

Sometimes It Just Feels Right: The Differential Weighting of Affect-Consistent and Affect-Inconsistent Product Information

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An affect-confirmation process is proposed to explain the conditions in which information that is similar in valence (i.e., evaluatively consistent) with a person's mood is weighted more heavily in product judgments. Specifically, the affect that participants experience as a result of a transitory mood state may appear to either confirm or disconfirm their reactions to product information, leading them to give this information more or less weight when evaluating the product as a whole. This affective confirmation typically occurs when hedonic criteria are considered more important in evaluation than utilitarian criteria. Four experiments confirmed implications of this conceptualization.

The affect that people experience at the time they receive information about an object can influence the manner in which they process this information and, therefore, the judgments that follow. This influence has been detected in both consumer judgment and elsewhere (for reviews, see Clore, Schwarz, and Conway [1994]; Cohen and Areni [1991]). In some cases, affect has been shown to have a *direct* effect on people's judgments. That is, people judge a product more favorably when they are feeling happy than when they are not, regardless of the information they receive about it (Gorn, Goldberg, and Basu 1993; Pham 1998). However, affect can also have an *indirect* influence on judgments through its impact on the way specific pieces of product information are treated. For example, consumers might give a piece of information more weight when its evaluative implications are similar in valence to the affect they are experiencing for other reasons. (That is, happy individuals may weight favorable pieces of information more heavily than unfavorable pieces when making a judgment, whereas unhappy persons may give relatively more emphasis to un-

favorable pieces than to unfavorable ones.) The present article provides evidence of this differential weighting and circumscribes the conditions in which it occurs. In doing so, it provides an explanation that differs from other, memory-based explanations that have been previously proposed (Bower 1981; Forgas 1995; Isen et al. 1978).

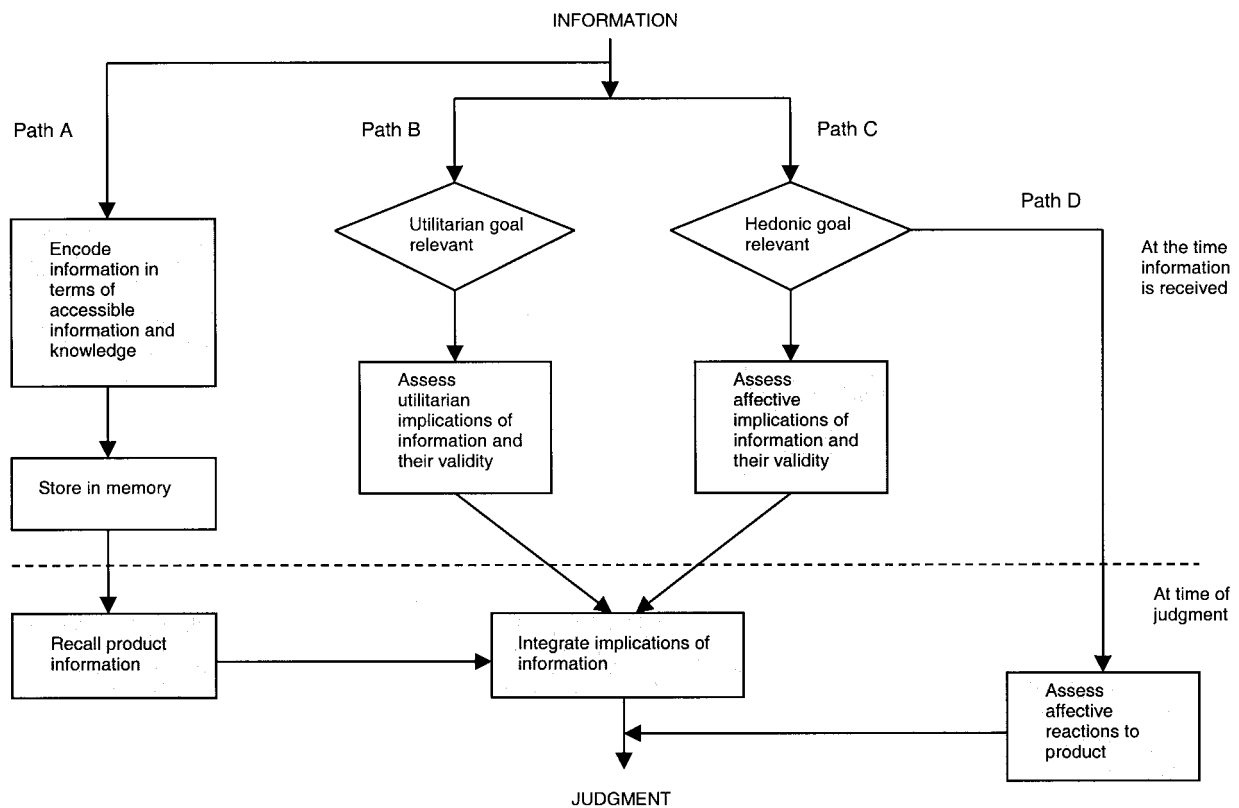
To understand more clearly the phenomena of concern in this article, imagine a typical shopping situation in which consumers evaluate a product. Several different types of product information may be available in this situation, each of which may have different implications for the evaluation of the product as a whole. For instance, when consumers are making on-line evaluations of jeans, they could respond favorably to a brand name like Levis but unfavorably to the specific style or color of the jeans. These responses could include affective reactions. Moreover, some of these reactions might be consistent (in valence) with the extraneous affect that consumers happen to be experiencing at the time they receive the product information (e.g., their mood) whereas other reactions might be inconsistent with it. This extraneous affect, which could have occurred for reasons that are unrelated to the product (e.g., bad traffic conditions), might nevertheless influence the relative weight that the consumers attach to product information that is evaluatively consistent or inconsistent with it.

Although affect-induced differences in weighting have not been documented in the product domain, at least two studies suggest that this phenomenon occurs in other judgment domains (see Bower, Gilligan, and Monteiro 1981; Forgas and Bower 1987). Previous explanations of this phenomenon, however, have relied on the assumption that mood influences the accessibility of mood-consistent evaluative concepts in memory and that these concepts are used to

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FIGURE 1

ALTERNATIVE PROCESSES MEDIATING THE INFLUENCE OF AFFECT AND PRODUCT INFORMATION ON JUDGMENTS



NOTE.—Path A describes memory-based processes. Paths B and C describe processes implied by the affect-confirmation hypothesis. Path D describes the direct use of affect as information in judging the product. Shaded boxes indicate processes in which affect is theoretically involved.

selectively encode and retrieve information (Bower 1981; Forgas 1995). This assumption has recently been called into question (Niedenthal, Halberstadt, and Setterlund 1997; Niedenthal and Setterlund 1994; see also Wyer, Clore, and Isbell 1999), highlighting the need for alternative explanations. In the present research, an *affect-confirmation* process is proposed to account for the phenomenon. Unlike other theories (e.g., Bower 1981; Forgas 1995), this conceptualization requires no assumptions about the impact of affective reactions on the accessibility of previously acquired concepts and knowledge in memory. The theory therefore applies to conditions in which people base their judgments primarily on the information they have available to them at the time rather than previously acquired information that they recall. At the same time, the conceptualization circumscribes more clearly than previous formulations the conditions in which people's affective reactions are likely to influence the impact of the information they receive.

THEORETICAL BACKGROUND

The different processes that underlie the impact of affect on judgments are outlined in Figure 1. After reviewing some of these processes and discussing their underlying assumptions, an alternative account of the differential weighting of affect-related information is proposed.

Memory-Based Theories of Affect and Judgment

Theories of affect and cognition (e.g., Bower 1981; Forgas 1995; Isen et al. 1978) often assume that the affect people experience at a particular moment in time increases the accessibility in memory of concepts and knowledge that are evaluatively consistent with it (Bower 1981). When a large amount of information is presented, a portion of the information that can be easily interpreted in terms of mood-activated concepts is thought about more extensively and may be selectively encoded into memory (Bower et al. 1981;

Forgas and Bower 1987). This selectively encoded information is more likely to be recalled later and used as a basis for judgment. The process outlined above is shown in Figure 1, path A. It suggests that the differential weighting of affect-consistent and affect-inconsistent information at the time of judgment is the result of differences in the likelihood that the information is selectively encoded at the time it is received and therefore retrieved from memory later on.

