COMPARISON STANDARDS IN CONSUMER SATISFACTION FORMATION: INVOLVEMENT AND PRODUCT EXPERIENCE AS POTENTIAL MODERATORS

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ABSTRACT

The extant literature suggests that consumers may use one or some of different comparison standards to evaluate actual product performance during consumer satisfaction formation. This research intended to identify boundary conditions under which a particular standard operates. Four alternative standards were considered: expectation, norm, ideal, and equity. These were comparatively tested by analyzing the data collected over various consumption situations. Two major findings emerged. First, consumer involvement and product experience appeared to interactively influence the type of comparison standard used for evaluating product performance. Second, consumers did not use multiple standards simultaneously in any situations. Theoretical and managerial implications of these findings are discussed.

BACKGROUND

Consumer satisfaction has long been investigated by marketing and consumer researchers. In particular, a number of empirical studies have been published with regard to cognitive processes mediating consumer satisfaction (see Yi 1990 for a review). In these studies is typically employed a form of "standard-performance-disconfirmation" paradigm: (1) actual product performance is compared to an internal standard during satisfaction formation, and (2) the level of the internal standard, the level of actual product performance, and/or the magnitude of the difference between the two levels are determinants of a consumer satisfaction level. The literature suggests that the type of internal comparison standard is diverse. In some cases, for example, a brand expectation (the level at which the brand performance is expected to be) is such a standard (Oliver 1980; Oliver and Linda 1981; Westbrook and Reilly 1983), and in other cases a product norm (the level at which a consumer feels the product performance should be (Cadotte,

Woodruff, and Jenkins 1987), ideal (the level at which the product performance is personally desired to be (Tse and Wilton 1988), or equity (the product performance level which is considered equitable to the price paid or effort invested (Oliver and DeSarbo 1988; Tse and Wilton 1988). Further, recent studies reported that more than one standard might be used simultaneously (Tse and Wilton 1988; Spreng, MacKenzie, and Olshavsky 1996). Then, it seems reasonable to suppose that the type of internal standards used might depend upon some contextual conditions. Identifying such conditions will increase our understanding of more precise cognitive mechanisms mediating consumer satisfaction and provide more meaningful managerial implications. Unfortunately, no empirical investigation has yet dealt with this important issue. The results reported here provide some insights into this matter.

Types of Comparison Standards

Perhaps, the work by Oliver (1980) is one of the pioneering studies formally looking into cognitive processes underlying consumer satisfaction. In that study, he proposed the "expectation-disconfirmation" paradigm, in which the prepurchase "expectation" of a product served as a comparison standard in the satisfaction formation process. Following this work, a great deal of research effort has been devoted to test and extend it. In the meantime, researchers also began to consider alternative comparison standards such as product norms, ideal, and equity. Following is a brief description of these alternative standards and of related research results. Since a much richer review is available elsewhere (Yi 1990), our description here will be brief.

Expectation. This standard is most frequently employed in satisfaction studies (Bearden and Teel 1983; Churchill and Surprenant 1982; Day 1984; Oliver 1980; Oliver and Linda 1981; Swan and Trawick 1981; Westbrook and Reilly 1983).

Expectation is a prepurchase cognition about how good the product performance **will** be and is typically measured using a bipolar semantic differential scale such as "how good or bad did you expect the product performance would be."

Product Norm. Consumers may evaluate actual product performance against some sort of normative standard such as "how good the product performance **should** be." Such a standard has been suggested as an alternative to the expectation standard by various researchers (Morris 1977; Sirgy 1984; Swan, Trawick, and Carroll 1980). The basis for forming the norm level can be varied. It might be based on the average performance level of products in the product category to which the focal product belongs (i.e., product norm). Alternatively it might be based on the performance level of the best brand in that product category (i.e., best-brand norm). Cadotte, Woodruff, and Jenkins (1987) empirically tested these possibilities. Their results suggest that the norm appeared to be based on the average performance level of the product category.

Equity. Consumers purchase a product with an expectation that they will receive at least as equitable a value from the product as what they pay for it. This suggests that during satisfaction formation, consumers may compare input/output combinations in terms of fairness. Thus, in inequitable situations, consumers are likely to express their dissatisfaction (Fisk and Coney 1982; Mowen and Grove 1983; Oliver and DeSarbo 1988). Equity refers to such a normative level of product performance, given the cost they paid (e.g., price).

