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Affect as Information: The Moderating Roles of Self-Regulatory System and Diagnosticity of Affective Valence [Extended abstract]

Thomas Kramer
Baruch College, City University of New York

Song-Oh YOON
Singapore Management University, soyoon@smu.edu.sg

AFFECT AS INFORMATION: THE MODERATING ROLES OF SELF-REGULATORY SYSTEM AND DIAGNOSTICITY OF AFFECTIVE VALENCE

Song-Oh Yoon
Singapore Management University

50 Stamford Road #05-01
Singapore 178899
(Phone) 65-6828-0260
(Fax) 65-6828-0777
soyoon@smu.edu.sg

Thomas Kramer
Baruch College, City University of New York

One Bernard Baruch Way, B12-240
New York, NY 10010-5585
Phone: (646) 312-3296
Fax: (646) 312-3271
Thomas_Kramer@baruch.cuny.edu

Individuals often use relevant and representative affect as a source of information. However, positive or negative affect may not be informative for individuals who are not focused on their feelings and who are more prone to feel affect of this valence in general. We suggest that differences in self-regulatory systems influence individuals' focus of attention and the perceived diagnosticity of affective valence, which in turn determine reliance on affect as information. Three experiments support the hypothesized interactive effect of self-regulatory system (both measured and manipulated) and affective valence on the use of affect as information.

Individuals oftentimes use their affect as a source of information when making evaluative judgments – by holding a target in mind and asking themselves "How do I feel about it?" (e.g., Schwarz and Clore 1983, 1988). That is, as they hold a target representation in mind, they infer their liking of, or their satisfaction with, the target from the valence of their feelings. Prior research has shown that feelings toward the target must be perceived as representative (e.g., Gorn, Goldberg, and Basu 1993; Schwarz and Clore 1983) and relevant (e.g., Pham 1998) to be used as input into its evaluation.

However, while there has been a great deal of research examining the factors that moderate individuals' reliance on emotions in general (e.g., Pham 1998), there is a surprising dearth of research focusing on the factors that determine the reliance on emotions based on their positive or negative valence. Yet, research has shown that positive and negative emotions have very distinct effects on evaluation and judgment, demonstrating the importance of the current research (Abelson, Kinder, Peters, and Fiske 1982; Westbrook 1987). In particular, we investigate the differential reliance on positive versus negative affect as information and, specifically, suggest that individuals' self-regulatory systems (e.g., Carver and White 1994; Higgins 1997) determine whether individuals use positive versus negative emotions as input in their judgments. Based on differences in focus of attention and trait affective valence between these two systems, we hypothesize that individuals with a predominant behavioral activation system (BAS) versus a predominant behavioral inhibition system (BIS), or a predominant promotion self-regulatory focus versus a predominant prevention self-regulatory focus, differ in their reliance on affect as information. Specifically, individuals with a predominant BAS or promotion self-regulatory focus are more likely to chronically monitor their internal states and should therefore be more likely to rely on their affect regardless of its valence when making judgments. Conversely, individuals with a predominant BIS or prevention self-regulatory focus are less likely to monitor their internal states. However, we propose that these individuals also rely on their affect as input for information when its valence is diagnostic; that is, when the valence of the momentary affect is salient because it deviates from the valence of the feelings these individuals normally experience (hereinafter: their trait affective valence).

Results of three experiments support our hypotheses. In particular, study 1 investigates the interactive effect of consumers' self-regulatory system as a chronic individual difference variable and affect valence on product satisfaction. As expected, we find that individuals with a predominant BAS, who tend to be internally-focused, use both positive and negative affect as input in product satisfaction judgments. On the other hand, individuals with a predominant BIS, who tend to be externally-focused, use affect as input in product satisfaction judgments only following positive expectation disconfirmations that induce affect that mismatches their negative trait affective valence. Next, study 2 replicates these findings using self-regulatory focus (Higgins 1997) as an experimental factor, with a priming manipulation that temporarily makes a promotion or prevention self-regulatory focus accessible in subjects. Lastly, a third study finds additional support for the hypothesized mechanism underlying the above effects by showing that when primed with a negative mood, only individuals with a predominant BAS (vs. a predominant BIS) use their affect as input in their product satisfaction ratings.