However, this interpretation assumes that mood influences the accessibility of similarly valenced concepts and knowledge in memory. As Wyer et al. (1999) point out, the assumption that mood influences the accessibility of similarly valenced concepts and knowledge in memory is questionable. Niedenthal and her colleagues (Niedenthal and Setterlund 1994; Niedenthal et al. 1997) found that although the mood that people happen to be experiencing increases the accessibility in memory of concepts that pertain *directly* to this mood, it does *not* influence the accessibility of evaluatively congruent concepts in general. Nor does thinking about mood-congruent information about a referent remind persons about other characteristics of the referent (Gilligan and Bower 1983). Thus, a fundamental assumption underlying memory-based theories of the impact of mood on judgment may not be valid.

Affect-Confirmation Hypothesis

The proposed conceptualization recognizes that people often do not distinguish between the different sources of their affect at the time they are called upon to make a judgment (Schwarz and Clore 1983). Consequently, the affect they experience for reasons that have little to do with a product they are judging (e.g., a transitory mood state) can be confused with feelings elicited by the product information. When extraneous affect is similar in valence to one's affective reactions to this information, it can make these reactions appear more appropriate or valid and, therefore, can increase the perception that one's feelings about the information have been assessed correctly. As a result, it can increase the weight or importance that people give to this information in the course of computing a judgment.

For example, suppose consumers wish to purchase ice cream. They may think about the attribute "made from full creamy milk" in terms of its implications for how good the ice cream would taste. These thoughts might give rise to affective reactions. However, people may not clearly distinguish these reactions from the affect they are experiencing for other, unrelated reasons. Consequently, the extraneous affect can influence their perceptions of how they feel about the product information. When the affect from the two sources is similar in valence, consumers may perceive that they have assessed their feelings about the product information correctly. They may therefore weight this information more heavily in estimating their liking for the product and may have greater confidence in this judgment. However, if the extraneous affect that consumers are experiencing dif-

fers from that elicited by the product information, they may interpret these conflicting feelings as ambivalence about their reactions to this information, and so they may give less weight to the information than they otherwise would.

The processes described above assume that people base their evaluations of the product information on their affective reactions to it. However, this is not always the case. That is, some evaluations may be based on affect but others may not (Zanna and Rempel 1988; see also Pham 1998). Mano and Oliver (1993) distinguish between two general criteria that consumers use (see also Batra and Ahtola 1990). Utilitarian criteria concern the product's ability to perform a useful function, whereas hedonic criteria focus on the feelings that consumers expect to experience when the product is used. When persons are not explicitly told what criteria they should apply in evaluating a product, the criteria they use may depend on their personal values, goals, or needs (Babin, Darden, and Griffin 1994). For example, a person who wants to eat ice cream may evaluate it on the basis of affective or hedonic criteria (i.e., its taste and the enjoyment it will give). However, a hospital dietician may evaluate the product on the basis of utilitarian criteria (e.g., its value to postsurgery patients on high calorie diets).

Pham (1998) notes that the affect consumers experience only influences their judgments of a product when they consider hedonic criteria to be a relevant basis for evaluating it. Similarly, affect-confirmation processes are also unlikely to occur unless consumers base their evaluations on affective criteria. Thus, the dietician in the previous example might evaluate the attribute "made from full creamy milk" favorably because of its high caloric content. On the other hand, she might consider its implications for hedonic criteria (e.g., taste) to be irrelevant and might actively try to avoid using them. To this extent, extraneous affect might not influence the weight she attaches to the information in evaluating the product.

The processes assumed by this conceptualization are conveyed in paths B and C of the flow diagram shown in Figure 1. Suppose people receiving information about a product consider utilitarian criteria to be most relevant in evaluating it (path B). Then they should construe the implications of this information without considering their affective reactions to it and integrate these implications to arrive at an overall evaluation. If, however, people consider the hedonic (affective) criteria to be most relevant, they may assess their affective reactions to each piece of information. In doing so, they may consider their reactions to a given piece of information to be relatively more reliable if these reactions are similar to the feelings they happen to be experiencing for other reasons. Consequently, they may assign relatively greater weight to this piece of information when they compute an overall evaluation. These processes are captured by the following hypotheses.

- H1:** Participants who base their judgments on hedonic criteria will give greater weight to attribute information when this information is evaluatively consistent with their mood than when it is inconsistent

with their mood. This differential weighting will not be evident when participants base their judgments on utilitarian criteria.

A second hypothesis formalizes an assumption that underlies Hypothesis 1:

- H2:** Participants will have more confidence in their judgments when the affective reactions to a product's attributes and the affect they are experiencing for other reasons are similar in valence than when they differ.

Alternative Conceptualizations

The affect-confirmation hypothesis does not preclude other possible influences of affect on information processing and judgment. However, these influences theoretically occur independently of the impact of affect on the weighting of information that is evaluatively consistent or inconsistent with it. The distinction between these formulations is worth noting briefly.

Affect as Information. People often base their judgments of an object on the affective reactions they are experiencing at the time of judgment (Schwarz and Clore 1983). Although these affective reactions may have been caused by external events, they might be interpreted as feelings about the object being evaluated. As a result, persons might evaluate an object more favorably when they are happy than when they are not, and this could be true regardless of whether the specific information about the object is favorable or unfavorable. The use of affect as information is quite well established (for reviews, see Clore et al. [1994]; Schwarz and Clore [1996]). There may nevertheless be contingencies in the conditions in which this occurs. Forgas (1995) suggests that affect is used as a heuristic basis for judgments when people are unable or unmotivated to think carefully about other information available (see also Shiv and Fedorikhin 1999). Pham (1998), for example, found that people used their feelings as a direct basis for judging a product when they were told to make a judgment to which affective reactions were relevant. When participants' judgments required a consideration of utilitarian criteria, however, the affect they experienced had no impact on their judgments.

Pham's (1998) findings are consistent with the assumption that people's affective reactions enter into information processing only if the judgment to be made is one to which these reactions are relevant. However, Pham's research was concerned with the direct influence of affect as a basis for judgment (reflected in Fig. 1, path *D*). If this were the only process by which affect influences judgments, it would imply that a piece of information has the *same* impact under positive and negative affect conditions. The affect-confirmation hypothesis, however, suggests that a favorable piece of information will have *more* influence and unfavorable

information will have *less* influence when consumers feel happy than when they do not. In principle, both types of influences could occur. That is, the use of affect as information is presumably independent of the influence of affect on the way specific pieces of information are evaluated and, therefore, the weight attached to this information (Fig. 1, path *C*).

Martin et al. (1997) propose a somewhat different version of the affect-as-information hypothesis. They find that persons evaluate an object more favorably if it performs the function for which it is intended. The affect being experienced is used as input in determining whether this is true. (Thus, they evaluate a funny film more favorably if they are happy and a sad film more favorably when they are unhappy.) If one assumes that products are typically expected to perform well and make people feel good, then Martin et al.'s (1997) conception predicts that people will evaluate all products more favorably if they are happy than if they are not—a prediction similar to that of Pham (1998). Both these processes are presumably independent of those investigated in the present article and do not make any predictions about the weighting of individual pieces of information.

Motivational Influences. Motivation can influence information processing in at least three ways. First, Chaiken (1987) hypothesizes that when people are asked to make a judgment, they first apply the criterion that comes to mind most easily and is simplest to apply. They then assess their confidence that the judgment based on this criterion is valid, and if this estimate is above some minimal threshold, they apply it without engaging in further processing. If their confidence is below this threshold value, however, they identify and apply additional criteria that may require more extensive processing. According to the affect-confirmation hypothesis, people's confidence in their judgments is more likely to be above threshold when the affect elicited by a piece of product information is consistent with their mood. Consequently, they may be more inclined to weight this information heavily in making a judgment without considering carefully other information available. To this extent, predictions of the affect-confirmation hypothesis are compatible with Chaiken's conceptualization. However, Chaiken (1987) does not predict any contingencies in the occurrence of this effect, whereas the affect-confirmation hypothesis does.

