Applying Social Cognition to Consumer-Focused Strategy

Edited by
Frank R. Kardes • Paul M. Herr • Jacques Nantel

APPLYING SOCIAL COGNITION TO CONSUMER-FOCUSED STRATEGY

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LAWRENCE ERLBAUM ASSOCIATES, PUBLISHERS
2005 Mahwah, New Jersey London

Lawrence Erlbaum Associates, Inc., Publishers
10 Industrial Avenue
Mahwah, New Jersey 07430
www.erlbaum.com

Cover design by Kathryn Houghtaling Lacey

Library of Congress Cataloging-in-Publication Data

Applying social cognition to consumer-focused strategy / edited by Frank R. Kardes, Paul M. Herr, Jacques Nantel.
p. cm.
"Contains edited versions of papers presented at the 23rd annual Advertising and Consumer Psychology Conference, which was held on May 21–23, 2004"—Pref.
Includes bibliographical references and index.
ISBN 0-8058-5520-3 (alk. paper)
1. Consumer behavior. 2. Marketing—Psychological aspects. 3. Advertising—Psychological aspects. 4. Cognition—Social aspects. I. Kardes, Frank R. II. Herr, Paul, 1956– III. Nantel, Jacques. IV. Conference on Advertising and Consumer Psychology (23rd : 2004 : Montréal, Québec)
HF5415.32.A67 2005
658.8′342—dc22 2004065024
CIP

Books published by Lawrence Erlbaum Associates are printed on acid-free paper, and their bindings are chosen for strength and durability.

Printed in the United States of America
10 9 8 7 6 5 4 3 2 1

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Preface

The field of social cognition has made many innovative and important contributions to advertising and consumer psychology—including models of persuasion, the attitude–behavior relation, judgment and inference, cognitive representation, decision making, and many other important topics. This volume focuses on the most important recent developments at the interface of social cognition and marketing, and the contributors were encouraged to develop integrative theoretical frameworks with rich practical implications. Because most leading academic journals in psychology and in marketing discourage integrative theorizing and detailed discussion of the practical implications of one's research, this volume provides a unique outlet for this type of work. More specifically, the chapters in this volume offer a novel and thought-provoking perspective on consumer-focused strategy—or the effects of marketing stimuli and activities (e.g., promotion and advertising, branding strategies, product-line management, online and bricks-and-mortar retailing strategies) on an integrated system of consumer processes and responses (e.g., consumer information processing, judgment, inference, and decision making).

This volume contains edited versions of papers presented at the 23rd Annual Advertising and Consumer Psychology Conference, which was held on May 21–23, 2004, in Montreal, Canada. The conference was co-sponsored by the Society for Consumer Psychology, HEC Montreal, the RBC Financial Group Chair of E-Commerce (held by Jacques Nantel), and Allard Johnson Communications. The conference was co-chaired by Frank R. Kardes, Paul M. Herr, and Jacques Nantel, and we wish to thank our sponsors for their generous support. In our opin-

ion, the papers presented at the conference were novel, important, and intellectually stimulating, and it is a pleasure to share these ideas with others through this edited volume.

The conference opened with an invited keynote address by Professor Robert S. Wyer, Jr., one of the founding fathers of the field of social cognition. Professor Wyer has held faculty positions in psychology and in marketing departments, and is, therefore, in a unique position to encourage and guide integrative theorizing that spans across the fields of psychology and marketing. He is the most prolific author in the history of the prestigious *Journal of Personality and Social Psychology* (50 articles), and is the recipient of the Ostrom Award and the Alexander von Humboldt Special Research Prize for Distinguished Scientists. The field of consumer psychology is also indebted to Professor Wyer for his distinguished service as the current Editor of our flagship journal, the *Journal of Consumer Psychology*. Professor Wyer's keynote address is presented in Chapter 1. This remarkable chapter develops a new theory of consumer information processing that integrates social cognition and behavioral decision research.

The book is organized in four subsections with an invited chapter leading each subsection. Wyer's chapter leads the first subsection on new perspectives on consumer information processing. This section also includes chapters by Posavac et al. on selective or one-sided information processing, and Silvera and Laufer on attribution theory.

The subsection on new perspectives on consumer information processing and research methods is led by a chapter by Machin and Fitzsimons on how asking questions in focus groups, surveys, and experiments leads consumers to create opinions that would not have occurred to them otherwise (i.e., in the absence of questioning). These opinions then take on a life of their own and influence other related judgments and responses. Chandrashekaran et al. advance a new approach for modeling uncertainty and a new framework for thinking about uncertainty. Tietje and Brunel summarize recent developments concerning the Implicit Association Test and their implications for branding strategy. March and Woodside develop a new approach for analyzing the effects of intention on behavior and for analyzing unplanned purchase behaviors.

Markman and Brendl's chapter on the devaluation effect, or the tendency to devalue objects unrelated to focal goals, leads the subsection on new perspectives on motivation and consumer information processing. This chapter and the following chapter by Chun and Kruglanski builds on Kruglanski's theory of goal systems. Kardes et al. show how implementation intentions can be used to increase new product consumption, and Florack et al. show how promotion versus prevention regulatory focus influences consumer preferences.

The final subsection focuses on consumer information processing and persuasion and is led by a remarkable chapter by Strahan, Spencer, and Zanna on how subliminal priming procedures enhance persuasion when primed goals match currently accessible goals. Dimofte and Yalch demonstrate that advertising can be ef-

fective even when consumers do not believe advertised claims. Mazzocco et al. review evidence demonstrating that advertising can be effective even when consumers are unable to remember critical details conveyed in advertised messages. Goodstein et al. show that negative comparative advertising can backfire initially but can have more desirable consequences later as time passes (similar to the sleeper effect). Yoon and Vargas show how counterfactual reasoning can alter the way consumers interpret prices, and Eighmey and Siu show how dual-process models, the theory of reasoned action, media priming, and consideration set processes shape decisions to join the military in the wake of September 11, 2001. Finally, Herr et al. provide a brief summary of the chapters presented in this volume and offer some suggestions for future research.

As the reader can infer from the complexity of the topics listed, this volume is intended for advanced graduate students, academics, and practitioners who embrace cutting-edge paradigms and methodologies in social-cognitive consumer research. Like the other volumes in the Lawrence Erlbaum Associates' series on Advertising and Consumer Psychology, this volume is unique because it targets highly knowledgeable readers and most publishers are unwilling to pursue this relatively small market segment. We thank Lawrence Erlbaum and Associates for their boldness and their willingness to serve this small but important segment.

Together, we believe these chapters significantly advance our understanding of consumer information processing and consumer-focused strategy. We hope that readers will build on this work in their own research or apply this work to their own marketing programs. *Nous espérons que le lecteur de ce recueil sera tout aussi stimulé et intéressé que nous l'avons nous-même été lors de la conférence*. We hope you find the chapters as interesting as we found them to be.

—Frank R. Kardes
—Paul M. Herr
—Jacques Nantel

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I. NEW PERSPECTIVES ON CONSUMER INFORMATION PROCESSING

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CHAPTER ONE

The Role of Information Processing in Single-Alternative and Multiple-Alternative Judgments and Decisions

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Consumers make two types of decisions. On one hand, they decide if they want to make any purchase at all. For example, they may ponder whether to buy a new car, a color television, or go on a trip over the winter holidays. Or, they may encounter a particular piece of jewelry, an antique, or a new restaurant, and decide either to purchase it or try it out, or not. These *single-alternative* decisions are often mediated in part by the perception of whether the inherent desirability of the decision referent is sufficient to outweigh the cost or effort required to obtain it (cf. Dodds, Monroe, & Gruwal, 1991). A second, *multiple-alternative* decision is comparative. That is, people are confronted with several viable alternatives and must decide which of the options they prefer. These options can also be either general (e.g., whether to spend money on a new car or a vacation trip) or specific (e.g., whether to buy a Honda or a Toyota, or to vacation in either San Francisco or Hawaii).

The two types of decisions are obviously related. That is, a decision about which of several alternatives to buy is often preceded by a decision about whether to purchase anything at all. Furthermore, the set of alternatives from which one makes a selection is likely to be based on a prior determination that each alternative, if considered separately, is above some minimal threshold of acceptability (Kardes, Kalyanaram, Chandrashekaran, & Dornoff, 1993; Nedungadi, 1990). Finally, the causal relatedness of the two types of decisions may often be in the opposite direction. That is, a decision not to purchase anything can often result from an inability to decide which of a number of available alternatives is preferable (Dhar, 1997).

