

# Affect, Appraisal, and Consumer Judgment

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When consumers receive verbal information about a product's attributes, the influence of the affect they are experiencing on their product evaluations depends on their belief that the product should be judged on the basis of hedonic versus utilitarian criteria. When consumers see the product before they receive attribute information, however, the product's appearance can stimulate them to form an affect-based initial impression that they later use as a basis for judgments independent of the criteria they would otherwise apply. Consequently, the mood that consumers happen to be in has different effects on their judgments than it would otherwise.

People often use their affective reactions to a stimulus as information about how much they like it (Schwarz and Clore 1996; Wyer, Clore, and Isbell 1999). Several studies of consumer judgment provide insight into the conditions in which this occurs and the cognitive mechanisms that underlie it (Adaval 2001; Gorn 1982; Pham 1998; Pham et al. 2001; Shiv and Fedorikhin 1999). In much of this research, the informational influence of affect is assumed to occur at the time of judgment. In many situations, however, people form a global impression of a stimulus before they receive information about its specific attributes. In these situations, affect could influence this earlier, impression-formation stage of processing. Furthermore, the impact of affect on processing at this stage is likely to have different effects on people's evaluations of the stimulus that might have occurred at the time of judgment.

The latter possibility, which has not previously been investigated, has particular relevance for consumer judgment. When consumers do not have an opportunity to form an initial impression of a product, they may only consult their feelings about the product when they believe that these feelings are relevant to an assessment of its favorableness. Thus, as research by Pham (1998) and Adaval (2001) indicates, affective reactions are likely to have an impact on product judgments that are typically based on hedonic, feeling-related criteria (e.g., taste, physical attractiveness, comfortableness, etc.). In contrast, affect has little influence on eval-

uations that are usually based on utilitarian criteria (quality of workmanship, the ability to perform a specific function, etc.).

Outside the laboratory, however, consumers often see a product in a store window, or encounter a picture of it in a magazine, before they learn about its specific attributes. In these conditions, the product's physical appearance is likely to stimulate a spontaneous appraisal of it as either favorable or unfavorable (see Lazarus 1982, 1991 for a more general discussion of this appraisal process). Although the appraisal itself is cognitive (Lazarus 1982), it can often elicit positive or negative affect. This affect can provide the basis for initial impressions of the product. These affect-based impressions, in turn, can influence consumers' product evaluations independent of any more specific product-related information that they encounter subsequently.

Three experiments support this contention by showing the following results. They show that when consumers do not appraise a product before they receive information about its specific features, the affect they are experiencing influences their evaluations only if the type of product being judged would normally be based on hedonic criteria rather than utilitarian ones. However, when people appraise a product at the outset and this appraisal evokes affective reactions, these results influence their initial impressions of the product and the judgments that are based on it. Moreover, this is true regardless of the judgmental criteria they might have applied. Correspondingly, when consumers appraise a product at the outset, but this appraisal does not evoke affective reactions, the affect they are experiencing for other reasons does not influence either their impressions of the product or the judgments they make. In short, under conditions in which consumers have a chance to appraise a product at the outset, the impact of affect on their judgments depends on whether this appraisal evokes affective reactions rather than the judgmental criteria they might otherwise have applied.

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## THE ROLE OF AFFECT IN APPRAISAL, IMPRESSION FORMATION, AND JUDGMENT

### Spontaneous Appraisal and Impression Formation

To reiterate, people who encounter a stimulus often appraise it globally as a whole without performing a detailed analysis of its individual features (Lazarus 1982, 1991). This appraisal, which could be elicited by the stimulus's physical appearance, is typically nonverbal (for a review, see Reizenstein 2001). Furthermore, although it is theoretically cognitive in nature, it can often (although not always) elicit affective reactions. This spontaneous appraisal, along with the affect (if any) that it elicits, can provide the basis for an initial impression of the stimulus as favorable or unfavorable.

A consideration of the appraisal process is important in light of evidence that once people form an initial impression of a stimulus, this impression persists to influence judgment independent of more specific, judgment-relevant information that becomes available subsequently. This phenomenon is well documented both in consumer behavior (Wright 1975; also see Bettman 1982 for a review) and other domains (Bodenhausen and Wyer 1985; Carlston 1980; Lingle and Ostrom 1979; Srull and Wyer 1989) and is theoretically consistent with several general conceptualizations of information processing (Chaiken 1987; Taylor and Fiske 1978; Wyer and Srull 1989).

Although people base their judgment of a stimulus on their initial impression, however, they do not completely ignore the information they encounter later. Rather, they may use this information to confirm the implication of the impression they formed at the outset. In Bodenhausen and Wyer's (1985) study, for example, participants based their judgments of a person on stereotype-based impressions that were activated by the person's name. Nevertheless, they thought about implications of the information they received later, giving particular attention to aspects that confirmed their stereotype-based expectations (as evidenced by better recall of these aspects than of other, expectancy-disconfirming information). Other evidence of confirmatory information processing has been identified in both consumer research (Chernev 2001) and elsewhere (for a summary, see Snyder 1981).

### The Role of Affect in Impression Formation and Judgment

Although the impact of affective reactions on judgments has been attributed to several factors (Bower 1981; Forgas 1995; Gorn 1982), its primary impact results from its use as information (cf. Schwarz and Clore 1996; Wyer et al. 1999). In some cases, the affect may actually be evoked by the stimulus being judged (Schwarz 2001; Shiv and Fedorikhin 1999). However, individuals usually cannot distinguish clearly between the different sources of the affect they happen to be experiencing at any given time. Consequently,

they may frequently misattribute contextual affect (e.g., the mood they happen to be in) to the object they are judging, and, therefore, this contextual affect can influence their judgments as well (Schwarz and Clore 1983, 1996).

People's use of affect as a basis for judgment could often reflect their application of a "how-do-I-feel-about-it?" heuristic (Schwarz and Clore 1988). However, they are likely to apply this heuristic only when they believe that their affective reactions are a relevant basis for their judgments. As noted earlier, Pham (1998) and Adaval (2001) found that consumers' affective reactions only had an impact on their evaluations of objects that are typically judged on the basis of hedonic (feeling-related) criteria and did not influence their evaluations of products that were normally based on utilitarian considerations.

However, participants in Pham's and Adaval's studies were unlikely to have appraised the product before they received specific information about it. Suppose people have a chance to see the product before they acquire this information. The product's physical appearance is likely to stimulate them to appraise the product and, as a result, to form initial impressions of it. Then they might use these impressions as a basis for the judgments they report later, independent of the criteria they might otherwise apply.

The implications of these assumptions depend on whether the spontaneous appraisal that is made of the product elicits affective reactions. When these reactions are elicited, they are likely to have an impact on people's initial impressions of the product and, therefore, on evaluations of the product that are based on these impressions. Moreover, this could be true even if the product would normally be evaluated on the basis of utilitarian considerations. As noted earlier, however, appraisals are fundamentally cognitive in nature (Lazarus 1982) and, as such, do not always elicit affect. In this case, participants' appraisal-based impressions, and their subsequent product evaluations, should not be influenced by the affect they are experiencing, and this should generally be true even if the product is one that would normally be judged on the basis of hedonic criteria.

The above considerations are summarized in three general hypotheses:

- H1:** If consumers are asked to evaluate a product on the basis of information about its specific attributes without having made an appraisal of it, the affect they are experiencing will have a positive influence on their evaluations of a product that are based on hedonic criteria. (That is, they will evaluate a product more favorably if they are feeling happy than if they are not.) However, their feelings will have no effect on their evaluations of a product that are based on utilitarian criteria.
- H2:** If consumers are stimulated to appraise a product before they receive information about its attributes, and if this appraisal elicits affective reactions, these reactions will influence their initial impressions of the product and, therefore, the

judgments they report later. This is true regardless of the type of product being judged or the criteria that are typically used to evaluate it.

