When Brand Attitudes Affect the Customer Satisfaction-Loyalty Relation: The Moderating Role of Product Involvement

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Drawing on the attitude accessibility and stability theories, we investigate the moderating role of product involvement in the customer satisfaction-loyalty relation. Structural equation modeling shows that customer satisfaction has both direct and indirect effects on loyalty, whereas ad attitudes and corporate image have only indirect effects through their mediating influence on brand attitudes. Furthermore, product involvement decreases the direct effects of satisfaction on brand attitudes and loyalty, but it increases the indirect effects of ad attitudes and corporate image.

Over the last decade, a considerable amount of research has investigated the relation between customer satisfaction and loyalty (Oliver, 1999; Yi, 1990). Prior research has suggested that customer loyalty is largely influenced by attitudes toward brands and emphasizes the effective management of brand attitudes (Chaudhuri & Holbrook, 2001; Fournier & Yao, 1997; Keller, 2003). However, the questions of how and when brand attitudes affect the customer satisfaction-loyalty relation remain unanswered.

Fazio and Zanna (1978, 1981) suggested that the effects of direct experiences on behavioral intentions are stronger than are those of indirect experiences. In an empirical study, they found that evaluations based on direct experience were indeed more accessible from memory than those based on indirect experience. One of the possible evaluations based on direct experience is customer satisfaction. If Fazio and Zanna's (1978, 1981) theory holds true, customer satisfaction should influence brand loyalty more strongly than brand attitudes that are formed by indirect experiences (e.g., advertising and corporate image).

However, Berger and Mitchell (1989) found that indirect experiences, such as advertising, are just as influential as direct experiences in changing the accessibility of attitudes. Furthermore, the effect of these experiences depends on the extent to which messages and stimuli are elaborated (Priester, Nayakankuppam, Flemming, & Godek, 2004). In our research, we examined how involvement moderates the

effect of brand attitudes in the customer satisfaction-loyalty relation. Our results differ from an earlier study by Maheswaran, Mackie, and Chaiken (1992) in which brand favorableness and situational involvement were experimentally manipulated. That is, we investigated customer-loyalty relations at more enduring levels of product involvement that participants experience in situations outside the laboratory. We found that the direct effects of customer satisfaction on brand loyalty are stronger when product involvement is low, whereas its indirect effects, through its mediating impact on brand attitudes, are stronger when product involvement is high.

THEORETICAL BACKGROUND

Definition of Constructs

Customer satisfaction. Many studies have been conducted on customer satisfaction (Oliver, 1980, 1997, 1999; Yi, 1990). Researchers have attempted to identify the antecedents of customer satisfaction by applying an expectation-disconfirmation model (Yi, 1990, 1993). Although earlier work focused on global evaluations (Griffin & Hauser, 1993), academics have recently tended to investigate an attribute-level conceptualization (Mittal, Ross, & Baldasare, 1998). Attribute-level antecedents of satisfaction include functional, symbolic, and experiential benefits. Through its mediating influence on the beliefs and evaluations of these attributes, past consumption experience may affect customer satisfaction (Ajzen & Fishbein, 1980). In this study customer

satisfaction is defined as an evaluative summary of (direct) consumption experience, based on the discrepancy between prior expectation and the actual performance perceived after consumption (Tse & Wilton, 1988; Yi, 1990).

Brand attitudes and satisfaction are regarded as distinct concepts in the customer satisfaction literature (e.g., Oliver, 1980, 1997; Yi, 1990). According to Oliver (1981), customer satisfaction is relatively transient and is consumption specific, whereas attitudes are relatively enduring. Westbrook and Oliver (1981) argued that satisfaction is an evaluation of the totality of the purchase situation relative to expectation, whereas brand attitude is a liking for the product that lacks this element of comparison. Several empirical studies have shown that satisfaction is distinct from brand attitude (e.g., Oliver, 1980, 1981; Westbrook & Reilly, 1983; Wilton & Tse, 1983). Employing a path-analytic model, Oliver (1980) found that satisfaction derived from past experience precedes and influences postpurchase attitude. Bolton and Drew (1991) treated attitudes as a consequence of satisfaction. It is also possible that an attitude can develop on the basis of indirect experiences (e.g., through advertising and corporate image; see Oliver, 1997). To this extent, past experience, advertising, and corporate image are all determinants of brand attitudes.

Loyalty.   Loyalty is presumably a consequence of satisfaction and brand attitudes (Oliver, 1999). Dick and Basu (1994) defined loyalty as a behavioral response that is expressed over time through the decisions that are made among alternatives. Oliver (1997) defined loyalty as a deeply held commitment to rebuy or repatronize a preferred product or service in the future. Other researchers consider loyalty on a multidimensional basis by adding an attitudinal or conative (intention or commitment to consume) component to a behavioral loyalty concept (Chaudhuri & Holbrook, 2001). In our research, similar to Oliver's (1997, 1999), loyalty is inferred from repurchase intentions. Although brand attitudes may influence repurchase intentions through their impact on attitudes toward the behavior of repurchasing (Ajzen & Fishbein, 1980), the magnitude of this influence may be affected by social norms, budget, high search and evaluation costs, inconvenience, inaccessibility, and lack of choice (e.g., a woman may have a very favorable attitude toward Tiffany's jewelry, but may not repurchase it because her spouse disapproves of expensive luxurious goods).