A second possibility is that the affect being experienced may itself influence the motivation to process information in general (Bless et al. 1990; Bodenhausen 1993). In this case, it could influence the extent to which affect enters into all the three paths shown in Figure 1 (namely, paths *A*, *C*, and *D*). Finally, Isen (1984) and others (Singer and Salovey 1988) suggest that happy people want to maintain their feelings, whereas unhappy people are motivated to change their feelings. These motives could lead both happy and unhappy participants to think more extensively about positive aspects of the information they receive than about negative aspects. This type of motivated thinking could produce a generally greater influence of favorable information than unfavorable information. In contrast, the affect-confirmation hypothesis

suggests that *only* individuals who experience positive affect will weight favorable information more heavily. Note, however, that the effects implied by affect confirmation and the effects of motivation are not incompatible. That is, the influence of affect-confirmation processes could occur over and above the motivational effects suggested by both Isen (1984) and Bless et al. (1990).

An Assessment of Weighting: Methodological Considerations

Although Hypothesis 1 can be tested directly by assessing the impact of the attribute information, it is not an unambiguous test of the hypothesis. Anderson (1981) and others (e.g., Birnbaum 1974) have pointed out that the influence of a given type of information (i.e., the difference in judgments when the information is favorable and judgments when it is unfavorable) is governed by perceptions of the extremity of its evaluative implications as well as the weight that is attached to these implications. (That is, individuals might perceive the implications of favorable attribute information to be more extremely favorable, and the implications of unfavorable information to be more extremely unfavorable, independently of the weight they attached to the information when computing the judgment.) To this extent, an inference of the weight attached to attribute information from the magnitude of its influence on judgments would be equivocal. For example, suppose a product described by a favorable attribute and a product described by an unfavorable attribute are evaluated +5 and -5, respectively, when the attribute information was evaluatively consistent with participants' mood, but are evaluated +3 and -3, respectively, when the attribute information was inconsistent with participants' mood. This could indicate that participants attached more weight to the attribute information when it was consistent with their mood than when it was not. However, it could also indicate that participants interpreted the attribute as having more extreme evaluative implications in the first case than in the second.

To eliminate this confound, an indirect procedure was used to detect differential weighting. Numerous studies both in the area of consumer judgment (e.g., Bettman, Capon, and Lutz 1975; Meyer 1981; Troutman and Shanteau 1976) and elsewhere (for a review of evidence, see Anderson [1981]; Birnbaum [1974]) have shown that the greater the weight that participants attach to one piece of information in making a judgment, the less influence the information accompanying it will have. Therefore, the relative weight attached to one piece of information can be indirectly inferred from the weight attached to the other. This procedure eliminates confounds produced by the extremity of the evaluative implications of the information itself (see Wyer and Carlston 1979).

Participants in three of the four experiments to be reported were given only two pieces of information about each of the product categories they evaluated. Each product was described by a favorable or an unfavorable brand name and by

a favorable or an unfavorable specific attribute. Under conditions in which participants attach relatively more importance to affective criteria than to utilitarian criteria, they should give relatively more weight to mood-consistent attributes than mood-inconsistent ones. (That is, happy persons should attach greater weight to the favorable attribute information, whereas unhappy participants should give greater weight to unfavorable attribute information.) To this extent, the effect of the information accompanying it (i.e., brand name) should be *less* in the former conditions than the latter. Under conditions in which participants attach relatively more importance to utilitarian criteria, however, this difference should not be evident.

Experiment 1 assessed this prediction by varying the category of products that participants judged. Experiment 2 replicated the findings by experimentally manipulating participants' evaluation criteria. Additional experiments supported the assumption that participants weight affect-confirming information more in judgments but that the influence of extraneous affect on the weight attached to information decreases when the source of this affect is called to one's attention.

EXPERIMENT 1

According to Hypothesis 1, information that is evaluatively consistent with a person's mood state will be given relatively greater weight in judgments if affective reactions are typically used to evaluate the products. However, this will not be the case if the products are evaluated primarily on the basis of utilitarian considerations. To test this hypothesis and to determine if this phenomenon generalized to the large number of products available in the marketplace, experiment 1 considered different product categories that varied in the criteria people used to evaluate them.

Assessment of Judgmental Criteria—Preliminary Data

Four product categories (jeans, running shoes, sweatshirts, and backpacks) were selected on the basis of focus group discussions involving undergraduates. The importance of hedonic and utilitarian criteria in evaluating the types of products under consideration was determined on the basis of additional data from a different group of 80 male and 95 female college participants. These participants were asked to consider a product in one of the four product categories selected and to indicate the extent to which they were likely to think about a number of different features when purchasing it. One feature, "how the product feels when it is used," exemplified affective, feelings-related criteria, and a second, "construction quality," exemplified utilitarian criteria. These features were embedded in a number of others in the questionnaire in order to disguise the specific variables that were of interest. Judgments were reported along a scale from 0 (not at all) to 10 (a lot).

Both affective and utilitarian criteria were generally considered important regardless of the product category involved (in all cases, $M > 6.7$). However, the relative im-

portance attached to these criteria varied over categories and in some cases differed between males and females. Specifically, both males and females considered affective criteria more important than utilitarian criteria in judging jeans (mean difference = 1.3 and 1.0 for males and females, respectively). This was also true in the case of running shoes ($M_{\text{diff}} = 0.6$ and 1.3, for males and females, respectively). In contrast, although females attached more importance to affective criteria than to utilitarian criteria in judging sweatshirts ($M_{\text{diff}} = 0.5$), males attached relatively less importance to affective criteria ($M_{\text{diff}} = -1.0$). Finally, both males and females attached less importance to affective criteria than to utilitarian criteria in judging backpacks ($M_{\text{diff}} = -1.4$ vs. -2.1 for males and females, respectively). These conclusions were confirmed by an analysis of these difference scores, which yielded an overall effect of product category, $F(1, 167) = 13.84$, $p < .01$, $\eta^2 = 0.20$, and an interaction of product category and participant sex, $F(3, 167) = 2.33$, $p < .08$, $\eta^2 = 0.04$.

Predictions

Based on these data, specific predictions were made for each product category. That is, both males and females should weight mood-consistent information more heavily than mood-inconsistent information when they evaluated jeans and running shoes. Females but not males should weight mood-consistent information more heavily than mood-inconsistent information when they evaluated sweatshirts. Finally, neither males nor females should weight mood-consistent information more heavily when they evaluated backpacks.

Method

Overview, Subjects, and Design. Participants who had been induced to feel either happy or sad by watching a movie were asked to estimate how much they liked each of four products. The products, selected on the basis of pretesting, varied in terms of the type of criteria (hedonic vs. utilitarian) that were used to evaluate them. The description of each product considered by a given subject represented a different combination of brand favorableness, attribute favorableness, and product category. The particular combination to which participants were exposed was varied in a latin-square design in a manner described later. Eighty-four male and 76 female undergraduate business majors participated in the study for extra course credit.

Selection of Brand and Attribute Information. This information was selected on the basis of a pretest in which 16 male and 15 female undergraduate business majors assessed the favorableness of different brand names and attributes along a scale from -5 (very undesirable) to $+5$ (very desirable). The desirable and undesirable brands were as follows: for jeans, Levis versus Rustler (3.54 vs. -3.11 , respectively); for running shoes, Reebok versus Trax (3.90 vs. -1.26); for sweatshirts, Champion versus NuBlends

(4.00 vs. 0.45); and for backpacks, Jansport versus Strike Force (4.03 vs. 0.32). Although the undesirable brands in the latter two product categories were not clearly unfavorable, they were substantially less favorable than the corresponding desirable brands.

The favorable attributes selected for jeans, running shoes, sweatshirts and backpacks, respectively, were "preshrunk" (mean desirability = 3.50), "soft and flexible sole" ($M = 3.53$), "80 percent cotton–20 percent polyester" ($M = 4.23$), and "large number of pockets" ($M = 3.26$). Undesirable attributes were defined as the absence of the attribute considered desirable or a lower amount of this attribute. Thus, the undesirable attributes associated with the four product categories were not preshrunk, hard, inflexible sole, 20 percent cotton–80 percent polyester, and one pocket, respectively.

Presentation of Stimulus Information. Each participant evaluated one product from each of the four categories. To ensure against a confounding of the type of information presented and presentation order, eight different questionnaire forms were constructed. In four forms, jeans were evaluated first, followed by sweatshirts, backpacks, and running shoes. In the remaining four forms, the order of the product categories was reversed. The four product descriptions in each form represented a different combination of brand favorableness and attribute favorableness. These descriptions varied over forms and product categories in a latin-square design so that pooled over forms (a) all combinations of brand favorableness and attribute favorableness were represented within each product category, and (b) the mean serial position of each product category, as well as the mean serial position of each combination of brand favorableness and attribute favorableness, was the same. An approximately equal number of male and female participants in each mood-induction condition completed each form.