- H3:** If consumers are stimulated to appraise a product before receiving information about its attributes, and if this appraisal does not elicit affective reactions, their initial impressions of the product, and the judgments they report later, will not be influenced by the affect they happen to be experiencing. This is true regardless of the type of product being judged or the criteria that are typically used to evaluate it.

## EXPERIMENT 1

The first experiment evaluated hypotheses 1 and 2. To accomplish this, it was necessary to distinguish between the impact of affect that people are experiencing as a result of their exposure to the product information and the influence of the product information itself. This was done by experimentally manipulating people's mood independent of the product information they received. This procedure, which has been used in many other studies of the role of affect as information (for a review, see Schwarz and Clore 1996), assumes that people cannot distinguish clearly between the different sources of affect they happen to be experiencing at any given time. They may of course be aware that their affect comes from these sources. Nevertheless, they often confuse their affective reactions to an object they are asked to judge with the affect they are experiencing for other, irrelevant reasons (i.e., their mood). As a result, they are likely to misattribute a portion of this contextual affect to the object they are judging. Consequently, under conditions in which they perceive their affect to be an appropriate basis for their judgments, they base these judgments on affect, and their mood will influence these judgments. On the other hand, suppose people do not base their judgments on affect but employ other criteria instead. Then, the affect they happen to be experiencing should have no impact.

This strategy has been used successfully to diagnose the influence of affect on not only product evaluations (Adaval 2001; Pham 1998) but judgments of life satisfaction (Schwarz and Clore 1983; Strack, Schwarz, and Gschneidinger 1985), self-esteem (Levine, Wyer, and Schwarz 1994), the amusement elicited by cartoons (Strack, Martin, and Stepper 1988), and politicians (Isbell and Wyer 1999; Ottati and Isbell 1996). We employed a similar strategy in our studies. Participants were induced to feel happy or unhappy by recalling a pleasant or unpleasant life experience. Then, in some conditions, they were asked to evaluate a product described by a list of specific attributes, being told to use either hedonic or utilitarian criteria. Based on hypothesis 1, we expected that participants' mood would have an impact on their judgments in the former case but not the latter.

To evaluate hypothesis 2, however, it was necessary to

stimulate participants to make a spontaneous affect-eliciting appraisal of the product before they received information about it. To do this, we showed some participants an attractive picture of the product before presenting information about its specific attributes. In some conditions, participants were induced to feel either happy or unhappy before the picture was presented. In this case, we assumed that participants' appraisal of the product would elicit affect and that this affect would influence their impressions of the product. If this assumption is correct, the mood that participants experience at the time they appraise the product should become confused with the appraisal-elicited affect and, therefore, should also influence their impressions and subsequent evaluations. In other experimental conditions, however, participants' mood was not induced until after a picture of the product was presented and impressions of it have presumably been formed. In this case, mood should have no impact on participants' impressions and their subsequent product evaluations.

Two other assumptions were evaluated in this study. First, the aforementioned reasoning assumes that participants' appraisal of the product does, in fact, elicit affect. If this assumption is not correct, participants should not confuse contextual affect (mood) with appraisal-elicited affect, as the latter affect does not exist. Consequently, mood should have no impact regardless of when it is induced. Second, we also assumed that when participants saw a picture of the product, they would base their product evaluations on their initial impressions. It is nevertheless conceivable that in contrast to this assumption, participants base their evaluations on the criteria that are salient to them at the time of judgment. Then the effect of their mood should be similar to its effect when a picture is not presented. The present experiment permitted these alternative possibilities to be evaluated.

## Method

Participants were 104 university students in Hong Kong who were paid HKD\$80 (US\$10) for their services. Between six and eight participants were assigned randomly to each cell of a 2 (induced mood: positive vs. negative)  $\times$  2 (judgment criterion: hedonic vs. utilitarian)  $\times$  3 (mood-picture order: no picture vs. mood-first, picture-second vs. picture-first, mood-second) design.

*Product and Attribute Selection.* Sports shoes were selected on the basis of focus group discussions, which indicated that both hedonic and utilitarian criteria were important to their evaluation. To confirm this assumption, 39 undergraduate marketing students who did not participate in the main experiment were asked to indicate the extent to which they considered each of several different features when evaluating a pair of sports shoes. Two of these features, quality of construction and how it would feel to wear the shoes, were assumed to exemplify utilitarian and hedonic criteria for judgment, respectively (for confirmation of this assumption, see Adaval 2001). Features were each evaluated along a scale from zero (would not consider at all) to 10

(would definitely consider). The importance of both utilitarian and hedonic criterion was high (8.69 vs. 8.95, respectively) and did not differ from one another,  $F(1, 38) = 2.91, p > .10$ . Thus, the two criteria were equally relevant to the evaluations of products of the type we selected.

In addition, the same participants generated a list of specific features they would personally consider when buying a pair of sport shoes. The six most frequently mentioned features were selected for use in constructing attribute descriptions. Three of these features were reworded to convey favorable values (specifically, "comprehensive air cushioning," "made of breathable material," and "striped rubber outside for grip"), and three were worded to convey unfavorable values ("becomes dirty easily," "is not wide enough," and "30% of the air cushioning will leak after one year"). The favorableness of these features was confirmed on the basis of ratings by a different group of 37 undergraduates who evaluated each attribute along a scale from -5 (very unfavorable) to +5 (very favorable). Ratings of the three favorable attributes ranged from 3.22 to 4.16 ( $M = 3.64$ ). Ratings of the unfavorable attributes ranged from -1.81 to -3.59 ( $M = -2.94$ ). These attributes were presented to participants in the main study in a manner to be described.

*Procedure, No-Picture Conditions.* The experiment was conducted in Chinese. Participants were told they would take part in two unrelated studies. The first study stimulated participants to experience either positive or negative affect using a mood-induction procedure similar to that employed by Schwarz and Clore (1983) and Adaval (2001). Specifically, participants were told that the study concerned the construction of a database on the personal experiences of college students. Participants under positive mood conditions were then told to identify a recent event that was very important to them and that made them feel happy when they thought about it. In contrast, participants under negative mood conditions were told to identify a recent event that made them feel unhappy whenever they thought about it. In each case, they were told to imagine the experience in as much detail as possible and try to reexperience the feelings they had at the time, and then to write down a description of these feelings as well as the events that elicited them. They were given between 15 and 20 min. to write their descriptions.

The second study was ostensibly concerned with how consumers made decisions in actual shopping situations in which consumers happen to see a product in a store window and then, after noticing it, enter the store in order to learn more about it. On this pretense, participants under hedonic criterion conditions were told to imagine that they wanted to buy a pair of sport shoes that would feel comfortable and that it was particularly important to consider how the shoes would feel when wearing them. In contrast, participants under utilitarian criterion conditions were told to assume that they wanted to buy a pair of shoes whose construction was of high quality and that it was particularly important to consider how well the shoes were made.

Participants were given a list of the six attribute descriptions in one of two random orders. After reading the descriptions, they turned over the page and completed a questionnaire in which they estimated their liking for the product along a scale from zero (not at all) to 10 (very much).

