AN EMPIRICAL COMPARISON OF ALTERNATIVE CONCEPTUALIZATIONS OF POSTCONSUMPTION REACTIONS

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ABSTRACT

The relationships among conceivable postconsumption variables like disconfirmation, satisfaction, and emotion have been studied extensively. However, relatively little research has been published specifically examining these constructs' measurement properties. Given recent advancements in measurement theory, as well as the variation in conceptualizations of postconsumption phenomena, this study provides specific empirical evidence of the validity of five separate measurement models each derived from the related literature. The findings support a distinction between satisfaction and satisfaction judgments and provide evidence of the emotional underpinnings of satisfaction and dissatisfaction.

INTRODUCTION

Consumer satisfaction/dissatisfaction (CS/D) has few rivals with respect to the amount of attention received in the marketing literature over the past 20 years (see Perkins 1991). This attention seems well deserved given consumer satisfaction's cornerstone role in the marketing concept (Churchill and Surprenant 1982). In particular, antecedents and consequences of CS/D, and the interrelations between these variables, have been studied extensively (e.g., LaTour and Peat 1979; LaBarbera and Mazursky 1983; Oliver and DeSarbo 1988; Tse and Wilton 1988; Oliva, Oliver, and MacMillan 1992). Relatively speaking, the precise nature and operationalization of individual postconsumption measures (e.g., performance, disconfirmation, emotion) has received little attention (cf., Westbrook and Oliver 1981). Thus, CS/D remains somewhat of an elusive concept despite its theoretical and practical importance (Oliver 1981).

Our inability to define the satisfaction construct precisely has resulted in a number of different operationalizations being used in the CS/D literature. Obtaining a more precise understanding of the measurement properties of important postconsumption phenomena seems a crucial primary endeavor as we continue to examine theoretical interrelations between various postconsumption phenomena more closely and with greater rectitude (Anderson and Gerbing 1988). The purpose of this paper is to describe a series of analyses conducted to compare empirically conceptually different but plausible operationalizations of postpurchase phenomena. To extend earlier research on the operationalization and measurement of these constructs, recent advancements in measurement theory will be incorporated to assess the validity of different operationalizations (Gerbing and Anderson 1988; Bentler 1990).

CONCEPTUAL BACKGROUND

There appears to be widespread awareness that the measurement of CS/D presents researchers with a host of problems (see Peterson and Wilson 1992 for a recent review). For example, consumer satisfaction measures generally exhibit a ceiling effect, producing skewed data with the modal response appearing at or very near the maximum satisfaction capable of being reported on the scale. To help alleviate this problem and to produce a more comprehensive CS/D measure, the use of multiple satisfaction measurement items with varying numbers of response positions has been suggested (Westbrook 1980; Westbrook and Oliver 1981). The use of multiple satisfaction measures, however, can create its own problems. The high degree of correspondence between items indicating different postconsumption phenomena makes interpretational confounding a real possibility. For instance, while it is quite possible to conceptualize a distinct disconfirmation factor, operationalizing this concept free of confounding from other measures such as expectations and satisfaction can be difficult (Westbrook and Oliver 1981).

The recent addition of postconsumption emotion to the CS/D paradigm increases the potential of interpretational confounding further (e.g., Westbrook 1987, Westbrook and Oliver

1991; Oliver 1992). Researchers are now challenged with incorporating measures of emotion that can be discriminated from satisfaction measures (Peterson and Wilson 1992). To the extent that distinct measures of constructs are not recoverable, the particular conceptual paradigm upon which the representation is based may be called into question.