Despite their inherent relatedness, however, research in both psychology and consumer behavior has tended to focus on only one type of decision to the exclusion of the other. Research on single-alternative decisions (e.g., whether to engage in a particular course of action or to maintain the status quo) has its roots in the study of attitude formation and change (for reviews, see Albarracin, Johnson, & Zanna, in press; Eagly & Chaiken, 1993). This research is guided by the assumption that the effects of informational, situational, and individual difference variables on judgments and decisions are mediated by their impact on the cognitive activities that occur at several different stages of processing. These stages include:

1. The selective encoding and interpretation of stimulus information in terms of previously formed concepts and knowledge (for a review, see Higgins, 1996);
2. the representation and storage of stimulus information in memory (Srull & Wyer, 1989; Wyer & Radvansky, 1999);
3. the retrieval of some or all of this information and a construal of its positive and negative implications for the judgment to be made (McGuire, 1964; Petty & Cacioppo, 1986);
4. an integration of the implications of the information with those of other, previously acquired knowledge to compute a subjective evaluation of its referent (Anderson, 1981; Fishbein & Ajzen, 1975; Lichtenstein & Srull, 1985);
5. the transformation of a subjective inference into an overt judgment or behavioral decision (Adaval & Monroe, 2002; Fazio, 1990; Fishbein & Ajzen, 1975).

Based on these assumptions, information-processing researchers have typically attempted to identify the alternative processes that might occur at each stage of activity and to specify when these processes are likely to be applied. They then conceptualize the effects of informational, motivational, and situational variables in terms of their impact on processing at one or more of these stages. These conceptualizations provide the basis for a broader theoretical formulation that specifies when different stages of processing come into play and how they combine to influence a judgment or decision (McGuire, 1968, 1972; Wyer, 2004; Wyer & Srull, 1989).

Multiple-alternative decisions could also involve these processes. That is, individuals who are called upon to decide among several alternatives could compute an evaluation of each alternative separately and then compare these evaluations. An equally plausible possibility, however, is that individuals in these conditions compare the values of the alternatives along specific attribute dimensions and assess the relative desirability of these options on the basis of these dimension-by-

dimension comparisons without evaluating the attractiveness of any particular option in isolation. Research based on this assumption has uncovered a number of factors that influence (a) the relative weight attached to different types of attributes (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981, 1982); (b) the different computational strategies that might be applied (Dhar & Sherman, 1996; Houston, Sherman, & Baker, 1989; Shafir, Simonson, & Tversky, 1993; Tversky, 1972); and (c) the perception that the selection of one alternative is more justifiable than another (Shafir et al., 1993). These factors are typically assumed to exert their influence at the decision stage of processing, and the cognitive activities that occur at earlier stages are given little weight.

A question therefore arises as to whether an understanding of processing at other stages is really necessary. To the extent that differences in processing at earlier stages do not contribute appreciably to the prediction of consumer judgments and decisions, an understanding of this processing may be of little practical importance. I recall a conversation with Richard Shiffrin, one of the preeminent memory theorists of the past 50 years. He had recently developed an exceptionally powerful theory of recall and recognition that relied exclusively on retrieval processes with minimal assumptions about the mental representations that are formed of the information at the time it is first received and comprehended (cf. Gillund & Shiffrin, 1984; Raaijmakers & Shiffrin, 1981). In response to my skepticism that these initial representational processes were irrelevant to an understanding of memory, he appealed to parsimony. Specifically, he argued that it is always best to begin by developing a theory of the processes that occur in closest temporal proximity to the phenomenon being observed. If the theory is able to explain these phenomena without making assumptions about the cognitive activities that occur at earlier stages, a detailed consideration of these stages would add unnecessary complexity to the theory. If, on the other hand, important phenomena remain unexplained, one could then consider processing at earlier stages that, in combination with retrieval processes, might account for them.

A similar logic could apply in accounting for choice behavior. If the situational and informational influences on consumer decisions can be adequately explained in terms of processes that occur at the decision stage, there is surely no reason to encumber decision-making theory with assumptions about the cognitive activities that occur at earlier stages. It would certainly be nice if this were in fact the case. Unfortunately, however, it is not. In fact, Gilbert (2002) and others (e.g., Kardes, Posavac, & Cronley, 2004) postulated that later stages of processing only come into play in inference making when sufficient cognitive resources can be expended on these inferences and individuals are both willing and able to engage in this activity. When little cognitive effort is necessary to make a judgment, early stages of processing are more likely to have the predominant effect.

Indeed, several studies in our own laboratory, each in a different domain of inquiry, provide examples. Two series of studies exemplify the need to consider different stages of processing in accounting for multiple-alternative decisions. A

third, on the role of affective reactions in consumer judgment, illustrates a similar need in accounting for single-alternative judgments and decisions, and a fourth on the role of mental accounting (Thaler, 1985, 1999) cuts across both types of decisions. After presenting these examples, we return to a more general consideration of their implications for the study of judgment and decision processes.

CONTEXT EFFECTS ON CONSUMER JUDGMENTS

One of the most intriguing phenomena to be uncovered in research on multiple-alternative decision making was first identified by Huber, Payne, and Puto (1982). Specifically, a choice alternative that is not itself a viable option can nevertheless influence people's relative preferences for the contenders. For example, suppose consumers are confronted with a choice between a target product (T) and a competitor product (C), whose ordinal values along two attribute dimensions are shown in the top half of Table 1.1. That is, T is superior to C along one dimension but is inferior to C along the other. If the dimensions are equally important, a decision between the two alternatives is obviously difficult. However, suppose third alternative, D, is added to the set. This alternative is clearly inferior to T but not to C. Huber et al. (1982) found that although D is not itself a viable option, adding it to the set increases the preference for T over C.

Alternative Explanations

Two general explanations have been given for this "decoy" effect. Simonson (1989) assumed that people seek justification for their decisions, and that if they cannot justify their choice on the basis of a direct comparison of the choice alternatives, they use other criteria. Thus, in our example, T is superior to D but C is

TABLE 1.1
Relative Values of Choice Alternatives and Stimulus Materials Employed by Park and Kim (2005)

	Choice Alternatives			
	Target (T)	*Competitor (C)*	*Standard Decoy (D)*	*Inferior Decoy (D_{inf})*
Relative attractiveness				
Dimension 1	4	2	4	2
Dimension 2	2	4	1	1
Stimulus materials (restaurant)				
Walking distance (min)	13	25	13	25
Taste rating (1–10)	6.8	8.1	6.0	6.0

not. This could be used as justification for choosing T and, therefore, could increase preferences for it.

Theories of social and psychophysical judgment (cf. Ostrom & Upshaw, 1968; Parducci, 1965; for a recent application in the consumer domain, see Adaval & Monroe, 2002) suggested a quite different possibility. According to these conceptualizations, a context stimulus whose values along a dimension differ from those of the others can influence the subjective values that people assign to these alternatives. In the present example, two types of changes could occur. First, the low value of D along dimension 2 expands the range of values to which people are exposed along the dimension and, as a result, may lead T and C to be seen as subjectively more similar to one another (cf. Parducci, 1965). Consequently, their values along dimension 1, on which T is superior to C, should have relatively greater impact on their relative attractiveness. (If T and C were identical along dimension 2, their values along dimension 1 would of course be the sole basis for judgment.) Thus, if people base their decision on this criterion, their preference for T should increase relative to conditions in which D is not considered.

A second possibility, suggested by Pan and Lehmann (1993), has similar implications. That is, when two alternatives have similar or identical values along a dimension, they may be subjectively assigned to a common category. Once this category is formed, it may serve as an anchor, or comparative standard, for judging other options. As a result, the value of these options are judged as more dissimilar to the category value than they otherwise would. In our example, D has the same value as T along dimension 1. Therefore, adding it to the choice set could lead T and D to be placed in the same category along the dimension and used as a standard of comparison in evaluating C. As a result, C might be seen as more dissimilar to T along the dimension (i.e., as less favorable) than would otherwise be the case. This perception, in turn, could lead T to be judged as relatively more attractive than C and, therefore, could increase the likelihood of someone choosing it.

Wedell and Pettibone (1996) noted that the various effects of context on preferences described in the preceding paragraphs can potentially be reflected by its impact on components of the following equation:

$$P_T = \Sigma w_j(V_{T_j} - V_{C_j}) + J_T, \quad (1)$$

where V_{T_j} and V_{C_j} are values of T and C along dimension j, w_j is the weight attached to values along this dimension, and J_T is the amount of justification for choosing T over C independently of their relative values along the information dimensions.

