Comparative Judgment Processes: The Effects of Task Objectives and Time Delay on Product Evaluations

Article *in* Journal of Consumer Psychology · December 2002

DOI: 10.1016/S1057-7408(16)30084-5

2 authors, including:

Jr. Robert S. Wyer
Chinese Universiy of Hong Kong
215 PUBLICATIONS **10,463** CITATIONS

SEE PROFILE

JOURNAL OF CONSUMER PSYCHOLOGY, 12(4), 327–340

Comparative Judgment Processes: The Effects of Task Objectives and Time Delay on Product Evaluations

Jing Wang and Robert S. Wyer, Jr.
Department of Marketing
Hong Kong University of Science and Technology

Consumers who compare products may often ignore features that the choice alternatives have in common. As a result, they often evaluate products more favorably when the products have unique positive features but common negative features than when they have unique negative features but common positive ones. Two studies examined contingencies in the occurrence of these "cancellation" effects and explored their implications for people's evaluations of not only the products being compared but other products they encounter subsequently. Some participants were explicitly told to compare two products at the time they received information about them. They not only disregarded the products' common features when initially evaluating these products, but disregarded evaluatively similar features of a third product they encountered some time later. Other participants were initially told to describe each product separately. In this condition, they formed an overall impression of each product individually, and so cancellation effects were not apparent. Nevertheless, their preference for one product over the other was based on a comparison of the products' individual features that they could recall at the time of judgment rather than on the global impressions they had formed when the product information was first presented.

Consumers who are motivated to make a purchase decision are likely to compare the features of the alternatives they are considering (Kardes, Kalyanaram, Chandrashekaran, & Dornoff, 1993; Lynch, Marmorstein, & Weigold, 1988; Nedungadi, 1990) and base their choice on the results of this comparison. Many recent studies (e.g., Dhar & Sherman, 1996; Hodges, 1987; Houston, Sherman, & Baker, 1989, 1991; Hsee & Leclerc, 1998; Mantel & Kardes, 1999) have investigated the nature of these comparison processes, and this research continues in this tradition. That is, we were also concerned with the different processes that could potentially underlie product comparisons and the conditions in which these processes are likely to operate.

We were particularly interested in whether people make feature-by-feature comparisons of products spontaneously at the time they first receive information about the products, or whether they do so only when they have an a priori goal of deciding which product they prefer. In addition, we examined whether the processes that underlie people's judgments of products at the time these products are described would influence their evaluations of a new choice alternative that they encounter later on. To examine these questions, we employed a research paradigm similar to that used by Houston, Sherman, and their colleagues (cf. Houston & Sherman, 1995; Houston et al. 1989, 1991). We first describe the paradigm and the theory of comparative judgment that has emerged from it. We then discuss several questions concerning the conditions in which the processes implied by this theory are likely to occur. Finally, we report two experiments that provide possible answers to these questions.

Requests for reprints should be sent to Jing Wang, Department of Marketing, Kellogg School of Management, Northwestern University, Evanston, IL 60208–2001. E-mail: wangjing@kellogg.nwu.edu

THEORETICAL BACKGROUND

Feature-Matching Processes of Comparative Judgment

Research on comparative judgment processes has generally supported implications of the feature-matching conceptualization proposed by Houston and Sherman (1995; see also Houston, Sherman, & Baker, 1991). This conceptualization assumes that when people receive descriptions of two choice alternatives, they typically focus their attention on one of the

options and compare the features of this focal alternative to those of the other.[1] In so doing, they ignore features that the two options have in common. Furthermore, when comparing the features that are unique to each description,[2] they weight the focal alternative's features more heavily than the other's.

To see the implications of these processes, suppose the information that consumers receive about two products describes common negative features of the products but unique positive features. In this case, the consumers theoretically consider only the positive features. Moreover, they attach relatively greater weight to the focal product's positive features than to those of the alternative and, therefore, prefer the former product to the latter. In contrast, suppose instead that the product information describes common positive features but unique negative ones. In this case, consumers should base their judgments on the products' negative features. Moreover, they should weight the negative features of the focal product more heavily than the alternative's, and therefore should prefer the alternative. These predictions require knowledge of which of the two products is the focal one. When one alternative is described before the other, however, people typically focus on the second (Houston & Sherman, 1995). To this extent, consumers typically prefer the second product to the first when the products are described by unique positive features, but should prefer the first product to the second when the descriptions contain unique negative features. This direction-of-comparison effect was identified by Houston et al. (1989, 1991).

This article is primarily concerned with a second implication of the feature-matching processes identified by Houston and Sherman (1995). These implications stem from the assumption that when two products are compared, their common features tend to be ignored (see, however, Chernev, 1997). In the preceding example, therefore, suppose consumers, after comparing the products, are asked to evaluate each product individually. Their judgments are likely to be based primarily on the features they had considered when they compared the products to one another. Consequently, consumers should evaluate the products more favorably if they were described by unique positive features and common negative features than if they were described by unique negative features and common positive ones. Moreover, this should be true of not only the product that the consumers prefer but also the one they reject. Studies by Houston et al. (1991) and Houston and Sherman (1995) support these predictions.

Although the feature-matching processes postulated by Houston and Sherman (1995) are well established, there are undoubtedly contingencies in their occurrence. For example, direction-of-comparison effects are reduced when product descriptions are presented side-by-side rather than successively (Houston & Sherman, 1995), or when participants are required to give reasons for their choices (Hodges, 1998). These factors appear to influence the relative attention that participants pay to the two product descriptions and, therefore, the relative weight they attach to the features of the products in the course of comparing them. Motivational factors can also have an influence. Mantel and Kardes (1999), for example, found that a direction-of-comparison effect was not evident among participants with low need for cognition, who were disinclined to compare the products' individual features. On the other hand, the effect also decreased when participants were extrinsically motivated and, therefore, were inclined to attend equally to the unique features of both choice alternatives.

However, these factors do not appear to influence the magnitude of cancellation effects. This suggests that the feature-matching processes postulated by Houston and Sherman (1995) occur in two successive stages. That is, people who receive two product descriptions may first identify features that are common to the two descriptions (and, therefore, are nondiagnostic) and may eliminate these features from further consideration. Then, once they have isolated the diagnostic (unique) features of the two product descriptions, they may evaluate the desirability of these features. To this extent, conditions that produce differences in the attention paid to the features of the choice alternatives at the second, "comparison" stage of processing might differ from those that influence processing at the first, "cancellation" stage. For example, comparisons of individual features at the second stage of processing might not occur until participants are explicitly asked to make a comparative judgment. In contrast, the tendency to ignore common features of the product descriptions may be more pervasive. That is, it might occur spontaneously at the time product information is first received and comprehended, regardless of whether the products are ultimately compared.

This possibility raises further questions. First, do the processes that underlie cancellation and direction-of-comparison effects occur as a result of deliberative goal-directed cognitive activity, or do they occur spontaneously, simply as a result of exposure to the product descriptions in temporal proximity? Second, do these processes occur at the time people first encounter product information or not until a judgment or decision is made? Answers to these questions could depend on the stage of processing that is involved. A third question is whether the differential processing of product fea-

[1] In proposing their theory, Houston and Sherman (1995) referred to the focal product as the "subject" and the alternative as the "referent." For simplicity of exposition, however, we have avoided the use of this terminology in this article.