Procedure. Participants were told that the departments of business administration and psychology had jointly sponsored the study. They were informed that the two departments wished to collect information about a number of different aspects of students' lives, and so they would be asked to provide information on a variety of topics (e.g., the classes they were taking, the forms of entertainment they enjoyed, product purchases they made, life experiences they had while they were students, how they felt on a daily basis, etc.). They were also told that different groups of students were being asked different sets of questions and that not everyone was asked questions on all topics because of time constraints.

They were then given the mood-induction task. The mood-induction procedure was similar to that employed by Martin et al. (1993). Participants were told that the first task was being conducted to determine student preferences for different genres of film. On this pretense, they were asked to watch either (a) two amusing film clips from *Pretty Woman* and *Mrs. Doubtfire* or (b) two sad film clips taken from *Ordinary People* and *Sophie's Choice*. Each clip was seven minutes long. Both sets of films were preceded by

another clip from the film *Bullit*, which was included to mask the emotional tone of the other films. To justify the rationale for showing these clips, participants were asked to react to each film by answering questions about them on a Pilot Movie Ratings questionnaire. The questions asked were general and dealt with issues such as knowledge of the movie's title, the quality of acting, enjoyment of films of that genre, and whether it was possible to tell the plot of the movie from the brief clip. After they had evaluated the three films, they were told to move on to the next task.

Participants were told that the next task they would perform was concerned with product preferences. They were then given one of the eight versions of the questionnaire described earlier. In each case, they were asked to read the product description and then to evaluate the product along three scales, ranging from -5 to $+5$, pertaining to attractiveness (very unattractive/very attractive), goodness (extremely bad/extremely good), and desirability (very undesirable/very desirable). Responses along the three scales were subsequently averaged to provide a single estimate of liking for each product (Cronbach's alpha was greater than .91 for each combination of brand and attribute favorableness).

Participants at the end of the experiment were given a manipulation check questionnaire. They were asked to report the extent to which they experienced eight specific emotions (happy, angry, pleasant, sad, delighted, glad, unpleasant, and distressed) while engaging in the mood-inducing activity. These ratings were made along scales from 0 (not at all) to 10 (extremely) and taken from Penner et al. (1994). Responses to these scales were averaged, after appropriate reverse scoring, to provide a single index of participants' mood at the time it was induced (Cronbach's alpha was .97). In addition, they were asked to indicate their feelings "at this moment" along the two scales, one from -5 (extremely unhappy) to $+5$ (extremely happy) and the other from -5 (extremely bad) to $+5$ (extremely good). These responses were averaged to provide a single index of participants' mood at the time they were asked to report it (current mood). After they completed this task, they were thanked for their participation and debriefed.

Results

Manipulation Check. Participants recalled being in a happier mood while watching movies that were intended to induce positive affect than while watching movies intended to induce negative affect (6.81 vs. 2.41), $F(1, 136) = 468.08$, $p < .00$, $\eta^2 = .775$. In addition, participants' estimates of their mood at the end of the experiment were also more positive in the former condition than the latter (1.94 vs. 1.36), $F(1, 158) = 3.78$, $p < .05$, $\eta^2 = .023$. Thus, the effect of the mood induction persisted throughout the experiment.¹

¹The effectiveness of this technique and the procedure used in experiment 2 was pretested. Participants reported being happier at the time of the mood induction if the induction was positive than if it were negative (8.20 vs. 2.74), $F(1, 24) = 84.42$, $p < .01$, $\eta^2 = .78$, and, at the end of the experiment (2.88 vs. 0.18), $F(1, 24) = 18.77$, $p < .01$, $\eta^2 = .44$. This difference

Overall Analyses. The influence of mood on the weight attached to product attribute information was inferred from the difference between the effect of brand name when the attribute information was evaluatively consistent with participants' mood and its effect when the attribute information was inconsistent with their mood. If attribute information is given more weight in the former condition than the latter, this effect of brand name should be less in the former conditions.

To obtain an overall indication of the effect of mood on the weight of the attribute information, data were pooled over the four product categories and analyzed as a function of induced mood, attribute favorableness, and brand favorableness, treating the latter two variables as a repeated measure variable. Results of this analysis revealed no significant main or interactive effects involving mood ($p > .10$). Thus, participants' overall evaluations were no more favorable when they were feeling happy ($M = 0.7$) versus when they were not ($M = 0.6$). Products were evaluated more favorably when the brand name associated with them was favorable ($M = 2.0$) than when it was not ($M = -0.6$), $F(1, 158) = 273.70$, $p < .01$, $\eta^2 = 0.64$. However, this difference was virtually identical regardless of whether the attribute information was evaluatively congruent with participants' mood (1.9 vs. -0.5 , for favorable and unfavorable brands, respectively) or incongruent with it (2.0 vs. -0.7 , respectively), $F < 1$.²

Test of Predictions. Although the overall effect of mood on the impact of product information was not reliable, the effect was predicted to depend on the product category involved. To evaluate these predictions, evaluations of products in each category were analyzed separately as a function of induced mood, gender, brand favorableness, and attribute favorableness. In these analyses, brand favorableness and attribute favorableness were between-subject variables.

Table 1 shows the mean evaluations of products in each category as a function of gender, brand favorableness, attribute favorableness, and mood. However, more relevant to the predictions of concern is a comparison of the effects of brand name under conditions in which the attribute information was evaluatively consistent with participants' mood (i.e., either when participants were happy and the attribute

did not depend on the particular induction technique employed ($p > .10$). Moreover, additional pretests on two different groups of subjects revealed no differences in arousal as a result of the two techniques. Participants who reported how stimulated, excited, calm, and relaxed they were on 0 (not at all) to 10 (very much) scales showed similar levels of arousal regardless of whether the movie they watched was happy ($M = 4.77$) or sad ($M = 4.59$), $F < 1$ or, whether they wrote about a happy or unhappy event (2.62 vs. 3.12), $F < 1$.

²This difference is evaluated statistically by the three-way interaction of mood, brand favorableness, and attribute favorableness. The same interaction could alternatively be interpreted as indicating the effect of attribute information when brand name and mood are evaluatively consistent versus inconsistent. The emphasis placed on the impact of mood-attribute consistency rather than mood-brand consistency was motivated by the need to compare the data in experiment 1 with those obtained in experiment 2, where characteristics of the attribute information that might have an impact on its weight were experimentally manipulated.

TABLE 1
EFFECTS OF BRAND AND ATTRIBUTE IN POSITIVE AND NEGATIVE MOODS: EXPERIMENT 1

Conditions	Males		Females	
	Favorable brand	Unfavorable brand	Favorable brand	Unfavorable brand
Jeans:				
Positive mood:				
Favorable attribute	2.8	-1.1	2.9	.2
Unfavorable attribute	2.0	-2.3	2.3	-2.2
Negative mood:				
Favorable attribute	3.5	-.7	3.5	-.3
Unfavorable attribute	1.8	-1.0	1.6	-1.0
Running shoes:				
Positive mood:				
Favorable attribute	2.7	-.9	3.7	.5
Unfavorable attribute	-.2	-2.6	-.4	-1.9
Negative mood:				
Favorable attribute	3.0	-1.0	1.6	1.5
Unfavorable attribute	-2.0	-3.2	-1.5	-2.5
Sweatshirts:				
Positive mood:				
Favorable attribute	4.1	.8	2.9	.3
Unfavorable attribute	1.6	-1.8	2.4	-1.6
Negative mood:				
Favorable attribute	3.2	.9	3.0	.0
Unfavorable attribute	2.2	-1.2	.8	.0
Backpacks:				
Positive mood:				
Favorable attribute	2.2	1.3	3.1	2.1
Unfavorable attribute	1.2	-.5	-.1	-1.0
Negative mood:				
Favorable attribute	2.4	1.0	2.4	1.3
Unfavorable attribute	1.3	-1.5	1.3	-1.3

information was favorable or when participants were unhappy and the attribute information was unfavorable) with conditions in which it was inconsistent. These data, shown in Table 2, are discussed for each product category separately.