Ideal. Another alternative standard considered in the literature is ideal or desired. Westbrook and Reilly (1983) argue that consumers are likely to evaluate product performance based on how well they perceive the focal product fulfills their needs and wants. In this respect, the ideal standard represents the optimal product performance a consumer ideally would hope for (Tse and Wilton 1988) or what is personally desired from a product by a consumer (Spreng et al. 1996). Tse and Wilton (1988) empirically demonstrated that ideal was a viable comparison standard during satisfaction formation.

Comparison of Alternative Standards

Given several types of comparison standards identified, it is an important research issue to understand which type of standard operates best. Or, it might be an even more important issue to identify conditions under which a particular type of standard operates. Up to now only a few studies have empirically compared various types of standards (Cadotte et al. 1987; Tse and Wilton 1988). However, none of them explicitly considered boundary conditions under which a particular standard might be superior to others in explaining satisfaction formation processes.

For example, Cadotte et al. (1987) considered three alternative standards: brand expectation, product norm, and best-brand norm. Comparing three standards in terms of the power to explain the variance in satisfaction with restaurants, they found the product norm superior to the other standards in two out of three situations. On the other hand, Tse and Wilton (1988) tested the relative power of expectation, ideal, and equity in explaining satisfaction in the context of miniature record players. Their results seem to indicate that the brand expectation was better than the ideal or the equity.

Certainly, results from these studies indicate that different standards operate in different consumption situations (i.e., restaurants versus record players). However, it is hard to infer from the studies what the boundary conditions are under which various standards are localized. For alternative standards were not simultaneously compared across a variety of settings (Cadotte et al. 1987). Furthermore, some methodological differences make it difficult to directly compare results between the studies. First, as noted above, the types of alternative standards considered were different across the studies. Second, causal models of satisfaction formation processes adopted in the studies were also different. For example, Tse and Wilton (1988) used a "full-path" model which allowed both direct and indirect paths from the standard to satisfaction and from the perceived performance to satisfaction. On the other hand, Cadotte et al.'s (1987) model constrained the paths such that the comparison standard and the product

performance were to influence satisfaction only indirectly through the subjective disconfirmation. Third, while Cadotte et al. (1987) used different subjective disconfirmations corresponding to different standards in alternative causal models (i.e., disconfirmation from expectation, disconfirmation from product norm, disconfirmation from best-brand norm), Tse and Wilton used only one type of subjective disconfirmation.

The studies to be reported were designed to overcome some of the limitations of previous research in speculating which variables potentially moderate the validity of alternative standards. First, four comparison standards (expectation, product norm, ideal, and equity) were simultaneously tested in four different settings. Second, the same full-path causal model (differing only in the type of comparison standard) was employed to test alternative standards across all settings. The choice of a full-path model was based on previous studies suggesting that a comparison standard and perceived product performance would influence satisfaction levels not only indirectly through disconfirmations but also directly at least in some situations (Bearden and Teel 1983; Bolfing and Woodruff 1988; Bolton and Drew 1991; Churchill and Surprenant 1982; Oliver 1980; Oliver and DeSarbo 1988; Swan and Trawick 1981; Tse and Wilton 1988). Third, four types of subjective disconfirmations were measured corresponding to four different comparison standards. Fourth, all the constructs were measured by two response scales and the reliability of each construct was assessed. Finally, all the measures were deliberately kept virtually identical across all settings.

Another important issue to be addressed in this research is a possibility that consumers may use multiple comparison standards simultaneously to evaluate product performance. This possibility has been previously observed by Tse and Wilton (1988). Their results indicated that incorporating a multiple-standard causal-path model (where expectation, ideal, and equity were simultaneously incorporated into a causal-path model) explained more variance in the data than did any of the single-standard models (Spreng et al. 1996). Our research attempted to further test such possibility.

