effect

of feature similarity nor its interaction with instructional conditions was reliable ($p > .10$).

Participants' evaluations of the two computers showed a similar pattern. That is, participants generally evaluated the computers more favorably when they had reported preferences first ($M = 0.63$) than when they had decided whether to buy one of them at the outset ($M = -0.27$), $F_{dir}(1, 50) = 2.88$, $p < .05$. However, neither the effect of feature similarity nor its interaction with instructional conditions was reliable ($p > .10$).

Purchase Decisions, Domain 2. If the activation of a which-to-buy mind-set in the course of stating preferences in domain 1 persists independent of the decision to make a purchase in this domain, this should be reflected in a greater disposition to purchase a vacation package under preference-first than under decision-only conditions, regardless of previous decisions about computers. If, however, deciding not to make a purchase breaks the mind-set that is induced by reporting preferences, this generalization should be evident only among participants who reported an inclination to buy a computer in domain 1 rather than deferring. Results support the latter possibility.

The overall likelihood of choosing a vacation package in domain 2 was greater if participants had reported preferences in domain 1 (.56, pooled over the three levels of feature similarity) than if they had not (.39), but this difference was not significant ($p > .10$). In fact, however, this difference was pronounced among participants who had decided to make a purchase in domain 1 (.80 vs. .29, Wald $\chi^2 = 4.75$, $p < .05$) but was negligible among participants who had decided not to purchase in the first domain (.31 vs. .48, $p > .10$). The interaction of domain 1 decision and instructional conditions (preference first vs. decision only) was significant (Wald $\chi^2 = 5.46$, $p < .05$). These effects were independent of feature similarity, which had no impact at all on purchase decisions in this study ($p > .10$).

These data may also bear on the effect of shopping momentum. When participants had not reported preferences in domain 1, their inclination to make a purchase in domain 2 did not depend on whether they had decided to make a purchase in domain 1 or not (.29 vs. .48, respectively; $p > .10$). When they had reported preferences in domain 1, however, they were substantially more inclined to make a purchase in the second domain if they had decided to make a purchase in the first domain than if they had not (.80 vs. .31, Wald $\chi^2 = 6.21$, $p < .05$). This suggests that reporting preferences along with making a purchase decision was sufficient to activate an implemental mind-set that underlies shopping momentum even in the absence of making an actual purchase.

EXPERIMENT 4

The first three experiments are quite consistent with the assumption that stating preferences before making a purchase decision induces a which-to-buy mind-set that, once activated, increases the willingness to make a purchase in

both the present product domain and other unrelated domains. In these studies, however, purchasing behavior was inferred from participants' responses to hypothetical scenarios. To ensure the relevance of our findings to shopping behavior outside the laboratory, it is necessary to show that inducing a which-to-buy mind-set would influence actual purchasing behavior. Experiment 4 provided this evidence. In addition, it increased confidence in the generalizability of our findings by using a more direct induction of mind-set than that employed in other experiments.

Method

Sixty undergraduates at Hong Kong University of Science and Technology participated, in groups of 9–10 each. The study was conducted at the end of a 1-hour experimental session in which a number of studies unrelated to purchasing behavior were performed. Participant groups were randomly assigned to one of two conditions. Participants in mind-set conditions were instructed that we wanted to pretest some materials to be used in another experiment concerning consumer preferences. On this pretense, they read descriptions of five pairs of products or services (vacation packages, elective courses, mobile phones, restaurants, and MP3 players), each described by 4–5 attributes, and indicated the item in each pair that they would prefer. Control participants did not complete this task.

The experimenter then announced that the experimental session was over. She went on to indicate that some Kit Kat chocolate bars and packages of M&Ms were left over from a previous experiment on food tasting, that the unused items (each costing approximately US\$1.30) were for sale at half price, and that they could purchase one upon leaving the experiment if they wished. The experimenter then presented a food container filled with both types of candies and asked participants individually if they wanted to purchase one of them. Participants who chose a candy paid about US\$0.65.

Results

Eight of the 29 participants in mind-set conditions (28%) purchased one package of chocolates. However, only two of 31 participants in control conditions (6%) did so. The difference between these proportions was significant (Wald $\chi^2 = 4.13$, $p < .05$).