In fact, Wedell and Pettibone (1996) appeared to find evidence for the contribution of both components of the equation. In one experimental session, they asked participants to judge the attractiveness of choice alternatives whose values along two attribute dimensions differed in a manner analogous to that described in

Table 1.1. Ratings of the alternatives along each dimension were also obtained. In a different session, participants indicated which alternative they preferred and the justifiability of choosing it. Introducing D influenced the relative attractiveness of T and C in the manner one would expect if it altered the values assigned to the alternatives along dimensions 1 and 2. However, it also increased preferences for T over C, and increased beliefs that the choice of T was more justified (J_T). Taken at face value, therefore, these data suggest that the effects of the decoy on preferences for T were a combined function of both shifts in the values assigned to the alternatives along the dimensions of judgment and the sufficient justification processes postulated by Shafir et al. (1993).

An Information-Processing Analysis

The conclusion that both shifts in attractiveness of the choice alternatives and sufficient justification simultaneously contributed to preference shifts identified by Wedell and Pettibone (1996) may nevertheless be misleading. In their studies, participants performed the attractiveness judgment task and the preference task in counterbalanced order, and the data were pooled over the two order conditions. It is therefore conceivable that attractiveness shifts and sufficient justification did not contribute simultaneously to any given individual's preference judgment. Rather, one factor alone might have influenced participants' choices in one order condition, and the other factor alone might have influenced preferences in the other condition.

An analysis of the phenomena from an information-processing perspective suggests that this is likely to be the case. Shifts in the values assigned to choice alternatives along each attribute dimension occur at the time the information is first received and comprehended. Moreover, these effects may occur without much awareness (Dhar & Simonson, 2003). In contrast, the judgment processes postulated by Shafir et al. (1993) occur more deliberatively at the decision stage of processing, when the relative values of the alternatives along each dimension are compared. In making these dimension-by-dimension comparisons, independent estimates of each choice alternative's attractiveness do not come into play at all.

In principle, these processes could contribute independently to preference decisions. In fact, however, this seems intuitively and theoretically unlikely. Chaiken (1987; see also Wyer, 2004) postulated that when people are confronted with a judgment or decision, they first consider the criterion that they can apply most quickly and easily and estimate their confidence that a judgment based on this criterion is valid. If their confidence is above some minimal threshold, they apply the criterion without further ado, ignoring other criteria that might also be considered. (For a similar assumption in analyzing the role of "satisficing" in decision making, see Simon, 1957.)

It seems reasonable to assume that in the conditions considered here, it is normally easier to perform a dimension-by-dimension comparison of the choice al-

ternatives than it is to combine the values assigned to each alternative into an overall evaluation of it and then compare these evaluations. Therefore, when people have not been exposed to the alternatives they are considering before being called upon to make a decision, they are likely to use a sufficient-justification criterion as a basis for their choices. On the other hand, suppose people have had an occasion to evaluate each alternative separately before being asked to state a preference, and these evaluations are easily accessible in memory. Then, a comparison of these overall evaluations is undoubtedly the easiest criterion to use. To this extent, the effects of context stimuli should be mediated by their influence on processes suggested by social judgment formulations.

In the example we described earlier, the context stimulus (D) should theoretically have similar effects on preferences regardless of which criterion is used. However, this is not always the case. For example, suppose people in our earlier example are asked to choose between T, C, and a third alternative, D_{inf}, shown in the fourth column of the table. This alternative is clearly inferior to both T and C and, therefore, provides no justification for choosing one over the other. However, its value along dimension 2 expands the range of values to which participants are exposed along this dimension, and so exposure to the option should affect perceptions of T and C along the dimension in much the same way that D does. Furthermore, the value of D_{inf} along dimension 1 is similar to that of C. This may lead participants to place D_{inf} and C in the same category and to use the category's value as a standard in evaluating T, thus increasing perceptions of T as dissimilar (i.e., as more favorable). For either or both of these reasons, exposure to D_{inf} should increase the relative attractiveness of T, and should increase preferences for it when this decision criterion is applied.

Empirical Evidence

Park and Kim (2005) demonstrated these effects. College students received information about two restaurants, T and C, whose values along two dimensions (walking distance from campus and the tastiness of the food) varied as shown in the bottom half of Table 1.1. Some participants considered only these two restaurants. Others also received information about a third restaurant whose values along the dimension relative to those of T and C were either analogous to D in our earlier example or analogous to D_{inf}. In each case, participants in *attractiveness-first* conditions estimated the attractiveness of each alternative separately before making preference judgments, whereas participants in *preference-first* conditions reported their preferences for the choice alternatives at the outset.

Attractiveness ratings of the alternatives under each condition are shown in the top section of Table 1.2. The introduction of a context stimulus increased the attractiveness of T relative to C. Furthermore, this was true regardless of which context stimulus (D or D_{inf}) was presented and regardless of the order in which judgments were made. This suggests that the computation of attractiveness was similar in both order conditions. This was not true of preference judgments, how-

TABLE 1.2
Preferences, Perceived Justifiability, and Ratings of the Choice Alternatives
(based on data from Park & Kim, 2005)

	Choice First			*Rating First*		
	Target (T)	*Competitor (C)*	*Diff (T-C)*	*Target (T)*	*Competitor (C)*	*Diff (T-C)*
Proportion of choices						
No decoy	.544 $(31)_a$	.456 (26)	.316 $(18)_a$	.684 (39)		
Standard decoy	.729 $(43)_b$	.271 (16)	.679 $(38)_b$	.321 (18)		
Inferior decoy	.542 $(32)_a$	.458 (27)	.586 $(34)_b$	.414 (24)		
Overall attractiveness						
No decoy	4.25	4.75	-0.50_a	3.98	5.00	-1.02_a
Standard decoy	5.22	4.98	0.24_b	5.23	4.91	0.32_b
Inferior decoy	5.32	5.34	-0.02_b	5.41	5.43	-0.02_b
Ratings along dimension 2 (taste)						
No decoy	3.40	5.61	-2.21_a	3.02	5.68	-2.67_a
Standard decoy	3.83	6.24	-2.41_a	3.73	6.39	-2.66_a
Inferior decoy	3.83	6.31	-2.47_a	3.62	6.43	-2.81_a
Ratings along dimension 1 (walking distance)						
No decoy	5.60	3.32	2.28_a	5.65	3.12	2.53_a
Standard decoy	5.32	2.78	2.54_a	5.93	2.29	3.64_b
Inferior decoy	5.93	2.19	3.75_b	6.28	2.16	4.12c

Note. Differences in each section with unlike subscripts differ at $p < .05$. The number of participants who chose each alternative is indicated in parentheses.

ever. As shown in the second section of Table 1.2, preferences that were reported at the outset were only affected by D, consistent with the assumption that these judgments were based on a sufficient-justification criterion. When they were reported after attractiveness judgments were made, however, preferences were influenced by D_{inf} as well.

This conclusion was further confirmed by supplementary mediation analyses. That is, when attractiveness ratings were made first, the relative attractiveness of T versus C was highly correlated with preferences. Moreover, the effect of context stimuli on preferences was reduced to nonsignificance when the relative attractiveness of the alternatives was controlled. When preference judgments were reported first, however, they were much less highly correlated with the relative attractiveness of the choice alternatives, and the effects of decoys on preference judgments remained significant when variance due to attractiveness was eliminated.

The effect of context on ratings of alternatives along each attribute dimension separately provided further clarification of the processes that mediated attractiveness ratings. These data are shown in the last two sections of Table 1.2. Contrary to expectations, context stimuli did not influence the values assigned to the choice alternatives along dimension 2, suggesting that in this study, participants' perceptions of the alternatives' similarity along this dimension were not affected by the

range of values to which they were exposed. Rather, the effect of decoys on these perceptions was mediated by their effect on ratings of the choice alternatives along dimension 1. That is, presenting D, which had the same high value as T along this dimension (see Table 1.1), decreased the value assigned to C along this dimension. Presenting D_{inf}, which had the same low value as C, increased the value assigned to T along the dimensions. These shifts in values, which are consistent with the categorization effects postulated by Pan and Lehmann (1993), were the primary mediator of attractiveness judgments and, therefore, the preferences that were based on this attractiveness.

