

THE RELATIVE INFLUENCE OF AFFECTIVE EXPERIENCE ON CONSUMER SATISFACTION UNDER POSITIVE VERSUS NEGATIVE DISCREPANCIES

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ABSTRACT

This study investigates the relative influence of affective experience on satisfaction judgments in the expectancy-discrepancy paradigm (Oliver 1977, 1993). Based on the asymmetrical effects of positive and negative events, it is argued that the impact of affect on satisfaction varies asymmetrically across positive and negative discrepancies between perceived performance and expectations.

In the context of course evaluations conducted at a Korean university, the relative influence of affect on satisfaction judgments was compared between positive-discrepancy and negative-discrepancy groups. It was found that affect was more predictive of satisfaction for negative discrepancies than for positive ones; and, for the negative-discrepancy group, affect was more predictive of satisfaction than was discrepancy. The implications of these findings are discussed.

INTRODUCTION

According to the comparison standard paradigm, the essential determinant of satisfaction is the perception of confirmation or disconfirmation of preconsumption standards (Oliver 1989). Most studies of consumer satisfaction have been conducted within this paradigm, referring to alternative comparison standards such as predictive expectations (Churchill and Surprenant 1982; Oliver 1977, 1980; Spreng, MacKenzie, and Olshavsky 1996; Tse and Wilton 1988), desires (Spreng et al. 1996; Westbrook and Reilly 1983), equity expectations (Fisk and Young 1985; Oliver and Swan 1989), and experience-based norms (Cadotte, Woodruff,

and Jenkins 1987). Thus, among the alternative comparison standards, the incorporation of predictive expectations in the expectancy-discrepancy model appears to be the most commonly used.

The expectancy-discrepancy model posits that satisfaction is a summary judgment based on the comparison between product performance and its prior expectation (Oliver 1977, 1993). In this model, the discrepancy between performance and expectation is the essential determinant of satisfaction. When you get what you expect, you have a confirmation; when you get more than expected, you have a positive discrepancy; and when you get less than expected, you have a negative discrepancy. Given that the discrepancy is a cognitive term, the model may underestimate the role of affect in the satisfaction process. Considering this, some researchers have added determinants that are related to the affective experience of the consumption episode. The affective approach (Mano and Oliver 1993; Oliver 1989, 1993; Westbrook 1987) proposes that affect influences satisfaction judgments independently of cognitive evaluation. These studies are based on the distinction between hedonic evaluation and utilitarian evaluation (Batra and Ahtola 1990; Hirschman and Holbrook 1982), and are further supported by research on the independent effect of affect on attitudes (Bodur, Brinberg, and Coupey 2000; Miniard and Barone 1997; Trafimow and Sheeran 1998).

A gap in the literature, however, appears to exist concerning the relative roles of affective and cognitive evaluations in predicting satisfaction. In Westbrook's (1987) study, affective variables explained as much variance in satisfaction judgments as did cognitive variables in the

contexts of automobiles and cable pay television. Oliver (1993) found that disconfirmation was a better predictor of satisfaction in an automobile setting while affect was a better predictor in a classroom setting. Dube-Rioux (1990) showed that the affective response to a restaurant experience influenced satisfaction more than did restaurant performance, which is the basis for assessing the disconfirmation.

Westbrook and Oliver (1991), on the other hand, noted that a subgroup of their respondents reported a moderately high level of satisfaction despite infrequently experiencing positive affect. Given that satisfaction increases as the positive discrepancy increases, it may be possible that as the discrepancy becomes more positive, respondents were more likely to base their satisfaction on the discrepancy rather than the affective experience. In the context of an automobile purchase experience, Kennedy and Thirkell (1988) showed that, at a given level of discrepancy, the impact of the discrepancy on satisfaction is greater when it is positive than negative.