*Procedure, Picture Conditions.* Picture conditions refer to conditions under which a picture of the product was presented to participants. The procedure in these conditions was similar to that employed in no-picture conditions except for the introduction of the product's picture and the point at which this picture was presented. In mood-first, picture-second conditions, affect was induced at the outset, as in no-picture conditions. Then, after being told about the product evaluation task and the criterion they should use as a basis for judgment, participants were shown the picture of the sports shoes on an overhead projector for 5 sec., being instructed to imagine that they had seen the product in a store window. Then they were given the list of attribute descriptions and evaluated the product. In addition, they estimated their initial impression of the product they had formed at the time they saw the picture. This rating was made along a scale from zero (not at all favorable) to 10 (very favorable).

In picture-first, mood-second conditions, participants were introduced to the product-judgment task at the beginning of the experimental session, told the judgmental criterion they should use, and shown the picture of the product. Then they were reminded that in many cases, consumers cannot check out the features of a product they want to consider immediately after they see it, and that to simulate these conditions, we would like them to perform an unrelated task before they received information about the product. On this pretense, they were administered the affect-induction task under instructions similar to those described earlier. Then, after performing this task, they continued the product judgment task, read the list of product attribute descriptions, and made ratings similar to those in mood-first, picture-second conditions.

*Manipulation Checks.* To confirm the effectiveness of the mood-induction procedure, participants were asked immediately after making their product evaluations to report their feelings "at this moment" (i.e., while they had been filling out the product evaluation questionnaire). In addition, they were asked at the end of the experiment to report how they had felt at the time they had described their personal experience. In each case, responses were made along four scales pertaining to how happy, good, unhappy, and bad they were feeling. These scales ranged from zero (not at all) to 10 (very). The average of each participant's responses to the second two items was subtracted from the average of his or her responses to the first two items and used as an overall index of the positive affect the participant was experiencing.

To confirm our manipulation of the judgmental criteria, participants were asked upon completion of the experiment to indicate the extent to which they had thought about each

TABLE 1

PRODUCT EVALUATIONS AND RECALLED INITIAL IMPRESSIONS AS A FUNCTION OF MOOD, JUDGMENT CRITERION, AND MOOD-PICTURE ORDER—EXPERIMENT 1

	Product evaluation		Initial impression	
	Hedonic criterion	Utilitarian criterion	Hedonic criterion	Utilitarian criterion
No picture:				
Positive mood	6.50	4.00		
Negative mood	4.00	4.13		
Difference	2.50	-.13		
Mood induced before picture:				
Positive mood	5.25	5.25	4.75	5.00
Negative mood	3.75	3.78	3.50	3.00
Difference	1.50	1.47	1.25	1.25
Mood induced after picture:				
Positive mood	3.46	3.89	3.18	3.67
Negative mood	3.50	4.33	3.30	3.78
Difference	-.04	-.44	-.12	-.11

of several features of sports shoes while rating them. Two of these features (quality of construction and how long the shoes would last) exemplified utilitarian criteria, and two others (how they would feel while wearing the shoes and how much they would enjoy wearing them) exemplified hedonic criteria. Responses to each pair of items, which were reported along a scale from zero (not at all) to 10 (very much), were averaged to provide a single index of the extent to which participants reported using each type of criterion.

## Results

**Manipulation Checks.** The mood-induction procedure was successful. Participants recalled feeling happier at the time they described their life experience if this experience was a happy one ( $M = 3.69$ ) than if it was an unhappy one ( $M = -4.18$ ),  $F(1, 102) = 135.41$ ,  $p < .001$ . They also reported feeling happier immediately after evaluating the product in the former condition than in the latter (0.83 vs. -2.08, respectively),  $F(1, 102) = 22.74$ ,  $p < .001$ . In neither case did this difference depend significantly on other experimental manipulations ( $p > .10$ ).

Our manipulation of the judgment criteria was also successful. Participants who were told to use hedonic criteria for judgments reported using these criteria to a greater extent than utilitarian criteria (7.23 vs. 5.51, respectively). In contrast, participants who were told to use a utilitarian criterion reported using hedonic criteria slightly less than utilitarian criteria (7.21 vs. 7.32). The relative use of the two criteria significantly differed under the two instructional conditions,  $F(1, 102) = 12.75$ ,  $p < .01$ .

**Product Evaluations.** Product evaluations are shown in the left half of table 1 as a function of mood, judgment criteria, and mood-picture order. An overall analysis revealed that judgments were generally more favorable when participants were happy ( $M = 4.73$ ) than when they were not ( $M = 3.91$ ),  $F(1, 92) = 4.25$ ,  $p < .05$ . Although the three-way interaction of mood, mood-picture order, and

judgment criterion was not reliable ( $p > .10$ ), planned comparisons provided support for both of the hypotheses we considered.

According to hypothesis 1, participants should use their affective reactions as a basis for product judgments only if they consider their feelings to be a relevant basis for these judgments. To evaluate this hypothesis, we considered only conditions in which no picture was presented. As table 1 shows, participants' mood had a positive impact on their judgments when they were told to use a hedonic criterion (6.50 vs. 4.00 under positive vs. negative mood conditions, respectively),  $t(92) = 1.68$ ,  $p < .05$ , one-tailed test. However, it had no effect at all on judgments when participants were told to use a utilitarian criterion (4.00 vs. 4.13). The interaction implied by these results was significant, directional  $F(1, 92) = 3.46$ ,  $p < .03$ , and confirms both hypothesis 1 and results obtained earlier by Pham (1998).<sup>1</sup>

Hypothesis 2 implies that when people make a spontaneous appraisal of the product that elicits affect, the impressions they form as a result of this appraisal should have an impact on their judgments regardless of the criteria they are told to apply. In the conditions we investigated, mood should only be confused with the affect elicited by the appraisal when it is experienced at the time the appraisal is made. Therefore, its effects should only be evident when it is induced before a picture of the product is presented. If participants have already seen a picture of the product at the time mood is induced, their impressions of the product should already have been formed, and so their mood should have little impact.

To evaluate this hypothesis, we considered only conditions in which pictures were presented. When mood was

<sup>1</sup>This directional  $F$ -test, which involves a comparison of the mean of half the cells of the design with the mean of the other half, is equivalent to a one-tailed  $t$ -test, where  $F = t^2$ ; thus, the  $F$ -ratio reported here is equivalent to  $t(92) = 1.85$ ,  $p < .03$ , one-tailed test. For further discussion, see Keppel (1991, pp. 122-23). (Here and subsequently, comparisons are evaluated in relation to a pooled error term computed on the basis of the overall analysis.)

induced before a picture of the product was presented, it had a positive impact on product evaluations (5.25 vs. 3.77, when affect was positive vs. negative, respectively),  $F(1, 92) = 4.46$ ,  $p < .05$ . When participants had already seen a picture of the product at the time mood was induced, however, mood had no influence at all on product evaluations (3.68 vs. 3.92, respectively),  $F < 1$ . This was true regardless of the judgment criterion that they were told to use. These conclusions are confirmed by a planned contrast of the influence of mood under the mood-first, picture-second and the picture-first, mood-second conditions. This contrast, which is equivalent to the interaction of mood and picture-mood order, was significant, directional  $F(1, 96) = 3.28$ ,  $p < .05$ , and was not contingent on judgment criterion ( $F < 1$ ). These data provide support for hypothesis 2.