Further Considerations. The evidence that context effects can be mediated by processing at the comprehension stage rather than at the decision stage led Park and Kim (2005) to identify an effect of decoys that had not previously been reported. In this study, participants received information about two refrigerators (T and C). In some conditions, however, these alternatives were accompanied by a product in a different domain (i.e., a dishwasher) that varied along one of the dimensions that were common to T and C (price) but not the other. The relative values of the alternative along the dimensions to which information pertained are shown in the top of Table 1.3, and the stimulus values actually assigned along the dimensions are shown in the bottom half of the table. As this table indicates, the context stimulus provides no justification for choosing T over C. Nevertheless, it expands the range of prices to which participants were exposed and, therefore, could lead participants to perceive T and C as subjectively more similar in cost than they otherwise would. Therefore, it should decrease the effects of differences along this dimension on their relative attractiveness.

As expected, adding the dishwasher to the set of choice alternatives had no impact on participants' preferences when these preferences were reported at the outset. When participants had rated the attractiveness of each alternative separately before reporting their preferences, however, introducing the dishwasher increased the attractiveness of T relative to C and consequently increased the proportion of times that T was chosen.

Summary. The evidence that inducing people to make independent ratings of choice alternatives before reporting their preferences has an impact on these preferences is not very exciting in and of itself. However, it points out the need to consider different stages of processing in order to provide a complete account of context effects on preference judgments. There are many instances outside the laboratory in which consumers are likely to have to form overall evaluations of the alternatives they consider before making a decision. This is particularly true when people encounter products at different points in time, or when the information is conveyed in a way that makes direct dimension-by-dimension comparisons difficult (Houston et al., 1989).

Moreover, when people are not motivated a priori to make comparative judgments, they may not do so spontaneously (Wang & Wyer, 2002; see also Kardes,

TABLE 1.3
Relative Values of Choice Alternatives, Stimulus Materials, and Preferences
(based on data from Park & Kim, 2005, Experiment 2)

	Choice Alternatives		
	Target (T) (refrigerator)	*Competitor (C) (refrigerator)*	*Decoy (D) (washer)*
Relative attractiveness			
Dimension 1	4	2	—
Dimension 2	2	4	1
Dimension 3	—	—	4
Stimulus material			
Freezing time (min)	10	25	—
Running cost	$46	$40	$60
Artificial intelligence feature	—	—	available

	Proportion of Choices	
	Target	*Competitor*
Choice-only conditions		
No decoy	.341 (29)	.659 (56)
Decoy	.459 (39)	.541 (46)
Rating-first conditions		
No decoy	.477 (41)	.523 (45)
Expanded-range decoy	.651 (56)	.349 (30)

Note. The number of participants who chose each alternative is indicated in parentheses.

Sanbonmatsu, Cronley, & Houghton, 2002, for a similar conclusion). Even when people are motivated to make a choice, they may be relatively less inclined to resort to justification processes when they have an option of deferring their choice, as is typically the case outside the laboratory (see Dhar & Simonson, 2003, for a discussion of this possibility). In short, the effect observed by Park and Kim (2005) under the "rating first" condition might be more often the rule than the exception in actual purchase decisions. Thus, the evidence that context effects occur in conditions that are not predicted by the use of a sufficient-justification criterion may be of more general importance.

CULTURAL INFLUENCES ON DECISION MAKING

An understanding of the phenomena identified in a quite different area of inquiry also requires a consideration of different stages of processing. Research on the norms and values that distinguish Asian and Western cultures (Heine, Lehman,

Markus, & Kitayama, 1999; Hong & Chiu, 2001; Markus & Kitayama, 1991; Triandis, 1995) suggested that representatives of these cultures differ along a dimension of individualism–collectivism (Hofstede, 1980; Triandis, 1995). That is, European Americans typically value independence and individuality, whereas Asians have an other-directed orientation that is characterized by compromise and interdependence. However, although these different orientations may be characteristic of Western and Asian cultures in general, individual members of the cultures are often exposed to other norms and values as well. Consequently, culture-dominant norms may not always govern their behavior unless the norms are salient at the time a decision is made (cf. Hong, Morris, Chiu, & Benet-Martinez, 2000).

Normative Influences on Consumer Decisions

Indirect evidence that the effect of cultural norms depends on whether situational factors that increase their accessibility in memory was reported by Briley, Morris, and Simonson (2000). Asians and European Americans were asked to choose between three products whose values along a series of attribute dimensions varied favorableness in a manner analogous to the following:

	Alternative A	Alternative B	Alternative C
Dimension 1	+5	–5	+1
Dimension 2	+5	–5	–1
Dimension 3	–5	+5	+1
Dimension 4	–5	+5	–1

Thus, C, whose values along the dimensions fall between the values of A and B, represents a compromise choice. In fact, no cultural differences emerged in preferences when participants were simply asked to make choices without deliberating. In some conditions, however, participants were asked to give a reason for their choice. In this case, American participants increased their preferences for A and B, whereas Asians increased their preference for C.

Effects of Cultural Salience

Briley et al.'s (2000) data therefore suggested that stimulating participants to think more carefully about the reasons for their choices leads them to activate and use culture-related normative criteria as bases for their decisions. If this is so, however, a more direct manipulation of people's cultural identity might be expected to have comparable effects. A series of studies by Briley and Wyer (2002) investigated this possibility. To activate cultural norms and values, we used a procedure developed by Hong et al. (2000). That is, North American and Chinese participants were exposed to a series of pictures with instructions to indicate the period of history with which the referents were identified. The pictures conveyed

symbols of either their own culture or a different one. (American symbols included the American flag, Marilyn Monroe, Abraham Lincoln, etc.; Chinese symbols included the Great Wall, the Chinese Dragon, a Chinese musical instrument, etc.) After completing this task, participants were exposed to the decision task constructed by Briley et al. (2000).

Based on the considerations raised earlier, it might seem reasonable to suppose that exposing Chinese to symbols of their own culture would increase their disposition to compromise, as reflected in their product choices, whereas exposing Americans to symbols of their own culture would decrease this tendency. However, this did not occur. Rather, both Americans and Chinese increased their disposition to choose the compromise alternative when symbols of their own culture were primed than when these symbols were not primed (.63 vs. .50), and this difference was similar regardless of their cultural background. Why should this be the case?

An Information-Processing Analysis

A possible answer to this question becomes apparent in analyzing the processes that underlie the task constructed by Briley et al. (2000). The use of compromise as a criterion for judgment presumably occurs at the time the alternatives are directly compared. However, processes at earlier stages could come into play as well. For example, the choice of C might not result from a desire to compromise per se. Rather, it could reflect the way each product's attributes are evaluated at an earlier stage of processing (cf. Simonson & Tversky, 1992, for an analysis of these evaluations). That is, suppose individuals compute an overall evaluation of each choice alternative separately on the basis of the attribute information and then compare these overall evaluations. Each evaluation could depend on both the subjective favorableness of the attribute descriptions and the weight attached to these descriptions when combining their implications to form a judgment of the choice alternatives as a whole. To this extent, people who attach relatively more importance to favorable attributes than to unfavorable ones should evaluate A and B more highly than C, whereas people who weight unfavorable attributes heavily should evaluate A and B less highly than C. In other words, the choice of C might not reflect a disposition to compromise that occurs at the time a choice is made. Rather, it may result from a tendency to weight negative features of the choice alternatives more heavily than positive features in the course of evaluating each of the choice alternatives separately, prior to making a choice. If this is so, and if making one's cultural identity salient increases the motivation to avoid negative decision consequences, this could account for the results that Briley and Wyer (2002) obtained.

In fact, this explanation is viable. Aaker and Lee (2001) found that inducing participants to imagine themselves as part of a group increased their attention to negative features of a hypothetical tennis match, as reflected in their memory for

situational details. This suggests that thinking of oneself as a member of a group induces a *prevention focus* (Higgins, 1998), that is, a disposition to avoid negative decision outcomes. Once this disposition is activated, it could govern both interpersonal choice situations and intrapersonal ones. Briley and Wyer (2002) found direct support for this assumption. That is, inducing individuals to believe that they were participating in the experiment as members of a group increased their disposition to minimize negative outcomes to both themselves and others in a simulated resource-allocation situation, and to avoid the risk of postdecisional regret in an individual choice task. If making people aware of their cultural identity induces feelings of group membership, it could also induce a disposition to avoid undesirable decision consequences, as suggested by Simonson and Tversky (1992) and reflected in the situation constructed by Briley et al. (2000). That is, it could lead both Americans and Chinese to choose the "compromise" alternative (C), as Briley and Wyer (2002) found.