This raises interesting questions. Does the relative influence of the affective experience on satisfaction vary across levels of discrepancy? Is the impact of affective experience on satisfaction likely to be greater when the discrepancy is negative than when it is positive? We argue that as compared to the discrepancy, the relative impact of affect on satisfaction is moderated by whether the discrepancy is positive or negative. Our argument is based on the separate processes of positive and negative evaluation, and on the asymmetry between positive and negative events in leading to psychological responses (Cacioppo and Berntson 1994; Taylor 1991). The present study is intended to show that, in classroom settings, the extent to which the affective experience is predictive of satisfaction judgments varies across positive and negative discrepancy evaluations.

We begin with a brief review of the affective structures underlying the separation of positive and negative evaluations. We then suggest a

model of the satisfaction process with respect to affective evaluation. Based on the positive-negative asymmetry, we develop hypotheses that specify the relative influence of affect on satisfaction judgments. Next, we describe the methodology used to test the hypotheses and discuss the results of our study. Finally, we discuss the limitations and implications of the study and suggest future research.

AFFECTIVE EVALUATION

Consumer satisfaction is most commonly defined as a post-choice evaluation, which varies along a hedonic continuum from unfavorable to favorable, in terms of whether or not the experience of a specific purchase was at least as good as it was supposed to be (Hunt 1977; Oliver 1981; Westbrook and Oliver 1991). According to this definition, satisfaction is distinguished from attitude, which represents a more generalized evaluation of a class of purchase objects. The definition also implies that satisfaction is a summary judgment incorporating both cognitive and hedonic evaluation and that affect is necessary for and antecedent to satisfaction (Mano and Oliver 1993; Westbrook 1987).

The most common approach in consumer research (Havlena and Holbrook 1986) to characterize affective structure is to measure people's subjective feelings in terms of underlying dimensions and to locate the feelings along the continuous dimensions (e.g., Daly, Lancee, and Polivy 1983; Mehrabian and Russell 1974). Following this approach, Russell (1979, 1980) contends that affective structure consists of two bipolar dimensions: pleasantness-unpleasantness and the degree of arousal or activation. However, Watson and Tellegen (1985) view affective structure in terms of positivity and negativity: positive affect represents the extent to which a person avows a zest for life, and negative affect refers to the extent to which a person reports feeling upset or unpleasantly aroused.

This hierarchical model of affect (Watson and Clark 1992; Watson and Tellegen 1985; Watson

et al. 1999) assumes that positive and negative affect can exist concurrently: two broad higher order factors such as negative and positive affect are each composed of several distinct emotions, and these two levels of affect are not exclusive but rather coexist. Studies of individual affective experiences indicate that both positive and negative affective reactions can be evoked simultaneously in everyday life, suggesting that the major structural dimension of affective experience is the valence of positivity and negativity (Abelson et al. 1982; Bradburn 1969; Westbrook 1987). Events in life alternate between the positive and the negative, and instances of one do not preclude the occurrences of the other. Dual positive and negative affective reactions can be evoked during a consumption episode, and both positive and negative affect could be concurrent antecedents to satisfaction (Oliver 1993).

This line of thought implies that the activation of affective evaluation does not necessarily fall along the bipolar dimension of positivity and negativity. Instead, the activations of positive and negative evaluative processes are separable and have distinguishable antecedents and consequences (Cacioppo and Berntson 1994; Cacioppo and Gardner 1999). The distinctive activation of positive and negative evaluation in the affect system affords a further investigation of the asymmetry of positive and negative evaluation in the satisfaction process.

THE SATISFACTION PROCESS

According to the theory of cognitive affect (Frijda, Kuipers, and Schure 1989), affect is elicited when an event is processed in memory and is a function of cognitive appraisal and attribution. Given the internal arousal determined on the basis of situational cues, the cognition of arousal and the cognition of the source of arousal give rise to affective states (Schachter and Singer 1962; Weiner, Russell, and Lerman 1979). In consumption settings, arousal in post-purchase evaluation can be elicited from the perception of a discrepancy (or the lack of consistency) between

performance and prior expectations.