*Initial Impressions.* We have assumed that the picture of a product elicits an appraisal of it and that the affect associated with this appraisal, along with other affects they happen to be experiencing at the time, influences their initial impressions. We did not obtain judgments of the product immediately after pictures were presented.<sup>2</sup> However, participants' recall of the impressions they had at the time they saw the pictures are consistent with this assumption. These data are shown in the right half of table 1. When mood was induced at the outset, happy participants recalled their impressions as more favorable than unhappy participants did (4.88 vs. 3.25, respectively, averaged over the two criterion types),  $t(68) = 1.83$ ,  $p < .07$ . When pictures were presented first, however, participants recalled having similar impressions regardless of whether they felt happy or not (3.43 vs. 3.54, respectively, averaged over the two criterion types). The interaction of induced affect and picture-mood order approached significance,  $F(1, 68) = 3.94$ ,  $p < .05$ . Thus, mood and picture-mood order influenced participants' impressions in much the same way they influenced overall product evaluations.

A further indication of the mediating effects of initial impressions on product judgments was obtained from a reanalysis of these judgments under the two picture conditions using impressions as a covariate. Although the covariate had a substantial impact on judgments,  $t(64) = 6.03$ ,  $p < .01$ , the interactive effects of picture-mood order was reduced to nonsignificance ( $F < 1$ ). More generally, the proportion of variance accounted for by the main effect of mood and its interaction with picture-mood order was reduced from 7.2% to 1.1% after eliminating their effects on impressions.

These data are obviously not definitive. For one thing, participants might not have actually remembered their initial impressions and therefore might have reconstructed these impressions on the basis of the final judgments they had made. Nevertheless, these data are consistent with the assumption that participants' final evaluations were based

largely on the global appraisals they had formed at the outset, independent of the specific attribute information they received subsequently.

## Discussion

Our results confirm the assumption that when consumers receive written information about a product's attributes without being given the opportunity to form an impression of it, the impact of affect on their judgments reflects a deliberative decision to take their feelings into account. Therefore, it depends on the relevance of these feelings to the judgment they are asked to make. When participants were stimulated to make an appraisal of the product before they received written information about its attributes, however, they formed an initial impression of the product that was based in part on the affect elicited by the appraisal. This affect-based impression then influences product judgment regardless of the criteria they might otherwise use.

The different effects of mood when it was induced before and after a picture was presented provide indirect evidence that the impact of appraisal was mediated by the affect they elicited rather than by the content of the picture per se. That is, if pictures alone had provided the basis for participants' impressions, they should have had a similar effect in each of the two picture conditions. This was not the case. On the other hand, if affect alone had an impact on participants' impressions and judgments, its influence in the two picture conditions should have been similar to that observed when no pictures were presented. This was also not the case.

The time interval between mood induction and judgments was slightly less in picture-first, mood-second conditions than it was when pictures were presented at the outset. One might speculate that the source of the mood was also more salient in the former condition and, therefore, participants were more likely to discount it. However, similar manipulations of mood have had similar effects on judgments under comparable conditions of many other studies (e.g., Adaval 2001; Levine et al. 1994; Strack et al. 1985). Moreover, if participants had discounted the mood they were experiencing under picture-first, mood-second conditions, they should also have discounted it in no-picture conditions, when its source was equally salient. This was not the case. Therefore, this alternative interpretation of our findings does not seem viable.

## EXPERIMENT 2

Telling participants explicitly the criterion they should use to evaluate a product is rather artificial. In purchasing situations, the criteria that consumers apply are typically activated spontaneously, depending on the product they are considering. To provide a closer approximation to conditions similar to those that consumers encounter outside the laboratory, we asked participants in this experiment to consider products that were likely to be spontaneously evaluated in terms of different criteria in the absence of explicit instructions to do so.

<sup>2</sup>Asking participants to make an initial judgment of the product immediately after seeing the pictures might induce a demand to be consistent and, therefore, could artifactually influence the judgments that were reported later.

Second, we examined a further implication of the proposed conceptualization. As noted earlier, participants who have based their judgments on an initial impression of an object do not necessarily disregard the information they receive later. Rather, they may selectively attend to information that confirms the implications of this impression (Chernev 2001; see also Snyder 1981). Moreover, Pham et al. (2001) found evidence that the feelings induced by pictures spontaneously elicited thoughts that were evaluatively consistent with them. Concepts activated by these thoughts could increase attention to information that is consistent with these concepts (Wyer and Srull 1989). This possibility also suggests that people are likely to recall product attributes that confirm the implications of their impression-based judgments even though they do not use the attributes themselves as a basis for their evaluations.

## Method

Participants were 103 university students in Hong Kong who were paid HKD\$80 (US\$10) for their services. They were assigned randomly to 12 cells of a three-factor design involving induced mood (positive vs. negative), product type (hedonic vs. utilitarian), and mood-picture order (no picture vs. mood-first, picture-second vs. picture-first, mood-second).

*Selection of Product Categories.* A focus group discussion indicated that salad dressing was typically evaluated on the basis of hedonic criteria and that backpacks were typically judged on the basis of utilitarian considerations. To confirm these assumptions, 41 undergraduates who did not participate in the main study were then asked to indicate the extent to which they would think about each of four features while purchasing salad dressing: (a) the quality of the product, (b) the various uses of salad dressing, (c) how they would feel when tasting it, and (d) how much they would enjoy using it. Similarly, they indicated the extent to which they would think about four analogous features when considering the purchase of a backpack: (a) the quality of its construction, (b) the various uses of the backpack, (c) how they would feel when carrying it, and (d) how much they would enjoy using it. These estimates were made along a scale from zero (not at all) to 10 (very). As expected, utilitarian criteria were considered more important than hedonic criteria for judging backpacks (8.27 vs. 7.67) but less important than hedonic criteria for judging salad dressing (7.50 vs. 8.45).

*Selection of Attributes.* Eight attributes of potential relevance in evaluating each product were given to 48 undergraduate students with instructions to estimate both the favorableness of each attribute and the importance of knowing the attribute for making a purchasing decision. Based on these ratings, which were made along a scale from zero (not at all) to 10 (very), three favorable and three unfavorable attributes were selected for each product. Favorable attributes of salad dressing included "95% fat free" and "no pre-

servatives," whereas unfavorable attributes included "artificial coloring" and "only available in large containers." Favorable attributes of backpacks included "machine washable" and "water resistant," and unfavorable attributes included "heavy (800 g)" and "becomes dirty easily." Favorable and unfavorable attributes were evaluated similarly in each domain (7.70 vs. 2.57, respectively, in the case of salad dressing and 7.57 vs. 1.92, respectively, in the case of backpacks). Moreover, they were similar in importance (6.42 vs. 5.88 for favorable and unfavorable attributes of salad dressing, respectively; 6.47 vs. 6.31 for favorable and unfavorable attributes of backpacks, respectively). No between-domain comparisons were significant ( $p > .10$ ).

*Procedure.* The procedures of this experiment were similar to those of experiment 1 except that both pictures of the products and attribute descriptions were presented on computers. Participants, after seeing the picture, were given information about six of the product's attributes, one at a time, on the computer screen. The order of presenting the attributes was counterbalanced within each experimental condition. Each participant pressed the space bar to receive the first piece of information and then, after reading it, pressed the bar again to receive the second piece, and so on until all six pieces had been read.

*Judgments and Recall.* Participants, after receiving the product information, estimated how well they would like the product along a scale similar to that employed in experiment 1. After making this rating and completing the manipulation check questionnaire, they were told that to understand how people make judgments of a product, it is useful to know what information about the product they can recall. On this pretense, they were asked to write down all of the attribute descriptions they could remember in the order they came to mind, regardless of whether they actually took the attributes into account in making judgments.