The difficulties associated with measuring constructs such as disconfirmation, CS/D, and emotion may account for the relatively small number of overall empirical tests of CS/D models. Further, the structural models reported in the literature providing overall fit indices (e.g., Churchill and Surprenant 1982; Bearden and Teel 1983; Oliver and Swan 1989) have not generally distinguished between the proportion of deficiency in fit attributable to measurement error from that due to a lack of fit in the hypothesized structural relationships (Anderson and Gerbing 1988). That is, distinct overall measurement model results ($\chi 2$, GFI, etc.) are not reported. The remainder of this paper describes a number of plausible measurement structures of various cognitive and emotional items based on previous CS/D literature. The validity of each competing structure is then compared empirically using confirmatory factor analysis. The study results provide empirical evidence as to which structure most accurately represents the postconsumption phenomena considered here (e.g., disconfirmation, satisfaction, affect). In addition, it demonstrates a methodology useful for determining the best CS/D operationalization for varying consumption contexts.

Model 1: Satisfaction as Cognition

A number of definitions for the CS/D construct appearing in the literature can be interpreted as representing CS/D as primarily a cognitive variable. In a well-cited definition originating from the first CS/D conference, Hunt (1977, p. 459) describes satisfaction as "the evaluation rendered that the experience was at least as good as it was supposed to be" and is distinct from the "pleasureableness" or emotion associated with the situation (Westbrook and Oliver 1991). Similarly, others refer to satisfaction as a cognitive comparison of the performance experienced with some level of expected or normative performance (e.g., Day 1984; Pascoe 1984). While this orientation seems typical of much early work on postconsumption consumer reactions which often failed to distinguish judgments of performance from CS/D (Anderson and Hair 1972; Anderson 1973), its popularity remains. For example, Engel, Blackwell, and Miniard (1993, p. 571) recently defined satisfaction as "a post-consumption evaluation that a chosen alternative at least meets or exceeds expectations."

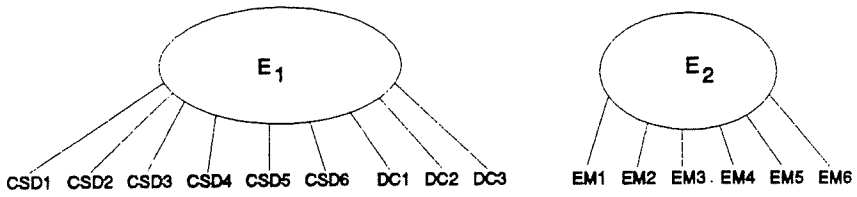
This conceptualization is potentially confusing because it raises concerns about whether or not *satisfaction* is distinct from the *satisfaction judgment*. Using these cognitively-oriented definitions of satisfaction, one might hypothesize that items measuring CS/D and items assessing the cognitive evaluation of perceived performance against some standard, such as a typical disconfirmation measure, would comprise a single factor (Woodruff et al. 1983). Postconsumption emotion measures, however, would represent a separate factor. Thus, when analyzing items typical of those assessing subjective disconfirmation, CS/D, and postconsumption emotion, a 2-factor structure would be hypothesized (see Figure, Model 1).

Model 2: Satisfaction as a Reaction to a Cognition Judgment

The second conceptualization considered is probably the most conventional judging from the recent CS/D literature. This model depicts CS/D as the *response to an evaluation* of a consumption experience rather than the *evaluation itself* (Oliver 1980; Tse and Wilton 1988). The resultant operationalization consists of satisfaction measures distinct from subjective disconfirmation (e.g., Churchill and Surprenant 1982; Bearden and Teel 1983; Oliver and Swan 1989), as well as postconsumption emotions (Westbrook 1987). For a set of items comprising disconfirmation, CS/D, and postconsumption emotion, three factors are commonly hypothesized (see Figure, Model 2). Although this is a common operationalization, assessments of measurement fit, even when a theoretical model was tested, have generally been limited to reporting reliability estimates for each factor (cf, Oliver and Swan 1989).