Arousal elicited by the discrepancy may influence satisfaction in two ways. First, the cognition of arousal leads to affect and, in turn, affect is transferred to satisfaction. The associative network model of memory proposes that long-term memory consists of nodes and linkages (cf. Raaijmakers and Shiffrin 1992). Affective and/or cognitive cues contained in the node are transmitted through links to other nodes and are retrieved for an evaluative judgment, especially those needed to determine expectations. As satisfaction is a summary judgment incorporating affective and cognitive evaluations, the affective cues stored in the node constitute part of the summary judgment.

Second, arousal brings about causal inferences of the source of arousal, and satisfaction depends on how these inferences are made. The impact of causal inferences on satisfaction may be reflected by the resulting affect: whereas the cognition of arousal elicits a primitive positive or negative emotional reaction to the perceived success or failure of the outcome, the cognition of the source of arousal elicits differentiated emotional reactions to the causal attribution of the outcome (Weiner 1985b). Weiner notes that primitive emotions include *happy* associated with success and *frustrated* and *sad* associated with failure and that, for differentiated emotions, success perceived as due to good luck produces *surprise*, whereas success following a long-term period of effort expenditure results in a feeling of *calmness* or *serenity*. The satisfaction judgment is based on both the specific emotions driven by the causal inference and the primitive emotion driven by the cognitive appraisal of arousal (Oliver 1989).

The impact of causal inference may also moderate the effect of the discrepancy on satisfaction judgments. Causal inferences are made so that arousal may eventually be reduced, as organisms are motivated to terminate or prevent arousal (Weiner 1985a). Arousal may be reduced by discounting the cause of arousal, as causal explanations for negative events may be

generated in a manner that minimizes the impact of those negative events (Taylor 1991). That is, causal attribution activity particularly under conditions of negative discrepancy appears to discount the cognitive evaluation of discrepancy between performance and prior expectations, and reduce its impact on the satisfaction judgment.

In sum, our view of the satisfaction process involves three processes: the cognitive appraisal of arousal elicits arousal-driven affect, which is transferred to satisfaction; the cognition of the source of arousal elicits attribution-driven affect, which is also a basis of satisfaction judgments; and attributions are made to reduce arousal and discount the discrepancy.

ASYMMETRIC EFFECTS OF AFFECT

Arousal may have more influence on responses to negative events than positive ones (Suls and Mullen 1981). Given the assumption that positive and negative motivational substrates operate separately, the negative motivational system tends to respond more intensely than the positive one to comparable amounts of activation (Cacioppo and Berntson 1994; Ito et al. 1998). Taylor (1991) reviewed evidence suggesting that negative events evoke more intense responses as well as more emotional reactions than do positive events. The asymmetric effect of negative events could be explained by evolutionary arguments from a behavioral-adaptive perspective (Peeters and Czapinski 1990): living organisms have a tendency to form positive hypotheses about reality; the positive bias soon encounters a detrimental interaction with the environment; thus, the tendency to expect the positive is allied with a strongly marked sensitivity for aversive stimuli. As driven by the cognitive appraisal of arousal, affective reactions to an event are more likely to be transferred to satisfaction judgments when the event leads to a negative discrepancy rather than to a positive discrepancy.

People engage in more thorough attributional processing for behaviors disconfirmed from a prior expectancy than for behaviors confirmed

(Pyszczynski and Greenberg 1981; Taylor 1991). It has been well documented that negative events produce more cognitive activity and more complex cognitive representations and, in turn, elicit more causal thinking than do positive events (for reviews, see Dunegan 1993; Kelley and Michela 1980; and Peeters and Czapinski 1990). Given that the disconfirmed behavior leads to more arousal than the confirmed behavior, it is likely that the more thorough attributional processing is due to the greater tendency to reduce arousal. After showing that negative events elicited more spontaneous attributional activity than positive events, Weiner (1985a) explained this using the Law of Effect: organisms are motivated to terminate or prevent a negative state of affairs; effective coping importantly depends on locating the causes of failure; and, in this case, attributional search more clearly serves an adaptive function. As was argued previously, the spontaneous attributional activity stemming from the negative discrepancy is likely to discount the discrepancy and, thus, to decrease the impact of the discrepancy on the satisfaction judgment while increasing the relative impact of affect. However, when encountering positive events, people are not spontaneously motivated to find causal explanations of the event. Thus, when the discrepancy is positive, it is less likely to be discounted through the attribution process and, in turn, its relative impact on satisfaction judgment is less likely to be dominated by the impact of affect.