Involvement.   The relations among satisfaction, brand attitudes, and loyalty may vary with involvement. Involvement has often been regarded as one of the important moderators that determine purchase decisions (Celsi & Olson, 1988). Involvement is generally defined in terms of perceived personal relevance and is classified as either situational or enduring (Celsi & Olson, 1988; Richins & Bloch, 1986). Stimuli, cues, and contingencies in a consumer's immediate environment may function as situational sources of involvement. For example, sales promotions, such as rebates, coupons, and price reductions, create contingencies in consumers' decision environments that might activate personally relevant goals and values. In consumer research, external stimuli are often used to manipulate the level of involvement experimentally.

In contrast, intrinsic sources of personal relevance are relatively stable and enduring structures of personally relevant knowledge derived from past experiences and stored in the long-term memory (Celsi & Olson, 1988). Consumers tend to perceive the shopping and consumption activities associated with products as personally relevant. Thus, they are likely to experience relatively high levels of enduring involvement with these products across many situations, such as electronics (Zaichkowsky, 1985). However, consumers may perceive low-enduring involvement toward frequently purchased household goods, such as detergents.

Product involvement, which refers to a general level of interest in or concern about a product class (Hupfer & Gardner, 1971), should be distinguished from product *evaluation*, which refers to a positive or negative reaction to a specific product. Involvement with products is expected to lead one to search for more information and spend more time searching for the right selection (Celsi & Olson, 1988; Greenwald & Leavitt, 1984). Thus, product involvement is likely to affect the satisfaction-loyalty relations by increasing or decreasing the direct and indirect effects on repurchase intentions of advertising, corporate image, and satisfaction.

The Satisfaction-Loyalty Relation

Consumer satisfaction may be seen to represent the influence of past experience, because it is an overall evaluation of personal consumption experience. Prior research has suggested that customer satisfaction influences loyalty. The direct effect of consumer satisfaction on loyalty is consistent with the existing literature on attitude-behavior consistency. Evaluations based on direct experience are strong predictors of behavior (Fazio & Zanna, 1978, 1981). Because satisfaction is based on direct past experience, it is likely to be accessible and to affect behavioral intentions independent of other considerations.

Several studies have also found that past behavior has direct effects on intentions that are not mediated by attitude (e.g., Bagozzi, 1981; Bagozzi, Baumgartner, & Yi, 1992). Bagozzi et al. (1992) provided empirical evidence that "past behavior serves as one type of informational input to the decision to act … " (p. 509). As customer satisfaction captures a qualitative nature of past behavior as an evaluative summary of consumption experience, it is likely to have a direct impact on intentions. However, little empirical evidence has shown that customer satisfaction actually translates into loyalty (Jones & Sasser, 1995). Oliver (1997) argued that even a loyal consumer is vulnerable to situational factors (e.g., competitors' coupons or price cuts), and so satisfaction is not likely to be the sole (reliable) predictor of loyalty (Reichheld, 1996).

The translation of average satisfaction ratings into repurchase behavior can depend on consumers' demographic

characteristics, such as age or education (Mittal & Kamakura, 2001). Mittal, Kumar, and Tsiros (1999) argued that product and service satisfaction jointly determine repurchase intentions. Other variables can also mediate the customer satisfaction-loyalty link. For example, brand attitudes, which are likely to be a consequence of customer satisfaction (Oliver, 1980; Yi, 1990), may in turn be a determinant of repurchase behavior (Ajzen & Fishbein, 1980).

Advertising and Corporate Image as Antecedents of Brand Attitudes

Firms often attempt to establish favorable, unique, and strong associations with a product through messages to consumers (Keller, 2003). Consumers' affective and cognitive reactions to these messages presumably determine the relation between ad evaluations and brand evaluations. Brand beliefs (MacKenzie, Lutz, & Belch, 1986) and feelings (Olney, Holbrook, & Batra, 1991; Park, Jaworski, & MacInnis, 1986) are formed through advertising. These beliefs affect attitudes toward ads and consequently attitudes toward the brands being advertised. Mackenzie et al. compared four theoretical models of advertising and showed that attitudes toward ads have direct effects on brand attitudes and subsequently on purchase intentions.

Brand attitudes can be influenced in part by the corporate image of the advertiser. Corporate image is defined as evaluations, feelings, and attitudes toward a company (Barich & Kotler, 1991; Dowling, 1986) or the associations and meaning a person has about a firm (Keller, 2003). Corporate image can affect advertisers' reputation and corporate credibility (Keller & Aaker, 1992), leading to beliefs about advertisers that consequently influence brand beliefs and attitudes (Biehal & Shenin, 1998; Mackenzie et al., 1986).

Indirect Effects

Past experience, ads, and corporate image are determinants of brand attitude, which in turn influences brand loyalty (repurchase intentions). According to the theory of reasoned action, brand attitudes are a function of beliefs that a brand has desirable or undesirable attributes and evaluations of these attributes (Ajzen & Fishbein, 1980). Past experience, ads, and corporate image are likely to influence these beliefs or evaluations (or both) and, subsequently, brand attitude. In addition to the direct effects of customer satisfaction on loyalty, our model posits that brand attitude mediates the effects on loyalty of customer satisfaction, attitude toward ads, and corporate image; that is, the three variables have indirect effects on loyalty via brand attitude.

The possibilities raised in the preceding sections are summarized in Figure 1. That is, attitudes toward ads and corporate image have indirect effects on loyalty through their effects on brand attitude, whereas consumer satisfaction has a direct as well as an indirect impact on loyalty.
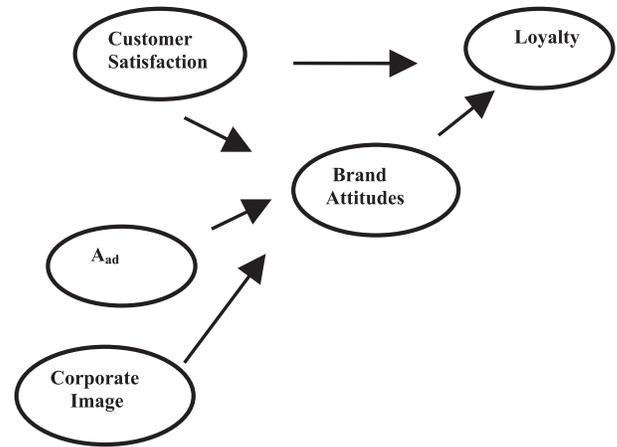

FIGURE 1   Theoretical influences of customer satisfaction, attitudes toward the ad, and corporate image on brand attitudes and loyalty.