These considerations could also account for the cultural differences that Briley et al. (2000) identified when participants cultural identity was not explicitly called to their attention. In a comparison of parent–child interactions in Taiwan and North America, Miller, Fung, and Mintz (1996) found that Asian parents typically perceive their children's misbehavior as character deficiencies that need to be corrected, whereas American parents view their children's misdeeds as normal occurrences that, although serious, do not reflect on their children's status as admirable human beings. To this extent, Asian and North Americans may develop different normative dispositions to avoid negative consequences of their behavior that they apply spontaneously when decisions involving these outcomes are made. The question arises as to when cultural norms govern choice behavior, as in Briley et al.'s (2000) study, and when motivational conditions operate, as in Briley and Wyer's (2002) experiments. The answer to this question awaits further investigation. However, a consideration of different stages of processing is clearly necessary to come to grips with these phenomena and to develop a conceptualization that can account for the different effects that occur.

THE ROLE OF AFFECT IN CONSUMER JUDGMENT

As noted earlier, research on single-alternative decisions has more traditionally recognized the need to focus on different stages of processing. This recognition has been particularly evident in research on the impact of people's affective reactions on their responses to product information and their evaluations of the product being described. Theory and research outside the consumer domain has vacillated in terms of the emphasis it has placed on the different stages at which affect can play a role (for reviews, see Clore, Schwarz, & Conway, 1994; Wyer, Clore, & Isbell, 1999). However, the most widely accepted conceptualization of the impact of affective reactions on judgments and decisions was proposed by Schwarz

and Clore (1983, 1988). They assumed that if people who are experiencing positive or negative affect at the time they are asked to evaluate a stimulus, they interpret these feelings as an indication of their reactions to the stimulus and use them as a basis for evaluating it. Therefore, they evaluate a stimulus more favorably if it elicits positive affect than if it elicits negative affect.

Moreover, people typically cannot distinguish clearly between the different sources of affect they are experiencing at any given time. As a consequence, a portion of the feelings they happen to be experiencing for irrelevant reasons (e.g., the mood they happen to be in) is often misattributed to the stimulus they are evaluating and, therefore, influences the judgments they make. Thus, for example, people report greater life satisfaction if they are asked on sunny days than if they are asked on rainy days (Schwarz & Clore, 1983); if they have just watched a funny movie rather than a depressing one (Adaval, 2001); or if the room they are in is clean and cheerful than if it is dirty and unkempt (Schwarz, Strack, Kommer, & Wagner, 1987). Perhaps the most intriguing demonstration of the informational influence of affect was provided by Strack, Martin, and Stepper (1988), who found that an unobtrusive manipulation of people's facial expressions while they judged cartoons (i.e., holding a felt-tip pen either between the teeth or between the lips) influenced the amusement they reported in response to the cartoons.

There are contingencies in the use of affect as information. For one thing, it must be considered applicable. Pham (1998; see also Adaval, 2001; Yeung & Wyer, 2004) found that although participants' mood has a positive impact on their evaluations of products that are typically evaluated on the basis of hedonic criteria (e.g., comfort, taste, etc.), it has little influence on judgments that are normally based on utilitarian considerations (material quality, workmanship, etc.). Nonetheless, the judgments that can be influenced by affective reactions are potentially quite diverse. For example, affect may be used as information that a situation one encounters is benign or potentially threatening and, therefore, may influence the attention paid to situational details (Schwarz, 1990). Alternatively, it may provide information about whether one has been successful in attaining a goal one is pursuing and may influence perseverance in goal-directed activity (Martin, Ward, Achee, & Wyer, 1993; see Wyer et al., 1999, for further implications of this possibility).

Influence of Affect at Other Stages of Processing

The use of affect as information is typically assumed to occur at the time a judgment or decision is made. The question is whether this assumption is sufficient to account for the impact of affect on judgments and decisions. Bower (1981) assumed that *affect* and *emotion* functioned as concepts in semantic memory that, once activated, function in much the same way as other concepts. Thus, affect can influence the interpretation of new information and the likelihood of encoding it into memory. Furthermore, it can cue the retrieval of information with which it has features in common (e.g., features that are similar in valence). To this extent,

happy individuals might be more inclined than sad individuals to interpret ambiguous information more favorably (Forgas, Bower, & Krantz, 1984). Furthermore, people might selectively attend to information that is interpretable in terms of the concepts activated by their mood (Bower, Gilligan, & Monteiro, 1981; Forgas & Bower, 1987), and might selectively retrieve previously acquired knowledge that is congruent with these feelings (Bower, 1981).

Some research appeared to provide support for these hypotheses (for a summary, see Forgas, 1995). However, later studies raised questions about their validity. As I have argued elsewhere (Wyer, 2004; Wyer et al., 1999), the aforementioned effects are unlikely to be mediated by people's affective reactions per se. Rather, they reflect the impact of semantic concepts that are activated by the experimental procedures used to induce these reactions. Niedenthal and her colleagues (Niedenthal, Halberstadt, & Setterlund, 1997; Niedenthal & Setterlund, 1994) provided compelling evidence that when positive or negative emotions are induced in ways that do not explicitly refer to evaluatively toned semantic concepts (e.g., playing up-beat or dreary music), they activate concepts of the specific emotions being experienced but do not influence the accessibility of positively valenced and negatively valenced concepts in general. Moreover, Parrott and Sabini (1990) found that a similar mood induction technique led participants to recall past experiences that were evaluatively *in*consistent with their mood (e.g., they were more likely to recall a favorable past experience when they were experiencing negative affect than when they were experiencing positive affect). Thus, these and other results suggest that the impact of affect on information processing does not arise from its influence on the accessibility and use of similarly valenced concepts and knowledge in memory.

However, the conclusion that affective reactions only exert their influence on processing at the judgment and decision stage is premature. Several recent studies provide evidence that affect does influence the cognitive activity that people perform at early (i.e., prejudgment) states of processing. However, the nature of this influence differs from that assumed by Bower (1981) and others. Three studies provide examples.

Affect and Categorization

One of the most compelling demonstrations of the need to consider the impact of affect at early states of processing was conducted by Adaval (2003) in an investigation of the impact of brand name on product evaluations. Because a product's brand provides a general indication of its overall quality, it might often be used as a heuristic basis for judging a product when people are unmotivated or unable to conduct a more detailed analysis of the product's specific features (Maheswaran, Mackie, & Chaiken, 1992). Therefore, if people who experience positive affect are unmotivated to engage in extensive information processing (Schwarz & Clore, 1988), they may be particularly inclined to use brand as a basis for judg-

ment. A study by Adaval (2003) appeared to support this conjecture. Participants who were induced to feel either happy or sad as a result of recalling a past experience were asked to evaluate products described by both (a) a favorable or unfavorable brand name and (b) a set of favorable or unfavorable specific attributes. Brand name had greater impact when participants were feeling happy than when they were not. On the surface, this finding seems quite consistent with the assumption that positive affect increases the use of brand as a heuristic, leading it to have more impact on judgments than it otherwise would.

In fact, however, this conclusion is incorrect. Using a parameter-estimation procedure developed by Zalinski and Anderson (1990), Adaval (2003) obtained separate estimates of both (a) the weight that participants attached to each piece of information in computing a judgment and (b) their perception of its evaluative implications. Analyses of these estimates showed that inducing positive affect had no impact on the weight attached to brand information. On the other hand, participants perceived the implications of brand to be more extreme when they were happy than when they were unhappy, independently of the weight they attached to it (i.e., they perceived the implications of favorable brands to be more favorable, and the implications of unfavorable brands to be more unfavorable).

Two factors in combination provide an explanation for why this is so. First, Bless et al. (1996) found that participants typically use broad, categorical criteria to interpret information when they are in a good mood. This could indicate that people pay more attention to categorical information (e.g., brand) in these conditions. However, this increased attention might occur at the time the information is first received and interpreted and not at the time of judgment. Tesser (1978) found that when people think more extensively about a stimulus that either predominately favorable or predominately unfavorable features, their evaluations of the stimulus become more polarized. One reason is that thought increases the number of stimulus-related features on which evaluations of the stimulus are based. If this is so, and if the attributes associated with a brand are evaluatively similar, factors that increase people's attention to brand at the time the information is presented should increase the extremity of their perceptions of its favorableness, as Adaval's (2003) findings indicate.