THEORETICAL BACKGROUND

Self-regulatory Systems and Focus of Attention

Motivational theorists have proposed that two distinct self-regulatory systems underlie individuals' motivation and behavior (e.g., Gray 1982, Carver and White 1994, Higgins 1997). For example, Gray (1982) shows that individuals' behavioral inhibition system (BIS) inhibits behavior to avoid negative or painful outcomes, and that individuals' behavioral activation system (BAS) activates behavior to approach positive or pleasurable outcomes. Similarly, self-regulatory focus theory (e.g., Higgins 1997), which refers to the dominant process through which people approach pleasure and avoid pain, suggests two motivational strategies according to individuals' predominant promotion versus prevention self-regulatory focus. People with a chronic promotion focus tend to have dominant needs associated with achievement, advancement, and bringing oneself in line with the self one ideally would like to be. On the other hand, for those with a chronic prevention focus, important needs and goals are associated with security, obligations, and aligning

oneself with the self one ought to be. These differences in individuals' strategies to attain goals as proposed by self-regulatory theory (Higgins 1997) are closely related to the approach and avoidance tendencies suggested by behavioral activation and behavioral inhibition tendencies, respectively, proposed by Gray (1982). For example, eagerness to approach matches to desired end states is a natural means for goal attainment for promotion-focused individuals, whereas vigilance to avoid mismatches to desired end states is a natural means for goal attainment for prevention-focused individuals (Crowe and Higgins 1997).

Prior research also suggests that self-regulatory systems (both BIS vs. BAS and prevention vs. promotion self-regulatory focus) influence individuals' internal versus external focus of attention. For example, Bless et al. (1992, 1996) find that vigilance leads to increased reliance on external information, whereas eagerness leads to increased reliance on internal information. Since individuals with a promotion (prevention) self-regulatory focus or a predominant behavioral activation (inhibition) system are more concerned with eagerness (vigilance), self-regulatory systems may also affect the degree to which individuals focus on internal versus external information.

Additionally, support for the proposition of individual differences in focus of attention comes for the cross-cultural literature, which suggests that individuals with an independent self, who tend to have a promotion self-regulatory focus (Lee, Aaker, and Gardner 2000) are likely to be internally focused, whereas individuals with an interdependent self, who tend to have a prevention self-regulatory focus (Lee et al. 2000), are likely to be more externally focused. For example, Markus and Kitayama (1991) propose that members of individualistic cultures are encouraged to express their internal attributes and perceive it to be their right or duty to make choices that reflect these personal inner attributes. Conversely, collectivistic individuals tend to rely more on external factors, such as their role in a group or their relationship with other group members, than on internal attributes. Consequently, individualistic individuals tend to rely more on stable internal dispositions when making attribution judgments (Morris and Peng 1994), whereas collectivists are more likely to attribute behavior to external circumstances. Further, compared to social norms, internal attributes are a better predictor of life satisfaction for individuals from an individualistic

culture, whereas both internal and external information are predictors for life satisfaction ratings for collectivists (Suh et al. 1998). However, as we discuss in the following section, this difference in focus of attention between distinct self-regulatory systems also leads to differential reliance on affect as information.

Diagnosticity of Affective Valence

Support for our proposition that differences in self-regulatory systems also moderate individuals' reliance on their affect as information comes from recent work by Pham and Avnet (2004), who show that the type of goals consumers have may determine their reliance on affect. Based on Higgins' (1997) work, they divide goals into ideals, which are related to a promotion focus and refer to individuals' hopes, wishes, or aspirations on the one hand, and oughts, which are related to a prevention focus and refer to individuals' obligations, duties, or responsibilities on the other hand. While not accounting for affective valence, Pham and Avnet demonstrate that consumers with accessible ideal goals (vs. ought goals) increase their reliance on affect when evaluating ads, whereas consumers with accessible ought goals (vs. ideal goals) increase their reliance on the substance of the message. For example, respondents primed with ideals (vs. oughts) evaluated attractive ads with weak claims more favorably, while respondents primed with oughts (vs. ideals) evaluated unattractive ads with strong claims more favorably.