The Moderating Role of Involvement

To explain the relations among focal constructs, we draw on research on both attitude stability and knowledge accessibility. Attitude stability refers to the extent to which attitude persists over time and resists counter-persuasive argument. Attitude stability is a function of the amount of prior information about an object (Anderson, 1981; Davidson, Steven, Norwood, & Montono, 1985; Haugvedt, Davis, Schumann, Schneier, & Warreb, 1994; Hogarth & Einhorn, 1992; Wood, 1982). Consumers are less likely to change their attitudes toward a brand after a recent transaction if they have previously acquired a large amount of attitude-relevant information about it.

Accessibility refers to the activation of available knowledge (Ahluwalia & Gurhan-Canli, 2000; Anderson, 1981; Higgins, 1996). Strongly held attitudes are more chronically accessible than weakly held attitudes (Priester et al., 2004) and are more likely to guide subsequent thoughts (Houston & Fazio, 1989) and behavior (Fazio, Powell, & Williams, 1989). As involvement with the product increases, consumers are likely to search information about the products more intensively. For example, they may compare advertisements and attend to changes in corporate image. Or they may select the best alternative by experimenting with different brands (Coulter, Price, & Feick, 2003). The attitudes toward ads and corporate images that are formed when involvement is high may become stable constructs that are chronically accessible in memory. Consequently, they may often be used as a basis for brand attitudes under these conditions.

Customer satisfaction as a malleable construct. Customer satisfaction is considered a malleable construct that is consumption (or transaction) specific (Boulding, Kalra, Staelin, & Zeithaml, 1993; Oliver, 1980; Yi, 1990). Customer satisfaction is easily and significantly updated as each new consumption experience occurs (Oliver, 1999). In this updating, however, recent experiences are likely to have a disproportionately great effect (Boulding, Kalra, & Staelin,

1999; Oliver, 1999; Yi, 1990). This dynamically updated satisfaction can be spontaneously elicited by subsequent exposure to the brand and can serve as informational input for judgment, influencing brand attitudes, and loyalty. For example, satisfaction that is significantly affected by last weekend's frustration with a 2-hr delayed flight might be elicited by exposure to "United," the (longtime favorite) brand name, negatively influencing attitudes toward the brand and repurchase intentions.

Taken together, satisfaction may be a spontaneous evaluative response to a product that is largely based on past experiences with the product, but is rather unstable, being consistently updated by more recent experiences. In contrast, brand attitudes largely result from a more deliberative evaluative summary of product-related information from attitudes toward the ad and corporate image as well as transient customer satisfaction.

Diagnosticity for judgment.   According to Chaiken, Liberman, and Eagly (1989), people who are confronted with a judgment or decision engage in goal-directed processing until their confidence in its validity reaches a certain threshold value. Once this threshold is reached, they make their judgment or decision without further ado. In making a judgment, for example, consumers first consider the criterion that comes to mind most quickly and easily and decide if their confidence in its implications is sufficient. If it is, they make their judgment without additional consideration. If their confidence is below threshold, however, they identify an additional basis for judgment and take its implications into account as well, continuing until the necessary level of certainty is reached. The certainty that is required presumably increases with involvement or personal relevance (Eagly & Chaiken, 1993). Thus, if satisfaction comes to mind first and quickly, it may be considered a sufficient basis for judgment under low-involvement conditions. In high-involvement conditions, however, where greater certainty is acquired, brand attitudes may play a greater role in judgment.

In summary, we expect that when involvement is low, purchase decisions are primarily influenced by the satisfaction with the product, which is spontaneously activated at the time the brand is presented. However, when involvement is high and people are motivated to devote more time and effort to the decision they make, the effects of brand attitudes, and the factors that strongly influence them under high involvement (i.e., corporate image, attitudes toward the ad) are likely to be more evident.

METHOD

Pretest

To select the product categories to be used in our study, we ran a pretest on product involvement with cosmetics and household goods. Cosmetics and household goods were aggregated from several categories (e.g., essence and lipstick, etc. vs. detergent and soap). A total of 100 participants in the general population (ages 19–55) were asked to rate the products in each category in terms of importance, value, interestingness, want, necessity, relatedness, and meaningfulness using the scale of involvement constructed by Zaichkowsky (1985). Product involvement was higher for cosmetics than for household goods (5.24 vs. 4.57), $t(99) = 4.75$, $p < .01$. These categories were selected to represent high- and low-involvement products in the main study.

Participants

The data were collected in a commercial satisfaction survey conducted in Korea by a large marketing research firm for a large Korean household goods and cosmetics company. Participants were drawn from two communities in South Korea: a big city in a metropolitan area and a small city in a suburban area. Respondents (i.e., 4,592 consumers) were randomly selected and contacted through telephone interviews by recruiters from a professional market research organization. They were identified as eligible for participation if (a) they had purchased the brand during the past 3 months, (b) they had used the brand during the past 3 months, and (c) the product (in use) or its empty container still remained in the household to confirm whether respondents had actually purchased and used the brand. The trained interviewers visited each household, confirmed that the products purchased were in the residence, and then they asked the respondents to fill out the questionnaire. Respondents were given a gift composed of products worth about $50 for completing the interview.