Further studies by Adaval confirmed implications of this interpretation. For example, if affect influences people's estimate of a brand's evaluative implications at the time they first encounter it, this estimate is likely to be stored in memory. Therefore, its effects may persist over time. To evaluate this possibility, Adaval (2003, Experiment 5) exposed happy and unhappy participants to a product described by either a favorable or an unfavorable brand name. Then, in a second session 24 hours later, participants were asked to recall this product and compare it to a new one whose brand name was normatively similar in favorableness. Suppose happy participants evaluate the brand more extremely in the first session, and recall these evaluations to use as a basis for judgment in the second session. Then, they should prefer the first product to the new one when the products' brand

names are favorable, but should prefer the new product when the products' brand names are unfavorable. When participants experience negative affect in the first session, however, the extremity of the product's perceived implications should not be affected, and so their preference for the product in the second session should not be appreciably different from the new one.

This was in fact the case. When moderately favorable brand names were compared, participants were more likely to prefer the first product they had considered in the first session if they had experienced positive affect in this session (73%) than if they had experienced negative affect (23%). When the brands were moderately unfavorable, however, they were less likely to choose the first product if they had experienced positive affect at the time they encountered it than if they had experienced negative affect (0% vs. 36%).

Therefore, these studies suggest that the influence of affect on the impact of brand information does not result from its impact at the time of judgment. Rather, its influence occurs at an earlier stage of processing, when people construe the brand's evaluative implications. It would of course be incorrect to conclude that affect never has an impact on the weight attached to categorical information at the time of judgment (for evidence of these effects in other domains, see Bodenhausen, 1993; Isbell, 2004). However, the conclusion that its impact is always mediated by its influence on the weight attached to this information is equally inappropriate.

Affect Confirmation Processes

Adaval's (2003) studies concerned the impact of affect on reactions to brand name. In some cases, people's affective reactions can influence the impact of attribute information as well. An earlier series of studies by Adaval (2001) determined the nature of this influence. She argued that when the information about a product attribute elicits affect, people are likely to use this affect as a basis for construing the attribute's evaluative implications. However, there are two qualifications on this tendency. First, the attribute must be one that consumers typically evaluate on the basis of hedonic (affect-related) criteria (comfort, taste, etc.) rather than utilitarian considerations (durability, workmanship, warranty, etc.). Second, consumers must perceive their affective reactions to the attributes to be a reliable basis for judging it. This latter consideration comes into play in predicting the effect of extraneous affect. If the affect that consumers happen to be experiencing for objectively irrelevant reasons is similar to that elicited by the attribute, it may appear to confirm their reactions to the attribute. Consequently, they may weight the attribute heavily when combining its implications with those of other available information to form an overall product evaluation. However, suppose extraneous affect differs from that elicited by the attribute. Then, people may interpret these conflicting feelings as ambivalence about the attribute's implications and, therefore, may assign it less weight than they otherwise would.

Adaval confirmed this conclusion using procedures developed by Anderson (1971, 1981). She found that when an attribute was likely to be evaluated on the basis of affect-related criteria, the extraneous affect that participants experienced influenced the weight attached to it independently of its evaluative implications per se. When affect was not relevant to the evaluation to be made, however, extraneous affect had no impact on the weight attached to the attribute. Participants' weighting of the attribute information in this study presumably occurred at the integration stage, when participants combined its implications with those of other information available. To understand the reasons for this difference in weighting, however, one must consider the influence of processing at an earlier stage, when the implications of the attribute information are construed.

The Impact of Spontaneous Appraisals on Product Evaluations

A series of studies by Yeung (2003; Yeung & Wyer, 2004) showed a quite different way in which affect enters into prejudgment information processing. People often see a product in a store window, or encounter a picture of it in a magazine, before they receive specific information about its attributes. This experience may stimulate a spontaneous appraisal of the product's desirability that is accompanied by affective reactions (cf. Lazarus, 1982, 1991), and these reactions, in turn, may give rise to an initial evaluative impression of the product. Once this affect-based impression is formed, it may serve as a basis for later evaluations independently of any information that people receive subsequently, and independently of the criteria they might apply in the absence of this impression.

To investigate this possibility, Yeung asked participants to evaluate a product described by a set of specific attributes. Before receiving this information, they were induced to feel either happy or sad as a result of recalling an emotion-eliciting personal experience. Then, in one study, they evaluated a pair of running shoes on the basis of attribute descriptions with explicit instructions to use either hedonic criteria (e.g., comfort) or utilitarian criteria (e.g., durability). In a second study, the judgment criterion was not stated, but the product was one that was normally judged on the basis of either hedonic considerations (salad dressing) or utilitarian ones (a backpack). In these conditions, affect should exert its influence at the time of judgment, but only if it is relevant to the judgment to be made (Pham, 1998). That is, participants should evaluate hedonic products more favorably when they are feeling happy than when they are not, but should evaluate utilitarian products similarly regardless of the affect they were experiencing.

In other conditions, however, participants were shown an attractive picture of the product before they received specific information about its attributes. Moreover, this was done either before or after extraneous affect was induced. Yeung hypothesized that the picture would spontaneously elicit an affect-eliciting appraisal of the product and that participants would form an initial impression of the product on the basis of this appraisal. Therefore, if participants are experiencing affect for other

reasons at the time they form this impression, it should influence this impression. This affect-based impression, in turn, should influence the judgments they report later, and this influence should occur regardless of the type of product being judged. On the other hand, suppose participants see a picture of the product at the outset. Then, they should form an initial impression based on the affect elicited by the picture alone, and the extraneous affect they experience subsequently should have no effect on this impression or the judgments that are based on it.

Results confirmed these hypotheses. Table 1.4 shows product evaluations in each experiment as a function of induced affect, the judgment criterion (hedonic vs. utilitarian), and picture conditions (no picture, picture–after affect, picture–before affect). As expected, extraneous affect under no-picture conditions had an impact on judgments when participants were induced to use a hedonic basis for judgment but not when they were stimulated to use a utilitarian criterion. When they had seen a picture of the product and were feeling either happy or sad at the time, these feelings had an impact on the impressions they formed on the basis of the picture, and consequently influenced their later product evaluations. When participants saw a picture of the product at the outset, however, they based their impression on the affect elicited by the picture alone, and the extraneous affect they experienced subsequently had no impact.

Summary

As Schwarz and Clore's (1983, 1988) conceptualization suggests, people often use the affect they are experiencing at the time they judge a product as an indication of their feelings about the product and, therefore, as a basis for evaluating it.

TABLE 1.4
Product Evaluations as a Function of Mood, Judgment Criterion, and Mood–Picture Order (based on data from Yeung & Wyer, 2004)

	Experiment 1		*Experiment 2*	
	Hedonic Criterion	*Utilitarian Criterion*	*Hedonic Criterion*	*Utilitarian Criterion*
No Picture				
Positive Mood	6.50	4.00	7.11	3.41
Negative Mood	4.00	4.13	4.67	3.78
Difference	2.50	–.13	2.44	–.37
Mood Induced Before Picture				
Positive Mood	5.25	5.25	6.38	4.88
Negative Mood	3.75	3.78	4.38	3.63
Difference	1.50	1.47	2.00	1.25
Mood Induced After Picture				
Positive Mood	3.46	3.89	3.18	4.11
Negative Mood	3.50	4.33	3.30	4.48
Difference	–.04	–.44	–.12	–.37

However, the impact of affect at the time of judgment cannot account for its influence. One must also consider the effects of affective reactions at earlier stages of processing, including the attention that is paid to information at the time it is received (Adaval, 2003), the construal of its evaluative implications (Adaval, 2001) and, in some cases, the impression of a product that is formed before any specific information about it is presented (Yeung & Wyer, 2004).

MENTAL ACCOUNTING PROCESSES

One of the most intriguing avenues of inquiry to emerge in consumer research was stimulated by Thaler's (1985) conceptualization of mental accounting (see Thaler, 1999, for a more recent review). This conceptualization assumes that people keep a mental account of the subjective costs and benefits of their transactions in a particular domain, and that their decisions are motivated by a desire to maximize the positive balance in this account or, at least, to keep themselves out of the red.

Several implications of a mental account metaphor derive from the assumption that people keep different *subaccounts*, each pertaining to a different life domain. As a result, the costs and benefits they experience in one domain may not compensate for the loss or gain they experience in other domains. To borrow examples from Thaler (1985), people imagine that they would bet more recklessly at poker if they are $50 ahead in the game than if they have just gained the same amount of money in the stock market, as the latter event is posted to a different account. For similar reasons, people imagine they would be happier if (a) they have won $20 in the lottery than if (b) they have won $100 in the lottery but find they must pay their landlord $80 to compensate for damages to their apartment.