GENERAL DISCUSSION

Stimulating consumers to purchase a product of one type can often increase their likelihood of purchasing a different type of product later (Dhar et al. 2007). However, simply asking consumers which of two products they would prefer can have a similar impact. Stating a preference appears to induce a which-to-buy mind-set, leading people to think about which of several products they would like to buy under the implicit assumption that they have already decided to buy one of them. Consequently, they are more disposed to make a purchase than they otherwise would be.

Four studies provided converging support for this conclusion and the assumptions underlying it. Experiment 1 confirmed the hypotheses that people are more inclined to purchase one of two products if they have previously considered which alternative they prefer than if they have not. They also evaluate the alternatives more favorably in the former case. Experiment 2 showed that inducing participants to state a preference for alternatives in one product domain increased their disposition to make a purchase in a subsequent, unrelated domain. Experiment 3 qualified these conditions, showing that the which-to-buy mind-set induced by reporting preferences does not generalize over domains if participants have decided to forgo making a purchase in the first domain and have broken the mind-set. Finally, experiment 4 demonstrated that asking participants which option they would prefer in a series of hypothetical choice situations increased the likelihood of actually purchasing a candy from the experimenter upon leaving the study.

To account for these effects, we assumed that consumers have a general shopping procedure or script (Schank and Abelson 1977) stored in memory, which is composed of a series of subgoals (deciding whether to buy, deciding which product to buy, etc.). They are likely to retrieve and use this procedure as a guide in making purchase decisions in both laboratory and nonlaboratory situations. The subgoals that comprise a procedure are typically activated and applied in sequence, and the attainment of one subgoal is more likely to activate subgoals that follow it than those that precede it. Therefore, people who are asked to indicate which of several products they prefer without thinking about whether they want to make a purchase at all are likely to proceed as if the "whether" decision has already been made affirmatively. This increases their disposition to make a purchase relative to conditions in which whether to buy is explicitly considered at the outset.

Note, however, that this procedure assumes that people have the opportunity to choose among two or more alternatives. When people have only one option, the second, which-to-buy state of the procedure does not come into play, and individuals are likely to move on immediately to the next, implemental stage. The conditions that lead to shopping momentum (Dhar et al. 2007) should be considered in this context. In Dhar et al.'s research, participants were given an opportunity to purchase a single product and either decided to purchase it or not. In their studies, therefore, a decision to buy was sufficient to complete the deliberative stage of processing and consequently was likely to activate the second, implemental stage, inducing the mind-set that presumably underlies shopping momentum. When two or more alternatives are available, however, an initial decision to make a purchase does not complete the deliberate stage of processing in the absence of a decision about which alternative to buy. In this case, therefore, it may not spontaneously activate an implemental mind-set, and shopping momentum may not occur, as the results of experiment 2 suggest. However, both a decision to buy and a decision of which alternative to buy may be necessary to activate the

implemental mind-set. Consequently, when participants in experiment 3 were induced to report preferences for the choice alternatives in domain 1 as well as deciding whether to make a purchase, the decision they made did carry over to the second domain they considered. This suggests the possibility that if participants perform both activities necessary for completion of the deliberative stage of processing, it may be sufficient to activate the implemental stage (and thus to induce an implemental mind-set) even in the absence of making an actual purchase.

The results of experiment 4 raise additional possibilities. That is, decisions to make a purchase in this study were increased by inducing participants to state their preferences for choice alternatives that had nothing to do with making a purchase per se. This suggests that the process of stating preferences per se, in the absence of any thoughts about making a purchase, may be sufficient to induce a more general "comparative judgment" mind-set that carries over to purchase situations that people encounter later. Indeed, it is interesting to speculate that the process of making comparative judgments in general, regardless of the attribute being compared, could have similar effects. Further investigations of the diversity of comparative judgment experiences that can influence purchase decisions may be worth contemplating.

As we have noted, however, a which-to-buy mind-set is obviously not the only determinant of purchasing decisions, and several factors can offset its impact. For one thing, consumers undoubtedly have a threshold of acceptability for the products they purchase, and if the choice alternatives fall below the threshold, they are unlikely to make a purchase, regardless of other considerations. Thus, in experiment 1, where the choice alternatives were apparently not very favorable, purchase likelihood was generally low, and the effects of reporting preferences was small. When the choice alternatives have more favorable attributes, the effect of reporting preferences is more evident, as in the subsequent studies we reported. These possibilities raise a general question concerning the persistence of the mind-set over time. Although the mind-set may generalize to choice situations that one encounters shortly after it is induced, its effects may be relatively transitory (for evidence that the accessibility and use of cognitive procedures are of short duration, see Schwarz and Wyer [1985]). Limitations on the duration of a mind-set need to be clarified in future research.

