Chapter III

Research Methodology
This study was designed to explore some of the behavioural components of consumers after consumer being exposed to subliminal advertisements. This section focuses on the methods that were adopted to conduct the study and the type of the research. The data collection methods, sample size and sampling methods are also discussed. This chapter explains the methods used in carrying out the study. This chapter also includes the period of data collection, research design, sampling method, data sources and the statistical tools used to analyze the data.

3.1 Research Design

The type of research adopted in this study is descriptive. Descriptive research describes data and characteristics about the population or phenomenon being studied and this study describes the consumer’s behaviour after being exposed to subliminal advertisements that run regularly on television and bring out the possible reasons behind the behaviour exhibited by respondents.

3.2 Sampling Design

The study has been conducted in Kashmir Province of J&K. Data was collected from youth undergoing education in government colleges. Multi stage sampling method was adopted for this study and the Kashmir region was divided into three major areas viz, North, South and Central Kashmir. Then government colleges were taken from these three sub regions. Total strength of government recognized colleges in these three

The formula used for these calculations was:

\[ n = \frac{X^2 N P (1-P)}{\{ME^2 (N-1) + (X^2 P (1-P)) \}} \]
Where

\[ n = \text{Sample size} \]

\[ X^2 = \text{Chi-Square for the specified Confidence level at 1 degree of freedom} \]

\[ N = \text{Population Size} \]

\[ P = \text{Population proportion (0.50 in this study)} \]

\[ ME = \text{Desired Margin of error (Expressed as proportion 5\%)} \]

With 95\% significance level, 5\% acceptable margin of error, population of youth in Kashmir being greater than 1 lakh but limited to 1,01,43,700, also with proportion being 0.50 and Chi Square at one degree of freedom at 95\% level is 3.84. After using these values in the above mentioned formula, sample calculated for all values greater than 1 lakh but less than 10,00,00,000 is 384. As the actual sample size estimated is 384, the researcher decided to collect data in equal proportions from three regions viz Noth, South and Central Kashmir. Additional six respondents were included for data collection which increased sample size to 390 that helped distributing 130 for each region.

**3.3 Period of the Data Collection**

The data was collected from Feb-2013 to June-2013. Primary data for the study was collected through a structured questionnaire which was pretested before actual use. Secondary data was collected from
different publications, reports, web sites, magazines, journals, newspapers and other published sources. Various literature from 1957 to 2012 was collected, reviewed and presented in the literature review.

3.4 Methods of Data Collection

Data for the study was collected through the primary and secondary sources which are discussed below.

3.4.1 Primary Data

The major source of the data used to carry out the analysis was primary data. Field survey method was employed to collect the primary data from the selected 390 respondents with the help of a well framed questionnaire. Eight subliminal ads as mentioned in APPENDIX A were given as case study to the respondents and their opinion on those advertisements was ascertained. The advertisements included Ad of Mc Dowell’s Kerala Club Soda, Amul macho ad, Hot international Topless ad of Bipasha basu & Vivek Oberoi for New York Lotto, Axe, Mobile ads, Hero Honda Igniter, an ad for shoe by Akshay Kumar helps him gaining and kissing a girl, New Ad of Mayur suitings featuring Salman Khan.

The advertisements were randomly selected from number of subliminal ads based on literature review, expert guidance and more importantly from the work of Davie Lakhani(2008). Apart from it, the methodology of case study and group discussion was considered
instead of showing videos. The respondents voluntarily participated in the study without any pressure of any kind. Since the study focused on exploring the behaviour of consumers after exposed to subliminal advertisements, it was felt that this approach would be relevant and would provide appropriate results. Every care was taken in wording the questions of the questionnaire.

In case of respondents, who were having problem in filling the questionnaire, the researcher explained the content and context so as to have rational feedback and the doubts if any raised by the respondents were clarified on spot. Respondents with varying background were selected based on the important demographic aspects like age, sex, educational qualification, marital status and residence for this study.