The construction of subaccounts can occur for other reasons. Soman and Gourville (2001) provided an interesting example. That is, people who imagine having invested in a 4-day skiing pass costing $160 report greater willingness to give up a fourth day on the slopes than people who imagine prepurchasing four, single-day tickets costing $40 each. One interpretation of this finding assumes that people put the cost of the 4-day pass into a single account, and so the loss of a day's skiing does not put the account in the red. However, they put each of the four single-day passes in a different account. Thus, the loss of a day's skiing would have a severe effect on the balance of that day's account, increasing the desire to avoid this situation.

As these examples indicate, the primary focus of attention in this research has been on the factors that influence the reactions to different hypothetical-choice situations, based on descriptions of the costs and benefits associated with the alternatives. Predictions have been based in large part on *prospect theory* (Kahneman & Tversky, 1979), which defines the subjective utility associated with objective costs and benefits (defined in units of money, time, or effort, etc.). Because the utility function for positive outcomes differs from the function for negative

ones, a number of interesting predictions can be generated. To give but one example, the theory predicts that people report being more willing to drive 20 minutes to save $5 on the purchase of a product that normally sells for $15 than to drive 20 minutes to save $5 on the purchase of a product that normally costs $125 (Tversky & Kahneman, 1981).

An Information-Processing Analysis

With few exceptions (cf. Gourville & Soman, 1998, Experiment 4; Soman & Gourville, 2001, Experiment 4), mental accounting phenomena have been investigated by stimulating participants to imagine either themselves or another in a particular choice situation and to predict which option they would choose (or, alternatively, to indicate how they would feel if a particular decision outcome occurred). These judgments are presumably guided by the subjective utility of the alternative outcomes that people compute on the basis of the information available and the manner in which it is conveyed. The results of this research provide insight into the nature of these computational processes. Possibly because of the restricted paradigm that has been used to examine these processes, however, the research has not called attention to processes that might occur at other stages. A consideration of the research within a broader theoretical perspective nevertheless raises additional questions about these processes and their implications.

1. Comprehension Processes

Many of the effects observed in mental accounting research can be conceptualized in terms of differences in the way the choice alternatives are "framed," based on the verbal descriptions that are given to them (Tversky & Kahneman, 1981). A classic example is provided by evidence that people react more favorably to a drug that will save the lives of 30% of the people who are afflicted with a disease than to a drug that is described as failing to save the lives of 70% of the victims. This is because the first option focuses on positive consequences whereas the second focuses attention on negative ones. Framing could come also into play in the studies cited previously. In Soman and Gourville's (2001) study, for example, the verbal descriptions of a multiple-day ski pass or four, single-day passes may stimulate people to frame the situations differently and to draw different conclusions as a result. Perhaps if participants in the multiple-pass condition were explicitly reminded that the cost of a multiple-pass ticket was equivalent to that of four, single-pass tickets, the effect of the verbal descriptions would be less. Other research can also be viewed as investigations of the way in which judgments are affected by the way choice alternatives are described (e.g., Kahneman & Miller, 1986).

The question is what cognitive processes underlie these framing phenomena. Considered from an information-processing perspective, the phenomena occur at the comprehension stage. Recent theories of comprehension (Wyer, 2004; see also Wyer, Adaval, & Colcombe, 2002; Wyer & Radvansky, 1999) assumed that

in the course of comprehending a hypothetical sequence of events, people construct a mental simulation of the sequence, or *episode model*, based on their preexisting knowledge of events that are similar to the ones described (cf. Wyer & Radvansky, 1999). Then, once the representation is constructed, they may construe its implications with reference to a more general event representation, or *implicit theory*, about the causes and consequences of events similar to those described in the situation at hand (for more detailed discussions of the role of implicit theories in judgments and decisions, see Dweck, 1991; M. Ross, 1989; Wyer, 2004). The more closely the sequence described in the information matches that of the theory, the more plausible it is judged to be. These observations are consistent with previous studies of the role of mental simulations of events in judgments (Kahneman & Tversky, 1982; Ross, Lepper, Strack, & Steinmetz, 1977; Sherman, Skov, Hervitz, & Stock, 1981).

The use of a particular implicit theory to interpret and construe the implications of new information depends in part on the ease with which it comes to mind. This, in turn, can be influenced by the verbal description of the events to be comprehended, as suggested by the examples given earlier and by research on the cognitive dynamics of responses to opinion surveys (for summaries, see Schwarz, 1994; Strack, 1994). In an actual choice situation, however, the accessibility of a an implicit theory in memory is likely to be determined by features of the situational context in which the choice is made. To this extent, there is no a priori reason to suppose that a person who is actually confronted with a decision in situations of the sort constructed by Tversky and Kahneman (1981) and others will interpret the choice alternatives in a manner similar to the way they are described verbally in a hypothetical situation that people are told to imagine. For example, a person who purchases a multiple-day skiing pass might spontaneously interpret it as equivalent to four, single-day passes at the time of purchase rather than thinking of it as a "bundle." To this extent, the difference identified by Soman and Gourville on the basis of verbal descriptions of the choice situation might not occur (but see Soman & Gourville, 2001, Experiment 4, for some evidence on the generalizability of their findings to nonlaboratory situations).

The factors that influence the type of simulation that people construct at the time a decision is made are well worth investigating. The point of the present discussion is more general, however. To the extent the choice situations constructed in mental accounting research are comprehended and evaluated on the basis of episode models and implicit theories, it seems unlikely that people form judgments by performing an arithmetic computation of costs and benefits of the sort implied by the construct of a mental account.

2. Storage and Retrieval

To the extent that people form a mental account of the costs and benefits they receive in a given situation, the question arises as to how the account is represented and stored in memory, and the rules that govern its retrieval and use in

making judgments. The processes are presumably similar to those that govern memory storage and retrieval more generally. In fact, however, few existing theories of memory can adequately capture the nature of a mental account as Thaler (1985, 1999) conceptualized it.

One conceptualization of memory that is somewhat congenial to the construct of a mental account was proposed by Wyer and Srull (1989) in the context of a more general theoretical formulation of information processing. According to this conceptualization, long-term memory is composed of a number of "referent bins," each containing information about the person, object, or event to which the bin refers. New information about a referent is transmitted to a bin in the order it is received, with the more recently acquired knowledge on top. Moreover, when a previously acquired unit of knowledge is recalled and thought about, a new representation of this knowledge is formed. Thus, the more often a piece of information is thought about, the more times it is represented in the bin. This becomes relevant in conceptualizing the likelihood of recalling the information later. When information about a referent is sought, a probabilistic top–down search of the bin is performed until information sufficient to attain one's objective has been retrieved. This means that the more recently and/or frequently a particular unit of knowledge is used, the more likely it is to be identified.

A mental account might be conceptualized as a specific type of referent bin. To this extent, however, several additional implications of the bin construct are worth noting.

1. The search of a bin for goal-relevant material is theoretically not exhaustive. Only a subset of information is identified that is considered sufficient for attaining the goal one is pursuing (for similar assumptions, see Chaiken, 1987; Higgins, 1996; Taylor & Fiske, 1978). Thus, for reasons noted earlier, knowledge that has been acquired and/or thought about most recently and frequently is most likely to be identified and used. In the present context, this suggests that the benefits and costs that have occurred most recently (or, alternatively, have been most recently or frequently thought about) are most likely to be used to compute an account balance.

2. The referent of a bin can be either specific or global. Moreover, the referents may be overlapping. For example, a person might have account bins pertaining to "real estate investments," to "stocks and bonds," and to "investments" more generally. To this extent, where a particular piece of information is stored depends on its relevance to one's goal at the time it is received and comprehended. Thus, if a person receives a property tax bill and thinks about it with reference to "real estate," the person might store it in a "real estate" bin and not a more general "investment" bin. Consequently, it might have little influence later on when the individual mentally computes the balance of his account on the basis of information stored in his more general "investment" bin.

As the previous example suggests, the bin construct can help to conceptualize the effects of different "subaccounts" postulated by Thaler (1985). On the other hand, it suggests that whether a particular cost or benefit is stored in a particular subaccount and, therefore, whether it affects decisions that are made later, depends on how the event is coded into memory at the time it is first received.