## Results

*Manipulation Checks.* Participants described themselves as happier immediately after evaluating the product if they had previously written about a happy life experience ( $M = 2.58$ ) than if they had written about an unhappy one ( $M = 0.49$ ),  $F(1, 91) = 12.36$ ,  $p < .01$ . Moreover, they recalled feeling happier at the time they described their experience in the former condition than in the latter (4.29 vs. -2.81, respectively),  $F(1, 91) = 100.37$ ,  $p < .01$ . These effects were not contingent on other experimental manipulations ( $p < .10$ ).

*Product Evaluations.* An overall analysis of judgment data yielded a main effect of mood,  $F(1, 91) = 5.83$ ,  $p < .05$ , and an interaction of mood and product type,  $F(1, 91) = 3.80$ ,  $p < .05$ . Although the three-way interaction of these variables and mood-picture order was not reliable ( $p > .10$ ), the pattern of data was quite consistent with hypotheses and with the results of experiment 1. Mean product evaluations are summarized in table 2. These data were

TABLE 2

PRODUCT EVALUATIONS AS A FUNCTION OF MOOD AND MOOD-PICTURE ORDER—EXPERIMENT 2

	Hedonic criterion	Utilitarian criterion	Mean
No picture:			
Positive mood	7.11	3.41	5.26
Negative mood	4.67	3.78	4.23
Difference	2.44	-.37	1.03
Mood induced before picture:			
Positive mood	6.38	4.88	5.63
Negative mood	4.38	3.63	4.01
Difference	2.00	1.25	1.62
Mood induced after picture:			
Positive mood	5.78	4.11	4.95
Negative mood	5.30	4.48	4.89
Difference	.48	-.37	.06

evaluated in a series of planned comparisons similar to those conducted in the first experiment.

In the no-picture conditions, participants' mood had a substantial effect on their judgments of the hedonic product (7.11 vs. 4.67, when participants were induced to feel happy vs. unhappy, respectively),  $t(91) = 2.72, p < .01$ , one-tailed test. If anything, however, mood had a slight contrast effect on judgments of the utilitarian product (3.41 vs. 3.78, respectively). The interaction of mood and product type implied by these differences was quite significant and directional  $F(1, 91) = 4.74, p < .02$  (see n. 1).

When participants who had been induced to feel happy or unhappy were exposed to a picture of the product, however, their feelings had a positive impact on their judgments (5.63 vs. 4.01, when mood was positive vs. negative, respectively), directional  $F(1, 91) = 5.82, p < .01$ . Moreover, this was true regardless of whether the criteria used to evaluate the product were typically hedonic (6.38 vs. 4.38, respectively) or utilitarian (4.88 vs. 3.63, respectively); the interaction of mood and product type was not significant,  $p > .10$ . In contrast, when participants saw a picture of the product at the outset, their mood had minimal effect on their judgments (4.95 vs. 4.89, respectively, averaged over the two product types). A planned contrast of the impact of inducing mood before versus after picture was presented (equivalent to the interaction of induced affect and mood-picture order), was significant, directional  $F(1, 91) = 2.86, p < .05$ , and did not depend on the type of product being evaluated ( $F < 1$ ). Hypothesis 2 was therefore supported.

**Recall.** Because only six attributes were described in the information we presented, the overall level of recall was quite high ( $M = 5.3$ ) and did not differ appreciably over experimental conditions. To obtain an index of the relative accessibility of the information, we therefore restricted consideration to only the first three attributes that participants listed. The proportion of these attributes that were favorable, computed for each participant and averaged, is summarized

in table 3 as a function of experimental variables. (The proportion of unfavorable attributes recalled is of course the mirror image of the number of favorable ones recalled.)

The effects of experimental variables on recall are very similar to their effects on product evaluations (table 2). An overall analysis of the data yielded a significant interaction of mood, product type, and mood-picture order,  $F(2, 91) = 4.87, p < .01$ . This interaction was broken down into a series of planned contrasts similar to those employed in evaluating judgment data. When participants did not see a picture of the product, the attributes they recalled of a hedonic product were more likely to be favorable when they felt happy ( $M = .85$ ) than when they felt unhappy ( $M = .44$ ),  $t(91) = 4.87, p < .01$ . However, they recalled fewer favorable attributes of a utilitarian product when they felt happy than when they did not (.38 vs. .60, respectively),  $t(91) = 2.60, p < .01$ . This conclusion is confirmed by an interaction of mood and product type under no-picture conditions alone, directional  $F(1, 91) = 27.90, p < .01$ .

When pictures were presented, however, the influence of mood depended on when it was induced rather than on the type of product being judged. Specifically, when mood was induced at the outset, happy participants were more likely to recall favorable attributes ( $M = .63$ ) than unhappy participants were ( $M = .44$ ),  $F(1, 91) = 7.29, p < .01$ . However, this difference was negligible when mood was not induced until afterward (.50 vs. .48, respectively). A planned contrast of the impact of mood on the recall of favorable attributes in mood-first, picture-second conditions with its effect under picture-first, mood-second conditions was not reliable,  $F(1, 91) = 2.21, p > .10$ . The difference is nevertheless quite consistent with implications of hypothesis 2.

**Correlational Analyses.** The similar effects of mood on judgments and recall in this study raise the question of whether the influence of mood on one variable mediated its influence on the other. For example, participants' affective

TABLE 3

PROPORTION OF ITEMS RECALLED THAT WERE POSITIVELY VALENCE AS A FUNCTION OF MOOD AND MOOD-PICTURE ORDER—EXPERIMENT 2

	Hedonic criterion	Utilitarian criterion	Mean
No picture:			
Positive mood	.85	.38	.62
Negative mood	.44	.60	.52
Difference	.41	-.22	.10
Mood induced before picture:			
Positive mood	.71	.54	.63
Negative mood	.46	.42	.44
Difference	.25	.12	.19
Mood induced after picture:			
Positive mood	.56	.44	.50
Negative mood	.53	.42	.48
Difference	.03	.02	.03



reactions might influence their selective attention to attribute information (cf. Forgas 1995), and this differential attention could bias product evaluations that are based on this information. According to the conceptualization we propose, however, affect influences product evaluations through its impact on participants' initial impressions, independent of the attribute information that participants receive later. That is, its influence on the attention that participants pay to attribute information (as reflected in the recall of this information) is only a result of their attempt to confirm the implications of the impression they had formed earlier.

The results of correlational analyses are more consistent with the second of these possibilities. The proportion of favorable attribute items that participants recalled was virtually uncorrelated with their product evaluations under no-picture conditions ( $r = .06, p > .10$ ) and was only marginally related to judgments under conditions in which pictures were presented ( $r = .22, p < .10$ ). Moreover, the influence of affect on judgments and its contingency on other experimental variables were not appreciably affected when variance due to recall was eliminated. Therefore, these data argue against the possibility that the influence of affect on judgments was mediated by its impact on the attribute information that participants were able to recall. Rather, judgments and recall were independently mediated by the impact of affect on the initial impressions that participants formed of the product before the attribute information was presented.

## Discussion

Results of the second experiment confirmed the conclusions drawn from experiment 1. They also argue against the possibility that the results obtained in the first experiment were an artifact of compliance with experimental demand concerning the criteria participants were told to use. That is, because the instructions concerning the criteria to apply in experiment 1 were somewhat more salient in no-picture conditions than in other conditions, this could account for their relatively greater effect. However, the present experiment yielded very similar results when instructions concerning the criteria to apply were not given. Therefore, this alternative interpretation does not seem viable.