Figure 1
Alternative Measurement Models

1



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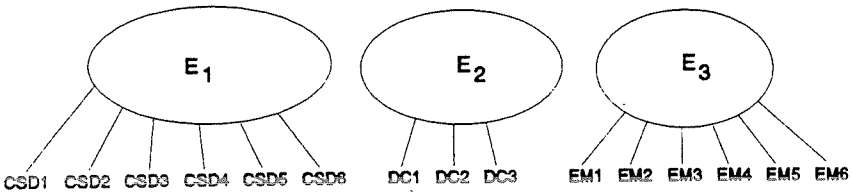

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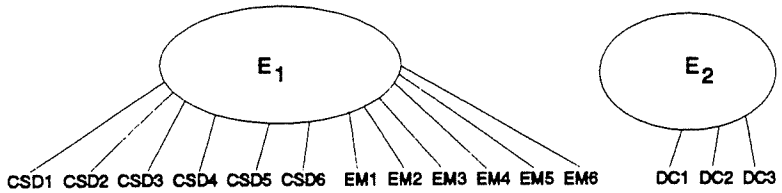

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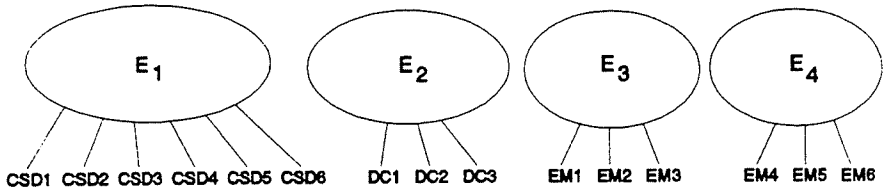

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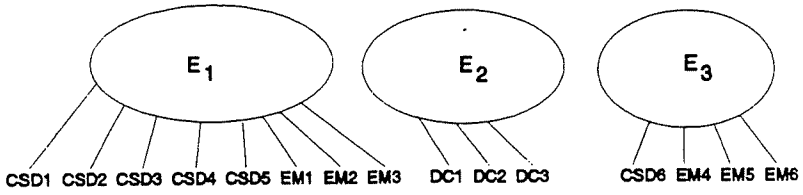

Model 3: Satisfaction as a General Emotional Response

Other work has failed to distinguish CS/D from some other postconsumption emotions or hedonic responses (Oliver 1976; Woodruff, Cadotte, and Jenkins 1983). CS/D is simply the postconsumption emotion receiving the majority of attention in the literature (Oliver 1992). "[C]onsumer satisfaction/dissatisfaction is an emotional feeling in response to confirmation/disconfirmation. However, ... [v]ery little effort has been devoted to the conceptualization of satisfaction as an emotion" (Woodruff et al. 1983, p. 297).

This representation appears consistent with the emotion measurement literature. For example, the familiar PAD scale contains satisfied-dissatisfied as one of the primary indicators of the bipolar "pleasure" dimension (Mehrabian and Russell 1974). In reports of factor analyses, the satisfied-dissatisfied item displays high loadings on the pleasure dimension, comparable to the loadings of pleased-displeased and happy-unhappy items, and higher than the loadings of other hypothesized indicators (Mehrabian and Russell 1974; Donovan and Rossiter 1982). Other scales have also used satisfaction as one indicator of pleasure or positive emotion (Russell and Pratt 1980; Russell 1983; Burke and Edell 1989).

Based on this discussion, CS/D would be indistinguishable from other latent emotion constructs indicated by items representing general pleasurable-displeasurable states. Thus items comprising CS/D should load on the same factor as items representing a "pleasure" construct. This seems conceivable linguistically when one considers that a consumer would probably respond similarly if asked either "are you *satisfied* with a product," or "are you *pleased* with a product." Assuming this conceptualization, the hypothesized measurement structure for a set of items comprising disconfirmation, CS/D, and postconsumption emotion would consist of two factors, one consisting of disconfirmation items and the other combining satisfaction and emotion items (see Figure, Model 3).