Retrieval-Based Conceptions of Memory. Although the bin construct is an obvious metaphor for conceptualizing the memory representation of a mental account, other conceptualizations are viable. Some memory theories (cf. Hintzman, 1986; Smith, 1990; Wyer & Radvansky, 1999) assumed that information has no particular organization in memory. Rather, each experience has its own memory trace and is stored independently of others. If previously acquired knowledge is required in order to attain a particular objective, a set of features (retrieval cues) is compiled that are relevant to this objective. The information items that contain these features are then retrieved, and a composite of other features that are common to these items is extracted and used as a basis for judgment. In the present context, this suggests that people do not spontaneously store the costs and benefits of a transaction in a single location, and that the "account" composed of these outcomes is not constructed until the decision is made, based on the subset of costs and benefits that come to mind most easily at the time.

This conceptualization is congenial to Gourville and Soman's (1998) analysis of the effects of cost depreciation on decisions. They found that although people who have paid money for the use of an athletic facility are motivated to justify its cost by using it. However, the strength of this motivation and the use of the facility are a function of the salience of the cost at the time the decision is made. For example, participants were more inclined to maintain their use of the facility over the course of a 1-year period if they paid for the activity in 1-month installments than if they had paid for it in a lump sum at the beginning of the year. Thus, although this finding is interesting, the necessity of postulating the existence of a mental account in order to account for it is unclear.

3. Effects of Prior Judgments on Subsequent Ones

Research in several areas indicates that once people have made a judgment and this judgment is stored in memory, the judgment is later recalled and used as a basis for later judgments and decisions independently of the information on which it was originally based (cf. Carlston, 1980; Higgins & Lurie, 1983; Sherman, Ahlm, Berman, & Lynn, 1978; Srull & Wyer, 1989). In the present context, this raises the possibility that when people receive new information about a cost or benefit derived from a choice, they do not compute an account "balance" by reviewing the specific outcomes they have received in the past. Rather, they simply retrieve a previously computed value of the balance and update it on the basis of the new information without reviewing the events that entered into its computation. This

updated balance is then stored, thus being available for further updating when a new relevant outcome is encountered.

This possibility has intuitive appeal. Perhaps its most important implication is that judgments and decisions are based on the account balance alone, independently of the specific events that entered into its computation. However, it raises a question of how the account balance is actually incremented. On one hand, people might simply add or subtract an increment that is equal in magnitude to the subjective value of the new event. On the other hand, the implications of the new experience might be subjectively averaged with the preexisting account value (cf. Anderson, 1981). In the latter case, the new events would have a disproportional impact. Alternatively, the impact of a new experience might decrease as the number of other pieces that have preceded it increases. In this case, initial entrees into the account might have the greatest effect.

4. Summary

The considerations raised in the preceding pages do not invalidate the phenomena that have been identified in research performed within a mental accounting framework. On the other hand, they indicate that a consideration of this research within a broader conceptualization of information processing raises several additional questions about the reasons for the effects and the conditions in which they occur. That is, both contextual and informational factors may influence the interpretation of the events at the time they are encountered, and the sorts of implicit theories that are activated and used to construe the implications. Moreover, under conditions in which several different outcomes enter into a mental account, it may be necessary to specify the way the mental account is represented in memory and the storage and retrieval processes that govern its use.

Relationship Accounting: A Specific Application

A mental account is presumably constructed from a number of costs and benefits that occur over a period of time. The paradigm that has typically been employed in mental accounting research (in which participants are asked to compare verbally described situations and choice alternatives) does not capture the dynamic character of such an account. Indeed, the utility of the mental accounting construct in conceptualizing this research is not always apparent (but see Thaler, 1999). However, one area in which the utility of a mental accounting construct is of particular value surrounds the dynamics of giving and receiving favors. A conceptualization currently being developed by Candy Fong exemplifies this possibility. The conceptualization, which is part of Fong's dissertation research, is not fully developed at this writing. However, her formulation suggests that a mental accounting metaphor, although useful, is unlikely to be sufficient for explaining the phenomena that occur.

Fong assumes that people keep mental accounts of the favors they give and receive in their interaction with another person, and that when the favors they have received from a person outweigh the favors they have given (i.e., the account is imbalanced), they experience feelings of indebtedness. However, the receipt of a favor can also elicit feelings of appreciation, and that these feelings could also affect the motivation to reciprocate. Although feelings of indebtedness and feelings of appreciation can often co-occur in response to a favor, this is not always the case. Furthermore, the determinants and the effects of the two types of feelings can differ. For example, feelings of indebtedness arise when another's favor produces an imbalance in one's account. These feelings can therefore be eliminated by reciprocating the favor and, therefore, eliminating the imbalance that exists. In contrast, feelings of appreciation are positively valenced and their effects cannot easily be conceptualized within a mental-accounting framework. (For one thing, appreciation for another's gift is unlikely to be eliminated by giving a gift in return.) Several implications of this difference are worth noting.

1. Feelings of indebtedness (and, therefore, one's tendency to reciprocate) are contingent on one's past history of giving favors as well as receiving them. That is, they are unlikely to arise unless the combined value of favors received exceeds the combined value of favors given. In contrast, feelings of appreciation are a function of only the favors received, independently of past favors one has bestowed. Thus, they may stimulate reciprocity regardless of the number of favors given in the past.

2. Because feelings of indebtedness are unpleasant, people may attempt to eliminate them as soon as possible after they occur. That is, they are likely to reciprocate the favor soon after it is received. Furthermore, as implied by Thaler's (1985) conception of *subaccounts*, they may try to respond in kind. (Thus, people who are invited to a dinner party may extend a similar invitation to the host, but are less likely to buy the person a Christmas present.) On the other hand, negative feelings dissipate. Therefore, the likelihood of reciprocating an indebtedness-motivated favor decreases over time. In contrast, feelings of appreciation are positive and so there is little desire to reduce or eliminate this pleasant emotional state. Thus, there is less motivation to reciprocate the favor immediately. Moreover, feelings of appreciation may affect liking for the recipient, and this effect may persist after the feelings themselves have dissipated. Therefore, if liking stimulates favor doing, it may have an impact long after the appreciation-eliciting experience that gave rise to it occurred. Finally, this impact may be manifested in favors that differ in kind from those that elicited the feelings originally.

These and other hypotheses based on Fong's conceptualization are currently being tested. In the present context, however, the importance of her analysis lies in part in her recognition that although the mental accounting construct is a useful

tool in conceptualizing the exchange of favors, it is unlikely to provide all of the answers.

FINAL REMARKS

Although the specific research discussed in this chapter is quite diverse, it converges on two general conclusions. First, research that has concentrated on a given stage of processing has uncovered a large number of interesting and important findings. At the same time, a consideration of the processing at this stage alone is insufficient to account for all of the phenomena that occur in the area being investigated. Thus, a conceptualization of the phenomena from a broader theoretical perspective is desirable.

Although the tendency to focus on a single stage of processing to the exclusion of other stages is evident in research on single-alternative decisions, it is more generally characteristic of research on multiple-alternative decisions. This research contributes to an understanding of information processing at a particular stage without denying the importance of processes that occur at other stages. As such, its implications are readily incorporated within a more general information-processing framework.

I personally believe that consumer research and theorizing is moving toward the development of a broad-based conceptualization of consumer judgment and decision making that can ultimately incorporate the effects of situational, informational, and individual difference variables at all stages of decision-related cognitive activity. The specific phenomena that capture the interests of individual investigators may differ, and few persons may themselves have an interest in developing the overall conceptualization within which their work will ultimately fall. (For a few recent attempts to develop a formulation of social information processing that has implications for consumer behavior as well, see Wyer, 2004; Wyer & Srull, 1989.) It would nevertheless be unfortunate if researchers do not keep this broader objective in mind.

There is always a danger that the inherent differences in research paradigms employed in research, and the conceptual approaches that dominate the use of these paradigms, are detrimental to the attainment of this objective rather than facilitative. In this regard, Simonson, Carmon, Dhar, Drolet, and Nowlis (2001) noted that empirical research in consumer behavior has seemed to fall within two "camps," characterized by information processing on one hand and behavior decision theory (BDT; see Einhorn & Hogarth, 1981; Slovic, Fischhoff, & Lichtenstein, 1977) on the other. Research in the latter area has been largely concerned with conditions in which individuals' judgments and decisions deviate from normative principles of rationality, as defined by classical economic theory (see Simon, 1978, for an alternative definition). This focus has often led to phenomenon-driven research rather than the sort of theory-driven research that character-