In sum, we propose that affect influences satisfaction more when the discrepancy is negative than when it is positive, that the discrepancy influences satisfaction less when the discrepancy is negative, and that the influence of affect on satisfaction is greater than the influence of the discrepancy, but only when the discrepancy is negative.

H1: Affect elicited in consumption is more predictive of satisfaction for the negative discrepancy group than for the positive discrepancy group.

H2: The discrepancy is less predictive of satisfaction for the negative discrepancy group than for the positive discrepancy group.

H3: For the negative discrepancy group, affect is relatively more predictive of satisfaction than the discrepancy.

METHOD

Overview

The study was conducted using course evaluations at the business school of a major private university in Korea. We chose to use course evaluation data to test the hypotheses for the following reasons: the separability of positive and negative evaluative processes was found to be valid in classroom settings (Goldstein and Strube 1994); past studies indicate that course evaluations involve an actual usage situation that generates various affective responses (e.g., Oliver 1993; Weiner, Russell, and Lerman 1979); and, compared to the experience of commodities in which cultural meanings could be embedded, course evaluations are expected to be less vulnerable to the influence of different cultural contexts on the satisfaction process.

Freshmen were not included in this study since they may have not established prior expectations due to a lack of experience and knowledge about college-level courses, and thus desire, instead of expectation, might be a reference point in the satisfaction judgment. Students who enrolled in core courses were not included in this study, because they may have attribution processes different from those used by students in elective courses. Courses were carefully sampled to avoid a duplication of respondents. The survey was conducted with the agreement of the instructor one week before the final exam so that the respondents were in a position to evaluate the course without bias stemming from the final grade. The respondents were told that the survey was conducted solely for the purpose of research and that their responses were not to be shared with the instructors. The

sample size was 185 from eight courses.

Measures and Descriptive Statistics

To measure the discrepancy, the respondents were asked to evaluate the discrepancy between course performance and their expectations held at the time of enrollment for six attributes: textbooks/teaching materials, the content of lectures, assignments, discussion/presentations, instructor, and exams/quizzes. A seven-point scale was used to evaluate the discrepancy, varying from +1 to +3 for "better-than-expected" and from -1 to -3 for "worse-than-expected", with zero as a neutral point. The attribute-level scores were averaged to get a composite measure. The Cronbach alpha of the six items is .86. The mean value of the discrepancy is .23 (sd=1.08). Of the respondents, 47% reported a positive discrepancy, 44% reported a negative discrepancy, and 9% reported confirmation when the composite measure was used.

Satisfaction and dissatisfaction were measured by both unipolar and bipolar scales modified from Oliver's (1980) satisfaction measures (Table 1). First, five-point unipolar scales were used separately for measuring satisfaction ("5" indicating "very satisfied" and "1" indicating "never satisfied") and for measuring dissatisfaction ("5" indicating "very dissatisfied" and "1" indicating "never dissatisfied"), thus allowing the investigation of whether satisfaction and dissatisfaction are separate dimensions. Bipolar scales were also used to measure (dis)satisfaction on a continuum such that "5" indicated "very satisfied" and "1" indicated "very dissatisfied." The unipolar scales of satisfaction and dissatisfaction were factor analyzed in order to check their unidimensionality. All items loaded on a single factor, explaining 67% of the total variance. This result indicates that, in the present study and as suggested by Maddox (1981), satisfaction and dissatisfaction are not separate dimensions. Thus, the bipolar-scale scores are used in the following analyses. The Cronbach alpha of the bipolar items is .90. The mean

(dis)satisfaction is 3.5 (sd=.85). This number is not necessarily a signal of respondents' satisfaction with the selected courses but could be a reflection of the positive response tendency frequently noted in satisfaction studies, where a "bunching" of respondents is found at the upper end of the satisfaction continuum (Westbrook and Oliver 1981, p. 95).