[2] Here and elsewhere, the features identified as unique are described along different dimensions (e.g., "attractive shape" vs. "good repair service") rather than along the same dimension (e.g., "10 software packages available" vs. "5 software packages available"). This eliminates ambiguities concerning the degree of subjective dissimilarity of the descriptions that would be required for them to be interpreted as different versus similar. In fact, different considerations may arise when products have different values along the same dimension rather than when they are described along different dimensions entirely (Sanbonmatsu, Kardes, & Gibson, 1991). Although this difference is not addressed in this article, it should be kept in mind.

tures that underlies cancellation and direction-of-comparison effects persists over time, and whether the effects of this processing potentially influence judgments of other products that are encountered after the original choice alternatives are no longer salient. These possibilities are discussed in more detail in the following sections.

Spontaneous Versus Deliberative Comparison Processes

Not all product evaluations are explicitly comparative. That is, many instances arise in which people form an impression of a single product in the absence of information about other alternatives (e.g., Fiske & Pavelchak, 1986; see also N. Anderson, 1981; Fishbein, 1963) or a more undifferentiated (e.g., "schematic") appraisal of it (Lingle, Altom, & Medin, 1984; Wyer & Carlston, 1979). In such cases, people's evaluations of the product at the time they receive information about it may not depend on the similarity of its features to those of other specific products they have encountered. Moreover, if people who have formed global impressions of two products are later asked to indicate which one they prefer, they may often base their judgments on the relative favorableness of these impressions rather than recalling and comparing the products' individual features. This may be particularly true when people are not intrinsically motivated to think carefully about the information they receive (cf. Mantel & Kardes, 1999).

However, these speculations assume that the feature-matching processes are the result of conscious goal-directed activity. This is not necessarily the case. Cognitive procedures that have been performed frequently are often activated spontaneously under conditions in which they are applicable, and are employed with minimal deliberation (Anderson, 1983). People's frequent experience in making purchasing decisions might lead them to acquire a learned disposition to compare products that is activated spontaneously when product descriptions are encountered, even in the absence of an explicit intention to do so. To this extent, feature-matching processes of the sort postulated by Houston and Sherman (1995) could occur automatically, without conscious awareness of any goal to which they are relevant. (For evidence of unconscious goal activation in other domains, see Bargh 1997; Bargh & Ferguson, 2000.)

Previous research has unclear implications for this possibility. In studies by Houston and his colleagues (Houston & Sherman, 1995; Houston et al., 1989), for example, participants were explicitly told to compare the products at the time they received information about them. In other studies, participants have been told at the outset that the study was concerned with decision making (Hodges, 1998) or instructed to imagine they were using the information to make decisions (cf. Dhar & Sherman, 1996). Perhaps these instructions led participants to believe they were expected to compare the products, and so they responded accordingly.

This ambiguity was eliminated in this research by making the two alternative goals more explicit. That is, some participants were told explicitly to compare the products at the time they first received information about them. Others, however, were told to consider the products independently, and were not asked to compare them until later, at the time their judgments were reported. If direction-of-comparison effects typically occur at the time of judgment, they should be evident in both instructional conditions. However, suppose cancellation effects occur at the time information is received. Then, these effects may only generalize over instructional conditions if participants spontaneously compare the products at the time they receive information about them, in the absence of explicit instructions to do so. If comparisons are not spontaneous, cancellation effects should occur only when participants are explicitly told to compare the products at the outset.

When Do Comparisons Take Place?

The preceding discussion calls attention to a second question. Even when people are consciously motivated to compare products, it is not clear when these comparisons occur. On one hand, people might compare products' individual features at the time they first receive information about them. It is also possible, however, that people assimilate the information about each product independently at the time they receive this information and do not compare their individual features until later, when they are called on to decide which product they prefer.

The implications of these alternative possibilities are particularly evident when preference judgments are reported a substantial period of time after product information has been acquired. Suppose people compare and evaluate a pair of choice alternatives at the time the products are described. These evaluations may be retained in memory, and may later be recalled and used independently of the information on which they are based (Carlston, 1980; Higgins & Lurie, 1983; Sherman, Ahlm, Berman, & Lynn, 1978). To this extent, the cancellation and direction-of-comparison effects on evaluations that result from people's initial consideration of the products could still be evident some time after the product information has been received.

In contrast, suppose people do not compare products at the time they first receive information about them. Rather, they make these comparisons at the time of judgment, based on the subset of features they can remember. In this case, additional considerations arise. That is, people who compare two products may disregard features that are common to the product descriptions when they evaluate them a short time after the products are described (Houston & Sherman, 1995). Nevertheless, these common features, which are presented twice (once in each product description), may be retained better in

memory than the unique ones (Hodges, 1997, 1998). Therefore, if individuals recompute their evaluations of the products at the time of judgment on the basis of the features they can remember, common features of the product descriptions may have increasing impact as time goes on relative to that of the unique features. This could reduce or eliminate the effects of cancellation that are evident when the products' features are compared a short time after the product information is received. To this extent, the cancellation effects that Houston and Sherman (1995) observed a short time after the information had been received might decrease or even be reversed after a period of time has elapsed.

Effects of Feature-Matching on Evaluations of a New Product

When consumers receive information about a product that they have never before considered, the products they have encountered at an earlier point in time are likely to have an impact on their evaluation of it. Suppose people who have previously compared two products with either unique positive (and common negative) features or unique negative (and common positive) features are later asked to evaluate a third one. Assume further that the new product is described by features that do not overlap any of those contained in the first two product descriptions. Under these circumstances, three alternative hypotheses seem viable on a priori grounds.

Evaluation-retrieval hypothesis. First, people might retrieve the evaluation they made of the product they had chosen earlier and use its implications as a standard of comparison in evaluating the new one. Moreover, they might do this without considering the features that entered into their earlier evaluation. To this extent, they are likely to judge the new product more favorably if their evaluation of the product they chose earlier was relatively negative than if it was positive (for alternative interpretations of this contrast effect, see Lynch, Chakravarti, & Mitra, 1991; Ostrom & Upshaw, 1968; Parducci, 1965). Thus, if the effects of cancellation on judgments of the originally chosen product occurred, its effects on evaluations of the new product would appear to be in the opposite direction. (That is, the new product would be evaluated less favorably when the unique features of the original choice alternatives were favorable than when they were unfavorable.) Some support for this possibility was obtained by Dhar and Sherman (1996). However, the generalizeability of their results to the conditions we investigated in this research is unclear.

Feature-retrieval hypothesis. A second possibility is that participants who encounter a new product may compare it to the one they had chosen earlier and, in so doing, employ a feature-matching strategy similar to that proposed by Houston and Sherman (1995). To this end, they may compare the new product's features to those of the initially chosen product that they can remember. If the new product and the earlier products have no features in common, however, all of the new product's features should enter into the comparison, and this should be true regardless of which features of the initially chosen product they recall. Consequently, cancellation effects should not be evident. In other words, evaluations of the new product should be fairly similar regardless of whether the recalled features of the originally chosen product are predominantly positive or predominantly negative.