Yet, self-regulatory systems may not only determine reliance on affect in general, but more specifically individuals' reliance on affect of a positive versus negative valence. For example, Gray (1982) and Caver and White (1994) show that the behavioral inhibition system (BIS) is related to the experience of negative affect, while the behavioral activation system (BAS) is related to the experience of positive affect. Therefore, individuals with a predominant BIS are generally more likely to feel emotions of a negative valence, whereas individuals with a predominant BAS are generally more likely to feel emotions of a positive valence.

Research has shown that individuals' reliance on affect as information depends on a variety of factors. In addition to the misattribution of one's feelings to the target being evaluated, prior research has

also shown that feelings toward the target must be perceived as representative (e.g., Gorn et al. 1993; Schwarz and Clore 1983; Strack 1992) and relevant (e.g., Pham 1998) to be used as input into its evaluation. Evidently, the informational value of affect is reduced when they are perceived to be non-diagnostic to the judgment at hand. Based on these findings, we propose that feelings of a certain valence may lose their diagnostic value when habitually felt and not closely monitored. That is, individuals who more generally or consistently feel positive affect may become less likely to rely on it for informational value because it no longer offers diagnostic information. Conversely, individuals who in general have a greater tendency to experience negative affect may be expected to be less likely to use their negative affect as information.

Therefore, the above discussions on differences in focus of attention and trait affective valence suggest that self-regulatory systems may determine whether individuals use affect as information in judgments. In particular, individuals with a predominant BAS or promotion self-regulatory focus are relatively more likely to rely on their affect regardless of its valence because they focus on their internal states to a greater degree. On the other hand, individuals with a predominant BIS or prevention self-regulatory focus are likely to rely on their affect only when it is diagnostic and made salient by its mismatch to their trait affective valence. Therefore, we hypothesize:

H1: Individuals with a predominant behavioral activation system or promotion self-regulatory focus rely on both positive and negative affect for information in their judgments.

H2: Individuals with a predominant behavioral inhibition system or prevention self-regulatory focus rely more on their positive (vs. negative) affect for information in their judgments.

We test Hypotheses 1 and 2 in a series of studies investigating the use of positive and negative affect in product satisfaction judgments. The proposition that consumers will vary in their affective experiences

following positive and negative purchase experiences is in line with previous findings in the marketing literature which demonstrated that positive and negative emotions occur as a result of satisfactory and unsatisfactory consumption experiences (Oliver 1989). Moreover, prior research demonstrates that consumption emotions have distinct and independent impacts on satisfaction judgment above and beyond the cognitive evaluation (Westbrook 1987; Oliver 1993; Edell and Burke 1987). Therefore, our experiment setting provides a good context to test consumers' use of affect in their judgments.

STUDY 1

Overview

Study 1 was conducted to test our prediction that the degree to which consumers use affect as information depends on their focus of attention and affective valence. Specifically, we examine whether consumers' self-regulatory focus and affective valence determine whether affect is incorporated in product satisfaction judgments.

In the study, participants read a hypothetical scenario in which they purchased a product that disconfirmed their expectations either positively or negatively depending on the assigned condition. The positive disconfirmation condition was designed to induce satisfaction and positive emotions by manipulating the quality of their purchased brand to be above their expectations of the target product. In the negative disconfirmation condition, the quality of the purchased brand was manipulated to be below their expectations, presumably invoking dissatisfaction and negative emotions. After reading the scenario, participants reported reason-based assessments of the brand (e.g., Pham et al. 2001), emotional responses and satisfaction ratings. At the end of the study, differences in self-regulatory system were assessed using the BIS/BAS measures (Carver and White 1994).

We predicted that for respondents with a predominant behavioral activation system, affective responses would be an important determinant of their satisfaction in both positive and negative disconfirmation conditions (Hypothesis 1). In contrast, for participants with a predominant behavioral

inhibition system, affective responses would be a determinant of satisfaction only in the positive, but not in the negative, disconfirmation condition (Hypothesis 2).