An additional consideration in evaluating the generalizability of our findings is that participants in our studies were explicitly asked to state their preferences before making purchase decisions. Factors that lead people to form preferences spontaneously, in the absence of experimental demands, should be identified. The ease of comparing choice alternatives, or salience of comparable attributes, might be among these factors (Huber, Payne, and Puto 1982; Park and Kim 2005).

We found limited evidence that the results we reported were mediated by cancellation effects of the sort identified by Dhar and Nowlis (2004). Cancellation effects on evaluations of choice alternatives have been frequently found

in other research in which the alternatives had common features and participants were asked to make a comparison of the alternatives before evaluating them. The failure to find consistent effects of cancellation in the present research may be attributable to procedural differences, as noted earlier. Note that when cancellation effects did occur (i.e., in experiment 1; see n. 2), they were restricted to product evaluations and were not reflected in purchase likelihood. This suggests that at least in our research, the processes that stimulated participants to disregard common features of the choice alternatives occurred at the time the individual products were evaluated rather than at an earlier, decision stage.

The possible implications of our results for purchasing behavior outside the laboratory are worth noting. For example, salespersons may increase the likelihood of making a sale by inducing customers to consider which of several products they prefer while at the same time distracting them from making a decision of whether they really want to buy anything at all. Also, shoppers with an a priori need for a particular type of product might spend time deciding which of several alternatives they will prefer to purchase. Having done so, however, they might unexpectedly encounter an attractive line of products that they had not anticipated purchasing. They might be more likely to make a purchase in this second domain than they might if they had not had this initial experience. Caution should obviously be taken in generalizing from choice behavior in hypothetical laboratory situations to actual purchase situations in which motivation is higher and the cost of the products is a consideration. Nevertheless, these and other implications of our findings may be worth examining.

REFERENCES

- Briley, Donnel A. and Robert S. Wyer Jr. (2002), "The Effect of Group Membership Salience on the Avoidance of Negative Outcomes: Implications for Social and Consumer Decisions," *Journal of Consumer Research*, 29 (3), 400–415.
- Brunner, Thomas A. and Michaela Wänke (2006), "The Reduced and Enhanced Impact of Shared Features on Individual Brand Evaluations," *Journal of Consumer Psychology*, 16 (2), 101–111.
- Carlston, Donal E. (1980), "Events, Inferences and Impression Formation," in *Person Memory: The Cognitive Basis of Social Perception*, ed. Reid Hastie et al., Hillsdale, NJ: Erlbaum, 89–119.
- Chandran, Sucharita and Vicki G. Morwitz (2005), "Effects of Participative Pricing on Consumers' Cognitions and Actions: A Goal Theoretic Perspective," *Journal of Consumer Research*, 32 (2), 249–59.
- Dhar, Ravi, Joel Huber, and Uzma Khan (2007), "The Shopping Momentum Effect," *Journal of Marketing Research* 44 (3), forthcoming.
- Dhar, Ravi and Stephen M. Nowlis (2004), "To Buy or Not to Buy: Response Mode Effects on Consumer Choice," *Journal of Marketing Research*, 41 (4), 423–32.
- Dhar, Ravi and Steven J. Sherman (1996), "The Effect of Common and Unique Features in Consumer Choice," *Journal of Consumer Research*, 23 (3), 193–203.
- Dhar, Ravi and Itamar Simonson (2003), "The Effect of Forced