3.4.2 Secondary Data

The secondary data used in this study was collected from the national and international journals, newspapers, magazines, articles and other records. The latest information related to the study was gathered through E resources from different libraries available on internet including the Allama Iqbal Library, University of Kashmir. Websites and portals were also used to collect some statistical information on three regions of Kashmir division under study. A number of standard text books in the area of marketing, advertising, mass communication and particularly those related to subliminal advertisements were also referred to present the theoretical
3.5 Pilot Study

The questionnaire was given to some research experts for a critical analysis with regard to its content, format and sequence and their feedback was incorporated as well. Then questionnaire was distributed to 20 respondents for pre-testing. Pretesting was done to ensure reliability and validity of the questionnaire. It was done to check whether the instrument was correctly framed in comprehensive manner. Taking into consideration the suggestions of the selected sample respondents, necessary modifications and changes were incorporated in the questionnaire after the pilot study.

3.6 Tools for data collection

Questionnaire was the main tool used for data collection and was drafted specific to the research problem. The research problem and the questionnaire were framed with the help of literature and in consultation with research supervisor and the research experts. The questionnaire apart from details on demographic variables of the respondents also included other different questions so as to gather information about Cognition and Affection generated by subliminal ads, Compulsive buying if any, Confusion component so as to see whether subliminal ads are effective in creating confusion among respondents, ad involvement component was also included to explore how much involved consumers felt after being exposed to subliminal
ads, purchase intension component was also included to see the possible impact on purchase choice. Component wise developed scales were used for different dimensions whose description is given below:

**Scale Description and detail**

**3.6.1 Feelings**

There are number of scales that have been developed to measure the degree of feelings that a respondent may have towards a specific stimulus. The main purpose of this scale is to measure one’s feelings at a particular point in time. The experts that have worked in the field of affection includes Richin(1991), Beauty and Ferell(1998). The internal consistency of the scale reported in previous studies has been acceptable to a very good range from 0.74(Richins 1997, Study 5) to 0.92 (Dube and Morgan 1996).

**3.6.2 Ad Involvement:**

This scale measured the possible involvement of consumers into characters shown in stimulus (Escalas and Stern, 2003). In past studies, an alpha of 0.95(Experiment 1) and 0.96 (Experiment 2) were reported by Escalas and Stern, 2003.

**3.6.3 Product Message Evaluation**

This scale was used for making evaluation and it consisted of three statements each of eleven points assessing the degree to which a person reports mixed evaluations. An Alpha of 0.92 was reported by Nowlis, Kahn, and Dhar (2002).
3.6.4 Cognition Component

This scale contained five bipolar adjectives judging individuals beliefs and opinions they were having about the stimulus. This scale was created by Beltramini(1982) and an alpha of 0.90 and 0.97 were reported in the Beltramini(1998) and Beltramini and Standford (1993) studies.

3.6.5 Ad Confusion Component

Confusion is also one of the components used by Subliminal persuaders to induce consumers into irrational buying (Dave Lakani,2008 and Valance Pakard,2007). This scale consisted of five statements which was developed by Lastovika (1983) from a study where subjects were exposed to ads for 60 seconds. For Reliability measures, an Alpha of 0.73 (Lastovika,1983) and 0.74 (Stout and Rust,1993) was reported for the scale.

3.6.6 Compulsive Buying

This dimension measured the possible behaviour of an individual in near future and it included 10 statements based on five point likert scale intended to measure irresistible urge to purchase if any .This scale was used by Roberts, Manolis, and Tanner (2003) who reported an alpha of 0.84 for this scale.

3.6.7 Purchase Intension

In order to know consumers inclination to buy the products shown in stimuli, this scale was used in various studies by number of
researchers including Burton, Garreston and Valliquette (1999), who reported an alpha of 0.89 in their respective studies.

3.6.8 Construct Wise Reliability Measures

Besides overall alpha (0.85 reported in this study) construct wise reliability was established where all constructs {apart from three i.e Ad Evaluation (0.52), Ad Understanding (0.64), Purchase Privacy (0.64)} are highly acceptable but researcher retained all the three which were on lower side as well, because the values associated with them are still acceptable though not highly acceptable. The whole construct wise story is provided in below given diagram:

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ALPHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings/Affection</td>
<td>0.88</td>
</tr>
<tr>
<td>Involvement</td>
<td>0.93</td>
</tr>
<tr>
<td>Ad Evaluation</td>
<td>0.52</td>
</tr>
<tr>
<td>Cognition</td>
<td>0.85</td>
</tr>
<tr>
<td>Ad Understanding</td>
<td>0.64</td>
</tr>
<tr>
<td>Compulsive Buying</td>
<td>0.82</td>
</tr>
<tr>
<td>Purchase Intensions</td>
<td>0.87</td>
</tr>
<tr>
<td>Purchase Privacy</td>
<td>0.64</td>
</tr>
</tbody>
</table>

3.7 Statistical Tools used for Analysis

Appropriate research tools were used to analyze the data. The data was checked for its validity and reliability and statistical tools used for analysis included simple percentage method, Analysis
of Variance (ANOVA), Two sample independent test (Mann Whitney U Test). The statistical package SPSS 15.0 was used to analyze whole data.