Model 4: Satisfaction/Dissatisfaction as a Multidimensional Reaction

The fourth operationalization considered here is best thought of as a variation of the conventional orientation (Model 2), where satisfaction is considered a reaction to a cognition judgement. This perspective recognizes that disconfirmation comparisons of expected and perceived performance, CS/D, and postconsumption emotions are each distinct constructs and is distinguished only in the treatment of this last factor. Rather than treating positive and negative emotion items as a single bipolar factor, it allows for the possibility that these could be distinct dimensions (Westbrook 1987). Separate positive and negative emotional dimensions have been empirically identified among measures of mood (Diener and Emmons 1985), ad-evoked affect (Burke and Edell 1989), and the affective quality of retail environments (Darden and Babin 1993). Thus, a four factor model would be hypothesized consisting of subjective disconfirmation, CS/D, positive affect, and negative affect factors (see Figure, Model 4).

Model 5: Satisfaction as a Multidimensional Affective Response

The final representation combines reasoning from both of the two preceding conceptualizations. It recognizes the possibility that satisfaction and dissatisfaction are distinct from each other as hypothesized previously (Leavitt 1977; Peterson and Wilson 1992), but regards these "feelings" as elements of general pleasure (positive affect) or displeasure (negative affect) factors. Thus, items reflecting satisfaction would be expected to load with a "pleasure" dimension while items reflecting dissatisfaction would load with a "negative" affect dimension. In a previous study (Westbrook and Oliver 1991), unipolar satisfaction and dissatisfaction items were found to relate quite strongly to three broad emotional space dimensions (R^2 = .478 and R^2 = .417, for satisfaction and dissatisfaction, respectively) compared to a bipolar satisfaction measure (R^2 = .196). Thus when using a set of typical postconsumption measures, distinct disconfirmation, positive affect (including satisfaction), and negative affect (including

dissatisfaction) factors would be expected (see Figure, Model 5).

METHODOLOGY

Overview

The data were collected in conjunction with a broader experimental investigation of the relationships among postconsumption constructs. The subjects were undergraduate students at a large southern university who volunteered their time to participate in the study. Subjects received "chances" for cash prizes in return for their participation.

Experimental stimuli were utilized to help insure a wide range of CS/D responses and to allow the administration of CS/D measures just following an actual consumption experience. As a premise to the study, subjects were administered a multiple-choice "test" consisting of 20 brain-teasers. Immediately following the test, an experimenter scored the test and informed the subject of his/her score. In actuality, each subject received the same score (50%). The plausibility of this disguise was insured by pretesting a large number of questions for difficulty and ambiguity. The questions selected were perceived as difficult in pretests but, more importantly, pretest subjects proved highly inaccurate in guessing whether or not he/she had obtained the correct response. Subjects were then told that there would be a second round of testing.

Prior to taking the second test, each subject was given an opportunity to review a product that had been shown to significantly improve previous subjects' scores (15%). The "product" described several hints for answering each question (e.g., not guessing, reading responses first, etc.). In all, 147 subjects consumed the product and were administered the second test consisting of a different set of ambiguous questions. While the experimenter scored the exams, each subject was administered a brief questionnaire assessing his/her expected performance on this test and recollection of hints given in the product. The experimenter then informed each subject of his/her score. Again, scores were manipulated with an equal number of subjects randomly selected to receive one of nine scores reflecting a wide range of performance outcomes. After receiving their scores, subjects were administered a second questionnaire assessing their reaction to the product, examination procedures (as filler items), and given an opportunity to guess the purpose of the research. No contamination due to demand awareness was evident. Finally, each subject was debriefed and given an opportunity to win a cash prize. Prizes were given randomly to members of each group of subjects.

Measures

An inventory of items assessing a variety of postconsumption reactions was necessary to examine the validity of the competing operationalizations. Items were selected to be representative of typical postconsumption measures. Three Likert statements were used to assess disconfirmation as each subject's cognitive evaluation of the performance of the product compared to their expectations (Westbrook 1980; Tse and Wilton 1988). These items reflected the performance of the product as better or worse than expected (e.g., "The product materials improved my score about as much as I expected it to"). Three Likert statements assessing subject satisfaction with the product were also included patterned after items used in previous studies (Oliver 1980). In addition, a 100 point satisfaction "percentage" scale was included (Westbrook 1980) as well as separate 7-point satisfaction and dissatisfaction items asking the respondent to indicate how much each emotion was felt while experiencing the product (Holbrook and Batra 1987). Thus, six "CS/D" items were assessed. Finally, six items taken from Mehrabian and Russell's (1974) bipolar pleasure scale were used to assess postconsumption affect. This measure was adapted to the 7-point format described above based upon previous empirical verification of the appropriateness of these items for assessing emotion in consumption contexts (Havlena, Holbrook, and Lehmann 1989).