Table 1
Measures of Satisfaction

I am satisfied/dissatisfied with -
(1) my decision to take this course.
(2) my choice of this course.
(3) the experience I went through in this course.
(4) what I have got from this course.

A preliminary list of emotions pertinent to course evaluations was developed from past studies of affective structure in the US and Korean cultural contexts (Ahn, Lee, and Kwon 1994; Russell 1979; Watson and Tellegen 1985). The items were pretested in personal interviews with thirty students at the same university; these students were not included in the main study. Fourteen items were mentioned most frequently with respect to course evaluations, and thus were selected for the main study. Their intensity was measured on a five-point scale. Table 2 shows the factor patterns after varimax rotation. The three factors explain 69% of the total variance. The items loading on the first factor deal with positive affect, while the items loading on the other two factors deal with negative affect. It appears that the second factor deals with agitation-related negative affect, while the third factor deals with dejection-related negative affect. The factor structure of negative affect is in accordance with Higgins' (1987) suggestion that there is a need to distinguish agitation-related and dejection-related negative emotions. The Cronbach alpha is .90 for the positive affect, .86 for the agitation-related negative affect, and .78 for the dejection-related negative affect. The means (standard deviations)

of the three affects are respectively 2.9 (sd=.80), 2.0 (sd=.92), and 2.8 (sd=1.1).

Respondents were asked to rate thirteen causes of the perceived discrepancy (Table 3). Five-point Likert-type scales were used ("5" indicating "strongly agree" and "1" indicating "strongly disagree") with the question of "The discrepancy is attributable to _____." These items were initially developed in the pretest to capture the attribution

Table 2
Factor Pattern of Affect

<u>Variable</u>	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor3</u>
pleasant	<u>.84</u>	-.17	-.10
fulfilled	<u>.79</u>	-.26	-.17
comfortable	<u>.78</u>	-.02	-.15
happy	<u>.82</u>	-.04	-.05
impressive	<u>.61</u>	-.29	-.12
interesting	<u>.71</u>	-.41	-.06
merry	<u>.75</u>	-.34	-.07
sorry	-.01	.21	<u>.75</u>
pitiful	-.11	.21	<u>.82</u>
regretful	.05	.02	<u>.83</u>
unpleasant	.18	<u>.84</u>	.08
disappointed	-.31	<u>.76</u>	.20
uncomfortable	-.21	<u>.63</u>	.56
angered	.26	<u>.71</u>	.39
Variance explained by each factor			
	4.31	2.74	2.54
	(30.8%)	(19.6%)	(18.1%)

process in terms of the locus of causality and controllability (Weiner 1985b). The varimax-rotated factor pattern shows that three factors are distinctive, explaining 67% of the total variance. The first factor appears to be instructor-related causes which are controllable by the instructor; the second factor appears to be institution-related causes which are not controllable by the instructor; and the third factor appears to

represent self-related causes which can be controlled by the respondent in the long term but not in the short term. These results indicate that, in the respondents' attribution processes, the locus of causality is a distinctive attribution dimension in terms of both internal and external causes. On the other hand, the dimension of controllability is manifested only in external causes. The items of each factor were averaged to get a composite