In addition, our results demonstrate that affect-based impressions influence not only people's product judgments but also the attributes to which they attend in an attempt to confirm the implications of these impressions. Furthermore, these effects appear to be independent. The conclusion that the impact of affect on judgments is not mediated by its impact on participants' selective processing of the attribute information is further confirmed in experiment 3.

## EXPERIMENT 3

An assumption underlies our interpretation of the results of experiments 1 and 2. We assumed that when participants encounter an attractive picture of a product, their appraisal of it elicits affective reactions. Not all appraisals elicit affect,

however. Some pictures, for example, might convey information about a product's utilitarian characteristics (e.g., the type of construction). Although pictures of this sort might stimulate a spontaneous cognitive appraisal of the product, this appraisal would not necessarily elicit affect. Consequently, the mood that participants happen to be experiencing should not be confused with appraisal-elicited affect, as the latter affect does not exist. As a result, mood should have no impact on the impressions they form as a result of appraisal. Therefore, as implied by hypothesis 3, it should have no impact on product evaluations in this condition.

Another possibility should also be considered, however. That is, a picture of the product that does not elicit affect might not stimulate an appraisal of the product at all. Therefore, it might not even lead an impression to be formed of it. In this case, participants might simply treat the picture as an additional piece of information that they consider along with the written attribute descriptions. If this is true, however, participants' mood should have its impact at the time of judgment, as it does when no picture is presented. The results of experiment 3 distinguished between these possibilities.

## Method

*Design and Participants.* Ninety-three university students in Hong Kong received HKD\$60 (about US\$8) for participating. They were randomly assigned to cells of a 2 (mood: positive vs. negative)  $\times$  3 (picture type: hedonic vs. utilitarian vs. none)  $\times$  2 (attribute information: predominantly favorable vs. predominantly unfavorable) design.

*Procedure.* The procedure was identical to that employed in experiment 1 under conditions in which (a) mood was induced before a picture of the product was presented, and (b) participants were told to use hedonic criteria in making judgments. (These are the conditions in which mood is most likely to have an impact.) That is, participants were first induced to feel happy or unhappy by recalling a personal life experience. Then they were asked to make evaluations of a pair of sports shoes, emphasizing that they should consider how the shoes would feel when wearing them. Under hedonic-picture conditions, they were shown an attractive picture of the shoes' exterior, as in experiment 1. In utilitarian-picture conditions, the picture showed a cross section of a running shoe that conveyed its internal structural characteristics but did not indicate what the shoe actually looked like.

Six attribute descriptions were presented, five of which (two favorable, two unfavorable, and one neutral) were identical in all cases. However, the remaining attribute was either very favorable (made of breathable material) or very unfavorable (made of nonbreathable material). The effectiveness of this manipulation was confirmed on the basis of data from an independent group of 15 participants who were not exposed to either pictures or the affect-induction manipulation. These participants evaluated the product significantly more favorably when the majority of the product attributes

were favorable ( $M = 4.71$ ) than when the majority were unfavorable ( $M = 2.87$ ),  $F(1, 13) = 4.07$ ,  $p < .06$ .

Participants, after receiving the information, estimated their liking for the product and completed the affect manipulation checks (see experiment 1). In addition, participants who were shown a picture estimated the extent to which they liked it and also indicated how informative it was about the quality of the shoes. These latter judgments were made along a scale from zero (not at all) to 10 (very much).

## Results

Participants' mood was again manipulated successfully. They reported being happier at the time they evaluated the product if they had previously written about a pleasant life experience than if they had written about an unpleasant one (2.94 vs.  $-0.02$ , respectively),  $F(1, 91) = 13.60$ ,  $p < .01$ , and also recalled feeling happier at the time they wrote about their experience in the former case (4.01 vs.  $-2.81$ , respectively),  $F(1, 91) = 78.62$ ,  $p < .01$ .

Characteristics of the pictures were also manipulated successfully. That is, participants liked the hedonic picture more than the utilitarian one (4.33 vs. 2.70),  $F(1, 91) = 6.96$ ,  $p < .01$ , but considered the utilitarian picture to be relatively more informative about the shoes' quality (5.60 vs. 3.61),  $F(1, 91) = 14.71$ ,  $p < .01$ .

An overall analysis of liking for the product as a function of mood, picture type, and attribute favorableness yielded a significant main effect of mood,  $F(1, 81) = 7.72$ ,  $p < .01$ , and a significant interaction of mood and picture type,  $F(2, 81) = 3.05$ ,  $p < .05$ . However, no effects involving attribute favorableness were reliable ( $p > .10$ ). The implications of these results are discussed in the context of the issues to which they pertain.

*Effects of Pictures.* Suppose participants who saw a utilitarian picture formed an impression of the product as a result of a nonaffect-eliciting appraisal and then based their judgments on this impression. Then, their mood should have little impact on these judgments. On the other hand, if participants did not form an impression at all, the impact of their mood should be similar to that observed under no-picture conditions. Results summarized in table 4 are most consistent with the first possibility. That is, mood had a positive influence on judgments when no pictures were presented (4.67 vs. 3.38, when participants were happy vs. unhappy, respectively),  $F(1, 81) = 5.59$ ,  $p < .05$ , and this difference was even greater when they had seen a hedonic picture of the product (4.89 vs. 2.72, respectively),  $F(1, 81) = 10.99$ ,  $p < .01$ . When participants saw a utilitarian picture, however, they evaluated the product nonsignificantly less favorably when they were feeling happy than when they were not (3.48 vs. 3.66). The influence of affect in this condition was significantly different from its influence in the other two conditions combined (4.78 vs. 3.05),  $F(1, 89) = 5.24$ ,  $p < .05$ .

TABLE 4

PRODUCT EVALUATIONS AS A FUNCTION OF MOOD, PICTURE TYPE, AND INFORMATION FAVORABLENESS—EXPERIMENT 3

	Predominately favorable information	Predominately unfavorable information	Mean
No picture:			
Positive mood	4.86	4.48	4.67
Negative mood	3.50	3.25	3.38
Difference	1.36	1.23	1.29
Hedonic picture:			
Positive mood	5.14	4.63	4.89
Negative mood	3.13	2.30	2.72
Difference	2.01	2.33	2.17
Utilitarian picture:			
Positive mood	3.25	3.71	3.48
Negative mood	4.57	2.75	3.66
Difference	-1.32	.96	-.18

*Effects of Attribute Information.* To the extent participants based their judgments on their initial impressions, the attribute information they received subsequently should have little effect. This was in fact the case. Products were evaluated only slightly more favorably when most of the attribute information was favorable ( $M = 4.08$ ) than when most of it was unfavorable ( $M = 3.52$ ), and this was true regardless of whether a hedonic picture was presented (4.14 vs. 3.47), a utilitarian picture was presented (3.91 vs. 3.23), or no picture at all was presented (4.18 vs. 3.87). Neither the overall effect of attribute favorableness nor its interactions with other experimental variables was reliable ( $p > .10$ ).

The negligible effect of attribute favorableness under these conditions cannot be attributed to the ineffectiveness of the manipulation. As we noted earlier, the effect of attribute favorableness was quite apparent when participants were not exposed to either pictures or affect induction (4.71 vs. 2.87, when attributes were generally favorable vs. unfavorable, respectively;  $M_{diff} = 1.84$ ). When pictures were presented and affect was induced, however, the effect of attribute favorableness was considerably diminished (pooled over conditions,  $M_{diff} = 0.56$ ). This difference is consistent with the conclusion that both induced affect and pictures decreased the impact of attribute information, as would be expected if participants' product evaluations were based primarily on affect (no-picture conditions) or their initial impressions (picture conditions).