A total of 2,056 respondents completed questionnaires concerning cosmetics, and 2,058 completed questionnaires pertaining to household goods. The average respondent was 35 years of age, had a household income of about $20,000, and had about 17 years of education. After eliminating participants who did not complete some of the questions or completed forms that contained errors, the final sample was reduced to 926 participants who completed forms concerning cosmetics and 1,014 who completed forms concerning household goods.

Interview

The participants were told that the purpose of the study was to investigate customers' satisfaction with frequently purchased products. Interviewers asked the participants to answer questions only about the brands they had used. Interviewers showed photographs of the products (e.g., Lancome's "Lady Lipstick") and asked questions. The cosmetics included 24 brands in four product categories (lotion, essence, twincake, lipstick) from two companies. The household goods included 19 brands in five product categories (soaps, dish detergents, laundry detergents, toothpastes, and shampoos) from six companies.

Respondents were not allowed to answer questions about more than two products, but only one brand per product cate-

gory. Nor were they allowed to answer questions about more than one brand made by the same company. After filling out items about demographics, respondents were asked questions about customer satisfaction, followed by attitudes toward brands. Questions about company image and attitudes toward ads were next. Finally, respondents reported (brand) loyalty, such as repurchase intentions and advocacy. After completing the interview, the respondents were thanked for participation and given a gift set.

Multiple items were used to enhance the reliability of the measures. To assess customer satisfaction, participants evaluated the product with respect to six attributes: immediate outcome, (consumption) process, delayed outcome, perceived price, and two design-related attributes: shape and color. Judgments were reported along a 5-point scale ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*).

Attitude toward brands (A_{brand}) was measured on two 5-point scales ranging from 1 (*unfavorable*) to 5 (*favorable*) and 1 (*dislike*) to 5 (*like*; Mitchell, 1986). Attitude toward ads (A_{ad}) was measured on the three 5-point scales ranging from 1 (*unfavorable–unappealing–unpersuasive*) to 5 (*favorable–appealing–persuasive*; Mitchell, 1986). Corporate image was measured along three 5-point scales ranging from 1 (*not at all*) to 5 (*very*) pertaining to expertise, credibility, and creativity (Gurhan-Canli & Batra, 2004; Keller, 2003). Finally, to assess brand loyalty, participants reported by the likelihood of repurchasing the item, and the likelihood of recommending to others on 5-point scales ranging from 1 (*not at all likely*) to 5 (*very likely*) (Zeithaml, Berry, & Parasuraman, 1996).

RESULTS

The construct validity and reliability of the constructs were evaluated with the use of confirmatory factor analysis. Then, the structural relations among customer satisfaction, loyalty, and brand attitudes were assessed. To compare the path coefficients in the high- and low-involvement groups, a multiple-group analysis was used (Jöreskog & Sörbom, 1996). With constraints across groups, the data from the groups were analyzed simultaneously to obtain fully efficient estimates of the parameters (Jöreskog & Sörbom, 1996, pp. 271–281). These analyses were conducted with the use of maximum-likelihood estimation.

The multiple-group analysis we performed involved the construction of two separate covariance matrices for the high- and low-involvement groups (Jöreskog & Sörbom, 1996). This analysis is particularly useful when some or all parameters are constrained to be equal across groups. When there are no constraints across groups, each group can be analyzed separately. When there are constraints across groups, however, the data from all groups must be analyzed simultaneously to get fully efficient estimates of the parameters (Jöreskog & Sörbom, 1996, p. 277). Multigroup analyses allow researchers to perform invariance tests by adding equality constraints across groups. In general, any degree of invariance can be tested, from the one extreme where all parameters are assumed to be invariant over groups to the other extreme when there are no constraints across groups.

A multisample analysis gives only one chi-square goodness-of-fit measure, which is a measure of the fit of all models in all groups to the data from all groups. When no equality constraints across groups are imposed, the overall chi-square value is the sum of the chi-square values that would be obtained if the groups were analyzed separately.

The correlations between the constructs are given in Table 1.

Measurement Model

Validity. We have postulated that customer satisfaction, brand attitudes, attitudes toward ads, corporate image, and brand loyalty are distinct constructs. To show conceptual differences between these key constructs, measurement validity was assessed through confirmatory factor analysis (Bagozzi, Yi, & Phillips, 1991). The results of a confirmatory factor analysis reveal that the measures achieved convergent validity. All the factor loadings of observed variables for each latent variable were statistically significant at the .05 level. The GFI, CFI, IFI, NNFI, RMR, SRMR, RMSEA, and chi-square were 0.940, 0.925, 0.902, 0.904, 0.035, 0.048, 0.064, and 933.570. The results also show that each factor was a unidimensional construct.

To test for discriminant validity, we ran a series of nested comparisons. Chi-square difference tests were conducted to test whether each of the factor correlation was significantly different from unity. The baseline model was constructed with freely correlated factors, whereas a particular factor correlation was fixed to unity in the restricted model. The difference in the chi-square value between the baseline model and

TABLE 1
Correlations of Endogenous Variables

Correlations	Satisfaction	A_{brand}	Corporate Image	A_{ad}	Loyalty
Satisfaction	—	.743	.472	.257	.645
A_{brand}	.572	—	.467	.239	.461
Corporate image	.483	.789	—	.233	.262
A_{ad}	.358	.352	.297	—	.160
Loyalty	.598	.602	.463	.226	—

Note. Upper diagonal: Correlations for the low involvement product. Lower diagonal: Correlations for the high involvement product.

the restricted model permits the test of discriminant validity. For example, the chi-square difference score regarding the correlation between customer satisfaction and A_{brand} was 486.000 ($p < .001$). All of the chi-square differences were significant, suggesting that all the latent constructs were mutually distinctive constructs; discriminant validity was thus achieved (Bagozzi et al., 1991; Gerbing & Anderson, 1988).