Jeans. Both males and females considered hedonic criteria more important than utilitarian criteria in evaluating jeans. Therefore, both groups of participants should weight mood-consistent attribute information more heavily when evaluating products in this category. Results summarized in Table 2 confirm this prediction. That is, the effect of brand name was less when mood and attribute information were evaluatively consistent ($M_{diff} = 3.0$) than when they were inconsistent ($M_{diff} = 4.2$) and this was true for both males

and females.³ This interpretation is confirmed by an interaction of mood-attribute consistency and brand favorableness, $F_{dir}(1, 144) = 3.01, p < .05, \eta^2 = 0.02$, that is not contingent on participants' sex, $F < 1$.

³The data shown in Table 2 can be computed from the means shown in Table 1. For example, the two mood-congruent conditions occur when (a) participants are in a positive mood and the attribute information is favorable, and (b) participants are in a negative mood and the attribute information is unfavorable. Males' judgment of jeans in these two conditions were 2.8 and 1.8, respectively, when the brand was favorable ($M = 2.3$), and were -1.1 and -1.0, respectively, when the brand was unfavorable ($M = -1.0$). Therefore, as shown in Table 2, the mean effect of brand name when the mood and attribute information were evaluatively congruent is the difference between these two judgments or $2.3 - (-1.0) = 3.3$. The effect of brand when participants' mood and the attribute information were evaluatively incongruent was determined analogously.

⁴Here and elsewhere, predicted main effects and interactions were evaluated on the basis of a directional F -test (F_{dir}). In all cases, these tests, which involve a comparison of the mean of half the cells of the design

TABLE 2

EFFECTS OF BRAND WHEN MOOD AND ATTRIBUTES ARE CONSISTENT VERSUS INCONSISTENT: EXPERIMENT 1

Conditions	Males			Females			Overall		
	Favorable brand	Unfavorable brand	Difference (M_{diff})	Favorable brand	Unfavorable brand	Difference (M_{diff})	Favorable brand	Unfavorable brand	Difference (M_{diff})
Jeans:									
Mood and attribute:									
Congruent	2.3	-1.0	3.3	2.3	-.4	2.7	2.3	-.7	3.0
Incongruent	2.7	-1.5	4.2	2.9	-1.2	4.1	2.8	-1.4	4.2
Running shoes:									
Mood and attribute:									
Congruent	.3	-2.0	2.4	1.1	-1.0	2.1	.7	-1.5	2.2
Incongruent	1.4	-1.8	3.2	.6	-.2	.8	1.0	-1.0	2.0
Sweatshirts:									
Mood and attribute:									
Congruent	3.1	-.2	3.3	1.8	.1	1.8	2.5	.0	2.5
Incongruent	2.4	-.4	2.9	3.1	-.8	3.9	2.8	-.6	3.4
Backpacks:									
Mood and attribute:									
Congruent	2.3	-.1	2.4	2.2	.4	1.8	2.2	.2	2.0
Incongruent	1.8	.3	1.5	1.2	.2	1.0	1.5	.2	1.3

Running Shoes. Both males and females also reported attaching more importance to hedonic criteria in evaluating running shoes. To this extent, greater weight should be attached to information that is mood-consistent for both groups of participants. Contrary to expectations, however, this effect was evident only among males. Specifically, the effect of brand name on males' judgments was less when attribute information was consistent with their mood ($M_{diff} = 2.4$) than when it was inconsistent ($M_{diff} = 3.2$). In contrast, the effect of brand on females' judgments was greater in the former condition ($M_{diff} = 2.1$) than the latter ($M_{diff} = 0.8$). Although the interaction of mood-attribute consistency and brand favorableness was not significant in analyses for male and female participants separately (in each case $p > .10$), the three-way interaction of these variables and participants' sex was reliable, $F_{dir}(1, 144) = 2.93$, $p < .05$, $\eta^2 = 0.02$.

Sweatshirts. Only females attached relatively more importance to feeling-related criteria in evaluating sweatshirts. Consequently, the effect of mood-attribute consistency on the weight attached to the information presented should be evident for females but not for males. Data in Table 2 support this prediction. That is, the effect of brand name on females' judgments was significantly less when the attribute information was consistent with mood ($M_{diff} = 1.7$) than when it was not ($M_{diff} = 3.9$), $F_{dir}(1, 144) = 5.14$, $p < .05$, $\eta^2 = 0.07$. This suggests that the attribute information received more weight in the former conditions. In contrast, the effect of brand name on males' judgments was nonsignificantly greater when the attribute information was evaluatively consistent with participants' mood than when it was not ($p > .10$). The different effects of mood-attribute con-

sistency on males' and females' judgments are confirmed by an interaction of mood-attribute consistency, brand favorableness, and participants' sex, $F_{dir}(1, 144) = 4.88$, $p < .05$, $\eta^2 = 0.03$.

Backpacks. Consistent with expectations, neither males nor females evaluated backpacks on the basis of affective considerations. To this extent, the effects of mood-attribute consistency on the weight attached to information about this product should be negligible for both groups of participants. This was in fact the case. If anything, the impact of brand on judgments was nonsignificantly greater when the attribute information was consistent with participants' mood ($M_{diff} = 2.1$) than when it was inconsistent ($M_{diff} = 1.3$), and this was true for both males and females. The interaction of mood-attribute consistency and brand favorableness was not significant, $F_{dir}(1, 144) = 2.06$, $p > .05$, $\eta^2 = 0.01$, and was not contingent on participants' sex, $F < 1$.

Supplementary Data

The only deviation from predictions based on Hypothesis 1 occurred in the case of running shoes. However, this deviation might be spurious. To evaluate this possibility, additional data were collected for that product category. Fifty-two male and 53 female participants were induced to feel either happy or sad by writing about a pleasant or unpleasant life experience in a procedure similar to that used by Schwarz and Clore (1983) and described in detail later (see experiment 2). Then, they were asked to indicate their liking for a pair of running shoes based on a description representing one of the four combinations of brand favorableness and attribute favorableness. (These judgments were made along the same scales used in the experiment 1.)

Mood was again successfully manipulated. That is, participants reported experiencing more positive feelings when

with the mean of the other half, are equivalent to a one-tailed t -test, where $F = t^2$ (for a further discussion, see Keppel 1991, pp. 122–123).

they wrote about a happy life event ($M = 8.4$) than when they wrote about a sad one ($M = 2.2$), $F(1, 86) = 565.14$, $p < .01$, $\eta^2 = 0.87$. Further, as expected, the difference between product evaluations when the brand was favorable and evaluations when the brand was unfavorable was appreciably less in those conditions in which the attribute information and participants' mood were evaluatively consistent ($M_{diff} = 0.5$) than when they were not ($M_{diff} = 2.1$), $F_{dir}(1, 89) = 3.50$, $p < .05$, $\eta^2 = 0.04$. Moreover, the effect of mood-attribute congruence was greater for females ($M_{diff} = 0.7$ vs. 3.3, respectively) than for males ($M_{diff} = 0.3$ vs. 0.9, respectively). Although this gender difference was not reliable ($p > .10$), it is directionally consistent with the difference in emphasis that males and females placed on hedonic criteria for judgment, as indicated by the pretest data reported earlier. Thus, it seems reasonable to conclude that the effects of mood-attribute consistency on judgments of running shoes, like its effects on judgments of products in other categories, are compatible with implications of the affect-confirmation hypothesis.

EXPERIMENT 2

Experiment 1 provided preliminary support for Hypothesis 1. That is, the effect of mood on the weight attached to product information appeared to depend on the extent to which affect-relevant criteria were spontaneously used as a basis for judgments. It is conceivable, however, that differences in the criteria over the four product categories considered in this experiment are confounded with other factors that might in some way influence the differential weighting of information. Therefore, it seemed desirable to confirm the implications of the first study under conditions in which the likelihood that participants would attend to the affective implications of the attribute information was experimentally manipulated.

Participants in experiment 2 received information about a pair of jeans that was described by its brand name (Levis vs. Rustler) and a specific attribute (preshrunk vs. not preshrunk). However, some participants were explicitly told to base their evaluations on hedonic criteria (e.g., how it would feel to wear the jeans), whereas others were told to base their judgments on utilitarian criteria (e.g., quality of construction). Moreover, the attribute information was described in some cases as having implications for comfort and in other cases as having implications for durability. It seemed likely that both of these factors might influence the impact of mood-induced affect on the weight attached to the attribute information in evaluating the products.

The experiment also provided data bearing on Hypothesis 2. Specifically, participants who base their product evaluations on hedonic criteria should have more confidence in these evaluations when the mood-induced affect they are experiencing confirms the evaluative implications of the information they receive. Data collected in experiment 2 confirmed this assumption as well.

