Chapter Two

MEASUREMENT & VALIDATION OF INVOLVEMENT CONSTRUCT

2.1 Introduction

Summaries of prior research work in the area of consumer involvement tend to suggest that placing the construct within a particular domain (e.g.; involvement with advertisement, product involvement, purchase decision involvement) and noting the number and types of personal connections between individuals and object (Andrews, Durvasula, & Akhter, 1990; Krugman,1965: Zaichkowsky, 1985: Mittal, 1995) seem most appropriate. In an important conceptual presentation, Rothschild (1984) identified several problems relevant to research in the area of consumer involvement, including that involvement research has been characterized by too much theorizing and too little empirical investigation by researchers.

In view of this, the primary intention of this empirical study is to measure the psychological construct 'consumer involvement' with product identifying different antecedents of involvement. The objective of the study is two fold :

(a) To develop a valid and reliable scale to measure involvement profiles of consumers which can be applied to a cross section of products, and

(b) to examine how involvement profiles of consumers very across different social classes.

For this purpose, a discussion on various aspect relating to defining and measuring the construct will be presented first and psychometric performance of the scale will be taken up later in this chapter.

2.2 Construct definition and Operationalisation

An important advancement in recent literature on consumer involvement is the systematic development of measurement scales to operationalise this construct. At the outset, it is considered imperative to develop a clear concept of the construct involvement and explore different ways to measure it.

In marketing, one has often equated involvement with perceived product importance (Traylor, 1981; Mittal, 1995). Sherif and Cantril (1947) spoke only of 'ego involvement' meaning that there is involvement when there is identification of oneself with a decision or brand choice. Many researchers believe that involvement is nothing

but perceived risk associated with a purchase decision - a concept first developed and introduced in marketing during the 1960's by Bauer (1967). According to this approach, there is involvement either when the negative consequence of a mispurchase is high or possibility of making such a mispurchase is high. However, Chaffee and Mclead (1973), are of the opinion that risk appears to be a sufficient condition for involvement, it is problematic whether it is a necessary one.

The lack of agreement on what constitutes involvement is also evident from the various methods followed by researchers to operationalise the construct. In the following paragraphs we present a brief discussion of various involvement scales developed by researchers to measure involvement general to several products. The product involvement scales mentioned below are reproduced in Appendix - I.

Lastovicka and Gardner (1979) view involvement as having two major dimensions : normative importance and commitment. Normative importance means how connected or engaged a product class is to an individual's values. Commitment, on the other hand, refers to the binding or pledging of an individual to his/her brand choice. The general scale proposed by Traylor and Joseph(1984), on the other hand, is a six item scale composed of seven point Likert statements. An overall involvement score can be obtained by summing the scores on six items and hence the scale is considered to be unidimensional.

The most frequently cited in the literature is Zaichkowsky's (1985) Personal Involvement Inventory (PII). Zaichkowsky defines involvement as a person's perceived relevance of the object based on inherent needs, values and interest. The PII is composed of twenty semantic differential pairs and the scale is considered to be unidimensional. Laurent and Kapferer(1985a; 1985b), in contrast, view involvement as a multifaceted construct having distinct antecedents. These antecedents are: perceived importance and risk of the product class, subjective probability of making a wrong choice, the pleasure and sign value associated with a product.

Higie and Feick (1988), similarly, perceive involvement comprising of two distinct facets: a hedonic and a self-expression factor each composed of five semantic differential pairs. The measurement scales discussed above appear to be straightforward but one can discern great variation in the conceptualization of the term involvement. We feel that since there are so many kinds of involvement, it would be wise to measure an involvement profile considering some important dimensions from which involvement originates. For this, it is imperative to identify some facets before one really measures involvement

2.3 Identification of Presumed Facets:

In the previous section we have reported various scales of involvement general to several product. The theoretical discussion as well as empirical data corroborates the necessity of thinking in terms of different types of involvement. In our present study we prefer to use a scale which is very similar to the measures developed by Laurent & Kapferer (1985b). The reasons behind the selection can be traced in the following discussion.

Our review of literature presented in chapter one and involvement scales mentioned above suggest that there are different types of involvement. If we summarize the studies already made in this area by different researchers we would come across that the state of 'involvement' may stem from different types of antecedents. The word 'involvement' is frequently used with a qualifier (viz. felt involvement, personal involvement etc.) suggesting that the sources of involvement are varied and multidimensional. However, the hypothetical construct involvement can not be measured directly and has to be inferred from the presence or absence and degree of its alleged determinants(Kapferer and Laurent 1985b).

Actually, beyond controversies over definitions of involvement, our review of current research indicates three broad antecedents or facets of involvement. Involvement could stem from one or from a combination of these three antecedents which are: self-expression factor, the pleasure value factor and the risk associated with the purchase of a product or perceived risk factor which in turn has two facets :

- the perceived importance of negative consequences in case of poor choice, and
- the perceived probability of making such a mistake[1].

It should be made clear that the proposed antecedents of involvement considered in our study is, primarily, based on the findings of earlier studies undertaken by Laurent & Kapferer (1985b), Mittal (1995) and Rodgers and Kenneth (1993), Mittal and Lee (1989).

Moreover, the scale developed by Kapferer and Laurent has been tested by other researchers for a variety of products. For example, Jain and Srinivasan (1990) uncovered just four factors; the CIP scale items designed to measure Interest merged with those designed to measure Pleasure to form a single factor. Similar findings have also been noticed for the study conducted by Rodgers and Kenneth (1993). They concluded that CIP subscales for Risk Importance, Risk Probability and Sign can be confidently utilized to measure those antecedents but that Interest and Pleasure may need to be conceptualised as a single factor.

In view of this, to enable a direct assessment of the applicability of the CIP scale to Indian consumers, a separate study was undertaken to replicate the factor structure of the CIP. The post-graduate and undergraduate students enrolled at the University of North Bengal and IIAS, Darjeeling (a Hotel Management Institute) participated in this study. Tale 2.1 and 2.2 summarize the factor structure uncovered for each of four applications of the CIP scale. All significant factor loading are explicitly shown in tables, along with other summery statistics of the factor analysis. As suggested by Laurent and Kapferer (1985), an oblique rotation was used because there is no a priori expectation that the five antecedents are mutually independent.