Reliability.   We used the reliability scores suggested by Fornell and Larcker (1981). The reliability of customer satisfaction was .94 for cosmetics and .93 for household goods. The scores for A_{brand} and A_{ad} measures were .79 and .85, respectively, for cosmetics and .83, and .93, respectively, for household goods. The scores for corporate image were .85 for cosmetics and .88 for household goods. Finally, the scores for brand loyalty were .92 for cosmetics and .91 for household goods, indicating an acceptable level of internal consistency (Bagozzi & Yi, 1988).

In summary, the measures of the proposed constructs achieve high reliability as well as convergent and discriminant validity.

Test for metric invariance.   The purpose of this study is to show how the satisfaction-loyalty relations differ according to product involvement. To compare parameters across groups, the variables must be measured in a common metric for all groups. The measurement invariance test assesses whether a measurement model is equivalent across groups. Metric invariance (invariance of factor loadings) is evidence of measuring the same constructs in multiple groups; that is, members in different groups interpret and respond to measures in an equivalent manner (Steenkamp & Baumgartner, 1998; Yoo, 2002).

With covariance matrices of both the high- and low-involvement groups as input, we assessed measurement invariance (Byrne, 1998; Childers, Carr, & Carson, 2001): (a) the invariance of the factor pattern, (b) the equality of factor loadings, and (c) the equality of the disturbance variances and covariances. According to Childers et al. (2001), the third stage is too restrictive because (as disturbances) these parameters are expected to vary (Byrne, 1998). Thus, we conducted only the tests of the equality of factor pattern and factor loadings.

When testing for invariance of factor pattern, the stacked model estimated without cross-samples constraints yields, $\chi^2(191) = 1441$, $p < .05$ (CFI = .911, RMSEA = .058). The three other indexes are above the commonly recommended .90 level (GFI = .93, NNFI = .906, IFI = .905), indicating a reasonably good fit for the stacked model. Therefore, we conclude that the factor pattern of the model is invariant across the cosmetics and household goods groups.

When testing the equality of factor loadings, we imposed equality constraints on the factor loadings across the two groups, with fixed and free parameters remaining consistent with that specified in the baseline model for each group. As

TABLE 2
Test for Metric Invariance

Models	χ^2	df	RMSEA	CFI
Nonrestricted model	1441.23	191	.058	.911
Full metric invariance[a]	1492.35	202	.057	.908
Partial metric invariance[b]	1450.47	197	.057	.910

[a]The full metric variance model is not supported. $\Delta\chi^2(11) = 51.12$, $p < .01$. [b]The partial metric invariance model is supported. $\Delta\chi^2(6) = 9.24$, $p > .10$ (with five items of the 11 constraints relaxed).

shown Table 2, the full metric invariance model was not supported, as the chi-square difference between the nonrestricted model and the full metric invariance model was significant, $\chi^2(11) = 51.12$, $p < .01$. Following the recommended procedures of Byrne (1998), the invariance constraints were relaxed step by step on the basis of modification indexes and expected parameter changes. Finally, a partial metric invariance model with five invariance constraints relaxed was supported. The chi-square difference between the nonrestricted model and the partial metric invariance model was insignificant, $\chi^2(6) = 9.24$, $p > .10$. The invariant items were measures of immediate outcome (X1), delayed outcome (X3), shape (X4), and color (X5) for customer satisfaction; persuasiveness (X7) and appealingness (X8) for A_{ad}; expertise (X10) and credibility (X11) for corporate image; favorability (Y1) for A_{brand}; and likelihood of repurchasing (Y3) and likelihood of recommending (Y4) for loyalty. Process (X2), design (X6), favorability (X9), creativity (X12), and liking (Y2) were allowed to vary freely across groups.

This partial invariance model was used in subsequent analyses.

Structural Model

As shown in Table 3, we simultaneously estimate the high-versus low-involvement cases with partial invariance models suggested previously. The measures of goodness of fit for the entire model were satisfactory (GFI = .934, AGFI = .912, CFI = .906, IFI = .910, NNFI = .901, RMSEA = .058, RMR = .047, and SRMR = .051). For example, GFI, CFI, and NNFI were higher than the standards recommended by Baumgartner and Homburg (1996), indicating close fit to the data.

Figures 2 and 3 show the results of the structural model for both household goods and cosmetics. Unstandardized coefficients were reported.[1] All the coefficients were significant (p

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[1]If a researcher's aim is to compare regression coefficients across two or more groups, unstandardized coefficients should be utilized for interpretation and substantive inferences (Alwin, 1988; Bollen, 1989; Jöreskog & Sörbom, 1996; Kim & Ferree, 1981; Singh, 1995). Standardized coefficients depend both on the size of the effect of satisfaction or brand attitudes on loyalty and on the degree of variability in the variables across samples. Comparisons of coefficients across groups should not depend on what the variances of the variables happen to be in a given sample. Although the differences in the unstandardized estimates provided the most appropriate test in Table 3, the differences in the standardized estimates also yielded similar conclusions.