Method

Participants were 325 male and female students from an introductory marketing class. They were randomly assigned to cells of a completely randomized between-subject design consisting of mood (positive/negative), brand favorableness (Levis/Rustler), attribute favorableness (preshrunk/not preshrunk), processing goal (affective/utilitarian), and attribute focus (affective/utilitarian).

Stimulus Materials. Jeans was the product category selected for use in this study since both males and females evaluated them on the basis of primarily hedonic criteria. As in experiment 1, participants received information consisting of a favorable or unfavorable brand name ("Levis: ranked first out of 10 different brands of jeans" vs. "Rustler: ranked ninth out of 10 different brands of jeans") and either a favorable or an unfavorable attribute ("preshrunk" vs. "not preshrunk"). In presenting the attribute information, however, a phrase was added that focused attention on either the hedonic implications of the attribute dimension ("preshrunk jeans feel soft against the skin") or its utilitarian implications ("preshrunk jeans have tighter stitches and better durability").

Procedure. Participants were given the same cover story as in experiment 1 concerning the purpose of the research being conducted. With this preamble, they were given a different mood-induction task. This procedure, used by Schwarz and Clore (1983), required participants to collaborate in the development of a life-event inventory that would ostensibly be used to assess the types of experiences that students go through while in school. Participants were then asked to describe a recent event that "made you feel really happy (unhappy) and continues to make you feel happy (unhappy) whenever you think about it." They were given 20 minutes to complete the task. To ensure that they paid attention to the emotional aspects of the event, participants were asked to focus on how the event made them feel and to write about it in the form of a letter to a very close friend. After completing this task, participants as part of an ostensibly unrelated study were given information about a pair of jeans representing one of the eight combinations of brand favorableness, attribute favorableness, and attribute focus described above. Participants under utilitarian goal conditions were asked to evaluate the jeans on the basis of how well constructed they were. In contrast, participants under hedonic goal conditions were asked to evaluate the jeans on the basis of how it would feel to wear them.

Participants reported their evaluations along two scales from -5 (dislike extremely/extremely bad product) to $+5$ (like extremely/extremely good product). After doing so, they reported how confident they felt about their judgment of the product and how certain they were that their evaluation was correct, along scales from 0 (not at all confident/certain) to 10 (extremely confident/certain). Responses along each pair of scales were averaged to provide a single index of both the favorableness of participants' evaluation of the

TABLE 3

EFFECTS OF PROCESSING GOALS, ATTRIBUTE FOCUS, AND MOOD-ATTRIBUTE CONSISTENCY ON THE IMPACT OF BRAND FAVORABLENESS ON PRODUCT EVALUATIONS AND CONFIDENCE: EXPERIMENT 2

Conditions	Affect-focused attributes	Utilitarian-focused attributes	Mean
A. Effect of brand favorableness: ^a			
Feeling processing goal:			
Mood and attribute evaluatively consistent	2.39	2.14	2.26
Mood and attribute evaluatively inconsistent	2.50	2.63	2.56
Utilitarian processing goal:			
Mood and attribute evaluatively consistent	3.05	2.61	2.83
Mood and attribute evaluatively inconsistent	1.94	1.82	1.88
B. Reported confidence:			
Feeling processing goal:			
Mood and attribute evaluatively consistent	5.75	5.82	5.78
Mood and attribute evaluatively inconsistent	5.05	5.69	5.37
Utilitarian processing goal:			
Mood and attribute evaluatively consistent	5.50	4.99	5.25
Mood and attribute evaluatively inconsistent	4.76	5.23	5.00

^aEffect of brand favorableness is estimated from the difference in product evaluations when the brand is favorable and evaluations when the brand is unfavorable.

product and their confidence that this evaluation was correct. Following the product evaluation task, participants completed the manipulation check questionnaire described in experiment 1.

Results

Manipulation Check. Participants reported feeling happier after writing about a positive life experience than after writing about a negative one (6.96 vs. 4.04), $F(1, 296) = 323.03, p < .01, \eta^2 = .522$. In addition, participants' estimates of their mood at the end of the experiment was significantly more favorable in the former condition ($M = 0.70$) than in the latter ($M = 0.08$), $F(1, 309) = 10.87, p < .01, \eta^2 = .023$. Thus, as in experiment 1, participants' mood persisted throughout the experiment.

Product Evaluations. The differential weighting of attribute information implied by the affect-confirmation hypothesis seemed likely to depend on both (a) the extent to which the attribute information actually elicited affect and (b) whether participants' processing goal was one to which affective reactions were relevant. The results shed light on this issue.

The overall impact of mood on judgments was not significant ($p > .10$). That is, participants evaluated products no more favorably when they were happy ($M = 1.03$) than when they were not ($M = 1.32$). Nevertheless, mood influenced the weight that participants attached to the attribute

information. As in experiment 1, this weight was inferred from the impact of the brand information that accompanied the attribute descriptions in the two conditions in which the attribute information and participants' mood were evaluatively consistent and the two conditions in which they were inconsistent. This impact or weight attached to brand name is shown in the top section of Table 3 as a function of participants' processing goal, attribute focus, and attribute-mood consistency.

The implications of these data are quite clear. When participants were told to base their judgments on feelings, the effect of brand on these judgments was less when their mood was evaluatively consistent with the implications of the attribute information than when it was not (2.26 vs. 2.56). When they were told to base their judgments on utilitarian criteria, however, the effect of brand name was substantially greater in the former case than in the latter (2.83 vs. 1.88). These results are confirmed by an interaction of mood, brand favorableness, attribute favorableness, and processing goal, $F_{dir}(1, 280) = 2.86, p < .05, \eta^2 = .01$.

Thus, these data suggest that participants who were told to base their judgments on their feelings attached greater weight to attribute information when their mood-induced affect was consistent with the evaluative implications of the attribute information. On the other hand, participants who were told to use utilitarian criteria attached less weight to the attribute information in similar conditions. Although this latter reversal was unexpected, it is somewhat interesting. That is, it suggests that although mood-induced affect con-

firmed participants' affective reactions to the information and increased their confidence in the use of this information as a basis for affect-based judgments, it decreased their conviction that they should use the information to make non-affect-based judgments. Additional data provide further insight into this possibility.

Confidence. Averaged over judgmental processing goal and attribute focus, participants reported generally more confidence in their judgments when their mood was evaluatively consistent with the attribute information ($M = 5.51$) than when it was not ($M = 5.18$). This difference is confirmed by an interaction of mood and attribute favorableness, $F_{\text{dir}}(1, 291) = 3.49$, $p < .05$, $\eta^2 = .01$. However, the data pertaining to this effect, summarized in the bottom half of Table 3, suggest a contingency in this difference. That is, when participants were told to use utilitarian criteria and the attribute description also emphasized these criteria, they reported less confidence when their mood was evaluatively consistent with the attribute information than when it was not (4.99 vs. 5.23). In the other three conditions (i.e., when participants were told to use hedonic criteria, the attribute description emphasized hedonic implications, or both), participants reported greater confidence in their judgments when their mood was evaluatively consistent with the attribute information, as expected (averaged over three conditions, 5.69 vs. 5.17, respectively). A comparison of the effect of mood-attribute consistency on confidence in the first set of conditions with its effect in the last condition was marginally significant, $F(1, 291) = 2.72$, $p < .10$, $\eta^2 = .01$.

This contingency is consistent with Hypothesis 2. However, the evidence that mood-attribute consistency increased participants' confidence in their judgments when the attribute descriptions focused on affect but they were told to use utilitarian criteria is noteworthy in light of the fact that participants decreased the weight they attached to the attribute information in this condition. When the attribute information that participants received in this condition elicited affect that was consistent with their mood, they were apparently more certain that this information should not be used as a basis for judgments. Consequently, they weighted this information less heavily than they would otherwise while reporting greater confidence in their judgments.

Summary

Experiment 2 confirmed several assumptions of the affect-confirmation hypothesis. First, mood-attribute consistency increased the weight attached to attribute information when participants were told to use hedonic criteria as a basis for evaluating the products but not when they were told to emphasize utilitarian criteria. Second, mood-attribute consistency also increased participants' confidence in their judgments when hedonic criteria were emphasized. The increase in confidence with mood-attribute consistency was also evident when participants were told to base their judgments on utilitarian criteria provided the attributes were described

in a way that focused attention on feelings. In this case, however, participants rejected the affect-eliciting attribute information as a basis for judgment, giving it less weight than they normally would.