With one notable exception the factor structure was as expected. The exception entailed a merging of the two constructs namely viz., Interest and Pleasure into a single factor. For example, for shampoo (N=60), the exploratory factor analyses revealed four factor solutions. The risk probability, risk importance and sign items loaded distinctly on

three factors but the CIP scale items designed to measured interest merged with those designed to measure pleasure to form a single factor. However for Wristwatch (N=56) and Jeans (N=65), the factor analytic model extracted five factors as hypothesised by Laurent & Kapferer (1985b). The scale items designed to measure pleasure merged with the interest facet. The second item of the pleasure subscale for Jeans loaded with the fifth factor capturing only 6.7% of the variation in the original variables. For Wristwatch, two items (PROB2, RIMP3) loaded with the fifth factor explaining 7.5% of the variation.

It is still not clear from the findings that such a merging of these two factors would occur across all conceivable products and service categories. In this regard we also included in our study one product (chocolate) which yields pleasure without interest to examine the factor structure of the CIP scale. The exploratory factor analysis extracted five factors though two items of pleasure scale merged with both the factor F1 and F5.

It is clear from this findings that the CIP subscales for Sign, Risk Importance and Risk probability can be applied to measure those constructs but the Interest and Pleasure in most occasions loaded with a single factor while studying Indian consumers.

Table 2.1

Factor Structure Matrix of CIP Scale

	Shampoo (N=60)				Jeans (N=65)				
Items	F1	F2	F3	F4	F1	F2	F3	F4	F5
INT1	0.80					0.81			
INT2	0.76					0.72			
INT3	0.68					0.59			
PLE1	0.74					0.67			
PLE2	0.74					-			-0.81
PLE3	0.75					0.79			
SIGN1				0.84				0.80	
SIGN2				0.87				0.81	
SIGN3				0.83				0.69	
PROB1			0.73				0.69		
PROB2			0.79				0.61		
PROB3			0.75				0.83		
PROB4			0.58				0.78		
RIMP1		0.82			0.78				
RIMP2		0.85			0.88				
RIMP3		0.90			0.90				
%of Variance		28.3	16.0	13.4	8.8	19.8	16.8	13.8	10.1	6.7
Cum variance		28.3	44.3	57.7	66.5	19.8	36.6	50.4	60.5	67.2

Table 2.2

Factor Structure Matrix of CIP Scale

	Chocolate (N=63)					Wristwatch (N=56)				
Items	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5
INT1	0.92					0.75				
INT2	0.91					0.76				
INT3	0.71					0.67				0.43
PLE1	0.58				-0.72	0.77				
PLE2	0.31				-0.78	0.74				
PLE3	0.61				-0.61	0.83				
SIGN1				0.84					0.71	
SIGN2				0.61					0.73	
SIGN3				0.84					0.90	
PROB1			0.87				0.69			
PROB2			0.85				0.45			0.75
PROB3			0.88				0.88			
PROB4			0.76				0.73			
RIMP1					-0.86				0.87	
RIMP2					-0.89				0.86	
RIMP3					-0.90				0.51	0.62
%of variance	27.6	18.4	12.2	10.9	6.5	22.5	14.9	12.9	10.3	7.5
Cum variance	27.6	46.0	58.2	69.1	75.6	22.5	37.4	50.3	60.6	68.1

Note : See Appendix I for scale items

Following suggestions of Mittal(1995) and findings of Rodgers and Kenneth(1993), we did not include both interest and pleasure in our measurement of antecedents of involvement. The simple reason is that, an object is *important/involving* either because it has sign value, and/or pleasure value, and/or option concerning that object entail some kind of risk (Mittal 1995).

We feel that no single indicator of involvement can satisfactorily describe, explain or predict consumer behaviour of a specific target group. Consumers differ not only in level of involvement, but also in type of involvement. Traylor(1981) also pointed out that for any given product class one segment can be highly involved and another not. This necessitates to investigate the pattern of involvement of consumers considering different categories of products.

2.4 Selection of Stimulus Products

In most situations, marketing research projects generally start with exploratory research in order to formulate a research problem in the right perspective. In our present study, a good deal of exploratory work was needed to select the products to be included in the study. While selecting the stimulus products for the study we had to resolve some important issues. Firstly, the individual considered for the interview has to be a buyer and user of the product for which his responses were sought. Secondly, products were deliberately chosen to represent contrasting profiles on various dimensions of involvement viz., risk, pleasure and self-expression factor associated with the product. Thirdly, since our objective is to investigate how these antecedents of involvement vary across social classes, we did not consider products those are essentially meant for a particular social class (for example, Cars and VCRs are necessarily bought by the upper social class consumers).

The final list of products retained for this study was done through a series of qualitative indepth interviews with the consumers of both the groups. The respondents were first informed about the purpose of the survey and they were asked to name a few typical product that come to their mind among a few categories (viz., durables, textile and convenience products).

The responses of upper class of consumers in most of the occasions reveal that Vacuum Cleaner, Washing Machine, Refrigerator, Contraceptives, T.V.s, Cars etc, are considered as high risk product because consequences of mispurchase are great. The sample of respondents drawn from the lower class, however, frequently mentioned T.V., Audio System, Wrist Watch as risky purchases. Convenience items, on the other hand, which require minimum purchasing effort are considered by both these groups as low risk purchases (Soaps, Toothpaste, Shaving Creams, Biscuits etc. were mentioned). Again, in terms of self-expression or ego value, the consumers of USC mentioned several products including VCRs, Carpets, Wines, Cars, Furniture, Cigarette etc. The typical responses of LSC consumers include such products as T.V., Two Wheelers, Audio System etc. When asked about products which do not give sufficient pleasure during purchases, both the groups mentioned more or less similar product categories (which include Toothpaste, Biscuits, Soaps, Ball Pen, Toothbrush etc.)