Table 3
Factor Pattern of Attribution Measures

Variable	Factor 1	Factor 2	Factor 3
Student's			
capability	.06	.14	<u>.79</u>
academic ability	.18	.18	<u>.85</u>
endeavor	.12	-.01	<u>.85</u>
time invested	.04	-.10	<u>.82</u>
Instructor's			
capability	<u>.89</u>	-.14	.14
teaching ability	<u>.89</u>	-.12	.03
endeavor	<u>.89</u>	-.08	.11
time invested	<u>.73</u>	.19	.12
University			
system	-.13	<u>.87</u>	.01
Department's			
system	.05	<u>.86</u>	.03
Curriculum	.08	<u>.72</u>	.06
Administration	-.23	<u>.80</u>	.02
Prior belief	.19	.22	.15
Variance explained by each factor			
	3.07	2.84	2.81
	(23.6%)	(21.8%)	(21.6%)

measure of each attribution, given the moderate levels of internal consistency (the Cronbach alpha for each factor was .89, .85, and .85 respectively). The mean value (standard deviation) of the composite measure was 3.0 (sd=1.08) for instructor-related causes, 2.6 (sd=.96) for

institution-related causes, and 3.1 (sd=.90) for self-related causes.

RESULTS

The respondents were divided into two discrepancy groups based on the upper- and lower-quartiles of the discrepancy scores. The quartiles were used so that each group's discrepancy would be significantly positive or negative beyond a zone of indifference (Wilson et al. 1989). The positive discrepancy group includes the upper 25% of the respondents and the negative discrepancy group includes the lower 21%. In the positive discrepancy group, the mean value of the discrepancy scores is 1.7 (sd=.55) with its range from 1.0 to 3.0, whereas in the negative discrepancy group, it is -1.1 (sd=.46) with its range from -0.67 to -2.83. The mean difference between the two groups is statistically significant ($t=25.6, p<.0001$).

Attribution

The attribution data were evaluated prior to the hypothesis tests in order to investigate whether Koreans have attributions different from those found in Western cultures. The positive-discrepancy group shows a stronger tendency to attribute discrepancy to self-related causes as well as to instructor-related causes than does the negative-discrepancy group. The mean value for the attribution to self-related causes is 3.3 for the positive-discrepancy group and is 2.8 for the negative-discrepancy group, and the difference is statistically significant ($t=2.5, p<.05$). The mean value for the attribution to instructor-related causes is 3.5 for the positive-discrepancy group and is 2.9 for the negative-discrepancy group; the difference is statistically significant as well ($t=2.5, p<.05$). On the other hand, the attribution to institution-related causes is significantly greater for the negative-discrepancy group than for the positive-discrepancy group (mean=2.9 vs. 2.3; $t=2.8, p<.01$).

In sum, the positive-discrepancy group

attributed the discrepancy to internal or person-related causes more than did the negative-discrepancy group, who showed a stronger tendency to attribute the discrepancy to external and uncontrollable causes. These results are in line with findings in Western cultural contexts regarding the role of beliefs about cause and effect, and about the role of motivation for self-enhancement. A person's positive behavior has potential for the enhancement of self-esteem if he/she is causally responsible for it (Folkes 1988; Kelley and Michela 1980). This predicts that success is attributed more to the person while failure is attributed more to circumstances, and that attributions for success are usually internal while attributions for failure are relatively external. Thus, we conclude that cultural differences do not lead to unique attributions in the satisfaction domain studied here.

Hypothesis Tests

To test H1, we used a regression model in which the dependent variable is satisfaction and the independent variables are the three affect variables. This model was estimated separately for the positive and negative discrepancy groups (Table 4). Then, the difference in multiple correlations (R) between the two groups was tested using the Fisher (1921) r -to- z transformation. The multiple correlation is 0.60 for the positive discrepancy group and is 0.81 for the negative discrepancy group. The difference is significant at $p < .05$ ($z = 1.92$) in a one-tailed test, indicating that affect elicited in the course was more predictive of satisfaction when the discrepancy was negative than when it was positive. Thus, H1 is supported.

To test H2, the correlation between discrepancy and satisfaction of the positive discrepancy group ($r = .57$) was compared with the correlation of the negative discrepancy group ($r = .34$). In a one-tail Z -test, the difference between the two correlations was marginally significant at $p < .10$ ($z = 1.34$). This indicates that the discrepancy was less predictive of satisfaction

when the discrepancy was negative than when it was positive. Thus, H2 is supported.