- Choice on Choice," *Journal of Marketing Research*, 40 (2), 146–60.
- Förster, Jens and Nira Liberman (2007), "Knowledge Activation," in *Social Psychology: Handbook of Basic Principles*, 2nd ed., ed. Arie W. Kruglanski and E. Tory Higgins, New York: Guilford, 201–31.
- Gollwitzer, Peter M. and Ute Bayer (1999), "Deliberative versus Implemental Mindsets in the Control of Action," in *Dual-Process Theories in Social Psychology*, ed. Shelly Chaiken and Yaacov Trope, New York: Guilford, 403–22.
- Gollwitzer, Peter M., Heinz Heckhausen, and Birgit Steller (1990), "Deliberative and Implemental Mind-Sets: Cognitive Tuning toward Congruous Thoughts and Information," *Journal of Personality and Social Psychology*, 59 (6), 1119–27.
- Higgins, E. Tory (1996), "Knowledge Activation: Accessibility, Applicability, and Salience," in *Social Psychology: Handbook of Basic Principles*, ed. E. Tory Higgins and Arie W. Kruglanski, New York: Guilford, 133–68.
- (1997), "Beyond Pleasure and Pain," *American Psychologist*, 52 (12), 1280–1300.
- Houston, David A. and Steven J. Sherman (1995), "Cancellation and Focus: The Role of Shared and Unique Features in the Choice Process," *Journal of Experimental Social Psychology*, 31 (4), 357–78.
- Huber, Joel, John W. Payne, and Christopher Puto (1982), "Adding Asymmetrically Dominated Alternatives: Violations of Regularity and the Similarity Hypothesis," *Journal of Consumer Research*, 9 (1), 90–98.
- Keppel, Geoffrey (1991), *Design and Analysis: A Researcher's Handbook*, Englewood Cliffs, NJ: Prentice-Hall.
- Lee, Leonard and Dan Ariely (2006), "Shopping Goals, Goal Concreteness and Conditional Promotions," *Journal of Consumer Research*, 33 (1), 60–70.
- Luchins, Abraham S. (1942), *Mechanization in Problem Solving*, Psychological Monographs no. 248, vol. 54, 6.
- Luchins, Abraham S. and Edith Hirsch Luchins (1959), *Rigidity of Behavior: A Variational Approach to the Effect of Einstellung*, Eugene: University of Oregon Press.
- Park, Jongwon and Jungkeum Kim (2005), "The Effects of Decoys on Preference Shifts: The Role of Attractiveness and Providing Justification," *Journal of Consumer Psychology*, 15 (2), 94–107.
- Schank, Roger C. and Robert P. Abelson (1977), *Scripts, Plans, Goals and Understanding*, Hillsdale, NJ: Erlbaum.
- Schwarz, Norbert and Robert S. Wyer Jr. (1985), "Effects of Rank Ordering Stimuli on Magnitude Ratings of These and Other Stimuli," *Journal of Experimental Social Psychology*, 21 (1), 30–46.
- Sherman, Steven J., Karin Ahlm, Leonard Berman, and Steven J. Lynn (1978), "Contrast Effects and Their Relationship to Subsequent Behavior," *Journal of Experimental Social Psychology*, 14 (4), 340–50.
- Smith, Eliot R. (1990), "Content and Process Specificity in the Effects of Prior Experiences," in *Advances in Social Cognition*, Vol. 3, ed. Thomas K. Srull and Robert S. Wyer Jr., Hillsdale, NJ: Erlbaum, 1–59.
- (1994), "Procedural Knowledge and Processing Strategies in Social Cognition," in *Handbook of Social Cognition*, 2nd ed., Vol. 1, ed. Robert S. Wyer Jr. and Thomas K. Srull, Hillsdale, NJ: Erlbaum, 101–51.
- Taylor, Shelley E. and Peter M. Gollwitzer (1995), "Effects of Mindset on Positive Illusions," *Journal of Personality and Social Psychology*, 69 (2), 213–26.
- Thaler, Richard H. (1980), "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behavior and Organization*, 1 (1), 39–60.
- Tversky Amos and Eldar Shafir (1992), "Choice under Conflict: The Dynamics and Deferred Choice," *Psychological Science*, 3 (6), 358–61.
- Wang, Jing and Robert S. Wyer Jr. (2002), "Comparative Judgment Processes: The Effects of Task Objectives and Time Delay on Product Evaluations," *Journal of Consumer Psychology*, 12 (4), 327–40.
- Wyer, Robert S., Jr. (forthcoming), "The Role of Knowledge Accessibility in Cognition and Behavior: Implications for Consumer Information Processing," in *Handbook of Consumer Research*, ed. Curtis Haugtvedt, Frank Kardes, and Paul Herr, Mahwah, NJ: Erlbaum.
- Wyer, Robert S., Jr. and Thomas K. Srull (1989), *Memory and Cognition in Its Social Context*, Hillsdale, NJ: Erlbaum.
- Zhang, Ying and Ayelet Fishbach (2005), "The Role of Anticipated Emotions in the Endowment Effect," *Journal of Consumer Psychology*, 15 (4), 316–24.