Strategy-retrieval hypothesis. A third possibility also seems plausible. When people compare a new product to one they have chosen previously, they may believe they should base their evaluations of the two products on similar criteria. Thus, for example, people who have compared products with unique positive (or negative) features may remember using these features as a basis for judgments, and so they may use similarly-valenced features to judge the new product as well. To this extent, they should not only reevaluate the originally chosen product more favorably when its unique features were positive than when they were negative, but should evaluate the new product more favorably in the former condition as well. Moreover, this may be true even if all of the new product's features differ from those of the alternatives they had considered earlier.

In summary, the unique (vs. common) features of the two initial choice alternatives could have either a negative (contrast) effect, no effect, or a positive effect on evaluations of a new product, depending on the relative validity of the three alternative hypotheses outlined earlier. Moreover, the effects implied by the first and third hypotheses should increase with the time interval between participants' exposure to the first two products being judged and their consideration of the new one.

Summary

The central issues of concern in this article surround the extent to which the feature-matching processes that underlie comparative judgments are deliberative or spontaneous, and whether the impact of these processes on judgments persist over time. Neither theory nor previous research justifies specific hypotheses concerning these matters. However, by determining the extent to which both direction-of-comparison and cancellation effects on judgments are influenced by participants' objectives at the time they first receive product information, and by determining whether these effects generalize to new products that participants consider later, we expected to gain insight into

these matters. The following two experiments were based on this expectation.

EXPERIMENT 1

Method

Overview and Design

There were two phases of the experiment. In Phase 1, participants performed two tasks in counterbalanced order. In comparison-objective conditions, they wrote a paragraph comparing two products. In independent-description conditions, they wrote a paragraph describing each product individually. The category of products involved in each task (mobile phones vs. computers) and the configuration of features used to describe the two products (unique positive and common negative features vs. unique negative and common positive features) were varied in a manner to be described. Regardless of the task objective they had been given, participants, after performing each task, were asked to indicate their preference for the two products and their liking for each product individually.

In Phase 2, which occurred either immediately or after a delay of 24 hr, participants were given the description of a new product in each of the two categories they had considered previously. All features of the new product differed from those of the products they had seen earlier. In each case, participants indicated their preference for the new product or the one they had chosen previously and then evaluated both products separately.

Participants in the study were 64 undergraduate marketing students who were assigned randomly to each combination of time delay (short vs. long) and eight different participant groups. As shown in Table 1, these groups differed in terms of the order in which the comparison and independent-description tasks were performed, the product categories employed in these tasks, and the valence of the features (positive or negative) that were unique to each description. As indicated presently, the design allowed a statistical analysis to be performed in which various main effects and interactions involving the eight participant groups could be interpreted as equivalent to the main effects and interactions of a 2 (task objective) × 2 (feature commonality: unique positive and common negative vs. unique negative and common positive) × 2 (product category) factorial. Only eight participants (four under each delay condition) participated in each of the eight groups described in Table 1. However, pooled over product categories, order, and counterbalancing variables, 16 participants in each delay condition represented each combination of task objectives and feature commonality.

Stimulus Materials

Selection of features. The product descriptions were constructed so that the specific features composing these descriptions appeared an equal proportion of times in pairs containing unique positive (common negative) features and pairs containing unique negative (common positive) features. To accomplish this, 18 features of each product category, of which 6 were positively valenced, 6 were negatively valenced, and 6 were relatively neutral, were required. To this end, 25 features were therefore generated in each of four product domains: automobiles, apartments, computers, and mobile phones. Then, 129 introductory marketing students who did not participate in the main study estimated the importance they would attach to each feature when purchasing a product in each category along a scale from 1 (*not at all*) to 7 (*very*), and also indicated the favorableness of the feature along a scale from –5 (*very unfavorable*) to 5 (*very favor-*

TABLE 1
Task Objectives, Feature Commonality and Product Category Presented in Each Experimental Group—Experiment 1

	Task 1			*Task 2*			*Dummy Variables*		
Group	*Objective*	*Features*	*Product Category*	*Objective*	*Feature*	*Product Category*	*A*	*B*	*C*
1	C	U+	Computer	D	U–	Phone	1	1	1
2	C	U+	Phone	D	U–	Computer	1	1	–1
3	C	U–	Computer	D	U+	Phone	1	–1	1
4	C	U–	Phone	D	U+	Computer	1	–1	–1
5	D	U+	Computer	C	U–	Phone	–1	–1	1
6	D	U+	Phone	C	U–	Computer	–1	–1	–1
7	D	U–	Computer	C	U+	Phone	–1	1	1
8	D	U–	Phone	C	U+	Computer	–1	1	–1

Note. C = comparison objectives; D = independent description objectives; U+ = unique positive (common negative) features; U– = unique negative common positive) features.

able). Based on these ratings, computers and mobile phones were selected for use in the main experiment. In each category, 6 positive (+), 6 negative (–) and 6 neutral (o) features were selected as shown in Table 2. The six features at each favorableness level were then subdivided into three sets of two, each of which was similar in mean favorableness and mean importance.

Construction of product descriptions. To construct pairs of product descriptions in each category, the first four product features at each level of favorableness listed in Table 2 were divided into two sets (1+, 2+, 1-, 2-, 1o, and 2o, as identified in the table). Then, four product descriptions of six features each were constructed: (a) 1+, 1–, and 1o; (b) 2+, 1–, and 2o; (c), 1+, 2–, and 2o; and (d) 2+, 2–, and 1o. The two pairs of products with unique positive and common negative features were then constructed by pairing "a" with "b" and "c" with "d." Two pairs of products with unique negative and common positive features were formed by pairing "a" with "c" and "b" with "d." (The two neutral features in each pair of descriptions were unique in all cases.) Each product feature was described the same proportion of times in pairs with unique positive features and pairs with unique negative features. Therefore, pooled over the product pairs used in each condition, each feature was contained the same number of times in the product descriptions representing each level of feature commonality.

The third set of descriptions at each level of favorableness (3+, 3–, and 3o) was used to construct descriptions of the new product that participants considered after making their initial judgments. Thus, all features of this new product were unique.

Eight participants in each of the eight groups shown in Table 1 (four in short delay conditions and four in long delay conditions) were exposed to each of the pairs used to represent a given level of feature commonality (unique positive and common negative vs. unique negative and common positive). The six features composing each product description were listed on a separate page. The features were conveyed in the order +–oo–+ for half of the participants and in the order –+oo+– for the other half.