RESULTS

Confirmatory factor analyses (CFA) were conducted to examine the comparative validity among each of the five postconsumption

conceptualizations described above. While factor analysis has been used previously to assess the validity and nature of common consumption measures like "attitudes" (Batra and Ahtolla 1990), the methodology used here improves on these earlier attempts by utilizing confirmatory rather than exploratory factor analyses. CFA allows for testing of the overall and comparative validity of each factor structure. The correlation matrix used as input to these models is presented in Table 1. Table 2 summarizes the overall fit indices of each model. The overall results for testing a unidimensional model (unity) and a null model are also provided (Anderson and Gerbing 1988). A unidimensional model assumes no discrimination between the measures examined while a null model is interpreted as no relationships among measures.

Model 1: Satisfaction as Cognition

The first operationalization tested implies a predominantly cognitive orientation to CS/D. The overall fit of this model is modest (see Table 2). The model χ^2_{89} is 422.6 yielding a goodness-of-fit index (GFI) of .72, a normed fit index (NFI) of .80, and a comparative fit index (CFI) of .84 (Bentler 1990). The RMSR is .068 and only 2 normalized residuals exceed 2. For the most part, these statistics only approach standards considered adequate for confirmatory factor models (Netemeyer, Durvasula, and Lichtenstein 1991). The estimate of reliability using coefficient α is .95 for the CS/D factor (including disconfirmation items) and .88 for the affect factor. Further, each factor loading is highly significant (see Table 3) providing evidence of convergent validity (Anderson and Gerbing 1988). A test of discriminant validity among these two factors was conducted by comparing the fit of this model to the fit of a model assuming a unidimensional structure (unity) hypothesizing all variables as indicators of a single construct (Netemeyer et al. 1991). This two factor model provides only a marginally better fit ($\chi^2 = 6.6$; $p = .01$) than does a one factor model.

Model 2: Satisfaction/Dissatisfaction as a Multidimensional Reaction

The second model posits separate disconfirmation, CS/D, and postconsumption affect factors. The overall fit statistics are improved compared to the first model and thus the measurement adequacy is more acceptable. The χ^2_{87} is 373.9, and the GFI, NFI, and CFI are .75, .83, and .86, respectively.

Table 1
Correlations Among Construct Indicators

	CSD1	CSD2	CSD3	CSD4	CSD5	E1	E2	E3	D1	D2	D3	E4	E5	E6	CSD6
CSD1	1.00														
CSD2	.72	1.00													
CSD3	.72	.82	1.00												
CSD4	.72	.84	.80	1.00											
CSD5	.65	.81	.76	.76	1.00										
E1	.64	.74	.70	.71	.80	1.00									
E2	.59	.62	.56	.53	.65	.62	1.00								
E3	.68	.77	.74	.73	.90	.74	.60	1.00							
D1	.62	.73	.77	.75	.70	.66	.41	.67	1.00						
D2	.43	.45	.52	.47	.50	.46	.31	.49	.57	1.00					
D3	-.60	-.66	-.73	-.71	-.67	-.62	-.40	-.61	-.80	-.52	1.00				
E4	-.34	-.61	-.50	-.56	-.55	-.38	-.37	-.53	-.47	-.27	.45	1.00			
E5	-.39	-.55	-.56	-.54	-.58	-.49	-.46	-.59	-.56	-.36	.54	.79	1.00		
E6	-.39	-.57	-.50	-.53	-.51	-.44	-.46	-.52	-.49	-.23	.46	.64	.58	1.00	
CSD6	-.49	-.68	-.65	-.70	-.70	-.64	-.49	-.71	-.69	-.46	.64	.59	.66	.70	1.00