Method

Participants and Procedure: A total of 312 students were randomly assigned to the positive or negative product disconfirmation condition. Upon arriving in the lab, participants were shown a hypothetical scenario in which they had purchased a personal digital assistant (PDA) and found out a week after their purchase that the quality of their PDA was either below (i.e., negative disconfirmation) or above (i.e., positive disconfirmation) what they should expect, based on information provided by *Consumer Report* magazine. All participants viewed three different attributes of the PDA, each of which differed in terms of their functional characteristics. For example, data loss protection was chosen as a feature emphasizing prevention concerns whereas processing speed was selected as a feature emphasizing promotion concerns. The third attribute, memory capacity, was neutral in regards to promotion or prevention concerns. Disconfirmation was manipulated by varying the values on both promotion- and prevention-related attributes. For instance, participants in the positive disconfirmation condition were told that the brand they had purchased was faster in processing speed and has more data protection compared to the standard values recommended by *Consumer Reports*. In contrast, participants in the negative disconfirmation condition saw that their PDA had both slower processing speed and less data protection. The value on the neutral attribute was the same as that recommended by *Consumer Reports* and did not differ across disconfirmation conditions. After reading the scenario, participants reported their reason-based assessments by indicating their attitude toward the brand, followed by satisfaction ratings, affective responses, BIS/BAS scales, and manipulation checks.

Measures: Reason-based assessment was measured by three seven-point items anchored at "good/bad", "favorable/unfavorable", and "like/dislike" ($\alpha = 0.93$). Participants' satisfaction toward their chosen brand was assessed by three items (e.g., "I am satisfied with my decision to buy Brand X", "I am not

happy that I bought brand X") anchored on "disagree strongly/agree strongly" (α = 0.95). A scale comprising primary positive and negative emotions was used to measure consumption emotions in the positive and negative disconfirmation conditions respectively. Specifically, participants indicated on a 7-point scale (anchored at "not at all" / "a lot") the likelihood that they would respond to the given purchase situation with each of 13 positive emotions (e.g., glad, calm, happy, relieved) in positive disconfirmation condition (α=0.90) and with each of 13 negative emotions (e.g., sad, hostile, distressed, irritated) in negative disconfirmation condition (α = 0.94). Subjects' chronic self-regulatory system was assessed using the 12-item BIS/BAS scale anchored on "strongly disagree/ strongly agree." The BIS scale includes items that measure individual's behavioral inhibition tendency (e.g., "I worry about making mistakes" and "I feel pretty worried or upset when I know someone is angry at me"). Conversely, the BAS subscale includes items that assess individual's behavioral activation tendency (e.g., "When I get something I want I feel excited and energized" and "It would excite me to win a contest"). The composite index for self-regulatory system was formed by subtracting subjects' mean BIS score from their mean BAS score. By a median split, the upper (lower) half of the participants on this index scale was considered having a predominant behavioral activation (inhibition) system. Finally, the disconfirmation manipulation was checked by asking subjects to evaluate the quality of the purchased brand on each of the promotion and prevention attributes.

Results

Manipulation check: As expected, participants in the positive versus negative disconfirmation condition rated their brand as having higher processing power (M= 6.52 vs. 1.44, $t = 30.38$, $p < 0.00$) and more data protection (M = 6.54 vs. 1.58, $t = 22.38$, $p < 0.00$). Further, reason-based assessment of the brand and satisfaction ratings were higher in the positive versus negative disconfirmation condition (M = 6.08 vs. 4.04, $t = 17.25$, $p < 0.00$; M = 5.86 vs. 3.34, $t = 19.09$, $p < 0.00$, respectively).

Affect as Information: To test our hypotheses regarding the interactive effects of the valence of emotion and self-regulatory system on product satisfaction, the brand satisfaction score was submitted to

two multiple regression analyses. The regression for the negative disconfirmation condition had the following predictors: (a) reason-based assessment; (b) negative emotions; (c) a dummy code for self-regulatory system (0= predominant BIS vs. 1= predominant BAS); (d) the interaction between reason-based assessment (a) and self-regulatory system (c); and (e) the interaction between negative emotion (b) and self-regulatory system (c). The regression for the positive disconfirmation condition was identical, except that the negative emotion variable was replaced with the positive emotion variable.