METHOD

Overview of Data Collection

Four satisfaction studies. The data reported here were collected through four consumer satisfaction surveys sponsored by a national food company in Korea. The company is manufacturing and marketing a variety of general food items (e.g., tofu and noodles) and health supplementary food items (e.g., calcium and aloes). Most of them are positioned as high-quality/high-price products, and targeted mainly to those with high education, high income, and health concern. In the first survey, consumer satisfaction levels and their antecedents were measured with respect to the company's tofu, its major product line. The second and third surveys were about the noodle and calcium products. The fourth survey dealt with dealer satisfaction: store managers' satisfaction with the company's general food products was measured. Four different surveys were intended to provide various settings in which models of alternative standards were compared in terms of power to explain the consumer satisfaction process.

Subjects. Subjects for the surveys about tofu and noodles were housewives living in a metropolitan city in Korea. Sampled were only those who had purchased the focal products at least once during the last four weeks before the time of the surveys. A quota sampling procedure was used for sampling based on the demographic profiles of the population such as age and residential area. The sample sizes were 600 and 260 housewives for tofu and noodle products, respectively. For calcium products which were sold mainly by the company's sales force, a customer list was available. Thus, a probability sampling procedure was used for selecting subjects for the survey. In total, 300 subjects were randomly sampled. Finally, a list of supermarkets and stores which carried the company's general food items was used for sampling dealer subjects. 300 store managers were selected through a quota sampling procedure.

Survey Procedure. The surveys were administered by a professional survey organization. The data were collected through a

face-to-face interview with each subject assisted by a structured questionnaire. All interviewers were female, well-trained, and received a detailed orientation about the purpose of the surveys and the contents of the questionnaires. Surveys for tofu and noodle products were conducted first and took 14 days. A month later, surveys for calcium products were conducted. 12 days were taken for completion. Finally, the store managers were surveyed for 16 days.

Survey Instrument

Key Constructs. For the purpose of this research, a number of constructs were necessary to be measured. First, overall satisfaction levels with the focal product and actual product performance levels experienced by subjects were measured. Second, to comparatively test alternative comparison standards against one another, it was necessary to measure four types of comparison standards (expectation, product norm, ideal, and equity) simultaneously from each subject. Third, subjective disconfirmations corresponding to these standards were measured separately. In addition, several background variables were measured including consumer involvement levels and product experience. Two response scales were used to measure each construct (except product experience). They were of 9-point bipolar semantic differential scales and selected based on a review of previous studies and on several pretests during questionnaire construction. These measures are explained below.

Measures. First, overall satisfaction of the product was measured by two scales: ('1' - dissatisfied very much, '9' - satisfied very much) and ('1' - very bad purchase, '9' - very good purchase). After this, the perceived performance level of the product was measured. Subjects were asked about the product quality they actually experienced during consumption regardless of their satisfaction/dissatisfaction level. Two response scales were used: ('1' - very bad product, '9' - very good product) and ('1' - poor quality, '9' - excellent quality').

Next, four alternative comparison standards and corresponding disconfirmation levels were measured. Subjects indicated the level of each

comparison standard on two measurement scales. Then, they evaluated the product performance experienced against that standard level. Thus, the level of each comparison standard and that of corresponding disconfirmation were measured twice. These are explained in a more detail below.

Subjects were first asked about the level of product quality which they had expected prior to purchase would be (expectation). Two scales were provided: ('1' - very bad, '9' - very good) and ('1' - poor quality, '9' - excellent quality). Immediately after each response, subjects evaluated the experienced quality compared to that expectation level (expectation-disconfirmation) using the scale, ('1'- much worse, '9'- much better). After this, the average quality of the product category subjects assumed was measured (product norm) using two response scales: ('1' - very bad, '9' - very good) and ('1' - poor quality, '9' - excellent quality). This was followed by evaluations of the experienced quality against that norm level (norm-disconfirmation). Next were measures of the product quality which consumers personally would desire to receive (ideal). Two response scales were provided: ('1' - average level, '9' - world best level) and ('1' - fair quality, '9' - superb quality). This was followed by evaluations of the experienced quality against that ideal level (ideal-disconfirmation). Finally, subjects reported the product quality which they assumed should be in light of the price they had paid (equity) on two scales: ('1' - very bad, '9' - very good) and ('1' - poor quality, '9' - excellent quality). Again, this was followed by evaluations of the experienced quality against that equity level (equity-disconfirmation).