3.7.1 Simple Percentage Method

Simple percentage method was used to elucidate the profile of the respondents under study. To present the percentage of male and female, percentage of students from different backgrounds, number of married and unmarried respondents and for determining percentage of respondents in different age category simple percentage method was used in this study.

3.7.2 Mann Whitney U Test:

When the difference in the location of two populations is to be compared based on observations from two independent samples, and the variable is measured on the ordinal scale, the Mann Whitney U Test is best fit to the problem. This test corresponds to the two independent sample t-test for the interval scale variables. In Mann Whitney U Test, two samples are combined and the cases are ranked in order of increasing size. The test static “z” and value of probability are used to interpret the results and rule for acceptance or rejection depends on whether the value of “z” falls in acceptance or rejection region, for probability if its value is less than significance level null hypothesis is rejected and accepted otherwise.
3.7.3 Analysis of Variance

Analysis of variance is used as a test of means for two or more populations where the null hypothesis is that all means are equal and in simplest form, analysis of variance is a technique used for analyzing the data where we have dependent and independent variable. ANOVA was used to see the difference in cognition, affection, ad confusion dimensions across various demographic variables after being exposed to subliminal advertisements so as to explore the impact of advertisements on components of consumer behaviour.

3.7.4 The Kruskol Wallis Test

The test is direct generalization of Mann Whitney U test to the case in which there are three or more than three independent groups. It tests the null hypothesis that all samples have same means and against this, the alternative hypothesis is that the means of the populations are not equal. In this research, Kruskol Wallis Test was applied to test how youth under different age groups (four groups in this case) differ in their cognition, affection, emotional involvement in ads and how youth from different areas (being three i.e. North, South and Central Kashmir in this research proposal) differ in purchase intensions. In both the cases, the age group and area of residence, there were three and more than three groups which made it applicable to use the Kruskol Wison Test.
3.8 Validity-

Validity determines the degree to which a measure assesses what it is meant to measure. Validity is ensured about the content used in the research instrument, this describes the extent to which it distinguishes the concept and measures the criteria. The validity of the instrument in this study was ensured at the time of pilot study and is discussed below in two sections under content and construct validity.

3.8.1 Content Validity-

Content validity was ensured to verify whether content is comprehensive and does it cover full range of measure. Content validity was established by enquiring the sample considered for pilot study. Focus was given on whether or not respondents were able to understand the concept that is targeted in the questionnaire. Suggestions from experts in the field of psychology and research supervisor as well were incorporated in the finalization of instrument. Due care was taken to make sure that every respondent understands the questionnaire.

3.8.2 Construct Validity:

How actually one will measure in behavioural sciences when it is very difficult to measure that component like cognition, affection in this case because there are different sub components of cognition and one needs to be very certain that all necessary sub components are
included and to ensure this, developed scales for respective components were used which guaranteed construct validity of the questionnaire.

3.9 Reliability

Reliability refers to the consistency or repeatability of the questionnaire for further analysis. The reliability of the questionnaire was empirically examined in order to understand the coherence in the responses made. Reliability of the scales was ensured with Cronbach's alpha coefficient. This coefficient can vary between the values from 0 to 1. If the score is closer to the value 1 the internal consistency in the questionnaire is perfect and if the score is closer to 0 then there is poor internal consistency within the questions in the scale constructed. The Chronbach alpha score obtained in pilot study was 0.85 which is greater than 0.5. Thus, the internal consistency of the questionnaire was found good enough to proceed for further data collection and analysis.

3.10 Level of Significance

After examining the construct validity of the instrument, the data was collected, tabulated, processed and analyzed with reference to each of the specific objectives, with the help of appropriate tools of analysis. All tests were conducted for 5% significance level. Analysis was made to meet the purpose of each of the specific objectives and also to test the hypotheses.