TABLE 3
Path Coefficients for Cosmetics and Household Goods and Chi-Square Differences

Path	Cosmetics (High Involvement)	Household Goods (Low Involvement)	Chi-Square Differences[a]
Satisfaction → loyalty	0.390 (6.257)[b]	.697 (9.037)	10.451 (p = .001)
Satisfaction → brand attitudes	0.396 (6.110)	.561 (6.339)	3.092 (p = .069)
A_{ad} → brand attitudes	0.148 (4.478)	.087 (3.640)	10.141 (p = .001)
Corporate image → brand attitudes	1.147 (11.054)	.367 (7.236)	70.399 (p < .001)
Brand attitudes → loyalty	0.406 (9.354)	.274 (6.436)	3.937 (p = .047)

[a]The difference in parameter between the two groups is inferred from the difference in model fit when comparing a model with the parameters constrained to be equal versus a model in which they are allowed to differ. [b]t values associated with each coefficient are indicated in parentheses.

< .05). Customer satisfaction had a direct effect on brand loyalty and a direct effect on brand attitudes. Also, brand attitudes were affected by attitudes toward ads and corporate image. Customer satisfaction had an indirect effect on brand loyalty through brand attitudes.

We predicted that the effects of satisfaction on brand attitudes and loyalty would be less when involvement was high than when it was low, whereas the effect of brand attitudes on loyalty would be greater in the former condition. Data bearing on these possibilities are shown in Table 3, which compares the path coefficients at each level of product involvement. As expected, the paths from consumer satisfaction to loyalty and brand attitudes were higher in analyses of judgments pertaining to household goods than in analyses of judgments pertaining to cosmetics. In contrast, the effects of corporate image and attitudes toward the ad on brand attitudes, and the effect of brand attitudes on loyalty, were less in the former case than in the latter.

To evaluate these differences statistically, we conducted chi-square difference tests between the two involvement conditions. First, we compared the full model with the restricted model in which the path coefficient from customer satisfaction to loyalty was equal across the involvement cases. Second, we compared the full model with the second restricted model in which the path from customer satisfaction to brand attitudes was equal across the involvement cases. We tested the models with chi-square tests with one degree of freedom. According to the results of the chi-square difference tests from the multiple-sample analysis in Table 3, the null models with the restrictions of equal coefficients were rejected, χ^2 = 10.451, p = .001, and, χ^2 = 3.092, p < .069. The results reconfirmed our expectation.

Next, we compared the full model with the restricted models including the equality constraints for three paths: A_{ad} to A_{brand}, CI to A_{brand}, and A_{brand} to loyalty. According to the results, the restrictions of equal coefficients were rejected, χ^2
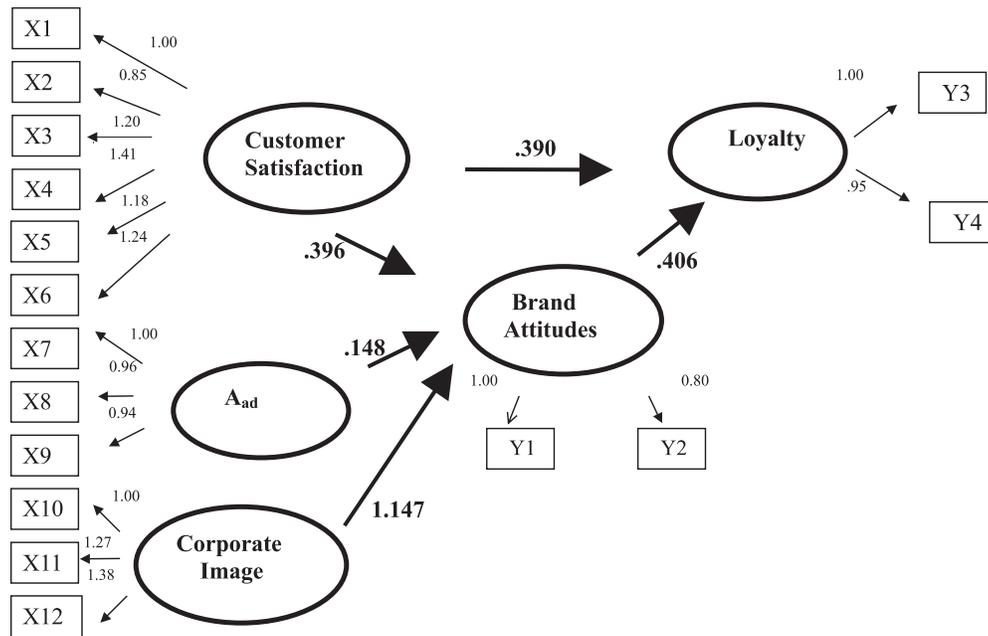