Finally, two response scales were used in order to measure consumer involvement levels with the product: ('1' - not at all interested in the product, '9' - very much interested in the product) and ('1' -not at all careful in choosing a brand, '9' - very much careful in choosing a brand). To measure product experience, the average frequency of purchase per week and the average amount of each purchase were asked by open-ended questions.
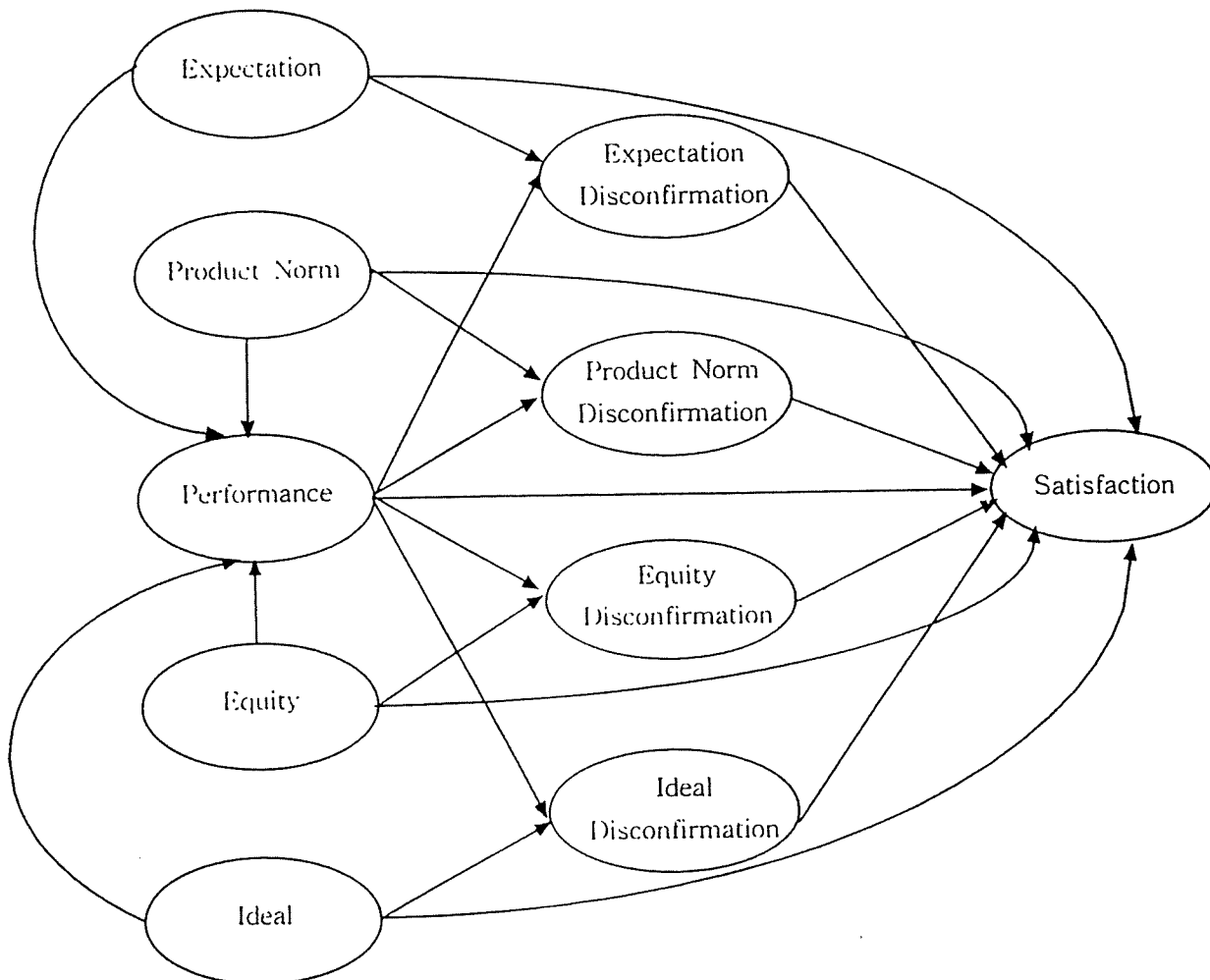
Causal Model and Validation Test