## GENERAL DISCUSSION

In combination, experiments 1–3 provide converging evidence of (a) the impact of appraisals of a product on evaluations of it and (b) the role of affective reactions in the construction of these appraisals. Of greatest importance is the evidence that affective reactions can have a quite different influence on judgments when consumers form an ap-

praisal-based impression of a product before they receive specific information about its attributes than when the opportunity to form this impression is not available.

In most previous research (for summaries, see Schwarz and Clore 1996; Wyer et al. 1999), the influence of affect as information is assumed to occur at the time judgments are made. Under these conditions, its effects depend on whether consumers consider their affective reactions to be a relevant basis for the judgment they are asked to make. This contingency was evident under no-picture conditions of the present research and in earlier research by Pham (1998) and Adaval (2001). However, when consumers have access to a product's physical appearance and form a global appraisal of it before they receive information about its attributes, this appraisal stimulates them to form an initial impression of the product that they use as a basis for the judgment they report later. In the latter conditions, therefore, the affect that people experience has its impact through its mediating influence on their impression of the stimulus rather than exerting its impact at the time judgments are actually reported.

Furthermore, the affect that consumers happen to be experiencing for unrelated reasons at the time they form their impression of a product can become confused with the affect elicited by their spontaneous appraisal of the product and, therefore, can often influence the judgments they make. For this to occur, however, two things must be true. First, consumers must experience this affect at the time they appraise the product and form their initial impressions. Once they have formed an appraisal-based impression of the product, the affect they experience subsequently has little impact, as shown under picture-first, mood-second conditions of experiments 1 and 2. Second, their appraisal of the product must itself elicit affect. When this is not the case, consumers are unlikely to base their initial impressions on the affect they are experiencing. Thus, as in experiment 3, when the picture conveyed functional characteristics of a product rather than its overall physical appearance, the feelings that participants were experiencing had no impact on their judgments.

Alternative interpretations of our results should be considered. For example, our interpretation of the failure for mood to influence judgments when a nonaffect-eliciting picture was presented (experiment 3) assumes that contextual affect only influences participants' impressions when the appraisal stimulated by the picture itself elicits affect, thus leading the affect from the two sources to be confused. A somewhat different possibility is that when the picture of the product emphasizes utilitarian criteria (e.g., construction quality), rather than aesthetic quality (overall attractiveness), participants perceive affect to be irrelevant to their judgment and therefore ignore its implications when computing their evaluations. Put another way, the pictures that participants viewed may have stimulated the use of different criteria for judgment and therefore determined the extent to which participants took affect into account.

This possibility cannot be discounted entirely. However,

if the type of picture presented had stimulated the use of different general criteria for evaluating the product, the effects of presenting a hedonic picture on the impact of mood should have been particularly apparent in picture-first, mood-second conditions, when the criterion activated by the picture was salient at the time the mood was induced. As indicated in experiments 1 and 2, however, mood had very little influence on judgments in this case. Therefore, although it seems intuitively likely that the picture of a product can produce a set to employ a particular judgmental criterion in evaluating a product, this does not seem to account for the results we obtained in the present research.

The assumption that the impact of affect occurs at the impression-formation stage of processing rather than at the time of judgment is confirmed by several findings. First, the combined effects of pictures and mood on evaluations in experiment 1 were largely eliminated when their effects on initial impressions were covaried. Second, correlational analyses in experiment 2 revealed little relationship between the favorableness of the attributes that participants were most likely to recall and the favorableness of their product evaluations. This suggests that although the affect that participants experienced influenced their attention to the attribute information they received, the judgments they made were not a result of this differential attention. Finally, a direct manipulation of the favorableness of the attribute information presented had only a small and nonsignificant effect on judgments in experiment 3 under conditions in which pictures were presented and mood was induced. Furthermore, its effect in these conditions was much less than it was when the attribute information was presented in isolation. Each of these findings in isolation is not definitive. However, the results in combination, coupled with evidence of the impact of initial impressions on other types of judgments (e.g., Bodenhausen and Wyer 1985; Lingle and Ostrom 1979; Srull and Wyer 1989), suggest that this conclusion is tenable.

It would nevertheless be inappropriate to conclude that product attribute information has no influence whatsoever once initial impressions are formed. It seems intuitively likely that extremely unfavorable attribute information would have a negative impact on product evaluations regardless of other considerations. Nevertheless, the possibility that evaluations are often determined largely by the appraisals of the product before specific information about it is received, rather than by the specific attributes that participants encounter subsequently, has obvious implications for the marketing of consumer products.

### The Impact of Affect on Information Processing

Participants who formed impression-based expectations for the product they were evaluating appeared to attend selectively to attribute information that confirmed these expectations, as evidenced by the information they recalled later. Although this selective processing could reflect a deliberate attempt to confirm expectation-related hypotheses concerning the product's quality and attractiveness (e.g.,

Snyder 1981), it could also have nonmotivational roots. Wyer and Srull (1989) suggest that people who have an expectation for attributes of a stimulus are likely to activate concepts that are consistent with these expectations. These concepts, once accessible in memory, can influence their selective encoding of information they receive subsequently. This could occur in the absence of any conscious motivation to confirm the expectations that activated these concepts. Pham et al. (2001) suggest that when a picture elicits feelings, it stimulates thoughts that are associated with these feelings. Concepts activated by these thoughts could have effects similar to those postulated by Wyer and Srull (1989). Furthermore, contextual affect that people attribute to their feelings about the product could influence their thoughts and the concepts elicited by them and, therefore, could contribute to these effects. Thus, as in experiment 2, contextual affect that was induced before pictures were presented (and, therefore, influenced the affect that participants attributed to the pictures) influenced the favorableness of the attributes they recalled later.

The affective reactions that people experience when they evaluate a stimulus could elicit affect-consistent thoughts about the stimulus even in the absence of a picture. Thus, in no-picture conditions of experiment 2, participants' affective reactions influenced the favorableness of the information they recalled about a hedonic product but not about a utilitarian one.

Nevertheless, the attribute information to which participants attended did not have an appreciable impact on the judgments they made. As noted earlier, the effects of experimental variables on the favorableness of the information they recalled were directionally similar to their effects on judgments (cf. tables 2 and 3), but the correlations between these two measures were low and nonsignificant. Thus, it seems most reasonable to conclude that the effects are the result of independent processes. Although these processes may be influenced by similar variables, they are not causally related under the conditions we investigated in these studies.

### Additional Considerations

Several aspects of our findings require further attention. For example, an alternative interpretation of our findings might be that mood only influences judgments when it is congruent with the affect elicited by a picture-based appraisal. Adaval's (2001) affect-confirmation formulation suggests that when affect is considered to be a relevant basis for judgments, mood that is consistent with that elicited by the product information appears to confirm the implications of this information, leading it to be weighted more heavily than it otherwise would be. Similar confirmatory processes could occur at the initial impression-formation stage. An evaluation of this possibility requires conditions in which participants made negative as well as positive appraisals. Unattractive pictures were not considered in the present research because they seemed likely to lead participants to reject the stimulus products out of hand, thus eliminating any affect-based processing that might otherwise occur. In

retrospect, however, the effects of negative appraisals seem worth examining.

In a related vein, the present research was restricted to conditions in which appraisals were stimulated by pictures. Although a product's physical appearance is particularly likely to stimulate a spontaneous appraisal, it is undoubtedly not the only stimulant. For example, if a product's brand name has become associated with positive or negative affect through learning, it might spontaneously elicit positive or negative reactions that provide the basis for an initial impression of the product and, therefore, might have effects analogous to those identified in the studies reported in this article.