The qualitative interviews conducted to generate various products revealed many categories of products and the final selection was to be made among these products. While selecting the final list of products, we encountered several problems. Firstly, we had to select products that are essentially consumed by both the groups. For example, Cars, Washing Machines lack substantial penetration since only a minority of individuals possess Cars or Washing Machines.

Moreover, we did not retain those products purchases of which are essentially influenced by housewives[2]. For this purpose, an exploratory study was undertaken to investigate the husband-wife involvement in the purchase of a large variety of products. Following the suggestion of Corfman (1991), we classified family consumption decisions as husband dominated, wife dominated and syncratic or joint. The study examined both the extent and nature of husband-wife influence in family decisions. The study revealed that for products like Television, Camera, Two Wheeler, Toothpaste, Dress

(Husband's), Insurance etc, husbands play a dominant role. Similarly, for some other products (Shampoo, Detergents) housewives play the major role.

Lastly, we have not considered those products which presumably were high or low on all facets since inclusion of these products would prevent the facets from appearing distinct. The final list of products included in our survey are: (1)TV, (2) Wrist Watch, (3) Cigarettes, (4) Toothpaste and (5) Suit Length.

The products chosen for this survey is made to illustrate how the involvement scale could be used to provide managerially relevant data. Keeping this aspect in view, we developed a short scale to capture various facets of involvement. The steps followed while developing and purifying the scale items are discussed in length in the next section.

2.5 Scale Development :

Following suggestions of researchers in this area and after a thorough search of involvement measures, we felt that instead of developing a single unidimensional measure of involvement, it would be more appropriate to measure the construct from the presence (or absence) of its alleged antecedents. In our present study, we view involvement as a multifaceted construct along four antecedents or facets.

Table 2.3

Item-to-total correlation co-efficients

Items	*Item-total Correlation*
I. Risk Probability Facet	
i. I feel bit at a loss in choosing_____	0.536
ii. Choosing_____is not very complicated	0.612
iii. When one buys_____, one is never certain of one's choice	0.502
iv. Whenever you buy_____,you never really know whether it is the one you should have bought*	0.342
v. I know for sure that while buying_____I am making the right purchase*	0.404
II. Pleasure Facet	
i. I enjoy buying_____for myself	0.616
ii. It gives me pleasure to buy_____	0.548
iii. Buying_____ is a fun to me	0.521
iv. Buying_____is like buying a gift for myself*	0.312
v. While buying_____I am thrilled.*	0.269
III. Risk Importance Facet	
i. It is not a big deal if I make mistake in choosing_____	0.602
ii. A poor choice of_____would upset me	0.522
iii. It is irritating to buy_____that does not meet my needs.	0.548
IV. Self-Expression Facet	
i. You can tell a lot about a person by seeing what_____he buys	0.512
ii. The_____you buy portrays an image of you to others	0.536
iii. The_____ I buy shows what type of man I am*	0.428
iv. My status cannot be judged from what_____I buy.	0.508

Note: *Items * marked designated for removal*

While developing the scale to measure the involvement construct, we have followed the recommended scaling procedures which are very commonly found in psychometric literature (Nunnally, 1978). Following Churchill's (1979) suggestion, we generated a pool of items for each facets from different involvement scales developed by Laurent and Kapferer(1995b) Jain and Srinivasan (1990), Lastovicka and Gardner (1979), Traylor and Joseph(1984) and Zaichkowsky (1985). In addition to the above, a preliminary indepth discussion with a sample of respondents was also an important source from which we generated a few other items.

Altogether, 28 five point semantic differential items were initially developed to reflect the four facets of involvement. These items were then judged for content validity by a small panel of experts (n = 3) resulting in 17 semantic differential statements. The panel comprised of both academicians and marketing professionals having adequate knowledge in this field. These 17 items were then administered to an initial sample of post-graduate M.B.A.(n = 42) students over two product categories per student.

An item to total correlation technique has been employed as the measure of the index of item discrimination. When the correlation between the total score and the individual items score is computed as a measure of the discriminative power of the item, it shows how well the item is measuring the function which the test itself is measuring. Five common measures of correlation such as product moment correlation, biserial correlation, point biserial correlation, tetrachoric correlation and phi coefficient are frequently applied in determining the index of discrimination of an item. However, when multipoint items are employed, as in our case, the product moment correlation is the most appropriate one. Following suggestions of Zaichkowsky (1985) and Gaski & Etzel (1986) statements with items to total correlation (within each component) of r = 0.50 or more were retained. In this process, 5 more items were dropped and finally 12 items were retained to measure 4 facets of involvement. The table 2.1 shows item to total correlation for various facets of the scale computed from a small student sample.

After initial purification, the final version of the involvement scale needs to be examined again for reliability and construct validity over several samples for different product categories. Both students sample and non-students sample have been considered in our study. The psychometric performance of the involvement scale is presented in the next section.

2.6 Psychometric Performance of the Scale:

The twelve-item involvement scale was initially administered to a sample of students enrolled in the Department of Commerce of North Bengal University to assess the reliability and validity of the proposed measure where each student had to give response on two product categories (viz., Jeans, Shampoo). This sample was chosen largely because of convenience factors. However, students also represent a potential target market for the products mentioned above and it was expected that they would exhibit reasonably high levels of variability of involvement and knowledge about the products. In addition to this, a non-students sample, comprising of employees of a nationalized bank, was also considered to substantiate reliability of the proposed scale. These subjects were also interviewed on two products categories (TV & Toothpaste).

We have computed internal consistency reliability by Split-half method as well as by computing Cronbach's alpha. In addition to that, for students sample (Jeans only), the test-retest reliability is also assessed by administering the scale after a two weeks interval. The reliability coefficients are presented in tables 2.4 and 2.5.