A full-path model was employed to develop

Figure 1
Causal Models of Satisfaction Formation Process

(a) single-standard model
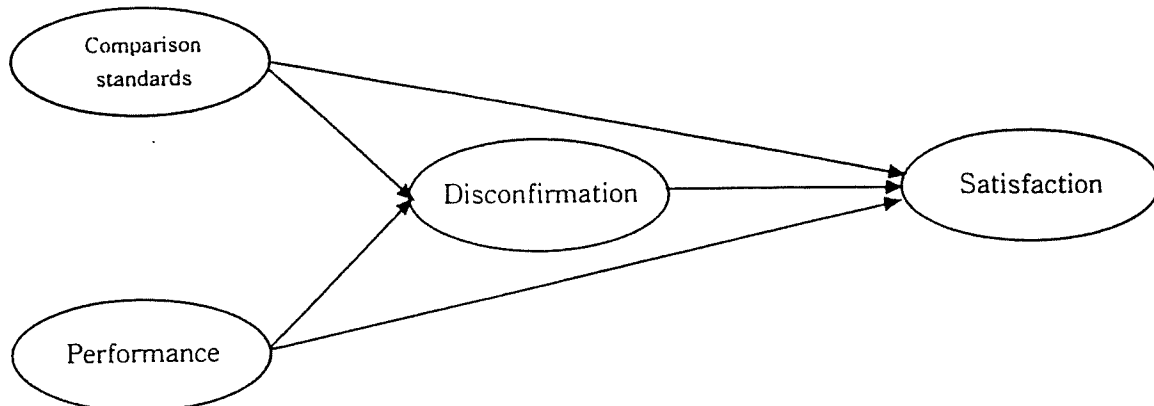
(b) multiple-standard model

alternative causal models of the satisfaction processes. In total, five alternative models were created. First, four single-standard causal models were developed. Figure 1a shows hypothetical paths among the constructs for these models. Actual models tested differed only in the type of standard employed (expectation, norm, ideal, or equity). Next, a multiple-standard model was created in light of a possibility that consumers might use four standards simultaneously to evaluate product performance (Figure 1b). Then, the validity of the five alternative models was assessed using LISREL 8 (Joreskog and Sorbom 1993). To compare the models' validity, five conventional model-fit indicators were used: the chi-square statistic, the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the root mean square residual (RMR), and normed fit index (NFI).

RESULT

Results to be reported here are organized as following. First, results from the causal modeling analyses about the tofu data are presented. Then, potential variables moderating the type of standard used will be speculated. After this, results about the other data (for the noodle, calcium and the dealer satisfaction) will be reported and integrated.

Tofu Data

Reliability and validity of measures. As explained previously, all constructs included in the causal model of consumer satisfaction formation processes were measured using two scale items. The scores obtained from two items for each construct were averaged into a composite score for further analyses. First, reliability was assessed by Cronbach's coefficient alpha for each construct. Analyses revealed that all the measures were highly reliable (all alpha values were higher than .86). Second, a factor analysis was performed on eight response scales measuring four comparison standards (two per each standard), in order to see if the four standards considered were really distinct constructs. A principal component factor analysis with varimax rotation revealed that four factors emerged and they accounted for 90.1 percent of the total variance of the original items. This

supports the validity of the measures.

Table 1
Factor Loadings for Four-Factor Solution

Items	Factor 1	Factor 2	Factor 3	Factor 4
equity 1*	.938			
equity 2*	.938			
norm 1		.951		
norm 2		.946		
expectation 1			.908	
expectation 2			.899	
ideal 1				.916
ideal 2				.873

Note. Items 1 and 2 represent two scale items measuring each standard.

Table 2
Model-Fit Indicators for Alternative-Standard Models in Tofu Data

	Comparison standard				
Indicator	Exp	Norm	Ideal	Equity	All*
Chi-square	42.61	35.49	17.47	50.13	907.10
(p value)	(.000)	(.001)	(.23)	(.000)	(.000)
GFI	.98	.98	.99	.98	.84
AGFI	.95	.96	.98	.94	.77
RMR	.018	.016	.011	.016	.07
NFI	.99	.99	1.00	.99	.91

* Multiple-standard model

Overall model tests. Five causal models of satisfaction formation processes were tested using the LISREL procedure. Table 2 shows the values of various indicators conventionally used for comparing alternative causal models. Two notable patterns emerged. First, all the indicators suggest that the multiple-standard model is inferior to any of the single-standard models in explaining the variance of the data. The multiple-standard model has the highest significant chi-square value, indicating the lowest model fit. Second, results favors the ideal-standard model most among four single-standard models. Chi-square statistics show that only the ideal-standard model had an insignificant value. Further, the model had the

lowest RMR as well as the highest GFI, AGFI, and NFI, representing a very good fit. In sum, causal modeling analyses supported the ideal as the best standard in the tofu case.