Procedure

Phase 1. Participants were introduced to the study with instructions that its purpose was to determine how well students could read and write about products. They received a test booklet pertaining to the first task they were asked to perform

TABLE 2
Product Features Selected for Use in Constructing Stimulus Materials

	Personal Computer			*Mobile Phone*	
	M_{Fav}	M_{Imp}		M_{Fav}	M_{Imp}
Favorable features					
High RAM capacity (1+)	2.26	4.71	Good message reception (1+)	2.55	5.09
Recommended by friends (1+)	1.94	2.94	Convenient to carry (1+)	2.11	4.31
Good post-purchase repair service (2+)	2.13	4.41	Low monthly service charge (2+)	2.61	5.07
Protective screen (2+)	2.06	2.79	Attractive shape (2+)	2.13	4.24
Stable operation when moved (3+)	2.00	4.33	Good post-purchase repair service (3+)	1.72	3.72
Inexpensive (3+)	2.50	4.16	Easy to get connected (3+)	2.80	4.74
Unfavorable features					
Heavy weight (1–)	–2.44	4.11	Large size (1–)	–2.38	4.26
Little software included (1–)	–1.27	3.10	High cost (1–)	–1.83	3.50
Insensitive mouse (2–)	–2.06	3.89	Heavy weight (2–)	–2.06	4.19
Low hard disk capacity (2–)	–1.33	3.28	Poor memory (2–)	–1.93	3.38
Low CPU speed (3–)	–2.27	4.93	Hard to dial (3–)	–2.46	4.13
Poor sound quality (3–)	–1.33	3.33	Interference from other voices (3–)	–1.73	4.51
Neutral features					
Sold in reputable store (1o)	0.13	1.41	Bilingual interface (1o)	0.46	0.41
Small keyboard (1o)	0.61	1.14	6-month warranty (1o)	0.66	0.22
Installment payments (2o)	–0.22	0.04	Games (2o)	0.00	0.55
Unattractive keyboard color (2o)	–0.13	0.96	Radiation proof (2o)	1.00	1.89
Two year warranty (3o)	0.00	0.00	Normal antenna (3o)	0.50	0.50
Circular on/off button (3o)	0.00	0.00	Lays flat on table (3o)	0.25	0.25

Note. "+" refers to favorable features, "–" refers to unfavorable features, and "o" refers to neutral features.

and read the instructions to themselves. In comparison-objective conditions, the instructions indicated the following:

> ... we are interested in how people describe products to other persons who might want to compare them. On each of the next two pages, you will find descriptions of mobile phones (or personal computers). When the experimenter tells you to begin, turn over the page and read the description of the first product. Then, turn to the next page and read the description of the second. When you have read the information about both phones, write a detailed comparison of them, much as you would if you were describing them to a friend who was interested in deciding which one to buy ...

In independent-description conditions, the instructions read:

> ... we are interested in how people describe their impressions of single products that they have read about on different occasions. On each of the following pages, you will find a description of a mobile phone (or a personal computer). In each case, read the information about the product carefully. Then, on the page that follows, write your own description of the product, much as if you were writing to a friend who might be interested in purchasing it .... When you have finished writing your descriptions of the first product, turn over the page, read the information about the second, and write a description of it ....

Participants in each condition were told to base their descriptions on only the information provided and not to refer back to the information once they had begun writing.

After completing the task, participants turned to the last page of the booklet, which contained several questions. They first indicated which of the two products (denoted A and B) they preferred, and then estimated their liking for each product individually along scales from –5 (*dislike very much*) to 5 (*like very much*).

Participants were given 5 min to perform Task 1. Then, the booklets were collected and participants were given a second, filler task in which they were asked to write characterizations of persons on the basis of personality trait adjectives. On completion of this task, participants were given instructions for the second product judgment task (Task 2). As indicated in Table 1, participants who performed the comparison task first were asked in Task 2 to describe the products individually, whereas those who had performed the independent-description task first were asked to compare them. Instructions to these tasks, the configuration of product information presented, and the questions that participants answered subsequently, were similar to those given in Task 1 under comparable conditions.

Phase 2. On completing the second product judgment task, participants in short-delay conditions were immediately given a fourth test booklet containing a description of a new product in each of the domains they had considered in Phase 1 (i.e., mobile phones and computers). These products were each described by two positive, two negative, and two neutral features. These features, denoted sets 3+, 3–, and 3o in Table 2, differed from any of those that were used to construct the product descriptions in Phase 1. Participants were asked to compare the new product to the one they remembered having chosen earlier and to determine whether they would prefer the new product or stick to their original choice. Finally, they estimated their liking for each product separately along scales identical to those described earlier. This procedure was then repeated in the second product domain that participants had considered in Phase 1 (Task 2).

In long-delay conditions, participants, after completing the tasks in Phase 1, were told that the rest of the experiment would be completed the next day because the room was no longer available. On returning 24 hr later, they were administered the same materials that participants received in short-delay conditions.

Recall. Finally, participants in both delay conditions were asked to recall features of the products they had considered in Phase 1 of the study. They were told to list as many features as they could remember of the products presented in each domain without necessarily specifying which attributes pertained to which product.

Results

To extract the effects of interest from the counterbalanced design employed in this study, the eight participant groups described in Table 1 were coded in terms of three dummy variables. These variables are defined in the last three columns of the table, where each coding denotes a different orthogonal contrast. Data were then analyzed as a function of these variables, delay conditions, and a within-subject variable, task order (whether the task was performed first or last). Main effects and interactions involving these three dummy variables and task order could then be interpreted as equivalent to main effects and interactions involving task objectives, feature commonality, and product domain (phones vs. computers). (Thus, for example, the interaction of task order and dummy variable B is equivalent to an interaction of task objectives and feature commonality; the three-way interaction of task order, dummy variable A, and dummy variable B is equivalent to the main effect of feature commonality, etc.).

Phase 1 Judgments

Direction-of-comparison effects (phase 1). If participants focused their attention on the second product they

were asked to consider and employed the feature-matching processes postulated by Houston and Sherman (1995), they should be more likely to choose the second product presented when the choice alternatives have unique positive features but to choose the first product when the alternatives have unique negative features.

This was, in fact, the case. A greater proportion of participants chose the second product when the product's unique features were positive (.55) than when they were negative (.33), $F(1, 47) = 5.91, p < .02$.[3] Moreover, this difference was similar in magnitude under both comparison-objective conditions (.56 vs. .40) and independent-description conditions (.58 vs. .25; $p > .10$). Thus, although participants wrote independent descriptions of the two products, their preference for one product over the other was based on a comparison of the product's individual features, with the unique features of the second product being weighted more heavily than those of the first.

Cancellation effects. The similarity of direction-of-comparison effects in the two task-objective conditions could indicate that participants in both conditions spontaneously compared the product's specific features at the time the features were described. As noted earlier, however, they may not have made these comparisons until they were required to report their preferences, based on a mental review of the features they had learned about earlier. These alternative possibilities cannot be distinguished on the basis of direction-of-comparison effects alone. If feature-matching processes occurred spontaneously at the time the product information was first presented, however, cancellation effects should also be evident in both task-objective conditions as well. In independent-description conditions, however, this was not the case.

The magnitude of cancellation effects can be inferred from the difference between the evaluations of products that had unique positive (common negative) features and the evaluations of products with unique negative (common positive) features. To the extent cancellation effects occur, this difference (M_{Diff}) should be positive. Pooled over task objective conditions, the difference was greater than zero ($M_{Diff} = 0.34$), $F(1, 47) = 3.33, p < .07$. In fact, however, this was true only under comparison-objective conditions ($M_{Diff} = 0.78$) and was actually in the opposite direction under independent-description conditions ($M_{Diff} = -0.11$).