Table 2.4
Estimates of Reliability Coefficients
Product: Jeans(Student sample, N = 61)

Scale	*Alpha*	*Test-Retest*	*Split-half (Spearman Brown)*
1	0.6787	0.6442	0.6023
2	0.7041	0.7262	0.6463
3	0.8150	0.7368	0.7302
4	0.7144	0.6569	0.8046

Table 2.4
Estimates of Reliability Coefficients
Product: Shampoo(Student sample, N = 76)

Scale	*Alpha*	*Split-half (Spearman Brown)*
1	0.7056	0.6671
2	0.7555	0.7940
3	0.7271	0.8253
4	0.5717	0.5335

Table 2.5
Estimates of Reliability Coefficients
Product : T.V. (Non-student sample, N = 68)

Scale	*Alpha*	*Split-half (Spearman Brown)*
1	0.7590	0.7466
2	0.7565	0.7301
3	0.7557	0.7867
4	0.6820	0.5914

Table 2.5
Estimates of Reliability Coefficients
Product: Toothpaste(Non-student sample, N = 66)

Scale	*Alpha*	*Split-half (Spearman Brown)*
1	0.5787	0.7075
2	0.8163	0.8651
3	0.8179	0.8136
4	0.6906	0.6458

It is quite evident from the table that the reliability coefficients are generally high and it can be concluded that the scale which we intend to use in our study possess sufficient degree of internal consistency despite a very small number of items in each scale. It has to be remembered that consistency is a necessary but not sufficient condition for validity (Nunnally, 1978). Therefore, in the subsequent discussion we address this important issue in detail.

The assessment here will begin with construct validity, which refers to the extent to which the hypothetical, unobservable construct of interest correspond to the purported measure of it (Peter, 1981). In order for a measure to be construct valid, each of the measurement items must relate to the characteristics of the construct, and each item must be free from contamination by elements of other constructs. These two requirements are operationalised by two validity tests, viz., (a) Content Validity and (b) Scale Dimensionality. These two issues are separately discussed below:

(a) Content Validity:

When a test is constructed so that its content of term measures what the whole test claims to measure, the test is said to have content or circular validity. Therefore, content validity is concerned with the relevance of the contents or items, individually and collectively. While selecting items or content of the test, due care was taken to ensure that the items measure the construct 'antecedents of product involvement'. It was done essentially by a systematic examination of the items included by researchers while capturing the domain of the construct.

In addition to this, initial items scale items (17 pairs) were judged by a small sample of experts who expressed that these items could be used to capture the domain of the construct. Moreover, statistical tests also have been applied to ensure content validity. In our study, the level of internal consistency measured by Cronbach's alpha provided sufficient evidence for the content validity.

(b) Scale Dimensionality :

The scale dimensionality may be assessed via factor analysis which is a collection of mathematical procedures for determining which variables belong to which factor or underlying construct. Through factor analysis, specific expectations concerning the number of factors and their loadings are tested on sample data. Depending upon the knowledge of the researcher, this method can be used as a means for testing specific hypothesis. It may be recalled that we hypothesized that there are four underlying dimensions with three of the test items belonging to each common factor. The results of factor analysis would enable us to assess the construct and discriminant validity of the proposed measure.

Campbell (1960) and Nunnally (1978) suggest that each scale should measure a single facet if it is considered to have construct validity. Discriminant validity, on the other hand, represents the distinctiveness of each scale vis-a-vis others. To test simultaneously construct and discriminant validity, we conducted a factor analysis of the items using two different students samples and two non-students sample for four different product categories.

As recommended by Laurent and Kapferer (1985b), an oblique rotation (Direct Oblimin Method) was utilized because there is not a priori expectation that the four antecedents of involvement are mutually independent. The involvement scale designed to tap different dimensions of the construct should not be expected a priori to be orthogonal and for this we did not apply the Varimax rotation procedure.

Table 2.6 to 2.12 summarizes the item to item correlation coefficient and factor structure uncovered for each of four applications of the proposed scale. The pairwise correlation coefficients revealed that there is a fairly high degree of association between various items within each scale and coefficients are generally low for items representing different dimensions of involvement. All factor loadings are shown in Tables 2.8 to 2.12, along with various summary statistics of factor analysis. We have presented results for various antecedents in a columnar order across products keeping the order in which factors were extracted for a given product. The communality estimates are, in general, high indicating that the variations in original variables are represented fairly by the factor extracted.

With a few notable exceptions, the scale items loaded on the factors they were supposed to measure. The exception entailed an extraction of five factors instead of four as hypothesized. However, when forcing four factor solution, we obtain PROB 2 item loading with the fourth factor with PROB 1, PROB 3 item though the degree of correlation is found to be quite low.

Table 2.6a

Itemwise Correlation matrix.
(Product : Jeans N = 64).

	Items											
1	PROB 1											
2	PROB 2	.492										
3	PROB 3	.408	.334									
4	PLSR 1	.089	.005	.313								
5	PLSR 2	.084	.148	.145	.528							
6	PLSR 3	-.019	-.060	-.041	.441	.354						
7	RIMP 1	.286	.220	.014	.056	.173	.133					
8	RIMP 2	.272	-.021	-.018	.186	.251	.291	.615				
9	RIMP 3	.195	.119	.094	.057	.249	.188	.607	.563			
10	SEXP 1	.170	.134	.268	.269	.292	-.037	-.071	.042	.150		
11	SEXP 2	.346	.222	.161	.251	.196	.081	.176	.210	.338	.438	
12	SEXP 3	.359	.217	.334	.389	.331	.188	.105	.152	.081	.503	.440

Apart from this, for three other applications, factor analysis led to the results we expected: one factor per item, all items from an antecedent on the same factor, one factor per antecedent. The factor loadings also satisfy considerably the criteria laid down by Thurstone (1942, p.335):

1. Each variable should have at least one zero loading
2. Each factor should have a set of linearly independent variables whose factor loadings are zero.
3. For every pair of factors, there should be several variables whose loadings are zero for one factor but not for the other.
4. For every pair of factors, there should be only a small number of variables, with non-zero loadings on both.

Table 2.6b

Itemwise Correlation matrix.

(Product : T.V. N = 68).