Subgroup analysis. Although the analysis of the tofu data strongly supported the ideal-standard model, it was still possible that there were subgroups of subjects who might have employed a different standard to evaluate product performance. We attempted to explore this possibility by dividing subjects into four groups based on the levels of involvement and product experience and testing alternative causal models for each subgroup. The sample size of the data (n=600) was deemed sufficiently large to allow this analysis. First, a composite involvement score was calculated by averaging responses on two scale items (Cronbach alpha = .85). Second, a product experience score was obtained by multiplying the average frequency of purchase per week by the average amount of each purchase. Using a median split, four subgroups of subjects were formed: low-experience/low involvement group, high-experience/low-involvement group, low-experience/high-involvement group, and high-experience/high-involvement group. Then, five alternative causal models were tested for each group in turn. Summary results are shown in Table 3.

Some notable patterns emerged in the chi-square statistics. First, the multiple-standard model did not fit the data, thus failing to explain the consumer satisfaction processes. This parallels the results from the overall analysis. Second, the ideal-standard model fit the data in three out of four subgroups, representing the main effect for the tofu product's characteristics. Third, and importantly, the standards supported other than the ideal varied depending on the involvement and experience levels. Specifically, in the high-experience/low-involvement group (C), the expectation-standard model was strongly supported and even better than the ideal-standard model. In the high-experience/high-involvement group (D), two normative-standard models were also supported. The norm- and the equity-standard model fit the data pretty well. By contrast, in the low-experience/high-involvement group (B) the data supported the ideal-standard model only.

Finally, none of the models was statistically supported when both involvement and experience were low (A), although the ideal-standard model was relatively superior to others.

Summary. The overall analysis of the tofu data was supportive of the ideal-standard model. However, the subgroup analyses appeared to suggest that involvement and product experience might interactively influence the type of standard used during satisfaction formation. Briefly, expectation might become a dominant standard when the level of product experience is high but the involvement level is low. On the other hand, normative standards such as product norm and equity might operate well if the levels of both product experience and involvement are sufficiently high. Finally, the ideal standard would best explain the consumer satisfaction processes when involvement is high but experience is low.

As such, our results might suggest interactive effects of involvement and product experience on consumer satisfaction processes. Although this interpretation might be in line with moderating roles of involvement and experience typically found in studies concerning other domains of consumer information processing (Petty, Unnava, and Strathman 1991), it is inevitably speculative in nature. Our interpretation might be bolstered to some extent, however, if similar results are obtained in different situations of consumer satisfaction. For this reason, we attempted to test four single-standard models with the data from the surveys for the noodle and calcium products, as well as for the dealer satisfaction.

Noodle, Calcium, and Dealer Satisfaction Data: Subgroup Analysis

The procedure used in the subgroup analyses was virtually identical to that of the tofu data: (1) dividing subjects into subgroups of low-experience/low involvement, high-experience/low-involvement, low-experience/high-involvement, and high-experience/high-involvement and (2) testing four alternative causal models for each subgroup. It might be ideal to perform this analysis for each of the noodle, calcium, and dealer data sets separately. Unfortunately, the total sample size of each data set was relatively small (n

Table 3
Model-Fit Indicators for Alternative-Standard Models in Tofu Subgroups

(a) Low experience and Low involvement (n*=174)					(b) Low experience and High involvement (n=134)				
Indicator	Exp	Norm	Ideal	Equity	All	Exp	Norm	Ideal	Equity	All