FIGURE 2   Relations among customer satisfaction, attitudes toward the ad (A_{ad}), corporate image, brand attitudes, and loyalty—High-involvement product (cosmetics). X1 = immediate outcome, X2 = process, X3 = delayed outcome, X4 = shape, X5 = color, X6 = perceived price, X7 = persuasiveness, X8 = appealingness, X9 = favorability, X10 = expertise, X11 = credibility, X12 = creativity, Y1 = favorability, Y2 = liking, Y3 = likelihood of repurchasing, and Y4 = likelihood of recommending.
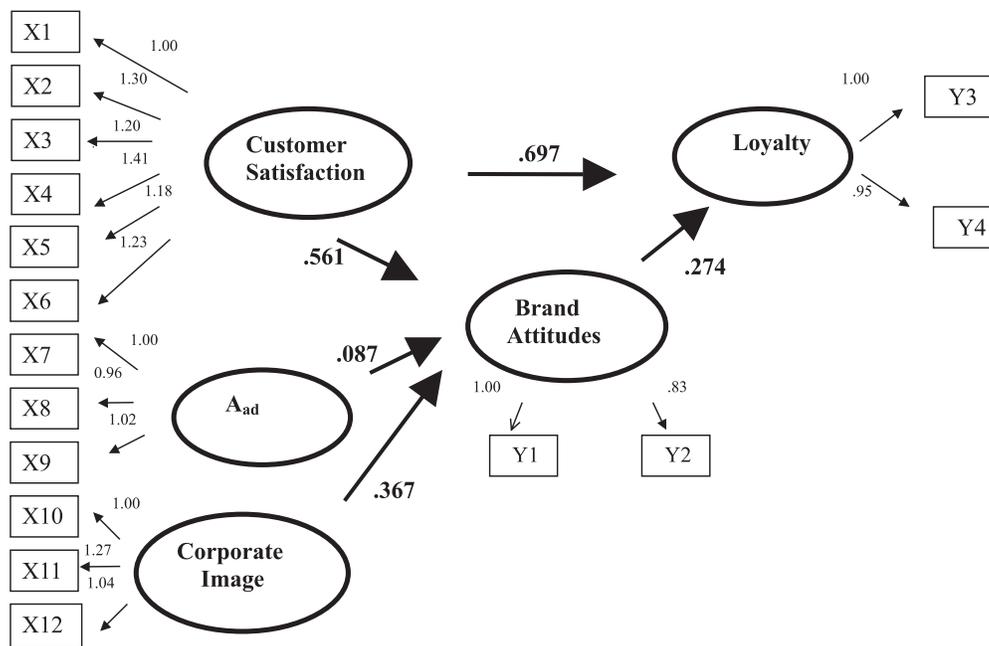
FIGURE 3 Relations among customer satisfaction, attitudes toward the ad (A_{ad}), corporate image, brand attitudes, and loyalty—Low-involvement product (household goods). X1 = immediate outcome, X2 = process, X3 = delayed outcome, X4 = shape, X5 = color, X6 = perceived price, X7 = persuasiveness, X8 = appealingness, X9 = favorability, X10 = expertise, X11 = credibility, X12 = creativity, Y1 = favorability, Y2 = liking, Y3 = likelihood of repurchasing, and Y4 = likelihood of recommending.

= 10.141, $p < .01$; $\chi^2 = 70.399$, $p < .001$; and, finally, $\chi^2 = 3.937$, $p = .047$. The results reconfirmed our prediction.

Alternative Hypotheses

We assumed that cosmetics are typical of high-involvement products and that household goods were representative of low-involvement products. However, other interpretations of the difference between the two product categories are possible. For example, cosmetics are typically based on hedonic criteria, whereas household goods are normally evaluated on the basis of utilitarian considerations. The different effects of satisfaction and brand attitudes on loyalty toward goods in these categories might be attributable to this difference and not to product involvement per se.

To evaluate this possibility, we conducted additional pretesting to identify products within each category that varied systematically with respect to hedonic criteria (whether they were fun, pleasant, and felt good) and utilitarian criteria (useful, practical, and functional). Ratings of the products with respect to these characteristics permitted us to identify two cosmetic products, lipstick and lotion, that differed significantly along hedonic dimensions (5.84 vs. 5.47; $t = 2.27$, $p < .05$, $df = 99$, respectively) and utilitarian dimensions (5.49 vs. 5.97; $t = 2.11$, $p < .05$, $df = 99$, respectively); and two household items, facial soap and dish detergent, that also differed significantly along hedonic dimensions (4.21 vs. 3.57; $t = 4.63$, $p < .01$, $df = 99$, respectively) and utilitarian dimensions (4.49 vs. 4.89; $t = 2.27$, $p < .05$, $df = 99$, respectively).

Multiple-sample analyses of judgments of the two products at each level of involvement indicate that the fit of the model was satisfactory in each case.[2] However, chi-square analyses of the difference in path coefficients of the hedonic and utilitarian products were not significant in any case, as shown in Table 4. Thus, these data suggest that differences in the hedonic versus utilitarian character of the products we considered at different levels of involvement do not provide an alternative explanation of the effects of this variable.

Additional Analysis

Schwarz and Clore (1983) reported that judgments are influenced by affect at the time of judgment. Petty, Schumann,

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[2]The CFI, IFI, NNFI, RMSEA, RMR and chi-square for household goods are 0.925, 0.926, 0.911, 0.047, 0.076, and 291.332. Those for cosmetics are 0.901, 0.902, 0.870, 0.079, 0.088, and 307.331. These CFI, IFI, and RMR numbers again exceed the standards recommended by Baumgartner and Homberg (1996). RMSEAs are above the standard of .05 recommended by Browne and Cudeck (1993) but within the sampling error of the standard suggested by Byrne (1998).

We conducted the validity and reliability tests (e.g., for low-involvement products: GFI = .901, CFI = .910, RMR = .046, and RMSEA = .050). Fornell and Larcker's (1981) reliability indexes for the focal constructs were higher than 0.7. Then we performed the test of measurement invariance tests. The invariant items were measures of immediate outcome (X1), delayed outcome (X3), shape (X4), and color (X5) for customer satisfaction; persuasiveness (X7) and appealingness (X8) for A_{ad}; expertise (X10) and credibility (X11) for corporate image; favorability (Y1) for A_{brand}; and likelihood of repurchasing (Y3) and likelihood of recommending (Y4) for loyalty ($\chi^2 = 339.562$).