This effect was further qualified by an interaction of task objectives, feature commonality, task order, and product (selected vs. rejected), $F(1, 47) = 4.18, p < .05$. Data relevant to this interaction are shown in Table 3. Cancellation effects were not appreciable under independent-description conditions regardless of whether the task was performed first or last, and regardless of whether the product being evaluated was the one that participants had selected or the one they had rejected. In contrast, cancellation effects under comparison-objective conditions were contingent on both of these variables. That is, when the comparison-objective task was performed first, cancellation effects on evaluations of the rejected alternative were more apparent than their effects on judgments of the chosen one. When the task was performed last, however, the reverse was true. The reason for this contingency is not clear. As we note presently, however, a greater cancellation effect on judgments of the rejected alternative than on judgments of the chosen one was also evident under comparable conditions of Experiment 2. The implications of this difference will be discussed once the results of the second study are reported.

Phase 2 Judgments

Participants in Phase 2 of the experiment reevaluated the product they had chosen earlier and also judged a new product whose features differed from those of the initial choice alternatives. Two aspects of these data are of interest. First, differences in evaluations of the originally chosen product under short- and long-delay conditions indicate the extent to which the relative influence of unique and common features on evaluations changed over time. Furthermore, the similarity of these judgments to evaluations of the new product suggests the extent to which these latter judgments were influenced by the same processes that surrounded evaluations of the earlier ones. Cancellation effects on both the originally chosen product and the new product are shown in Table 4 as a function of task objectives and time delay. The issues to which these data are relevant are discussed in turn.

TABLE 3
Cancellation Effects on Chosen and Rejected Alternatives as a Function of Task Objectives and Task Order—Experiment 1

	Chosen Alternative	*Rejected Alternative*	*M*
Comparison-objective task			
Performed first	0.37	1.06	0.71
Performed last	1.50	0.19	0.84
M	0.93	0.62	—
Independent-description task			
Performed first	0.18	0.04	0.11
Performed last	−0.62	−0.06	−0.34
M	−0.22	−0.01	—

Note. Numbers refer to the difference in evaluations of products with unique positive (common negative) features and evaluations of products with unique negative (common positive) features (M_{Diff}).

[3] This difference and its contingencies on other experimental variables were assessed on the basis of an analysis of variance of dichotomous data (Huynh & Feldt, 1970).

TABLE 4
Cancellation Effects on Judgments of the New and Originally Chosen Products in Phase 2—Experiment 1

	Short delay	*Long delay*	*M*
Comparison-objective task			
Originally chosen product	0.56	0.13	0.35
New product	0.25	1.31	0.78
Independent-description task			
Originally chosen product	–0.25	–0.13	–0.19
New product	–1.18	–0.50	–0.84

Note. Numbers refer to the difference in evaluations of products with unique positive (common negative) features and evaluations of products with unique negative (common positive) features (M_{Diff}).

Changes in judgments over time. Suppose participants in Phase 2 based their evaluations of the originally chosen product in Phase 2 on the features of this product that they could recall. Then, if the common features of the original choice alternatives are better remembered than the unique ones (Hodges, 1998), they should have more influence as time goes on, and this increased influence should be reflected in a decrease in cancellation effects (that is, a decrease in the influence of unique features relative to common ones). Consistent with this reasoning, cancellation effects under comparison-objective conditions were less under long-delay conditions (M_{Diff} = 0.13) than under short-delay conditions (M_{Diff} = 0.56). Under independent-description conditions, however, these effects were negative and did not appreciably differ under long- and short-delay conditions (–0.13 vs. –.25, respectively). In other words, features that were common to the two product descriptions in these conditions had a generally greater influence than features that were unique to the descriptions, and this influence did not change over time. An analyses of judgments of the originally-chosen product as a function of task objectives, delay, and feature commonality yielded no significant effects involving delay ($p > .10$). As we see, however, a similar pattern of findings was evident in Experiment 2.

Comparisons with the new product. Participants in Phase 2 of the experiment were asked to compare the product they had chosen earlier with a new product whose feature descriptions were all unique. We considered three different strategies that might underlie these comparisons. According to the evaluation-retrieval hypothesis, participants compute an overall evaluation of the new product and compare this evaluation to the evaluation they recall having made of the product they had chosen earlier. If this is so, the originally chosen product should have a contrast effect on judgments of the new one. According to the feature-retrieval hypothesis, participants attempt to employ a feature-matching process of the sort postulated by Houston and Sherman (1995). However, because all of the new product features were unique, the new product should be evaluated on the basis of all of its features, and this should be true regardless of the originally chosen product with which it is compared.

Finally, the strategy-retrieval hypothesis implies that participants who are asked to compare the new product with the originally chosen product attempt to employ the same criteria in evaluating both. Thus, if they remember having used positive (negative) features to judge the originally chosen product, they focus on positive (negative) features of the new product as well. If this is so, cancellation effects on judgments of the originally chosen product should generalize to the new one.

Data summarized in Table 4 are most consistent with the third hypothesis. Under comparison-objective conditions, cancellation effects were evident on both the originally chosen product and the new one (0.35 vs. 0.78, respectively). Under independent-description conditions, however, the effect was in the opposite direction (M_{Diff} = –0.52), and this was also true for both the product chosen originally and the new one (–0.19 vs. –0.84). These conclusions are confirmed by an interaction of task objectives and feature commonality, $F(1, 47) = 3.37$, $p < .07$, that did not depend on either which product was being evaluated or the delay conditions ($p > .10$).[4]

Recall

Although the decrease in cancellation effects over time was not reliable in this experiment, it is consistent with our speculation that the common features of the original choice alternatives would become more accessible in memory than its unique features as time went on and, therefore, would have increasing impact. Recall data provide qualified support for this assumption. Participants generally recalled a greater proportion of common features than unique ones (.84 vs. .64), $F(1, 47) = 82.05$, $p < .01$, consistent with results reported earlier by Hodges (1998). Moreover, this difference was evident under both independent-description conditions (.87 vs. .61) and comparison-objective conditions (.81 vs. .67), indicating that the accessibility of common features in memory was similar regardless of whether participants canceled them out when making product evaluations.

[4]Data were also obtained concerning participants' preferences for the new vs. the originally chosen product, thereby permitting direction-of-comparison effects to be evaluated as well. However, the configuration of attribute descriptions of the new product was apparently less favorable than those of the earlier ones that participants considered. Consequently, over 80% of participants chose the original product over the new one, and this proportion did not differ over experimental conditions. As a result, only absolute judgments of each product are reported.

On the other hand, the difference in recall of common vs. unique features was not appreciably different after a long delay (.76 vs. .59, respectively) than after a short delay (.92 vs. .69, respectively; $p > .10$), and this was true in both task objective conditions. This indicates that the relative accessibility of common features in memory did not change over time. Nevertheless, the generally greater salience of these features appeared to increase the likelihood of using them as a basis for evaluating the product they had chosen earlier when the alternative product was no longer salient.

Discussion

The results of Experiment 1 potentially suggest that people do not spontaneously engage in the feature-matching processes postulated by Houston and Sherman (1995) when they encounter products in temporal proximity. The direction-of-comparison effects obtained in previous studies (Houston et al., 1989, 1991) were evident both when participants were explicitly told to compare the products at the time they received information about them and when they initially considered the products independently of one another. If feature-matching processes occur spontaneously, however, cancellation effects should have occurred in both conditions as well. In fact, however, these effects were only evident in comparison-objective conditions.

