CHAPTER 3
RESEARCH METHODOLOGY

This study is an effort to understand the impact of social advertisements on people. For this purpose, level of awareness of respondents, their likeability and factors which contribute to likeability have been studied. The effectiveness of social advertising and the level of behavioral changes which social advertising brings have also been studied. In order to develop a sound theoretical framework for this research, a review of literature has been undertaken. It revealed that there are very few studies regarding social advertisements in India. Given the fact that social advertisement is important to influence values and attitudes, this research gap needs to be addressed. An effort has been made to include the social advertisements which are very important in the Indian scenario.

Hypotheses of the Study

The hypotheses to be tested were framed on the basis of prior research and intuition. The broad hypotheses tested were that there is no difference between urban and rural respondents regarding awareness, likeability and effectiveness of social ads.

Data Base

The present study is mainly based on primary data collected from 400 adult respondents, 250 urban and 150 rural. These adults were interviewed through a pretested, well-structured and personally administered questionnaire.

Universe of the Study

The universe of the study comprises adults from urban and rural areas of Punjab. The selected adults belong to diverse strata of society. This study is confined to the state of Punjab only. Three districts of Punjab namely Amritsar, Jalandhar and Ludhiana and their allied villages have been chosen for the sample. Four hundred respondents belonging to different age groups, income groups, sex, and educational background have been selected. As comparison of rural urban population is very
important, hence respondents have been selected from both urban and rural background.

**Sample and Sampling Design**

It was planned to have a sample of 450 respondents. For choosing the sample a non-probabilistic judgment-cum-convenience sampling technique was used. But due to response errors and incomplete responses the effective sample has been 400. An effort has been made to get responses from respondents belonging to rural and urban background having different levels of education.

**Construction of the Questionnaire and Data Collection**

It was decided to collect data through personal interviews by instituting a structured, undisguised and pre-tested questionnaire (refer appendix). The effective sample turned out to be 400 adults. To develop the questionnaire, previous related literature and other library material available on social advertising was reviewed. While preparing the questionnaire, cues and ideas were taken from available literature on social advertising (Bhaskar and Mann, 2001; Chauhan, 1995). To make the questionnaire more concrete, advertisements which were of prime concern in India were chosen. The advertising campaigns were selected after discussion with academic experts in the field of sociology and advertising experts. The advertisements chosen were AIDS awareness, Eye Donation, Save Water/Oil/Electricity, Pulse Polio, Blood Donation, Girl Child Education, Against Drunken Driving, Family Planning, Stop Female Foeticide and Breast Feeding. The questionnaire contained sixteen questions in all. The questions ranged from multiple choices, close ended and rank type according to the suitability of the data needed. The questions tried to extract the information regarding awareness, likeability, dislikeability, factors which contribute to the likeability and dislikeability, effectiveness of social ads, specific factors which contribute to the effectiveness of the ads and last but not least the behavioural changes brought by the social advertising. A pool of 23 response statements was designed to know the attitude of respondents toward social advertising. Responses were measured on a five point Likert scale with ‘5’ indicating “Strongly agree” and ‘1’ indicating “Strongly disagree.” The preliminary draft of questionnaire was pretested on 20 respondents.
On the first page of the questionnaire, respondents were asked about their demographic background, including age, education level, marital status, qualification, occupation and their monthly income. The purpose of the research was stated to them and it was clearly stated that information given by them will be kept confidential.

Sample Profile

It is relevant here to discuss the socio-economic and personal characteristics of the respondents before studying their awareness, likeability and attitude towards social advertising. After discussions with experts, reviewing various studies and on the basis of general observation, it was found that there is a wide difference between the awareness and attitudes of urban and rural population. So, urban-rural segment was made the basis of the study. Also, only adults have been chosen for this study as there were many adult issues in the questionnaire.

Personal Profile of Respondents

It is very important to study the socio-economic and personal characteristics of respondents in order to relate them to the findings and to draw inferences. Adults belonging to different age groups (proper representation is given to each selected age category) have been chosen to be the sampling unit for this study. The socio–economic background information is provided in the Tables 3.1 to 3.5.

Table 3.1
Gender–wise Distribution of Respondents

<table>
<thead>
<tr>
<th>Sex</th>
<th>Urban</th>
<th></th>
<th>Rural</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Male</td>
<td>102</td>
<td>40.80</td>
<td>53</td>
<td>35.33</td>
<td>155</td>
<td>38.75</td>
</tr>
<tr>
<td>Female</td>
<td>148</td>
<td>59.20</td>
<td>97</td>
<td>64.67</td>
<td>245</td>
<td>61.25</td>
</tr>
</tbody>
</table>

There are 61.25 per cent female respondents in the study while the remaining 38.75 per cent are male respondents. Almost a similar pattern is observed in case of urban and rural respondents. Among urban respondents 35.37 and 64.67 per cent are
female and male respondents respectively. In case of rural respondents, there are 64.67 per cent females and 35.33 per cent males. Thus, female respondents dominate the study sample.