	Items											
1	PROB 1											
2	PROB 2	.538										
3	PROB 3	.438	.559									
4	PLSR 1	.061	.217	.195								
5	PLSR 2	.143	.368	.123	.555							
6	PLSR 3	.214	.3090	.252	.470	.504						
7	RIMP 1	.119	.045	-.085	.247	.179	.255					
8	RIMP 2	.145	.2251	.0278	.203	.298	.322	.457				
9	RIMP 3	.030	.124	.023	.142	.225	.217	.486	.583			
10	SEXP 1	.128	.084	.024	.222	.201	.256	.057	.072	.036		
11	SEXP 2	.003	.136	.116	.195	.116	.291	.038	.128	.128.	.541	
12	SEXP 3	.026	.112	.073	.199	.165	.129	.312	.274	.220.	.286	.414

Table 2.7a

Itemwise Correlation matrix.

(Product : Sampoo N = 76).

Items												
1	PROB 1											
2	PROB 2	.513										
3	PROB 3	.399	.436									
4	PLSR 1	-.062	-.113	.128								
5	PLSR 2	.089	.024	.000	.441							
6	PLSR 3	-.041	.067	.045	.576	.506						
7	RIMP 1	-.028	.091	.117	-.102	.069	.033					
8	RIMP 2	.135	.041	-.127	.054	.169	.043	.303				
9	RIMP 3	-.018	.061	.000	.132	.144	-.050	.587	.512			
10	SEXP 1	-.095	.249	.159	.176	-.051	.277	-.030	-.067	-.003		
11	SEXP 2	-.074	.168	-.085	-.061	.014	.029	.066	.009	.177	.365	
12	SEXP 3	-.064	.131	.123	.031	.066	.128	.210	-.001	077	.242	.336

Table 2.7b

Itemwise Correlation matrix.

(Product : Toothpaste N = 66).

Items												
1	PROB 1											
2	PROB 2	.161										
3	PROB 3	.600	.185									
4	PLSR 1	.019	-.049	-.024								
5	PLSR 2	-.173	-.204	-.185	.503							
6	PLSR 3	-.134	.065	-.012	.641	.647						
7	RIMP 1	.054	.071	.282	.111	-.027	.056					
8	RIMP 2	.081	-.032	.106	.106	-.006	.051	.611				
9	RIMP 3	.015	.063	.179	-.121	-.025	-.016	.603	.588			
10	SEXP 1	.114	-.066	-.007	-.141	-.195	-.206	.072	.065	-.023		
11	SEXP 2	.052	.212	-.120	.048	-.028	.034	-.117	-.181	-.113	.492	
12	SEXP 3	.071	.153	.042	-.111	-.151	-.147	.115	.083	-.023	.375	.413

The results of factor analysis amply demonstrate that the proposed measure (of various antecedents) is not contaminated with elements from the domain of other constructs or error. The systematic extraction of four factors can be interpreted as supportive evidence of construct validity.

A rule-of-thumb criterion for determining the number of significant factors to retain can also be determined by plotting the eigen values and the factors. The scree plots are shown in Fig. 2.1 and 2.2. In three occasions the Kaiser's criterion calls for retaining four as hypothesised.

In addition to the scale developed to measure involvement profiles, other scales have also been built to assess the influences of antecedents of involvement on consumers' decision process, information search, advertising involvement and brand commitment. These scales are also applied to the same students sample mentioned earlier for assessing internal consistency.

A scale to measure advertising involvement is built with three items which resulted in a reliability coefficient, α = 0.67. Extensiveness of choice process is developed to measure the degree of attention exerted while making a brand choice and amount of time spent by an individual during choice. Co-efficient of reliability(α = 0.71) for this three item scale is found to be reasonably high. Measures of information search is operationalised by four semantic differential pairs each covering retailer search, interpersonal search, media search and product search. The information search scale produced an alpha coefficient of 0.68. Lastly, attitudinal construct brand commitment is captured by a three-item scale having α = 0.73. Perceived differentiation is measured by a three self-perception bipolar items and resulted in a moderately high reliability co-efficient (α = 0.67).

Table 2.8
Factor Analysis Results
Product : Jeans (N=64)

Items		*F1*	*F2*	*F3*	*F4*	*Communalities*
1	PROB 1	.30745	.32427	-.01613	**.79113**	0.70011
2	PROB 2	.15755	.12619	-.01930	**.80321**	0.66017
3	PROB 3	.31093	-.04080	.23740	**.72279**	0.59913
4	PLSR 1	.34233	.01408	**.84906**	.14051	0.75849
5	PLSR 2	.32037	.21506	**.74015**	.16453	0.58544
6	PLSR 3	-.04558	.25429	**.74967**	-.08608	0.64890
7	RIMP 1	-.00073	**.85701**	.11282	.23645	0.76880
8	RIMP 2	.11576	**.83160**	.29996	.04870	0.73005
9	RIMP 3	.24253	**.82479**	.14441	.11559	0.71080
10	SEXP 1	**.86358**	-.03253	.19716	.20478	0.76031
11	SEXP 2	**.76606**	.31756	.14241	.27698	0.65516
12	SEXP 3	**.71111**	.06733	**.42723**	**.42771**	0.62419
Eigen Value		**3.47316**	**01.95717**	**1.72006**	**1.05615**	
Pct. of Var		**28.9**	**16.3**	**14.3**	**8.8**	
Cum. Var		**28.9**	**45.3**	**59.6**	**68.4**	

Note : Eigen Value of the 5th Factor 0.73460

Table 2.9
Factor Analysis Results
Product : T.V. (N =68)