There are few things to be noted about the test. First, two separate regressions were used for the positive and negative disconfirmation groups because of the high correlation between disconfirmation condition and reason-based assessment ($r = 0.60$). Second, reason-based assessment was included as a predictor in order to emphasize the differential impact of the reason-based and affect-based assessments on satisfaction (e.g., Oliver 1993; Pham et al. 2001), and to ascertain that the proposed effect is limited to the emotional responses, independent of cognitive responses. Third, the evaluation and emotion scores were not highly correlated ($r = 0.36$), suggesting that the inclusion of both predictors in the regression test did not produce a multi-collinearity problem (variance inflation factors < 1.15).

If our hypotheses are correct, we should observe a significant emotion x self-regulatory system interaction effect in the negative disconfirmation condition, but not in the positive disconfirmation condition. The results show a pattern consistent with our expectations; in the negative disconfirmation condition, the only significant predictors of satisfaction were the reason-based assessment ($\beta = 0.69$, $t = 8.91$, $p < 0.00$), and the emotion x self-regulatory system interaction effects ($\beta = -0.28$, $t = -2.24$, $p < 0.03$). The positive effect of reason-based assessment signifies that product satisfaction increased as reason-based assessments of the brand became more favorable. More importantly, the significant negative interaction between negative emotions and self-regulatory system suggests that the weight attached to the negative emotions in judging their satisfaction was greater for individuals with a predominant behavioral activation (vs. inhibition) system. This interpretation was corroborated further by a separate regression analysis for individuals with a predominant BAS versus BIS in the negative disconfirmation condition. For individuals

with a predominant BAS, both negative emotions ($\beta = -0.32$, $t = -3.81$, $p < 0.00$) and reason-based assessment ($\beta = 0.56$, $t = 6.60$, $p < 0.00$) had significant impacts on product satisfaction. In contrast, for individuals with a predominant BIS, negative emotions did not have any significant influence ($t = -0.67$, $p > 0.10$), while reason-based assessment had a positive influence on satisfaction ($\beta = 0.75$, $t = 9.50$, $p < 0.00$).

However, in the positive disconfirmation condition, only the reason-based assessments ($\beta = 0.55$, $t = 5.36$, $p < 0.00$) and positive emotions ($\beta = 0.34$, $t = 3.00$, $p < 0.03$) were significant predictors of satisfaction. As expected, there was no significant positive emotion x self-regulatory focus interaction ($t = 0.95$, $p > 0.10$), suggesting that both individuals with a predominant BIS and BAS relied on their positive emotions equally when judging their product satisfaction.

Discussion

The results of Study 1 successfully demonstrate that the reliance on affect in product satisfaction judgments depends on individuals' chronic self-regulatory system and the valence of the affect. More specifically, satisfaction of participants with a predominant behavioral activation system was influenced by their affect regardless of its valence, which supports Hypothesis 1. Apparently, since these individuals tend to be more internally focused, they were more likely to monitor their affect and use it as information. However, the satisfaction judgments of participants with a predominant behavioral inhibition system, who tend to be more externally focused, were influenced by their affective reactions only when their valence mismatched their trait affective valence (i.e., was positive), supporting Hypothesis 2.

While the results of Study 1 provide strong support for our hypotheses, the use of separate emotion scales in the positive versus negative disconfirmation conditions does not allow for a direct comparison of affective responses between the two conditions. Therefore, in the next study, we provide participants in the two disconfirmation conditions with the same emotion scale that consists of both positive and negative emotion items, as done in much prior satisfaction research (e.g., Bitner 1990; Schmitt et al. 1992). In addition, we seek to find additional support for our hypotheses by generalizing the effect to a temporally

accessible self-regulatory system; that is, by priming a promotion (individuals' ideals) versus prevention (individuals' oughts) self-regulatory focus, as opposed to measuring subjects' chronically accessible self-regulatory system in the previous study.