Participants under independent-description conditions may have formed impressions of each product separately at the time the product information was received, and the evaluations they reported later may have reflected these impressions. When they were later asked explicitly to compare the products they had considered earlier, they may have recalled the features of the two products, disregarded the ones they remembered as being common to the descriptions they had read, and focused on only the unique features. Nevertheless, their evaluations of the products being compared reflected the impressions they were likely to have formed earlier rather than the results of the comparison they made at the time of judgment.

In contrast, participants who were given a comparison objective may have engaged in feature matching at the outset. Thus, the product evaluations they reported later reflected the effects of canceling out the product's common features in the course of this comparison. It should be noted, however, that participants in these conditions had better recall of common features than unique features despite the fact that cancellation effects occurred, and this recall bias was not appreciably different than it was under independent-description conditions. The process of deliberately canceling out the product's common features in the course of making a comparative judgment obviously requires attention to these features, and this attention apparently leads these features to be retained in memory. Thus, although the features did not have a major influence on either participants' preferences or their evaluations of the products at the time the products were first considered, they were nevertheless a prominent part of the information about the products that participants retained in memory.

Participants might be expected to use a product they have chosen earlier as a standard of comparison in evaluating a new one. If this were so, however, the cancellation of common features in the course of evaluating the initial choice alternatives (which led products with unique positive features to be evaluated relatively more favorably) should have had the opposite effect on judgments of the new alternative than it had on the chosen one. In fact, cancellation effects on judgments of the originally chosen product generalized to the new alternative. This is consistent with the strategy-retrieval hypothesis. That is, individuals who had based their initial comparisons on attributes of a given valence were disposed to use similar criteria in evaluating other products in the same category. This is true although the latter products' features differed from those encountered previously.

Although these conclusions are provocative, however, several results of this study were of marginal significance. Moreover, exposing participants to both types of task in succession may have disposed them to make distinctions in the strategies they used to make judgments in the two conditions that might otherwise not exist. The contingency of cancellation effects on task order (Table 3) provides some evidence that the effects of performing the two tasks were not independent. It therefore seemed desirable to replicate the study under conditions in which this possible dependence was eliminated. Experiment 2 accomplished this.

EXPERIMENT 2

The second experiment was identical to the first with two exceptions. First, participants performed only one type of judgment task rather than both. Second, participants in Phase 2 of the first experiment were explicitly asked to compare the originally chosen product with the new one. This procedure could induce a judgment strategy that would otherwise not be employed. To investigate this possibility, some participants in Phase 2 of this experiment evaluated the new product and the one they had chosen earlier without being asked to state their preference for one or the other.

Method

Participants and Design

Participants were 64 undergraduate marketing students. Of these, eight were randomly assigned to each combination of task objectives (comparison vs. independent-description), delay (short vs. long), and final judgment condition (whether participants in Phase 2 of the study made explicit comparisons of the originally chosen product and the new one). Par-

ticipants in each task-objective condition were exposed to two pairs of products, one of which had unique positive and common negative and the other of which had unique negative and common positive features. This was done in such a way that the category of products presented at each level of feature commonality, and the order in which participants were exposed to them, were counterbalanced.

Procedure

The stimulus materials we employed in this experiment were identical to those we used in Experiment 1. Participants in Phase 1 received instructions similar to those used in the first experiment and were administered materials relevant to the task-objective condition to which they were assigned. After receiving the materials and making ratings of the products, they were then exposed to descriptions of the second pair of products and made ratings of these products. (In this experiment, the filler task used in the first experiment was considered unnecessary and, therefore, was omitted.)

Phase 2 of the experiment was conducted either immediately after the first phase (short-delay conditions) or 24 hr later (long-delay conditions). Participants were given materials pertaining to the new product in each of the categories they had considered earlier. Participants in choice conditions were first asked to compare the new product to the one they had chosen earlier. Participants under no-choice conditions were not asked to make this comparison. Participants in both conditions then estimated their liking for each product separately. Finally, participants were asked to recall all of the features they could remember of the product they had considered in Phase 1.

Results

Phase 1 Judgments

Direction-of-comparison effects. The direction-of-comparison effects confirmed the results of Experiment 1. That is, participants were more likely to choose the second product when the two products were described by unique positive features ($M = .62$) than when they were described by unique negative features ($M = .22$), $F(1, 55) = 23.91$, $p < .01$. Moreover, this effect was not different under independent-description conditions (.74 vs. .22) than it was under comparison-objective conditions (.50 vs. .22), $p > .10$. Thus, as in the first experiment, participants disregarded the common features of the choice alternatives even when they were not explicitly told to compare them until after they had received information about them and described each product individually.

Cancellation effects. Products were generally evaluated more favorably when they had unique positive features ($M = 1.49$) than when they had unique negative features ($M = 0.95$), $F(1, 54) = 10.68$, $p < .01$. Under comparison-objective conditions, this difference (M_{Diff}) was evident for both alternatives, but was greater in the case of the rejected alternative ($M_{Diff} = 0.93$) than for the chosen one ($M_{Diff} = 0.26$). This difference replicates the findings of Experiment 1 under comparable conditions (1.06 vs. 0.37, when the comparison-objective task was performed first; see Table 3).

Under independent-description conditions, the cancellation effect on judgments of the chosen alternative was negligible ($M_{Diff} = 0.00$), which is again consistent with the results of Experiment 1. In contrast to the first experiment, however, a cancellation effect on judgments of the rejected alternative was evident ($M_{Diff} = 0.98$). Thus, pooled over task-objective conditions, cancellation effects on judgments of the rejected alternative were generally greater ($M_{Diff} = 0.95$) than they were on judgements of the chosen one ($M_{Diff} = 0.13$), $F(1, 54) = 11.11$, $p < .05$. Possible reasons for this will be considered presently.

Phase 2 Judgments

We were concerned that in Experiment 1, the effects of original product descriptions on evaluations of a new choice alternative might be an artifact of asking participants explicitly to compare the new and originally chosen products before evaluating them. In fact, this was not the case. Analyses of judgments in Phase 2 as a function of delay, feature commonality, task objectives, and choice conditions (whether participants were or were not asked to state a preference for new vs. originally chosen product) yielded no effects of the latter variable whatsoever, $p > .10$. Thus, this variable will be ignored in the remaining analyses to be reported.

Effects of delay. The results of Experiment 1 (see Table 4) suggested that the impact of common features on judgments of the originally chosen product increased over time under comparison-objective conditions, and had a generally greater influence than unique features under independent-description conditions. Although this pattern of results was not statistically reliable in the first experiment, it was evident in Experiment 2 as well.