Items		*F1*	*F2*	*F3*	*F4*	*Communalities*
1	PROB 1	.12197	-.11929	**.80395**	.04937	.66048
2	PROB 2	.15044	-.36240	**.84658**	.11629	.74066
3	PROB 3	.05356	-.21213	**.80651**	.09657	.66836
4	PLSR 1	.19292	**-.83475**	.14585	.23992	.70397
5	PLSR 2	.26267	**-.84588**	.24117	.14834	.72394
6	PLSR 3	.28427	**-.76098**	.32980	.29317	.61718
7	RIMP 1	**.78626**	-.23781	.00469	.12926	.62715
8	RIMP 2	**.81359**	-.30351	.18236	.16060	.68135
9	RIMP 3	**.82505**	-.19586	.07493	.12782	.68083
10	SEXP 1	.00776	-.28996	.08379	**.79264**	.66188
11	SEXP 2	.09560	-.21869	.12075	**.86900**	.75852
12	SEXP 3	**.41961**	-.12316	.07961	**.66611**	.55981
Eigen Value		**3.45416**	**1.99280**	**1.87044**	**1.56027**	
Pct. of Var		**28.8**	**15.6**	**13.0**	**10.0**	
Cum. Var		**28.8**	**44.4**	**57.4**	**67.4**	

Note : Eigen of the 5th Factor 0.74364

Table 2.10
Factor Analysis Results
Product : Shampoo (N =76)

Items		*F1*	*F2*	*F3*	*F4*	*Communalities*
1	PROB 1	-0.02745	**0.82347**	-0.05584	-0.26815	0.72215
2	PROB 2	-0.07597	**0.80146**	-0.04965	0.23222	0.72743
3	PROB 3	0.06767	**0.75635**	0.07300	0.05300	0.59134
4	PLSR 1	**0.84657**	-0.05638	0.03997	0.00381	0.71479
5	PLSR 2	**0.75232**	0.03516	-0.18970	-0.11115	0.61756
6	PLSR 3	**0.83846**	0.00663	0.07807	0.16754	0.74789
7	RIMP 1	-0.08153	0.04894	**-0.76638**	0.13812	0.61996
8	RIMP 2	0.10618	0.00376	**-0.73866**	-0.14507	0.57435
9	RIMP 3	0.03639	-0.03748	**-0.56629**	0.09538	0.76916
10	SEXP 1	0.16590	0.09575	0.19470	**0.72746**	0.61475
11	SEXP 2	-0.11191	-0.18341	-0.10778	**0.76259**	0.59904
12	SEXP 3	0.02559	0.02934	-0.11510	**0.66174**	0.46377
Eigen Value		**2.32949**	**1.92630**	**1.188705**	**1.161883**	
Pct. of Var		**19.4**	**16.1**	**15.7**	**13.5**	
Cum. Var		**19.4**	**35.5**	**51.2**	**64.7**	

Note : Eigen of the 5th Factor 0.928

Table 2.11
Factor Analysis Results
Product : Toothpaste (N =66)

Items		*F1*	*F2*	*F3*	*F4*	*F5*	*Communalities*
1	PROB 1	0.09839	0.03702	0.13119	**0.90048**	0.05147	0.82721
2	PROB 2	0.06290	0.03580	0.14211	0.18041	**0.94788**	0.91471
3	PROB 3	0.08161	0.23932	-0.06261	**0.87516**	0.17876	0.80166
4	PLSR 1	**-0.84747**	0.02083	-0.05130	0.04178	-0.03032	0.73911
5	PLSR 2	**-0.81800**	-0.03691	-0.16286	-0.24144	-0.17761	0.72232
6	PLSR 3	**-0.89346**	0.02654	-0.12762	-0.09925	0.15868	0.82744
7	RIMP 1	-0.05275	**0.86480**	0.04182	0.20309	0.05765	0.76469
8	RIMP 2	-0.05175	**0.85344**	0.00339	0.11490	-0.11018	0.74761
9	RIMP 3	0.08989	**0.84350**	-0.08512	0.06442	0.08788	0.73592
10	SEXP 1	0.21517	0.04621	**0.79918**	0.12734	-0.26448	0.76548
11	SEXP 2	-0.06461	-0.20145	**0.81674**	-0.04701	0.32645	0.76505
12	SEXP 3	0.16318	0.09830	**0.73413**	0.06055	0.17006	0.57365
Eigen Value		**2.52109**	**2.36570**	**1.74958**	**1.51353**	**1.03499**	
Pct. of Var		**21.0**	**19.7**	**14.6**	**12.6**	**8.6**	
Cum. Var		**21.0**	**40.7**	**55.3**	**67.9**	**76.5**	

Note : Eigen of the 6th Factor 0.648

In addition to the attitudinal variables mentioned above, the price of the brand was also considered relevant in our study for various reasons. When price is high, consumers spend more time to collect information regarding the brand and perceived risk would be high. Instead of taking the average prices (Laurent & Kapferer, 1985b) of different brands in a particular product category, we have considered the actual price of the brand purchased by each respondent was considered. We have used the logarithm of the price to reduce the skewness of the variable.

Table 2.12
Factor Analysis Results
Product : Toothpaste (N =66)

Items		*F1*	*F2*	*F3*	*F4*	*Communalities*
1	PROB 1	0.10898	0.04924	0.09592	**0.84155**	0.82711
2	PROB 2	0.01768	-0.00347	0.21574	**0.48760**	0.91471
3	PROB 3	0.08656	0.24582	-0.08444	**0.84452**	0.80166
4	PLSR 1	**-0.84306**	0.02120	-0.06191	0.03592	0.73911
5	PLSR 2	**-0.81036**	-0.03399	-0.17268	-0.27651	0.72232
6	PLSR 3	**-0.90028**	0.01654	-0.11540	-0.03366	0.82744
7	RIMP 1	0.05087	**0.86251**	-0.03654	0.18593	0.76469
8	RIMP 2	0.04272	**0.85717**	-0.01226	0.04766	0.74761
9	RIMP 3	0.08819	**0.83860**	-0.07956	0.06079	0.73592
10	SEXP 1	0.22711	0.05618	**0.76581**	0.07196	0.76548
11	SEXP 2	-0.08026	-0.21625	**0.83232**	0.09165	0.76505
12	SEXP 3	0.15282	0.08815	**0.74146**	0.15176	0.57365
Eigen Value		**2.52104**	**2.36570**	**1.74958**	**1.51353**	
Pct. of Var		**21.0**	**19.7**	**14.6**	**12.6**	
Cum. Var		**21.0**	**40.7**	**55.3**	**76.9**	

Note : Forced four factor solution.