Finally, the conceptualization we have proposed distinguishes between the appraisal of a product and the impression that is formed on the basis of it. We assumed that an appraisal is nonverbal and occurs spontaneously in the absence of cognitive deliberation. In contrast, one's impression of an object may not always be formed unless one has an implicit or explicit objective of evaluating it. Therefore, although initial impressions are sometimes based on spontaneous appraisals, they can be influenced by other factors as well. The present research did not distinguish between the effects of appraisals and the effects of impressions. However, this would be another worthwhile avenue for further investigation.

[Dawn Iacobucci and David Glen Mick served as editors and Punam Anand Keller served as associate editor for this article.]

## REFERENCES

- Adaval, Rashmi (2001), "Sometimes It Just Feels Right: The Differential Weighting of Affect-Consistent and Affect-Inconsistent Product Information," *Journal of Consumer Research*, 28 (June), 1-17.
- Bettman, James R. (1982), "A Functional Analysis of the Role of Overall Evaluation of Alternatives in Choice Processes," in *Advances in Consumer Research*, Vol. 9, ed. A. Mitchell, Ann Arbor, MI: Association for Consumer Research, 87-93.
- Bodenhausen, Galen V. and Robert S. Wyer, Jr. (1985), "Effects of Stereotypes on Decision-Making and Information-Processing Strategies," *Journal of Personality and Social Psychology*, 48 (2), 267-82.
- Bower, Gordon H. (1981), "Mood and Memory," *American Psychologist*, 36 (2), 129-48.
- Carlston, Donal E. (1980), "Events, Inferences and Impression Formation," in *Person Memory: The Cognitive Basis of Social Perception*, ed. Reid Hastie et al., Hillsdale, NJ: Erlbaum, 89-119.
- Chaiken, Shelly (1987), "The Heuristic-Systematic Model of Persuasion," in *Social Influence: The Ontario Symposium*, Vol. 5, ed. Mark P. Zanna et al., Hillsdale, NJ: Erlbaum, 3-39.
- Chernev, Alexander (2001), "The Impact of Common Features on Consumer Preferences: A Case of Confirmatory Reasoning," *Journal of Consumer Research*, 27 (4), 475-88.
- Forgas, Joseph P. (1995), "Mood and Judgment: The Affect Infusion Model (AIM)," *Psychological Bulletin*, 117 (January), 39-66.

- Gorn, Gerald J. (1982), "The Effects of Music in Advertising on Choice Behavior: A Classical Conditioning Approach," *Journal of Marketing*, 46 (Winter), 94–101.
- Isbell, Linda and Robert S. Wyer, Jr. (1999), "Correcting for Mood-Induced Bias in the Evaluation of Political Candidates: The Roles of Intrinsic and Extrinsic Motivation," *Personality and Social Psychology Bulletin*, 25 (February), 237–49.
- Lazarus, Richard S. (1982), "Thoughts on the Relations between Emotion and Cognition," *American Psychologist*, 37 (September), 1019–24.
- (1991), *Emotion and Adaptation*, New York: Oxford University Press.
- Levine, Stephen R., Robert S. Wyer, Jr., and Norbert Schwarz (1994), "Are You What You Feel? The Affective and Cognitive Determinants of Self-Judgments," *European Journal of Social Psychology*, 24 (1), 63–77.
- Lingle, John H. and Thomas M. Ostrom (1979), "Retrieval Selectivity in Memory-Based Impression Judgments," *Journal of Personality and Social Psychology*, 37 (February), 180–94.
- Keppel, Geoffrey (1991), *Design and Analysis: A Researcher's Handbook*, Englewood Cliffs, NJ: Prentice-Hall.
- Ottati, Victor C. and Linda M. Isbell (1996), "Effects of Mood during Exposure to Target Information on Subsequently Reported Judgments: An On-Line Model of Misattribution and Correction," *Journal of Personality and Social Psychology*, 71 (1), 39–53.
- Pham, Michel T. (1998), "Representativeness, Relevance and the Use of Feelings in Decision Making," *Journal of Consumer Research*, 25 (September), 144–60.
- Pham, Michel T., Joel B. Cohen, John W. Pracejus, and G. David Hughes (2001), "Affect Monitoring and the Primacy of Feelings in Judgment," *Journal of Consumer Research*, 28 (September), 167–88.
- Reisenzein, Rainer (2001), "Appraisal Processes Conceptualized from a Schema-Theoretic Perspective," in *Appraisal Processes in Emotion: Theory, Methods, Research*, ed. Klaus R. Scherer et al., New York: Oxford University Press, 187–201.
- Schwarz, Norbert (2001), "Feelings as Information: Implications for Affective Influences on Information Processing," in *Theories of Mood and Cognition: A User's Guidebook*, ed. Leonard L. Martin and Gerald L. Clore, Mahwah, NJ: Erlbaum, 159–76.
- Schwarz, Norbert and Gerald L. Clore (1983), "Mood, Misattribution, and Judgments of Well-Being: Informative and Directive Functions of Affective States," *Journal of Personality and Social Psychology*, 45 (September), 513–23.
- (1988), "How Do I Feel about It? Informative Functions of Affective States," in *Affect, Cognition and Social Behavior*, ed. Klaus Fiedler and Joseph P. Forgas, Toronto: Hogrefe, 44–62.
- (1996), "Feelings and Phenomenal Experiences," in *Social Psychology: Handbook of Basic Principles*, ed. E. Tory Higgins and Arie W. Kruglanski, New York: Guilford, 433–65.
- Shiv, Baba and Alexander Fedorikhin (1999), "Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making," *Journal of Consumer Research*, 26 (December), 278–92.
- Snyder, Mark (1981), "Seek and Ye Shall Find: Testing Hypotheses about Other People," in *Social Cognition: The Ontario Symposium*, Vol. 1, ed. E. Tory Higgins et al., Hillsdale, NJ: Erlbaum, 277–303.
- Srull, Thomas K. and Robert S. Wyer, Jr. (1989), "Person Memory and Judgment," *Psychological Review*, 96 (1), 58–83.
- Strack, Fritz, Leonard L. Martin, and Sabina Stepper (1988), "Inhibiting and Facilitating Conditions of the Human Smile: A Nonobtrusive Test of the Facial Feedback Hypothesis," *Journal of Personality and Social Psychology*, 54 (5), 768–77.
- Strack, Fritz, Norbert Schwarz, and Elisabeth Gschneidinger (1985), "Happiness and Reminiscing: The Role of Time Perspective, Affect and Mode of Thinking," *Journal of Personality and Social Psychology*, 49 (6), 1460–69.
- Taylor, Shelley and Susan T. Fiske (1978), "Salience, Attention and Attribution: Top of the Head Phenomena," in *Advances in Experimental Social Psychology*, Vol. 11, ed. Leonard Berkowitz, New York: Academic Press.
- Wright, Peter L. (1975), "Consumer Choice Strategies: Simplifying vs. Optimizing," *Journal of Marketing Research*, 12 (February), 60–67.
- Wyer, Robert S., Jr., Gerald L. Clore, and Linda M. Isbell (1999), "Affect and Information Processing," in *Advances in Experimental Social Psychology*, Vol. 31, ed. Mark P. Zanna, San Diego: Academic Press, 1–77.
- Wyer, Robert S., Jr., and Thomas K. Srull (1989), *Memory and Cognition in Its Social Context*, Hillsdale, NJ: Erlbaum.