Table 2
Overall Fit Indices

Statistic	Model 1	2	3	4	5	Unity	Null
χ^2	422.6	373.9	386.85	273.02	290.50	429.49	2,136.2
DF	89	87	89	84	87	90	105
GFI	.719	.745	.739	.809	.798	.710	.162
NFI	.800	.825	.819	.872	.864	.800	.000
CFI	.836	.859	.853	.907	.900	.833	.000
RMSR	.068	.065	.067	.055	.054	.070	.569

Again, two normalized residuals exceed two and all factor loadings are highly significant indicating convergence. This model represents a significant improvement in fit over three similar models constraining each Φ coefficient (one at a time) to unity ($p < .01$). Anderson and Gerbing (1988) describe this procedure for testing discriminant validity. In essence, it tests the lesser restricted model against one that assumes each unique correlation equals one. That is, that a pair of constructs taken from the model are equivalent empirically. Thus, this test requires (p(p-1)/2) models be estimated (p = the number of factors). In practice however, some correlation estimates are obviously less than one. Coefficient α for each factor is .94, .83, and .88 for CS/D, disconfirmation, and affect, respectively. Further, this model is a significant improvement in fit over the first model ($\chi^2_2 = 48.7$; $p < .001$). In sum, the measurement adequacy of this "standard" model is defensible and superior compared to the previous model representing CS/D as a predominantly cognitive construct.

Model 3: Satisfaction as a General Emotional Response

The third model assumes that CS/D is an emotion. Thus, the CS/D measures and a consumption emotion scale would not be distinct. The fit of this two factor model is very comparable to that of model 2. The model χ^2_{89} is 386.8 producing fit indices quite similar to those of model 2 (see Table 2) and once again all factor loadings are highly significant. Coefficient α is .95 for CS/D and .83 for disconfirmation. The χ^2_1 difference statistic indicates a significant improvement in fit between this model and a unidimensional model (χ^2 42.6; $p < .001$) suggesting discrimination between factors. In addition, the overall fit of this model is clearly superior to that of the model 1. However, the χ^2_2 difference statistic indicates a marginally better fit for the more conventional three factor model (#2) than this two factor model ($\chi^2 = 13$; $p < .01$).

Table 3
Factor Structures Across Models

	FACTOR LOADINGS														
	1		2			3		4				5			6
	ξ_1	ξ_2	ξ_1	ξ_2	ξ_3	ξ_1	ξ_2	ξ_1	ξ_2	ξ_3	ξ_4	ξ_1	ξ_2	ξ_3	ξ_1
CSD1	.76		.76			.71		.76				.77			.76
CSD2	.91		.90			.91		.90				.91			.90
CSD3	.89		.88			.87		.87				.88			.88
CSD4	.89		.88			.88		.87				.88			.88
CSD5	.89		.91			.91		.92				.92			.90
CSD6	-.79		-.80			-.79		-.79						.84	-.79
DC1	.83			.92			.92		.92				.92		.82
DC2	.56			.61			.61		.61				.62		.56
DC3	-.79			-.86			-.86		-.86				-.86		-.78
EM1		.82			.82	.82				.83		.83			.82
EM2		.67			.69	.67				.69		.67			.66
EM3		.89			.90	.88				.90		.89			.88
EM4		-.64			-.64	-.63					.90			.89	-.62
EM5		-.69			-.67	-.67					.87			.87	-.67
EM6		-.63			-.63	-.62					.77			.77	-.62
α	.95	.88	.94	.83	.88	.95	.82	.94	.83	.85	.86	.95	.83	.89	.95