2.7 Conclusion

At the outset, an attempt is made in this chapter to examine the applicability of the CIP scale to Indian consumers. Apart from the merging of Interest and Pleasure into a single factor, the antecedents of involvement consistently formed distinsct factors. In view of this an alternate measure is proposed in this chapter to assess product class involvement.

It is clear from the discussion presented in this chapter that the four factor involvement scale has been constructed on the basis of the findings reported by earlier researchers. The twelve items scale has been applied to different samples (students and non-students) for evaluating psychometric performance of the peoposed measure. The reliability co-efficients and factor structures provide evidence of construct validity.

Moreover, additional scales developed to tap different behavioural dimensions have also been tested using students sample. These scales, in general, also produced satisfactory alpha co-efficients containing all these items has been constructed keepung in view the purpose of the study. The questionnnaire is presented in appendix II.

Figure : 3.1a

Scree Plot

Product : Jeans

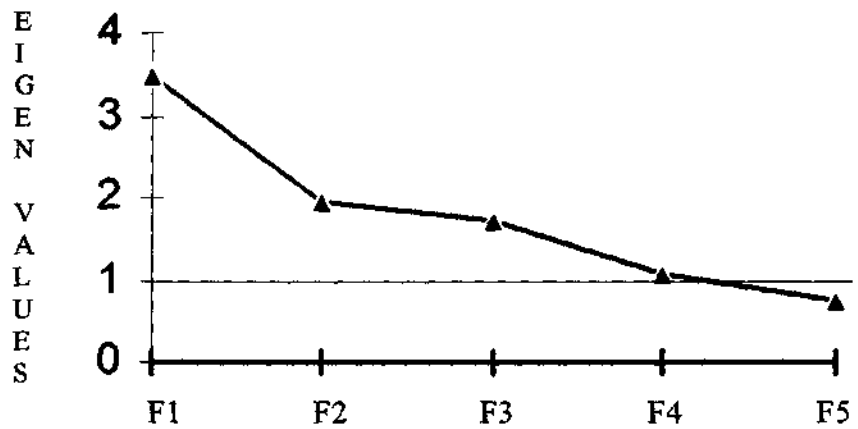


Figure : 3.1b

Scree Plot

Product : T.V.

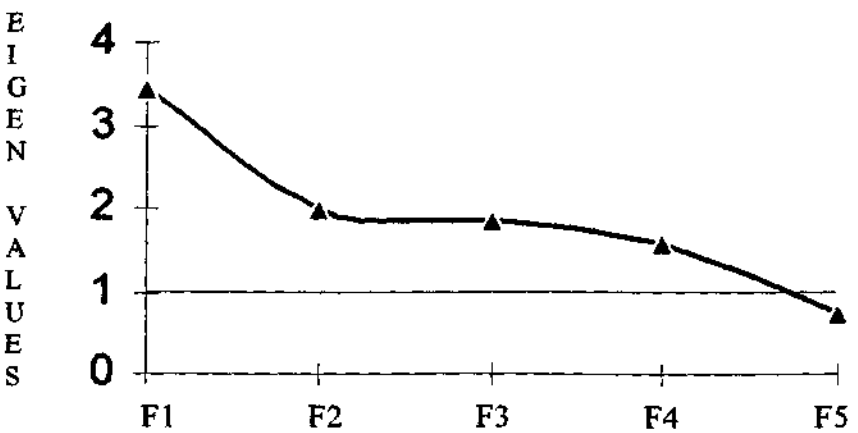


Figure : 3.2a

Scree Plot

Product : Shampoo

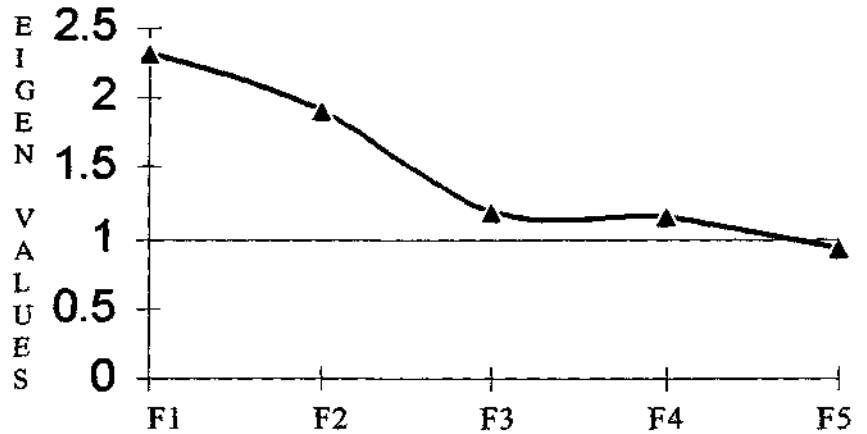
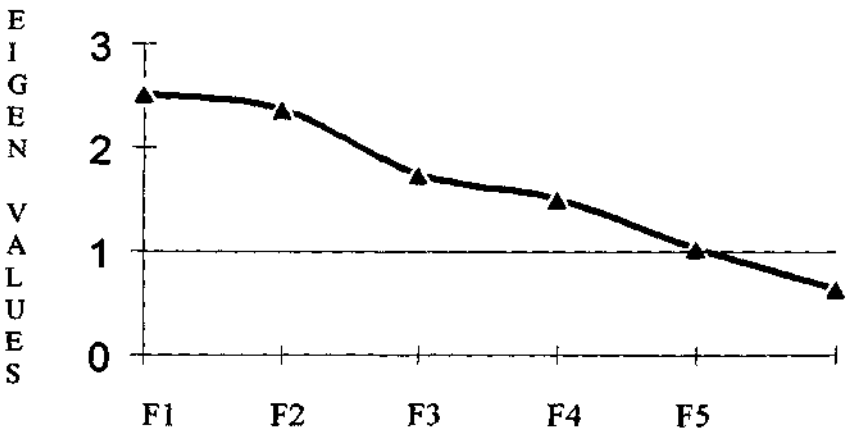


Figure : 3.2b

Scree Plot

Product : Toothpaste



Notes

1. The involvement scale contains twelve items to top four different antecedents of involvement . These antecedents are:

   (i) Risk Probability **(PROB)**

   (ii) Pleasure **(PLSR)**

   (iii) Risk Importance **(RIMP)** and

   (iv) Self-Expression **(SEXP)**.