Data in Table 5 show that under comparison-objective conditions, cancellation effects on judgments of the originally chosen product decreased over time. This decrease, which confirms the effects we observed in Experiment 1 (Table 4), indicates that features that were common to the original choice alternatives had increasing effects as time went on. In independent-description conditions, common features had at least as great an effect as unique features after a short delay and had a greater effect than unique features after a long delay (as reflected in a negative cancellation effect). This again is not incompatible with the results of the first experiment,

TABLE 5
Cancellation Effects on Judgments of New and Originally Chosen Products in Phase 2—Experiment 2

	Short delay	*Long delay*	*M*
Comparison-objective task			
Originally chosen product	0.31	–0.13	0.09
New product	0.88	0.00	0.44
Independent-description task			
Originally chosen product	0.00	–0.94	–0.47
New product	–0.88	0.52	0.18

Note. Numbers refer to the difference in evaluations of products with unique positive (common negative) features and evaluations of products with unique negative (common positive) features (M_{Diff}).

which showed a generally greater impact of common than unique features in this condition. The interaction of feature commonality and delay on judgments of the originally chosen product was significant, $F(1, 55) = 5.82$, $p < .05$, and was independent of task objectives, $p > .10$.

Judgments of the new product. Averaged over delay conditions, the cancellation effects on judgments of new and originally chosen products were similar, and resembled those observed in Experiment 1. That is, cancellation effects on both products were positive under comparison-judgment conditions and negative under independent-description conditions. This finding is consistent with the strategy-retrieval hypothesis. That is, participants who had based their judgements of the originally chosen product on a particular subset of features used evaluatively similar features to judge the new one. However, this hypothesis is insufficient to account for the data obtained in independent-description conditions. In these conditions, the influence of common features on judgments of the originally chosen product increased over time, as it did under comparison-objective conditions. However, the influence of evaluatively similar features on judgments of the new product decreased. This pattern of results is confirmed by an interaction of feature commonality, task objectives, delay, and product (new vs. originally chosen), $F(1, 55) = 3.42$, $p < .07$. In Experiment 1 (see Table 4), changes in the type of features used to evaluate the new product were similar in both task-objective conditions. A possible reason for these effects is considered presently.

Recall

Participants recalled a greater proportion of common features ($M = .92$) than unique ones ($M = .69$), $F(1, 55) = 28.91$, $p < .001$. Moreover, this difference was significantly greater under independent-description conditions (.99 vs. .67) than under comparison-objective conditions (.84 vs. .71), $F(1, 55) = 5.81$, $p < .02$. This suggests that in this experiment, participants with an independent-description objective were more inclined than those with a comparison objective to pay attention to features that the products had in common. However, this difference was not apparent in Experiment 1.

GENERAL DISCUSSION

The main findings of our experiments converge on several conclusions. First, participants who are motivated to make comparative judgments of two products may disregard the features that are common to both alternatives, and the subjective cancellation of these features biases the evaluation of each product separately. These common features are not totally ignored, however, but become an important part of the knowledge about these alternatives that is acquired and stored in memory. As a result, these features may have increasing impact on judgments after a period of time has elapsed.

Second, the feature-matching processes that underlie comparative judgments do not occur spontaneously on exposure to descriptions of the products in temporal proximity. Rather, persons under certain conditions may make independent judgments of the products, and may only compare their individual features at the time they are called on to report their preferences. Participants in this research were explicitly told to describe the products separately when they first received information about them. The active generation of these descriptions could override any more general disposition to compare the products that might exist when people encounter product descriptions without any specific goal in mind. Be that as it may, it seems reasonable to conclude that feature matching did not occur automatically, but rather was the result of conscious, goal-directed processing.

The fact that participants under independent-description conditions formed individual impressions of the products at the time they received the information is evidenced by the absence of strong cancellation effects on their evaluations. However, direction-of-comparison effects on participants' preference judgments were still evident. One might expect on a priori grounds that if participants form general impressions of the products at the time they receive information about them, they would use these global impressions as a basis for their later judgments. In fact, however, this was not the case. Instead, participants appeared to retrieve the individual features of the products they had encountered earlier and to compare these recalled features in much the same way they would if the features were directly available.

This conclusion might seem to conflict with results reported earlier by Carlston (1980) and others (e.g., Higgins & Lurie, 1983; Lingle & Ostrom, 1979), who found that when people have made general evaluations of an object, they later use these evaluations as bases for later judgments independently of the information on which the initial evaluations are based. How-

ever, these earlier findings were obtained under conditions in which participants form impressions of a single stimulus object rather than comparing two or more objects. Moreover, this research has not been performed in the product domain. Perhaps the need to make comparative judgments of products, which are typically based on an assessment of individual features, induces a feature-matching process that overrides effects of the sort observed in earlier research.

Several unexpected aspects of our results should be noted. Particularly interesting is the evidence that cancellation had stronger effects on judgments of the rejected alternative than of the chosen one. One interpretation of this asymmetry is that the common features of the products were not totally ignored but, in fact, had greater effect on judgments of the chosen product than the rejected one. The feature-matching process proposed by Houston and Sherman (1995) assumes that participants review each feature of the focal product and either exclude it from consideration (if the alternative also has this feature) or take it into account (if it is unique). In performing this review, however, participants are clearly aware of the common features, and may think more extensively about the implications of these features for the product they choose than about the implications for the product they reject. To this extent, cancellation effects on judgments of the chosen product would be relatively less pronounced, as our results indicate.

Effects of Making Comparative Judgments on Evaluations of New Products

The processes that influenced the relative impact of unique and common features in participants' evaluations of the products they considered initially also had an impact on their evaluations of a new product they encountered later. This was true although the new product was described by totally different features than the original ones. Of the three hypotheses we considered concerning the reasons for this impact, the strategy-retrieval hypothesis is most viable. That is, participants who encounter a new product in the same context as ones they evaluated earlier may believe they should use similar criteria to evaluate it. Therefore, if they remember having based their evaluations of the earlier products on features of a particular valence, they may be disposed to weight evaluatively similar features more heavily in judging the new one as well. This could bias their evaluations in much the same way that evaluations of the original product were biased.

The effects of strategy retrieval were particularly evident under comparison-objective conditions, where participants were most likely to be conscious of the feature-matching strategy they had employed. When participants had made independent evaluations of the products they considered at the outset, their evaluations of the new product may have been influenced in other ways. For example, participants' judgments of the new product under these conditions were often less favorable when the products they encountered earlier had unique positive (common negative) features than when they had unique negative (common positive) ones.

The reason for this finding can only be speculated. However, one possibility is that favorable (or unfavorable) attributes of the new product appeared subjectively more distinctive when similarly valenced features were common to the product descriptions they had encountered earlier (i.e., when only two different features with the same valence were described) than when they were unique (i.e., when four different features with this valence were described). If information has more effect on judgments when it is novel or distinctive (Wyer, 1970), this could account for the differential weighting we observed. Note that if this explanation is correct, the effects are likely to decrease over time, as features of the original choice alternatives become less salient. In fact, the greater impact of evaluatively similar (vs. dissimilar) features on judgments of the new product was much less evident under long-delay conditions than under short-delay conditions, and this was true in both experiments. These data are therefore consistent with our conjecture.

Final Comments

The distinction we have made between unique and common features is somewhat artificial. That is, although features may be unique to a particular product description, this does not mean that the alternative product does not also possess these features. In some cases, consumers may infer unmentioned attributes of one product from the descriptions of other products of the same type (Sanbonmatsu, Kardes, & Herr, 1992; Sanbonmatsu, Kardes, & Sansone, 1991). Under these circumstances, the different effects of unique and common features may be diminished.