STUDY 2

The basic procedure and stimuli used in Study 2 were identical to those of Study 1 except the following changes. First, all participants received a 10-item scale containing 5 positive (cheerful, joyful, pleasant, pleased, good) and 5 negative (angry depressed, disgust, annoyed, bad) emotions, as used in prior consumer studies (e.g., Pham 1998). The negative emotion items were reverse-scored and combined with the positive emotion items to form an "emotion response" scale ($\alpha = 0.91$). Second, participants' promotion versus prevention self-regulatory focus was temporarily activated by a priming manipulation developed by Pennington and her colleagues (Pennington, Aaker, and Roese 2003). In the promotion-focus priming condition, participants were asked to list ten beauty and health products that help bring about positive and desired outcomes while in the prevention-focus priming condition, participants were asked to name ten beauty and health products that help avoid and undo negative outcomes. This procedure has been reported to influence judgment and behavior in a manner consistent with the activation of promotion- and prevention-focus goals and motives (Pennington et al. 2003).

Participants and Procedure: A total of 181 students were randomly assigned to one of four conditions in a 2 (self-regulatory focus priming: promotion vs. prevention) x 2 (product disconfirmation: positive vs. negative) between-subjects design. The experiment was administered as two supposedly unrelated studies. In the first study participants completed the priming task, disguised as a study that examines consumers' knowledge about beauty and health products. In the second study, participants received the product purchase scenario and responded to the same set of questions as in Study 1.

Results

Manipulation Checks: Participants in the positive versus negative disconfirmation condition evaluated their purchased brand as having higher processing power ($M = 6.62$ vs. 1.64, $t = 18.92$, $p < 0.00$) and more data loss protection ($M = 6.63$ vs. 1.54, $t = 20.92$, $p < 0.00$). Importantly, as expected, participants in the positive versus negative disconfirmation group showed more positive affective responses ($M = 5.48$ vs. 3.86, $t = 9.45$, $p < 0.00$), and this pattern did not interact with the type of emotions (i.e., negative and positive emotion items).

Affect as Information: Participants' satisfaction score was entered into a multiple regression analysis with the following predictors: (a) reason-based assessment; (b) emotion; (c) a dummy for priming (0 = prevention, 1 = promotion); (d) interaction between reason-based assessment (a) and priming (c); and (e) interaction between emotion (b) and priming (c). As expected, and consistent with Study 1, there was a significant effect for reason-based assessment ($\beta = 0.75$, $t = 4.85$, $p < 0.00$), and for the emotion x self-regulatory focus interaction ($\beta = 0.69$, $t = 2.01$, $p < 0.05$) in the negative disconfirmation condition. Further analysis of the interaction effect supports our hypotheses; when participants' promotion self-regulatory focus was activated, emotional responses as well as reason-based assessments had a significant impact on satisfaction ($\beta = 0.38$, $t = 3.01$, $p < 0.05$; $\beta = 0.53$, $t = 4.28$, $p < 0.00$, respectively). However, for participants primed with a prevention self-regulatory focus, affect did not have any significant effect on satisfaction ($t = 0.13$, $p > 0.10$), while reason-based assessments had a significant influence ($\beta = 0.75$, $t = 5.00$, $p < 0.00$).

In contrast, the only significant effects in the positive disconfirmation condition were the main effects of reason-based assessment and emotional responses ($\beta = 0.45$, $t = 3.37$, $p < 0.00$; $\beta = 0.28$, $t = 2.12$, $p < 0.05$, respectively), and no significant emotion x priming interaction was observed ($t = 0.09$, $p > 0.10$). This null interaction effect suggests that, as expected, reliance on positive emotion in satisfaction judgment did not depend on the temporary activation of a promotion versus prevention self-regulatory focus; both promotion-primed and prevention-primed participants used their positive emotional responses when

evaluating their satisfaction of the product ($\beta = 0.42$, $t = 3.14$, $p < 0.05$; $\beta = 0.52$, $t = 3.68$, $p < 0.05$, respectively).

Discussion

The current study replicated and extended the findings of Study 1 by making participants' promotion versus prevention self-regulatory focus temporally accessible, using a single scale assessing positive and negative emotions. Consistent with Study 1, the results show that with a temporarily accessible promotion-focus, participants became more internally focused and relied on both positive and negative emotions equally when evaluating their product satisfaction (Hypothesis 1). However, following a prevention-focus prime, participants became more externally focused and relied on their emotions only when they were of a positive valence and hence were not compatible with the primed ought-self (Hypothesis 2). The replication of the results of Study 1 using a self-regulatory priming manipulation provides further evidence that the effects are indeed due to the different focus of attention and affective valence, as operationalized by chronic (Study 1) and temporary (Study 2) accessibility of the respondents self-regulatory system.