Model 4: Satisfaction/Dissatisfaction as a Multidimensional Reaction

The fourth model examines the possibility of distinct positive and negative emotion factors. Thus, four factors are hypothesized: CS/D, disconfirmation, positive emotion (pleasure), and negative emotion (displeasure). This model produces better fit indices than any of the models tested above. The model χ^2_{84} is 273.0 yielding a GFI of .81, an NFI of .87 and a CFI of .91. Again, all factor loadings are highly significant and each coefficient α (.83 - .94) exceeds generally acceptable standards. While this model compares favorably to other hypothesized models in terms of fit, some indication of a lack of discriminant validity is evident. To fully examine discrimination, six models, each constraining the appropriate Φ coefficient to 1.0 as described above, were estimated. While five of these models proved deficient compared to the lesser constrained model ($p < .01$), the model constraining the correlation estimate between CS/D and pleasure fits the data just as well ($\chi^2_1 = .73$; $p > .10$). Thus, the discriminant validity between a CS/D factor and a pleasure factor is questionable.

Model 5: Satisfaction as a Multidimensional Affective Response

The final model considered here hypothesizes satisfaction as an emotion with distinct positive and negative factors. Thus, a *satisfaction* factor, consisting of positively oriented satisfaction and items making up "pleasure," a *dissatisfaction* factor, consisting of negatively oriented satisfaction and negative emotion items, and the basic *disconfirmation* factor are hypothesized. The χ^2_{87} is 290.5, the GFI, NFI, and CFI are .80, .86, and .90, respectively. The RMSR is .054, no normalized residuals approach 2.0 and only four exceed 1.0. Each factor loading is highly significant and this model provides a significantly better fit ($p < .01$) than any of three models constraining a Φ coefficient to 1.0. Thus, evidence of both convergence and discrimination is provided (Anderson and Gerbing 1988). Coefficient α for the satisfaction factor is .95 and .89 for the dissatisfaction factor.

Summary of Results

To summarize, each model could be considered acceptable to varying degrees based upon the overall fit statistics. Comparing alternative factor structures indicates that Model 4 has the best overall fit but exhibits problems with discriminant validity. Thus, the fifth model should be considered the best representation of the data among those considered.

DISCUSSION AND IMPLICATIONS

The measurement adequacy of five different operationalizations of 15 items typical of those assessing reactions to consumption experiences were compared using confirmatory factor analysis. Each operationalization was based upon previous conceptualizations, interpretations, or empirical findings of postconsumption phenomena. While other operationalizations and different variables could be included in addition to those studied here, the results of this study provide interesting analytical and conceptual implications.

First, the results reported here illustrate some of the problems associated with the common practice in CS/D studies of relying exclusively on coefficient α as an indicator of measurement adequacy (Gerbing and Anderson 1988). While coefficient α for each different configuration of CS/D items is quite high (.94 - .96), unidimensionality is not achieved in every case. For example, the unity model and the model allowing disconfirmation and CS/D items to load on the same factor both display high coefficient α. However, when these parsimonious models are replaced with more restricted models dividing the measures into multiple factors the overall fit is significantly improved.

This caveat is particularly important for CS/D research given the similar conceptual and operational bases of phenomena commonly used in these studies and the fact that different operationalizations may be used. Given the advantages associated with using multiple-item postconsumption measures, CFA would be highly recommended to assess measurement validity before proceeding to further analyses. As a further precaution, CS/D researchers might consider testing alternative model structures before

proceeding with tests of structural relationships. Recognizing that even the worst model considered here possesses measurement properties that could be defended when compared with previous measurement benchmarks (Netemeyer et al. 1991), it might be prudent to examine multiple theoretically possible measurement structures for comparison using an approach like that demonstrated here.

Second, evidence is provided that the *satisfaction judgment* (evaluation) is distinct from the *experience of satisfaction*. That is, items capturing a cognitive comparison of product performance compared to some internalized norm can be discriminated from items assessing satisfaction and dissatisfaction with the product experience. While this has been previously hypothesized by other researchers, this study provides further empirical support. In this sense, consumer satisfaction and dissatisfaction are similar to other emotions in that they are *reactions to an evaluation* rather than the *evaluation itself* (Lazarus 1975; 1982; Russell 1983).