TABLE 4
Path Coefficients and Chi-Square Differences Tests (Ruling Out the Alternative Hypothesis)

Path	Household Goods (Low Involvement)			Cosmetics (High Involvement)		
	Facial Soaps (Hedonic)	Dish Detergent (Utilitarian)	Chi-Square Differences[a]	Lipstick (Hedonic)	Lotion (Utilitarian)	Chi-Square Differences[a]
Satisfaction → loyalty	.496**	.767**	1.465 ($p = .226$)	0.262*	0.309*	0.065 ($p = .798$)
Satisfaction → brand attitudes	.584**	.567**	0.007 ($p = .932$)	0.327*	0.405*	1.90 ($p = .663$)
A_{ad} → brand attitudes	.206*	.114*	0.537 ($p = .455$)	0.333*	0.132*	2.505 ($p = .113$)
Corporate image → brand attitudes image	.556**	.532*	0.013 ($p = .908$)	1.276**	1.050**	0.388 ($p = .533$)
Brand attitudes → loyalty	.430**	.318*	0.347 ($p = .556$)	0.400*	0.597**	1.220 ($p = .269$)

[a]The difference in parameter between the two groups is inferred from the difference in model fit when comparing a model with the parameters constrained to be equal versus a model in which they are allowed to differ.

*$p < .05$. **$p < .01$.

Richman, and Strathman (1993, pp. 13–16) showed that affect has a direct effect on judgments among participants under low involvement but an effect that is mediated by cognitive elaboration among participants under high involvement. To this extent, A_{ad} and corporate image could have direct effects on repurchase intentions under low involvement. We tested this possibility, although it was not hypothesized in our model. An analysis of an alternative model allowing for such direct paths showed that both paths were nonsignificant: For A_{ad} ($\beta_H = 0.005$, $t < 1$; $\beta_L = 0.002$, $t < 1$) and for corporate image ($\beta_H = 0.0075$, $t < 1$; $\beta_L = 0.045$, $t < 1$). These findings suggest that brand attitudes fully mediate the effects of ad attitude and corporate image on loyalty, providing support for the basic formulation of our model.

DISCUSSION

We specified and empirically tested the moderating role of product involvement in determining the customer satisfaction-loyalty relation. We showed the differences in the magnitudes of the path coefficients across different levels of product involvement. Customer satisfaction had greater effect on brand loyalty and brand attitudes when product involvement was low. In contrast, corporate image and attitudes toward the ad had more effect on brand attitudes, and attitudes had more effect on loyalty, when product involvement was high.

Household products are typically functional and have no social significance. Moreover, their effectiveness is readily apparent from using them. To this extent, consumers are more likely to weight their past experience fairly heavily in deciding whether to purchase them. Cosmetics, on the other hand, are purchased for social reasons (personal appearance), and their effectiveness is less easily determined. In this case, participants may rely more heavily on external indicators of its social prestige value and so forth (e.g., brand image, ad content, etc.). Then our results could be open to this hedonic and utilitarian alternative explanation. To rule out this hedonic-utilitarian explanation, we performed an

additional analysis. The results showed no support for this explanation.

It might be useful to compare this study with Maheswaran et al. (1992). We showed the effects of brand attitudes on the relation between customer satisfaction and brand loyalty under enduring involvement in which consumers continuously search for information relevant to the evaluations of the brands. In contrast to participants in Maheswaran et al.'s study, in which both the level of brand favorability and the level of situational involvement were experimentally manipulated, participants at a high-involvement level in our study had more stable attitudes toward brands. On the other hand, under low-enduring involvement, participants in our study were found to rely relatively more on direct evidence.

Our conclusions require some caution in light of the fact that we selected only one category of products at each level of involvement. We employed several different products within each category (three types of cosmetics and five types of household goods), and so some degree of generalizability was established. Nevertheless, future studies should include durable goods such as electronics and automobiles to compare the effects of the variables concerned between consumer goods and durable goods.

Our model is parsimonious and rigorous in that it covers important causal relations among focal constructs in a unified framework. However, depending on product categories, other relations might be important. For example, corporate image might directly affect attitudes toward ads. Future research on a specific product category should take into consideration category-specific relations among constructs.

Another consideration in evaluating our results concerns the possible reactiveness of the measures we employed. People who respond to one measure in a questionnaire may attempt to respond to later items in a manner they believe to be consistent. This could create stronger relations among variables than might otherwise exist. Note, however, that the effects of such a consistency bias would be evident regardless of the product domain involved. Consequently, the bias seems unlikely to account for the different patterns of results we obtained at different levels of product involvement.

We reported and interpreted unstandardized parameter estimates, along with model comparison via chi-square differences. When comparing models, however, the difference between parameters from two groups is inferred from the difference in model fit when comparing a model with the values constrained to be equal versus a model in which they are allowed to differ. The chi-square difference test can examine whether the hypothesized difference is plausible. As we do not test the relations of constructs directly, however, we should be cautious about the conclusions drawn from the model test results.

Studies of the satisfaction-loyalty relations usually employ cross-sectional data and suggest that satisfaction causes loyalty or repurchase intentions (Dick & Basu, 1994; Oliver, 1999). Our questionnaire includes repurchase intentions as loyalty measures. Repurchase intentions measure the propensity or intention to rebuy at time t (t as the current time). If the current measures of intentions had been supplemented with the measures obtained immediately after the questionnaire (2–3 days later) and after actual behavior (1 month later), we would have measured a more stable attitude toward the behavior of buying the product.

We investigated how customer satisfaction and brand attitudes combine to influence brand loyalty and what processes underlie this influence. We showed that there exists an indirect route from customer satisfaction to brand loyalty through brand attitudes, along with a direct link from customer satisfaction to brand loyalty. This study used survey data pertaining to actual users of consumer products. According to our findings, firms should focus on corporate and brand advertising to increase repurchase rates and subsequently gain market share in high product involvement cases. On the other hand, in low product involvement cases firms should concentrate on improving product quality because product attributes and their related satisfactions determine repurchase rates.

ACKNOWLEDGMENTS

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