However, one limitation of our previous studies is that we have used participants' subjective assessment of their own emotional responses to product success and failure. Due to the correlational nature of the design, the influence of emotions, independent of other factors that might be associated with positive and negative expectation disconfirmation, could not be examined. Therefore, we attempt to further replicate our findings by manipulating the valence of the emotions through a priming technique in the next study.

STUDY 3

In this study, emotions of a negative valence were elicited by standard priming procedure used in prior affect research (e.g., Schwarz and Clore 1983). This procedure involves having participants write a short essay about personal events in the past that made them feel really sad.

Participants and Procedure: A total of 160 students were recruited and assigned to one of four conditions in a 2 (affect priming: negative affect vs. control) x 2 (product disconfirmation: positive vs. negative) between-subjects design. Participants' self-regulatory system was measured using Carver and White's (1994) BIS/BAS scale. Participants in the negative affect priming condition first completed the essay task for five minutes. This task was disguised as research developing a new emotion scale. Participants in the control group were given filler tasks for five minutes. In the second, supposedly unrelated, study, all participants completed the product satisfaction questionnaire, which was similar as those used in Study 1 and Study 2. However, in this study, a 5-item mood scale was added at the end of the study as a manipulation check. These items assess participants' current affective states anchored on "cheerful/depressed" "sad/joyful" "happy/unhappy" "annoyed/pleased", and "good mood/bad mood" (α=0.94).

Results

Manipulation Checks: The results concerning the product disconfirmation manipulations were identical to those of Study 1 and Study 2. Also, consistent with our expectations, the negative mood priming task elicited more negative affect than did the control task ($M = 3.60$ vs. 5.26, $t = 14.41$, $p < 0.00$). These affect rating were significantly correlated with the affect priming condition ($r = 0.74$, $p < 0.00$), but not with the product disconfirmation condition ($r = 0.03$, $p > 0.10$).

Affect as Information: Satisfaction judgments were entered into a multiple regression test for the negative affect priming condition with the following predictors: (a) a dummy code for disconfirmation (0 = negative, 1 = positive); (b) affect; (c) a dummy code for self-regulatory system (0= predominant BIS, 1= predominant BAS); (d) interaction between disconfirmation (a) and self-regulatory system (c); (e) interaction between affect (b) and self-regulatory system (c); and (f) interaction between disconfirmation (a), affect (b), and self-regulatory system (c). It is worth noting that the affect rating (b) reflects participants' emotions invoked by the mood priming manipulation and not by the disconfirmation manipulation (as shown in the

manipulation checks). As such, this test demonstrates how individuals differ in their reliance on negative emotions in satisfaction judgments when their emotions do not stem from the purchase situation but may be incidental to the product judgment.

As expected, the results show that there was a marginally significant affect x self-regulatory system interaction ($\beta = 1.09$, $t = 1.73$, $p < 0.10$). The further breakdown of this interaction effect reveals that when induced to feel negative affect, individuals with a predominant BAS incorporated their affect into the satisfaction judgment, though this effect only reaches marginal levels of significance ($\beta = 0.31$, $t = 1.82$, $p < 0.10$). However, individuals with a predominant BIS did not rely on their negative emotions in judging their product satisfaction ($t = 1.03$, $p > 0.10$). In addition, the affect x self-regulatory system x disconfirmation three-way interaction was insignificant ($t = -.033$, $p > 0.10$), providing evidence that the reduced use of negative affect by individuals with a predominant BIS (vs. BAS) is not contingent upon the product disconfirmation situation.

Discussion

Study 3 focuses on the differential impact of negative affect priming on satisfaction judgment of individuals with a predominant behavioral activation (vs. inhibition) system. The study provides further support for our hypothesis that the tendency to incorporate negative emotions into satisfaction judgments is reduced for individuals with a predominant behavioral inhibition system that is more externally focused and is associated with feeling more negative emotions in general.