To test H3, we used a standard regression model in which the dependent variable is satisfaction and the independent variables are the three affect variables and discrepancy. As shown in Table 4, in the positive discrepancy group, there was a significant effect for discrepancy ($\beta = .34$, $t = 2.5$, $p < .05$) and positive affect ($\beta = .48$, $t = 3.1$, $p < .01$) on satisfaction. On the other hand, in the negative discrepancy group, discrepancy did not have a significant effect on satisfaction while positive affect ($\beta = .55$, $t = 4.6$, $p < .001$), dejection-related negative affect ($\beta = .43$, $t = 4.0$, $p < .001$), and agitation-related negative affect ($\beta = -.30$, $t = 2.7$, $p < .05$) did have significant effects. [The positive coefficient of dejection-related negative affect may appear to be counterintuitive. As an explanation, we speculate that dejection-related negative affect was elicited by the attribution of the negative discrepancy to the self (regret) or to uncontrollable causes (pity) and, in turn, mediated the effect of the negative discrepancy in a manner that reduced dissatisfaction. The two negative affect variables do not appear to be collinear in the negative discrepancy group, as $r = .26$ (see Table 5). The possibility that agitation-related negative affect could be a suppressor variable seems to be less persuasive because the correlation between dejection-related negative affect and satisfaction was also significantly positive.] These results indicate that, relative to the discrepancy, affect is more predictive of satisfaction when the discrepancy is negative but not when it is positive. Thus, H3 is supported.

DISCUSSION

Affect elicited in a classroom setting is more predictive of satisfaction when the evaluation of discrepancy between perceived performance and expectation is negative rather than positive. Relative to the discrepancy, affect becomes more predictive of satisfaction as the discrepancy becomes more negative. Findings are in line with past research on the independent effect of affect

Table 4
Results of Regression Analyses

Dependent Variable: Satisfaction

Group: Positive Discrepancy Group

Model	f (PA, NA(d), NA(a)) R ² = .36; F(3, 42)=7.9, p<.0001			f (DIS, PA, NA(d), NA(a)) R ² = .45; F(4, 41)=8.2, p<.0001		
Variable	β	t	p	β	t	p
DIS	-	-	-	.34	2.5	<.05
PA	.67	4.6	<.001	.48	3.1	<.01
NA(d)	.10	.61	ns	.08	.57	ns
NA(a)	.09	.54	ns	.07	.45	ns

Group: Negative Discrepancy Group

Model	f (PA, NA(d), NA(a)) R ² = .66; F(3, 33)=21.4, p<.0001			f (DIS, PA, NA(d), NA(a)) R ² = .66; F(4, 32)=15.6, p<.0001		
Variable	β	t	p	β	t	p
DIS	-	-	-	.04	.34	ns
PA	.56	5.3	<.0001	.55	4.6	<.0001
NA(d)	.43	4.1	<.001	.43	4.0	<.001
NA(a)	-.30	2.8	<.01	-.30	2.7	<.01

DIS: Discrepancy,

PA: Positive Affect

NA(d): Negative Affect (dejection-related)

NA(a): Negative Affect (agitation-related)

Table 5
Correlations of Key Variables

Variable	1	2	3	4	5	6
1. Performance	-	.64	.54	-.32	-.32	.61
2. Discrepancy	.42	-	.51	-.15	-.23	.57
3. Positive affect	.54	.42	-	-.41	-.53	.58
4. Negative affect (dejection-related)	.40	-.00	.07	-	.60	-.12
5. Negative affect (agitation-related)	.03	-.12	-.27	.26	-	-.22
6. Satisfaction	.53	.34	.68	.40	-.35	-

The numbers of upper-diagonal are the correlations for the positive-discrepancy group.

The numbers of lower-diagonal are the correlations for the negative-discrepancy group.

Correlation greater than .40 is statistically significant at p<.01.

Correlation greater than .30 is statistically significant at p<.05.

on satisfaction judgments (e.g., Mano and Oliver 1993; Oliver 1993; Westbrook 1987). The present study extends past studies in that the relative impact of affect is investigated under positive versus negative discrepancies. The present study implies that the asymmetrical effect of positive and negative events in one's daily life can be applied to the domain of satisfaction, such that affect has greater impact on satisfaction when the consumption experience is discrepant from prior expectations in a negative direction.