Consistent with this finding, comparative results of the different CFA models tested here provide evidence of the emotional nature of CS/D. While a model positing separate positive and negative emotion dimensions, distinct from CS/D, provided the best fit of the five models, it failed to discriminate adequately between satisfaction and positive emotion. Thus, a three factor model positing separate positive emotion (including items typically used to assess "satisfaction"), negative emotion (including an assessment of "dissatisfaction"), and a "disconfirmation" factor provided the best overall results in this context. This finding tends to support a conceptualization of satisfaction as an emotion (Woodruff et al. 1983) and raises a question concerning the distinctiveness (or lack of it) of satisfaction compared to other emotions like excitement, anger, and humiliation (Oliver 1992). As a practical implication, if satisfaction (dissatisfaction) is predominantly emotional, it can clearly be affected by things not directly related to expectations and/or performance. Therefore, while the disconfirmation judgment is strongly related to satisfaction and dissatisfaction, residual variation may be explained by other factors generally affecting positive and negative emotional states.

Finally, evidence is provided that, at least under some circumstances, dissatisfaction and satisfaction are distinct. Previous attempts to provide empirical evidence of this duality had failed (Leavitt 1977). Results presented here using CFA, however, show the overall measurement adequacy of a model allowing separate positive and negative factors (Model 5) to be superior to models allowing a single factor for these items (Models 2 and 3). This finding suggests that a consumer can experience some levels of both satisfaction and dissatisfaction at that same time. Furthermore, similar to Herzberg's dual factor theory (Herzberg, Mausner, and Snyderman 1959), predictors of one of these emotions may have little impact on the other. Some things that decrease dissatisfaction for example, may have little influence on satisfaction. From a managerial standpoint, it may be necessary to understand which state, satisfaction or dissatisfaction, has the most influence on other variables such as customer retention, loyalty, and brand equity. From a measurement standpoint, this finding questions the use of semantic differentials which necessarily assume that satisfaction and dissatisfaction are perfectly negatively correlated.

Limitations and Future Research

This study has several limitations restricting the generalizability of results. The context of this study involved a relatively novel product (a task-improvement tool) and thus may not reflect how people react to very familiar products and/or brands. This context also tended to be highly involving to the respondents; thus consumers may not react similarly in relatively noninvolving consumption contexts. Further, the items reflected only a sample of those commonly used in postconsumption studies. Although different measurement techniques were involved, new approaches may be developed in the future capable of capturing postconsumption phenomena more precisely. Finally, it is possible that other conceptualizations not examined here could provide an even better fit. The five models considered simply represent a sample of those that could be deduced logically based upon previous work in CS/D.

Based on the findings presented here, and the

limitations of this study, further research is needed to expand our knowledge of measurement of postconsumption reactions. The extent to which the measurement structure of CS/D and related measures is context specific is of particular interest. For example, further studies might show that, similar to human emotion, satisfaction and dissatisfaction are bipolar only under limited circumstances (Diener and Emmons 1985). One might also expect that under very low involvement circumstances discrimination between factors would become even more difficult. A meta-analysis study comparing various operationalizations using correlation matrices of previous studies might address these issues more exhaustively. Future research might also include variables not studied here. Distinguishing measures of postconsumption phenomena from attitude, for example, would seem of interest. Do consumption contexts and level of analyses (attributes - benefits - values) change the appropriate measurement orientation?

Conclusions

Given the extreme importance of what goes on after a consumer makes a purchase, a clear understanding of relevant constructs and how each should be operationalized can only make studying relationships between these and other variables easier and more enlightening. This study attempted to address this issue by examining the measurement properties of five different conceptualizations of the CS/D construct. The results indicate that the state of satisfaction is distinct from the satisfaction judgement. In other words, satisfaction is more than a purely cognitive assessment or disconfirmation judgement. Furthermore, while it is difficult to discriminate between feelings of satisfaction and other affective reactions, it appears that satisfaction and dissatisfaction are not bipolar but rather exhibit some degree of independence. Hopefully this study provides new insight into one of the most studied constructs in the marketing discipline and proves useful in our quest to gain a better understanding of postconsumption phenomena.

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