One potential alternative explanation for the effect suggests that the degree to which participants experience emotions in response to the affect priming task might differ according to their self-regulatory system. This might be a plausible explanation given that sensitivity to mood priming depends on certain individual personality traits (Larson and Ketelaar 1991). However, we found neither a significant self-regulatory system main effect ($F < 1$), nor a self-regulatory system x disconfirmation interaction effect, on

affect ratings ($F < 1$), suggesting that both, individuals with a predominant BIS and with a predominant BAS, were equally responsive to the negative affect priming task.

GENERAL DISCUSSION

While individuals often incorporate their affect into judgments (e.g., Schwarz and Clore 1983), we hypothesize and find that reliance on affect as information differs according to individuals' self-regulatory systems and, more specifically, by differences in focus of attention and diagnosticity of affective valence that are associated with these different systems. In particular, using a series of studies and operationalizing differences in self-regulatory systems as behavioral inhibition versus behavioral activation systems, as well as promotion versus prevention self-regulatory focus, we find consistent support for our hypotheses. Specifically, in three studies we show that individuals with a chronic (studies 1 and 3) or temporarily induced (study 2) behavioral activation system / promotion self-regulatory focus are likely to rely on both positive and negative emotions for information. We hypothesize that this effect is obtained because these individuals are relatively more likely to monitor their internal states. On the other hand, the three studies show that individuals with a chronic or temporarily induced behavioral inhibition system / prevention self-regulatory focus only rely on positive (vs. negative) emotions for information. We hypothesize that this effect is obtained because these individuals are relatively more likely to focus on the external environment and may not find affect of a valence that they are generally more likely to experience salient and diagnostic. Instead, only affect that mismatches their trait affective valence is perceived to be diagnostic and will be incorporated into judgments.

Implications

Most existing research on affect as information has focused its attention on factors that influence individuals' reliance on emotions in general, with little attention directed to the issue of emotion valence (e.g., Schwarz and Clore 1983, 1988; Gorn et al. 1993; Pham 1988; Pham and Avnet 2004). However, given

differential impact of positive versus negative emotions on such important consumer variables as satisfaction, dissatisfaction and post-purchase behaviors (Abelson, Kinder, Peters, and Fiske 1982; Westbrook 1987), and differential sensitivity to certain types of emotions by individuals with different personality traits (Larson and Ketelaar 1991), the more fine-grained distinction of emotion we utilize should be important in this stream of literature. In this research we have investigate factor that influences the differential reliance on positive versus negative emotions in judgments. As demonstrated, individuals with a predominant behavioral activation system or promotion self-regulatory focus were likely to rely on emotions in their product satisfaction judgment regardless of the valence of their affect. In contrast, individuals with a predominant behavioral inhibition system or prevention self-regulatory focus only relied on emotions only when they perceived them to mismatch their chronic affective states, and hence feel they are diagnostic to their judgment.

This research has important implications as to the effectiveness of the promotions that are loaded with positive versus negative emotions. Prior research has provided many examples of how emotionally rich advertisements can have significant impacts on evaluation and liking of brands and the advertisements themselves; however, the findings of our study suggest that this effectiveness of emotional appeals may depend on consumers' self-regulatory system as well as the valence of the emotions depicted in the advertisement. Additionally, since we find that regardless of self-regulatory system, positive (vs. negative) affect is always incorporated into judgments, marketers need to devise ways to ascertain that even negatively-valenced emotions are effective for all individuals. For example, marketers may want to induce fear in order to induce women to get a mammogram. Our findings suggest that the effectives of such a tactic can be improved if marketers succeeded at priming promotion self-regulatory goals or motives either before or concurrently with the emotional ad. For example, marketers may frame the ad to point out what women could gain from getting a mammogram.

Lastly, our findings suggest that negative emotions that result from product and service failure will have less damaging impact on consumer dissatisfaction ratings and future negative post-purchase

behavior for consumers with a predominant BIS or prevention focus, as long as the failure does not have serious impact on consumers' cognitive evaluations on the product or service.

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