EXPERIMENT 3

Although the results of experiments 1 and 2 support the affect-confirmation hypothesis and underlying assumptions, differential weighting was detected by assessing the impact of the additional information presented (i.e., brand name) when affect and attribute information were consistent. It seemed desirable to demonstrate this phenomenon using a different and more direct paradigm. Experiment 3 provided this demonstration using a procedure similar to that employed by Sanbonmatsu et al. (1999). This procedure infers the weight that participants attach to an attribute from the likelihood that they would list this attribute dimension later on as one they consider to be generally important in judging products of that type. In experiment 3, participants in different affective states judged a product that was favorable along two attribute dimensions and unfavorable along two others. After making these judgments, they listed those attribute dimensions that they personally considered to be generally relevant in assessing products from that category. Participants experiencing positive affect were expected to be more likely to list dimensions along which the product had been described favorably and less likely to list dimensions along which the product had been described unfavorably, than participants who experienced negative affect.

Method

Overview and Design. Forty students from an introductory marketing class participated in the experiment for extra course credit. They were randomly assigned to one of two affect conditions (positive vs. negative) and presented with information about a pair of jeans. The information presented was favorable along two attribute dimensions and unfavorable along two others. Participants were asked to indicate how much they liked the product described. They were then asked to list those attributes that they personally felt were important in evaluating jeans.

Stimulus Materials. Product information was presented in a table that summarized how other consumers had rated the jeans along four attribute-dimensions (comfort, style, fabric quality, and availability of sizes). The average ratings by consumers were presented in two columns. One column indicated how the jeans scored on each attribute along a 1 (very undesirable) to 9 (very desirable) scale, and the second indicated how the jeans performed relative to other brands on each of these attributes. In one set of questionnaires, comfort and fabric quality were rated favorably (rating of eight and seven; better than 95 percent and 80 percent of the other brands), while style and availability of sizes were rated unfavorably (a rating of two and three; better than only 25 percent and 40 percent of other brands).

In a second set of questionnaires, these numbers were reversed. That is, style and availability of sizes were rated favorably and comfort and fabric quality were rated unfavorably. The order of presenting the favorable and unfavorable attributes was therefore counterbalanced.

Procedure. The mood-induction procedure employed was similar to that used in experiment 1. Participants who had watched either happy or sad films were given product information that ostensibly came from a research report prepared by “Consumer Forum.” This fictitious organization had surveyed approximately 200 consumers and asked them to try on and evaluate the jeans. Participants were told that the researchers were interested in how they felt about the jeans based on the information provided. With this preamble, participants were shown the product information and evaluated the jeans using three scales that ranged from -5 to $+5$ and pertained to liking (dislike extremely/like extremely), goodness (very bad/very good), and desirability (very undesirable/very desirable). Following this evaluation, they were told, “Please list those attributes that you personally feel are important in evaluating jeans. These attributes may or may not include the attributes that were listed in the table you saw recently. We would like to know what attributes you feel are important when you evaluate jeans. List as many as you like.” Participants were given as much time as they wanted to list out the attributes and could look at the table seen earlier if they wished to do so. After participants had finished the product evaluation task, they were given the mood manipulation check questionnaire described earlier and on completion of that questionnaire they were dismissed.

Results

Manipulation Check. Participants reported experiencing more positive affect when they had watched happy films ($M = 7.6$) than when they had watched sad films ($M = 4.4$), $F(1, 38) = 101.07$, $p < .01$, $\eta^2 = .728$, and also reported being in a relatively more positive mood at the time they completed the manipulation check (2.4 vs. -0.5), $F(1, 38) = 85.14$, $p < .01$, $\eta^2 = .691$.

Thought Listings. The total number of attribute dimensions listed was determined for each participant. The proportion of these dimensions that pertained to (a) attributes that were described favorably in the information presented earlier, (b) attributes that were described unfavorably, and (c) the ratio of these proportions were then computed.

As expected, participants experiencing positive affect listed a greater proportion of dimensions pertaining to previously presented, favorable attributes ($M = .40$) than participants experiencing negative affect ($M = .34$), and a lower proportion of dimensions pertaining to previously presented, unfavorable attributes (.26 vs. .36, respectively). This difference is confirmed by an interaction of mood and listed attribute valence, $F_{\text{dir}}(1, 36) = 4.65$, $p < .05$, $\eta^2 = .114$.

Similarly, the ratio of the proportion of listed dimensions pertaining to previously presented favorable attributes and the proportion of listed dimensions pertaining to previously presented unfavorable attributes was greater for participants who were experiencing positive affect ($M = 1.43$) than for those experiencing negative affect ($M = 0.96$), $F_{\text{dir}}(1, 30) = 7.55$, $p < .05$, $\eta^2 = .201$. Moreover, this ratio was correlated .359 ($p < .05$) with participants’ self-reported mood state. These results provide independent confirmation of the assumption that participants placed more emphasis on aspects of the product information that were evaluatively consistent with the feelings they were experiencing at the time they received this information.

EXPERIMENT 4

The affect-confirmation hypothesis implicitly assumes that participants are typically not motivated to make a deliberative assessment of the different sources of affect they are experiencing at the time of judgment. Thus, they do not distinguish between the feelings elicited by a mood state and the affective reactions to product information. Consequently, when the affect they are experiencing from different sources has similar evaluative implications, they are more confident of their reactions to the attribute information than when it is inconsistent. If this assumption is correct, calling participants’ attention to the fact that the affect they are experiencing is partly due to product-unrelated factors should decrease its influence on their confidence in their reactions to the attribute information and the weight attached to this information.

Making product-irrelevant sources of affect salient could have other influences as well. For example, it could lead participants to misattribute the affect that is actually elicited by the product information to these extraneous sources instead (for evidence of these misattribution tendencies, see Schwarz and Clore [1983]). If this is so, and if participants typically base their product evaluations on their affective reactions, this would reduce the impact of the attribute information on their judgments independently of other considerations.

These possibilities were examined in experiment 4. Participants who had been induced to feel happy or sad by watching a movie evaluated a pair of jeans described by a favorable or unfavorable brand name and a favorable or unfavorable attribute. In *no-attribution* conditions, these judgments were made immediately after watching the movie. In *attribution* conditions, however, the manipulation-check questionnaire that was normally completed at the end of the experiment was administered before product evaluations were made. This questionnaire was expected to draw participants’ attention to the extraneous source of the feelings they were experiencing at the time they performed the product-evaluation task. Therefore, it was expected to decrease both the impact of the attribute information on their product evaluations and the weight they attached to this information under conditions in which its implications were evaluatively consistent with their mood.

Method

Participants were 66 undergraduate business students who participated to fulfill a course requirement. After receiving the same cover story provided in earlier studies, they saw either the happy or the sad films used in experiment 1 and completed the movie-rating questionnaires that pertained to these films. Then participants in *attribution* conditions were administered the mood-manipulation check questionnaire used in earlier studies, whereas participants in *no-attribution* conditions performed the product-evaluation task before completing this measure.

The product-evaluation task was similar to that used in experiment 2 except that no indication was given of the criteria to use as a basis for judgments and the attribute descriptions did not specify the implications of these descriptions for comfort or construction quality. After reading the product description, participants reported their evaluations of the product along the scales employed in experiment 1, and their responses along these scales were later averaged to provide a single estimate of their liking for the product.

Results

Manipulation Check. Participants reported having more positive affective reactions to the happy films ($M = 7.88$) than to the sad ones ($M = 2.73$), $F(1, 62) = 235.54$, $p < .01$, $\eta^2 = 0.79$. Although the difference was somewhat greater under no-attribution conditions (7.91 vs. 2.26) than under attribution conditions (7.71 vs. 3.20), this contingency was only marginally reliable, $F(1, 62) = 3.20$, $p < .10$, $\eta^2 = 0.05$. Participants also estimated their mood, at the time they completed the manipulation check questionnaire, to be more positive when they had watched happy movies ($M = 2.66$) than when they had watched sad ones ($M = 0.57$), $F(1, 62) = 19.94$, $\eta^2 = .24$. This was true regardless of whether these estimates were made immediately after the movies (2.70 vs. 0.09) or not until after the products were evaluated (2.61 vs. 1.06). Thus, as in earlier studies, the effect of the mood induction persisted throughout the experiment.