(a) Low experience and Low involvement (n*=174)						(b) Low experience and High involvement (n=134)				
Indicator	Exp	Norm	Ideal	Equity	All	Exp	Norm	Ideal	Equity	All
Chi-square	52.60	43.68	26.55	49.79	516.71	33.49	21.98	18.62	38.90	361.18
(p value)	(.000)	(.000)	(.022)	(.000)	(.000)	(.002)	(.079)	(.18)	(.000)	(.000)
GFI	.93	.95	.96	.93	.77	.94	.96	.97	.94	.79
AGFI	.83	.86	.90	.83	.66	.85	.90	.92	.84	.70
RMR	.037	.034	.024	.03	.078	.031	.016	.026	.024	.051
NFI	.95	.96	.97	.95	.84	.97	.98	.98	.97	.89

(c) High experience and Low involvement (n=121)						(d) High experience and High involvement (n=127)				
Indicator	Exp	Norm	Ideal	Equity	All	Exp	Norm	Ideal	Equity	All
Chi-square	13.62	21.84	14.94	46.74	342.03	22.83	18.83	14.37	19.62	348.90
(p value)	(.48)	(.082)	(.38)	(.000)	(.000)	(.063)	(.17)	(.42)	(.14)	(.000)
GFI	.97	.96	.97	.92	.79	.96	.96	.97	.96	.80
AGFI	.93	.89	.92	.79	.69	.89	.90	.93	.91	.70
RMR	.024	.053	.042	.033	.12	.047	.016	.026	.072	.12
NFI	.98	.96	.98	.91	.82	.97	.98	.98	.97	.83

* n represents sample size.

= 300 or less) compared to the sample size of the tofu data (n = 600). Consequently, it might be impractical to test causal models using LISREL for each subgroup because of its limited sample size (n = 75 or less). Our strategy therefore was to combine the three data sets for subgroup analyses. First, for each data set four subgroups were created based on involvement and experience scores. To make subgroups as dissimilar as possible in terms of involvement and experience levels, subjects around the median level of involvement and experience were excluded. Next, the subgroups of the same involvement/ experience condition were merged across three data sets, resulting in four distinct involvement/experience subgroups for the combined data. Finally, four alternative single-standard models were tested for each of these subgroups. If the results from these analyses were consistent with those from the tofu subgroup analyses, then our earlier interpretation regarding interactively effects of involvement and experience could be bolstered. In fact, this was the case.

Table 4 contains summary results of the subgroup analyses. Consistent with the tofu case, involvement and experience appeared to interactively influence consumer satisfaction processes. First, in the high-experience/low-involvement group (C), the expectation-standard model fit the data best and it was the only one that nearly reached statistical significance. This parallels the result from the tofu data. In the high-experience/high-involvement group (D), however, the norm-standard model performed best in explaining consumer satisfaction processes. This is also consistent with the implications of the tofu subgroup analysis. By contrast, the data predominantly supported the ideal-standard model in the low-experience/high-involvement group (B), whereas none of the models was supported (although the ideal model was most favored) in low-involvement/low-experience group (A). Again,

Table 4
Model-Fit Indicators for Alternative-Standard Models in Subgroups of
Combined Samples from Noodle, Calcium, and Dealer Data Sets

(a) Low experience and
Low involvement ($n^* = 134$)

Indicator	Exp	Norm	Ideal	Equity
Chi-square	35.65	33.70	26.93	34.82
(p value)	(.001)	(.002)	(.02)	(.001)
GFI	.94	.94	.96	.94
AGFI	.84	.85	.89	.85
RMR	.03	.03	.035	.034
NFI	.96	.96	.97	.95

(b) Low experience and
High involvement ($n = 128$)

Exp	Norm	Ideal	Equity
23.18	58.07	13.41	25.02
(.057)	(.000)	(.49)	(.034)
.96	.91	.97	.95
.89	.78	.93	.88
.017	.085	.017	.034
.97	.93	.98	.97

(c) High experience and
Low involvement ($n = 104$)

Indicator	Exp	Norm	Ideal	Equity
Chi-square	24.25	32.88	53.33	32.50
(p value)	(.043)	(.003)	(.000)	(.003)
GFI	.94	.93	.89	.92
AGFI	.84	.81	.71	.78
RMR	.034	.031	.036	.029
NFI	.96	.95	.93	.94

(d) High experience and
High involvement ($n = 118$)

Exp	Norm	Ideal	Equity
10.02	8.88	9.86	19.15
(.76)	(.90)	(.77)	(.16)
.98	.98	.98	.96
.95	.96	.95	.90
.014	.008	.024	.021
.99	.99	.99	.98

* n represents sample size.

this was also consistent with the results from the tofu subgroup analysis.