The present findings on the asymmetrical effects of affect on satisfaction may provide insight on post-purchase information processing, in the sense that satisfaction is an evaluative judgment formed by usage experience. In this study, the judgment of satisfaction is affectively based when the discrepancy is negative. Millar and Millar (1990) showed that rational advertisements were more effective in changing evaluative judgments when these judgments were affectively based and, alternatively, emotional advertisements were more effective when the judgments were cognitively based. Thus, given that dissatisfaction judgments are dominated by affective experience rather than cognitive evaluation, rational advertisements may be more effective in persuading consumers who were dissatisfied with the previous purchase than would emotional advertisements.

The post-experience information processing of satisfied and dissatisfied consumers merits additional study. It has been suggested that previous negative experiences increase one's motivation to learn in order to avoid future negative outcomes (Smith-Jentsch et al. 1996). After experiencing negative events, people tend to focus their attention more on features which provoke negative states than positive states, and negative features are weighted more heavily in the formation of an overall evaluation than are positive features (Ganzach 1995; Peeters and Czapinski 1990; Sanbonmatsu and Kardes 1988; Skowronski and Carlston 1989). Furthermore, this negativity bias appears to be manifested more under agitation-related negative states than under

dejection-related negative states (Taylor 1991). Given information about a product he/she has experienced, a consumer may process the information in a different manner depending on whether the product experience was satisfactory or unsatisfactory and, if dissatisfaction is experienced, on whether the experience was accompanied by agitation-related affect or dejection-related affect. This line of thought calls for further research on the modes of satisfaction (e.g., Fournier and Mick 1999) as well as their impact on subsequent judgments.

There are some limitations to this study. First, the amount of discrepancy was not controlled. The equivalency of positive and negative discrepancy is needed to provide more conclusive evidence, although equivalency is not usually warranted in real consumption settings. Concerning this issue, one might consider using an experimental setting that manipulates both performance and its comparison standard on the same interval scale, such as a gain or a loss in dollar amounts in a stock market context (Oliver and DeSarbo 1988).

A second limitation is the effect of prior expectations on satisfaction, as we could not measure prior expectations. Some studies suggest that expectation has a separate effect on satisfaction (Oliver 1980; Tse and Wilton 1988). However, the effects of prior expectations may not operate in the context of a continuing service (Bolton and Drew 1991). Oliver and DeSarbo (1988, p. 496) noted that the effects of prior expectation decay over the purchase interval, and this may be particularly true when disconfirmation is negative. However, future research needs to consider the evolving process of expectation formation during usage experiences and its role in the satisfaction judgment (Fournier and Mick 1999; Stayman, Alden, and Smith 1992).

Finally, this study is not free from concerns of external validity as it was conducted in the Korean cultural context. In general, the Korean culture is relatively collectivistic and is a high-context culture while the North American culture

is individualistic and low-context (Hall 1976; Hofstede 1983; Triandis 1990). In spite of the different cultural characteristics in general, some of our findings suggest there are common grounds in the consumer satisfaction process between the two cultures. For instance, the causal attribution of discrepancy was more internal and person-oriented under positive discrepancy while it was more circumstance-oriented under negative discrepancy. These findings are in line with the established theories and evidence found in Western cultures (Folkes 1984; 1988; Oliver 1993; Weiner 1985b). However, recent research indicates that cultural variations exist in attributional processes, particularly with respect to the attribution of observed behavior to personal dispositions and/or social situations (Choi, Nisbett, and Norenzayan 1999; Menon et al. 1999; Morris and Peng 1994; Ybarra and Stephan 1999). As most consumer satisfaction research has been conducted in a North American cultural context, little is known about the similarity of or divergence in consumer satisfaction processes across cultures. There should be further research on consumer satisfaction processes from a cross-cultural perspective.

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