Product Evaluations. Participants presumably based their evaluations of jeans on primarily hedonic criteria and thus on their affective reactions to the product. Therefore, reminding participants of an alternative source of the affect they were experiencing should lead them to attribute their feelings to this source rather than to the product information and, therefore, should decrease the effects of this information on product judgments. This was in fact the case. That is, under no-attribution conditions, participants reported greater liking for the product when the attribute information was favorable ($M = 1.38$) than when it was not ($M = 0.18$). When the extraneous source of their affect was called to their attention, however, this difference was non-significantly reversed (0.33 vs. 0.79). The interaction of attribute favorableness and attribution of feelings was reliable, $F(1, 50) = 4.70$, $p < .05$, $\eta^2 = .09$.

Second, reminding participants of the true source of their affect should decrease the influence of this affect on the weight they attach to the attribute information and, therefore, should increase the impact of the brand information that accompanies it. This possibility was evaluated under the two conditions in which the participants' mood was consistent with the implications of the attribute information and, therefore, potentially confirmed these implications (i.e., conditions in which the participants' mood and the attribute information were either both positive or both negative). As expected, the effect of brand on liking judgments in these conditions was greater when the source of the product-irrelevant affect that participants were experiencing was called to their attention (2.21 vs. -1.18 when brand was favorable vs. unfavorable, respectively) than when it was not (1.67 vs. 0.03, respectively). Although the difference in the effect of brand under these two conditions only approached significance, $F_{dir}(1, 27) = 2.27$, $p < .07$, it is consistent with expectations.

DISCUSSION AND CONCLUSIONS

The present research provides the first evidence in the area of consumer judgment to establish that affect can influence the relative weight that individuals give to different pieces of product information in making a judgment. This influence occurs even when the product information is available at the time of judgment and when minimal demands are placed on recipients' ability to keep the information in mind.

The affect-confirmation hypothesis used to account for these findings provides new insights into the cognitive mechanisms that underlie the impact of affect on judgments. In doing so, it constrains the conditions in which affect is likely to have an impact. That is, differential weighting of affect-consistent information occurs only when people base their product evaluations on hedonic criteria. Experiments 1 and 2 provided converging evidence of this contingency. In the first experiment, no a priori indication was given concerning the criteria participants should use. In this case, the criteria that participants spontaneously applied depended on both the type of product they were asked to judge and their personal needs and values, and their differential weighting of mood-consistent product information varied accordingly. Although differences in weighting over product categories might be attributed to other factors that were confounded with the criteria that participants applied in making evaluations, experiment 2 demonstrated similar effects by experimentally inducing demands to employ hedonic or utilitarian criteria.

Three assumptions underlying the affect-confirmation process were also confirmed. Experiment 2 indicated that when participants were told to base their judgments on feelings, they not only gave more weight to attribute information that was evaluatively consistent with their mood but reported greater confidence in the judgments they made. Experiment 3 suggested that people thought more extensively about product attributes that were evaluatively consistent with their

mood. Finally, experiment 4 indicated that calling participants' attention to product-irrelevant sources of their affect decreased the impact of mood-attribute consistency on the weight they attached to the attribute information. In combination, these findings provide compelling evidence for the assumptions underlying the theory being proposed.

Theoretical Issues and Assumptions

Support for the affect-confirmation processes identified in the present research does not preclude other influences that affect might have on product judgments. For example, memory processes (see Fig. 1, path A) might conceivably be evident when a large amount of information is presented and must be retrieved from memory in order to make a judgment (Forgas 1995; but see Wyer et al. 1999). However, memory processes seem unlikely to have played a significant role in the present experiments, in which only two pieces of information were presented and this information was available at the time judgments were made. In contrast, affect-confirmation processes could occur independently of the amount of information presented and its availability at the time of judgment. To this extent, the affect-confirmation hypothesis has more general applicability than memory-based theories of differential weighting.

Second, the extraneous affect that people experience can sometimes have a direct informational impact on judgments independently of the information presented (see Fig. 1, path D). The occurrence of this effect is marked by more favorable evaluations by happy people than unhappy ones. This direct effect of affect was not apparent in the present research. This may be somewhat surprising. As speculated earlier, however, affect may only be used as a heuristic when a relatively large amount of product information is available and its implications are difficult to assimilate (for a discussion of the use of affect as a heuristic, see Forgas [1995]; Schwarz and Clore [1996]). In the present research, only a small amount of information was presented whose implications were fairly easy to integrate. Consequently, the use of affect as a heuristic basis for judgment may not have occurred.

Two assumptions should nevertheless be noted in evaluating the generality of the findings reported. First, an implicit assumption underlying the affect-confirmation hypothesis is that individuals consider the implications of each piece of information independently (see Wyer and Carlston [1979]; Wyer and Srull [1989], for discussions of this contingency). Second, the indirect procedures for evaluating differential weighting assume that people subjectively average the implications of the information rather than summing them (cf. Anderson 1981). Although summative processes might sometimes occur (see Fishbein and Ajzen 1975), these assumptions appear justified in many studies of information integration both in the consumer domain (Bettman et al. 1975; Troutman and Shanteau 1976; see also Adaval 1996) and elsewhere (Anderson 1981).

The applicability of the affect-confirmation hypothesis should also be considered in the context of findings reported

by Ditto and Lopez (1992). They found that when people have an a priori preference for a particular outcome, they devote more thought to information that is inconsistent with this preference in an attempt to refute its implications. This suggests that when consumers already have an affect-based disposition to like (or dislike) a particular product before receiving information about it, they may devote more thought to information that is inconsistent with this disposition in an effort to discredit it. This discrediting of inconsistent information would presumably lead them to attach relatively greater weight to the confirming information, as the affect-confirmation hypothesis also predicts. The processes postulated by Ditto and Lopez (1992), however, presumably occur only when people have a strong predisposition to evaluate the product favorably or unfavorably and, therefore, are motivated to refute the implications of information that calls this predisposition into question. In the present studies, this was clearly not the case. When these conditions exist, however, they could add to the effects of affect confirmation.

Implications for Consumer Information Processing and Decisions

To the extent that the research reported is generalizable to consumer purchasing situations outside the laboratory, it has several interesting implications. For example, suppose consumers see a package of Häagen-Dazs chocolate-marshmallow ice cream that is priced somewhat high. Moreover, suppose they consider "Häagen-Dazs" and "chocolate" to be favorable but the "high price" and "marshmallows" to be unfavorable. If the consumers have a hedonic goal when they evaluate the product, they should weight "chocolate" and the brand name "Häagen-Dazs" more heavily in their purchase decision when they are feeling happy than when they are not. At the same time, other product attributes (e.g., marshmallows) should be weighted less heavily and have less influence on their decision than they would otherwise.

Although increased thought and counterarguing could change the weight assigned to different attributes, this is more likely to occur when there is a delay between the on-line-evaluation and purchase decisions. This is because additional cognitive activity might result in the change of the criteria that underlie the actual purchase decision. Millar and Tesser (1989) note that attitudes only predict behavior when the criteria that underlie the behavioral decision match the criteria on which the original attitude was based. This means that the impact of affect on the weight attached to product information may influence decisions to purchase the product only when the decision is also affectively driven. It may be possible of course to influence the criteria that persons bring to bear on a product evaluation by presenting in-store advertising material that gets people to focus on feelings versus functionality.

In some situations the notion that favorable product information will have *greater* influence, and unfavorable information will have *less* influence, when consumers are

happy than when they are not may have undesirable consequences. For example, cigarette advertisements contain warnings as well as positive descriptions of the products. The affect-confirmation hypothesis suggests that consumers will weight the warnings less heavily when they are feeling happy than when they are not. It is important to note, however, that these possible influences of affect on the weight attached to product information are more likely to occur when consumers base their judgments and decisions on affective rather than utilitarian criteria.

In a related vein, many product advertisements attempt to induce positive affect in recipients for reasons that are objectively unrelated to the characteristics of the product being advertised (e.g., through the use of unrelated albeit beautiful visuals, music, humor, celebrities, etc.). This strategy is often assumed to increase the influence of product features that also elicit positive affect. However, the present research suggests that this will occur only when recipients consider affective criteria to be a primary basis for judgments. If the product being advertised is evaluated on the basis of utilitarian considerations (e.g., a cough syrup), affect that is elicited either by the product features or by the context in which it is described should have no impact.

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