DISCUSSION

The extant literature suggests that consumers may use one or some of different comparison standards to evaluate actual product performance during consumer satisfaction formation. However, boundary conditions under which a particular standard operates have not been identified. This study explored such conditions by analyzing data over various consumption situations. Results suggested that (1) consumers might use a single standard rather than multiple standards during satisfaction formation and (2) consumer involvement and product experience might interactively influence the type of comparison standard used in the satisfaction formation process. The summary and implications of the results are now discussed.

The results suggest that in high-involvement/high-experience situations, a normative standard like product norm is likely to operate. This was initially suggested by the subgroup analysis of the tofu data, and supported by the subgroup analysis of the combined data for the noodle, calcium, and dealer satisfaction. Accordingly, highly involved consumers with high experience might judge the product quality in reference to what they assume the product should provide. This finding seems consistent with Woodruff, Cadotte, and Jenkins (1983). They argued that norms were constrained by the performance consumers believe was possible as indicated by the performance of "known" brands. Consequently, having some experience with the product is a necessary condition to possess a norm standard in memory. On the other hand, a normative standard is related to consumers'

emotional commitment in meeting their needs and wants by purchasing a product. The involvement concept seems to reflect such emotional commitment. A norm standard is then unlikely to be used by uninvolved consumers. Therefore, a normative standard is likely to operate well for highly involved consumers with ample product experience.

The subgroup analysis of the tofu data suggested that the expectation might be a dominant comparison standard to evaluate product performance in low-involvement/high-experience situations. This tended to be further supported by the subgroup analysis of the combined data. This finding appears consistent with some of previous results from information processing research. Specifically, uninvolved consumers tend to simply use easily accessible information in memory to make a judgment (Park and Hastak 1994; Sanbonmatsu and Fazio 1990). Also, memory information such as a prior brand evaluation tends to be more accessible when it is experience-based than when it is information-based (Berger and Mitchell 1989; Fazio and Zanna 1981). Since the expectation of a brand is in fact a previously-formed brand evaluation, it is likely to be easily accessible when the experience of the brand is accumulated. Consequently, relatively uninvolved consumers with high product experience are likely to simply retrieve and use the expectation as a standard to evaluate product performance.

Results also indicated that in high-involvement/low-experience situations the ideal-standard model stood out. This was supported by the subgroup analyses of the tofu and by the analysis of the combined data. This finding seems intuitively reasonable. Highly involved consumers with low experience would be highly concerned with meeting their needs and wants. However, they are unlikely to have a strong normative standard to evaluate product performance due to their lack of product experience. Therefore, they are likely to simply evaluate the product performance against what they personally desire to receive from the product.

On the other hand, no causal model was supported in low-involvement/low-experience situations in the subgroup analysis of either the tofu or the combined data. One possibility is that satisfaction is predominantly determined by the

actual product performance (Cronin and Taylor 1992). However, this clearly needs to be examined by future research.

The final issue to be addressed is the validity of multiple-standard model for consumer satisfaction processes. Previous research has suggested a possibility that consumers might utilize multiple standards to evaluate product performance (Tse and Wilton 1988). In our research, however, the multiple-standard model did not adequately account for the satisfaction formation processes for any of the subgroups. This clearly questions the viability of the multiple-standard model. However, all of the four standards were contained in the multiple-standard model in this research. In this respect, our results cannot rule out a possibility that consumers might use only a subset (not all) of the standards simultaneously. Empirical assessment of such possibility would be enormously taxing as the number of comparison standards considered increases, unless some theory-based predictions are delineated about a particular set of standards operating in a certain situation. Definitely, future research is needed in this direction.

One caveat to our conclusions should be emphasized. Our findings are exploratory in nature. None of the factors considered as moderators were not experimentally manipulated. Specifically, high versus low levels of involvement and product experience variables were operationalized by a median split of measured scores. This certainly introduces a danger of confounding and thus weakens the validity of our interpretations of the results. A replication of our findings is needed. Future research involving experimental manipulations of the variables such as involvement and product experience is warranted.

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