More generally, product information outside the laboratory is often conveyed visually (i.e., in a picture) as well as in an unordered list, and consumers may respond to the information configurally rather than piecemeal (cf. Adaval & Wyer, 1998). Comparison processes in these conditions must also be understood.

It nevertheless seems reasonable to suppose that feature-matching processes of the sort we considered in this research operate in a number of different situations in which product information is received. Therefore, the implications of our research for the conditions in which these processes occur are likely to contribute to our ultimate understanding of comparative judgment processes. Moreover, this research makes salient a number of previously unidentified ambiguities that must be eliminated in developing a complete conceptualization of these processes. Although these experiments did not resolve many of these ambiguities, they suggest directions that future research might profitably take.

ACKNOWLEDGMENTS

This research was performed as part of a master thesis by the first author under the direction of the second. Thanks are extended to Donnel Briley and Rashmi Adaval for helpful comments on the research and its interpretation.

REFERENCES

Adaval, Rashmi, & Wyer, Robert S. (1998). The role of narratives in consumer information processing. *Journal of Consumer Research, 7,* 207–245.

Anderson, John R. (1983). *The architecture of cognition.* Cambridge, MA: Harvard University Press.

Anderson, Norman H. (1981). *Foundations of information integration Theory.* San Diego, CA: Academic.

Bargh, John A. (1997). The automaticity of everyday life. In Robert S. Wyer, Jr. (Ed.), *Advances in social cognition* (pp. 1–61). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Bargh, John A., & Ferguson, Melissa J. (2000). Beyond behaviorism: On the automaticity of higher mental processes. *Psychological Bulletin, 126,* 925–945.

Carlston, Donal E. (1980). Events, inferences, and impression formation. In. Reid Hastie, Thomas Ostrom, Ebbe Ebbesen, Robert Wyer, & Donal Carlston (Eds.), *Person memory: Cognitive basis of person perception* (pp. 89–120). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Chernev, Alex. (1997). The effect of common features on brand choice: The moderating role of attribute importance. *Journal of Consumer Research, 23,* 304–311.

Dhar, Ravi, & Sherman, Steven J. (1996). The effect of common and unique features in consumer choice. *Journal of Consumer Research, 23,* 193–203.

Fishbein, Martin. (1963). An investigation of the relationship between beliefs about an object and the attitude toward that object. *Human Relations, 16,* 233–240.

Fiske, Susan T., & Pavelchak, Mark. A. (1986). Category-based versus piecemeal-based affective responses: Developments in schema-triggered affect. In Richard M. Sorrentino & E. Tory Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 167–203). New York: Guilford.

Higgins, Tory E., & Lurie, Liora .(1983). Context, categorization and recall. *Cognitive Psychology, 15,* 525–547.

Hodges, Sara. (1997). When matching up features messes up decisions: The role of feature matching in successive choices. *Journal of Personality and Social Psychology, 72,* 1310–1321.

Hodges, Sara. (1998). Reasons for the referent: Deducing direction of comparison of effects. *Social Cognition, 16,* 367–390.

Houston, David A., & Sherman, Steven J. (1995). Cancellation and Focus: The role of shared and unique features in the choice process. *Journal of Experimental Social Psychology, 31,* 357–378.

Houston, David A., Sherman, Steven J., & Baker, Sara M. (1989). The influence of unique features and direction of comparison on preferences. *Journal of Experimental Social Psychology, 25,* 121–141.

Houston, David A., Sherman, Steven J., & Baker, Sara M. (1991). Feature matching, unique features, and the dynamics of the choice process: Predecision conflict and postdecision satisfaction. *Journal of Experimental Social Psychology, 27,* 411–430.

Hsee, Christopher K., & Leclerc, France. (1998). Will products look more attractive when presented separately or together? *Journal of Consumer Research, 25,* 175–186.

Huynh, Huynh, & Feldt, Leonard S. (1970). Conditions under which mean square ratios in repeated measurements designs have exact f-distributions. *Journal of The American Statistical Association, 65,* 1582–1589.

Kardes, Frank R., Kalyanaram, Gurumurthy, Chandrashekaran, Murali, & Dornoff, Ronald J. (1993). Brand retrieval, consideration set composition, consumer choice, and the pioneering advantage. *Journal of Consumer Research, 20,* 62–75.

Lingle, John H., Altom, Mark W., & Medin, Douglas L. (1984). Of cabbages and kings: Assessing the extendibility of natural object concept models to social things. In Robert S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 71–118). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Lingle, John H., & Ostrom, Thomas M. (1979). Retrieval selectivity in memory-based impression judgments. *Journal of Personality and Social Psychology, 37,* 180–194.

Lynch, John G., Chakravarti, Dipankar, & Mitra, Anusree. (1991). Contrast effects in consumer judgments: Changes in mental representations or in the anchoring of rating sales? *Journal of Consumer Research, 18,* 284–297.

Lynch, John G., Marmorstein, Howard, & Weigold, Michael F. (1988). Choices from sets including remembered brands: Use of recalled attributes and prior overall evaluations. *Journal of Consumer Research, 15,* 169–184.

Mantel, Susan Powell, & Kardes, Frank R. (1999). The role of direction of comparison, attribute-based processing, and attitude-based processing in consumer preference. *Journal of Consumer Research, 25,* 335–352.

Nedungadi, Prakash. (1990). Recall and consumer consideration sets: Influencing choice without altering brand evaluations. *Journal of Consumer Research, 17,* 263–276.

Ostrom, Thomas M., & Upshaw, Harry S. (1968). Psychological perspective and attitude change. In Anthony G. Greenwald, Timothy C. Brock, & Thomas M. Ostrom (Eds.), *Psychological foundations of attitude* (pp. 217–242). New York: Academic.

Parducci, Allen. (1965). Category judgment: A range-frequency model. *Psychological Review, 72,* 407–418.

Sanbonmatsu, David M., Kardes, Frank R., & Gibson, Bryan D. (1991). The role of attribute knowledge and overall evaluations in comparative judgment. *Organizational Behavior and Human Decision Processes, 48,* 131–146.

Sanbonmatsu, David M., Kardes, Frank R., & Herr, Paul M. (1992). The role of prior knowledge and missing information in multiattribute evaluation. *Organizational Behavior and Human Decision Processes, 51,* 76–91.

Sanbonmatsu, David M., Kardes, Frank R., & Sansone, Carol. (1991). Remembering less and inferring more: The effects of timing of judgment on inferences about unknown attributes. *Journal of Personality and Social Psychology, 61,* 546–554.

Sherman, Steven J., Ahlm, Karin, Berman, Leonard, & Lynn, Steven J. (1978). Contrast effects and their relationship to subsequent behavior. *Journal of Experimental Social Psychology, 14,* 340–350.

Wyer, Robert S. (1970). Information redundancy, inconsistency and novelty and their role in impression formation. *Journal of Experimental Social Psychology, 6,* 111–127.

Wyer, Robert S., & Carlston, Donal E. (1979). *Social cognition, inference, and attribution.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Accepted by Dawn Iacobucci.