2. An exploratory study was conducted by the students of the Department of Commerce (1994-95 Session) to investigate the husband -wife involvement in the purchase of a diverse range covering a large sample of 345 households. The degree of husband-wife involvement for some product categories, as revealed by the study, is reproduced here.

Role of Husband & Wife in the purchase Decision Making Process

	Wife dominated %	*Husband dominated %*	*Joint decision %*
Convenience product			
Shampoo	71.00	16.00	13.00
Toilet soap	59.00	18.00	23.00
Detergents	82.00	10.00	8.00
Hair Oil	63.00	21.00	16.00
Talcum Powder	61.00	20.00	19.00
Toothpaste	0.31	48.00	21.00
Durables			
Television	8.00	68.00	24.00
Refrigerator	18.00	41.00	41.00
Audio System	13.00	56.00	31.00
Furniture	22.00	60.00	18.00
Wrist watch (Husband)	16.00	66.00	18.00
Wrist watch (Wife)	29.00	19.00	52.00
Others.			
Dress (Husband)	17.00	58.00	25.00
Insurance	8.00	71.00	21.00
Savings	6.00	68.00	26.00
Choice of Residence	6.00	22.00	72.00

References

Andrews, J. C; Durvasula, S. & Akhter, S. H.(1990) "A Framework for Conceptualizing and Measuring the Involvement Construct in Advertising Research", Journal of Advertising, 19(4), pp. 27-40.

Bauer, R.A.(1967), "Consumer Behaviour as Risk Taking," in Risk Taking & Information Handling in Consumer Behaviour, D.F. Cox, ed. Boston : Harvard University Press. Division of Research, Graduate School of Business Administration, Harvard University, pp. 23-33.

Campbell, D.T.(1960), "Recommendations for APA Test Standards Regarding Construct, Trait and Discriminant Validity", American Psychologist, 15, pp. 546-53.

Chaffe S. H & J. M. Mclead (1973), "Consumer Decisions and Information Use", in Consumer Behaviour; The Oriental Sources, S. Ward & T. S. Robertson, eds. Englewood Cliffs, NJ: Prentice Hall Inc, pp. 385-415.

Churchill, G. A., Jr. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs", Journal of Marketing Research, 16 (February), pp. 64-73.

Corfman, P. K. (1991), "Perceptions of Relative Influence : Formation and Measurement", Journal of Marketing Research, pp. 125-136.

Gaski, J. F & Etzel, J. E (1986), "The Index of Consumer Sentiment Toward Marketing", Journal of Marketing, vol. 50, no.3, pp. 71-81

Higie R. A. & Feick, F. L. (1988), "Enduring Involvement, Conceptual and Methodological Issues", in Advances in Consumer Research. Vol. 16, Thomas Srull (ed). Provo, UT; Association for Consumer Research, 690-696.

Jain, K. & Srinivasan, N(1990), "An Empirical Assessment of Multiple Operationalisations of Involvement." In M. E. Goldberg & R. W. Pollay(eds.), Advances in Consumer Research (Vol. 17, pp. 594-602). Provo, VT: Association for Consumer Research

Kapferer, J. N., & Laurent, G. (1985a), "Consumer Involvement Profiles : A New Practical Approach to Consumer Involvement", Journal of Advertising Research, 6, pp. 48-56.

Krugman, H. E.,(1965), "The Impact of Television Advertising : Learning without Involvement", Public Opinion Quarterly 24, Fall 1965, pp.349-56.

Lastovicka, J. L. and Gardner, D. M. (1979), "Components of Involvement," in Attitude Research Plays for High Stakes, J. C. Malory and B. Silverman, eds. Chicago: American Marketing Association, pp.53-73.

Laurent, G & Kapferer, J. N. (1985b), "Measuring Consumer Involvement Profiles", Journal of Marketing Research, 22, pp. 41-53.

Mittal, B. (1995), "A Comparative Analysis of Four Scales of Consumer Involvement", Psychology & Marketing, Vol.12(7), pp. 663-82.

Mittal, B. (1989), "Measuring Purchase Decision Involvement", Psychology and Marketing, 6(2), pp. 147-162.

Mittal, B. and Lee, M. S. (1989) "A Casual Model of Consumer Involvement, Journal of Economic Psychology 10, pp. 362-389.

Nunnally, J. C. (1978), Psychometric Theory, Tata McGraw-Hill Publishing Co. Ltd., 2nd Edition.

Peter, P. J. (1981), "Construct Validity : A Review of Basic Issues and Marketing Practices," Journal of Marketing Research, pp. 133-145.

Rodgers, W. C. & Schneider, K. C. (1993), "An Empirical Evaluation of the Kapferer-Laurent Consumer Involvement Profile Scale", Psychology & Marketing, Vol.(4), pp. 333-45.

Rothschild, M. L. (1984), "Perspective on Involvement : Current Problems and Future Directions", 11, T. C. Kinnear, ed., Association for Consumer Research.

Sherif, M. & Cantril H. (1947), "The Psychology of Ego-Involvement", New York : John Wiley & Son, Inc.

Thurstone, L.L. (1942), Multiple Factor Analysis, Chicago, University of Chicago Press.

Traylor, M. B. (1981), "Product Involvement and Brand Commitment", Journal of Advertising Research, 21(December), pp. 27-33.

Traylor, B and Joseph, W. B. (1984), "Measuring Consumers Involvement with Products : Developing a General Scale", Psychology & Marketing, 1(Summer), pp. 65-77.

Zaichkowsky, J. L. (1985), "Measuring the Involvement Construct" Journal of Consumer Research 12, pp 341-352.