<table>
<thead>
<tr>
<th>Particular</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>Number</td>
<td>%age</td>
<td>Number</td>
</tr>
<tr>
<td>18-21</td>
<td>36</td>
<td>14.40</td>
<td>23</td>
</tr>
<tr>
<td>22-34</td>
<td>82</td>
<td>32.80</td>
<td>23</td>
</tr>
<tr>
<td>35-50</td>
<td>79</td>
<td>31.60</td>
<td>66</td>
</tr>
<tr>
<td>&gt;50</td>
<td>53</td>
<td>21.20</td>
<td>38</td>
</tr>
</tbody>
</table>

It is clear from the Table 3.2 that the highest proportion i.e. 36.25 per cent of total respondents belong to the age group of 35-50 years, followed by 26.25 per cent in the age group of 22-34 years and 22.25 per cent in the age group of above 50 years. The lowest proportion i.e. 14.75 per cent of total respondents belong to the age group of less than 21 years.

There was a somewhat different pattern among rural and urban respondents in comparison of age groups. Among urban respondents, the highest proportion i.e. 32.80 per cent was found to be in the age group of 22-34-50 years. Among rural respondents, there is a different pattern as the highest proportion i.e. 44.00 per cent belong to the age group of 35-50 years, followed by 25.33 per cent in the age group of above 50 years. Therefore, it may be said that the sample represents all the age groups in the study.
Table 3.3

Income-wise Distribution of Respondents

<table>
<thead>
<tr>
<th>Particular</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly Income (Rs.)</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>&lt;10000</td>
<td>72</td>
<td>28.80</td>
<td>66</td>
</tr>
<tr>
<td>10000-20000</td>
<td>93</td>
<td>37.20</td>
<td>40</td>
</tr>
<tr>
<td>&gt;20000</td>
<td>85</td>
<td>34.00</td>
<td>44</td>
</tr>
</tbody>
</table>

It can be seen from the Table 3.3 that almost an equal proportion of respondents are representing different income categories. Among total respondents, 34.50, 33.25 and 32.25 per cent were enjoying monthly income of less than Rs. 10,000, Rs. 10,000 to Rs. 20,000 and more than Rs. 20,000 respectively. However, the pattern differed among urban and rural respondents. The highest proportion i.e. 37.20 per cent of urban respondents have monthly income between Rs. 10,000 and 20,000 while it is highest of the order of 44.00 per cent among rural respondents who had a monthly income of less than Rs. 10000. This shows that income level is higher for urban as compared to rural respondents.

Table 3.4

Marital Status-wise Distribution of Respondents

<table>
<thead>
<tr>
<th>Particular</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Married</td>
<td>133</td>
<td>53.20</td>
<td>49</td>
</tr>
<tr>
<td>Unmarried</td>
<td>105</td>
<td>42.00</td>
<td>96</td>
</tr>
<tr>
<td>Others</td>
<td>12</td>
<td>4.80</td>
<td>5</td>
</tr>
</tbody>
</table>
As much as 45.50 per cent of total respondents are married and 50.25 per cent are unmarried. The pattern of marital status differs between urban and rural respondents. Among urban respondents, highest proportion i.e. 53.20 per cent was married, while in case of rural respondents highest proportion i.e. 64.00 per cent was unmarried.

Table 3.5  
Qualification-wise Distribution of Respondents

<table>
<thead>
<tr>
<th>Particular</th>
<th>Urban Number</th>
<th>Urban %</th>
<th>Rural Number</th>
<th>Rural %</th>
<th>Total Number</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate</td>
<td>90</td>
<td>36.00</td>
<td>13</td>
<td>8.67</td>
<td>103</td>
<td>25.75</td>
</tr>
<tr>
<td>Graduate</td>
<td>115</td>
<td>46.00</td>
<td>49</td>
<td>32.67</td>
<td>164</td>
<td>41.00</td>
</tr>
<tr>
<td>&lt;=Matriculation</td>
<td>25</td>
<td>10.00</td>
<td>60</td>
<td>40.00</td>
<td>85</td>
<td>21.25</td>
</tr>
<tr>
<td>Others</td>
<td>20</td>
<td>8.00</td>
<td>28</td>
<td>18.67</td>
<td>48</td>
<td>12.00</td>
</tr>
</tbody>
</table>

The highest proportions i.e. 41.00 per cent of total respondents are graduates, followed by 25.75 per cent with post graduation. The remaining 33.25 per cent of them are either illiterate or below matric. The pattern of educational level among urban population is similar with overall sample as highest number of graduates is 46 per cent followed by 36 per cent postgraduates. On the other hand, the highest proportions of rural respondents are under matriculation. Only 8.67 per cent of them are post graduates. Thus, educational level is higher among urban as compared to that among rural respondents.
Table 3.6

Occupation-wise Distribution of Respondents

<table>
<thead>
<tr>
<th>Particular</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Student</td>
<td>44</td>
<td>17.60</td>
<td>24</td>
</tr>
<tr>
<td>Business</td>
<td>44</td>
<td>17.60</td>
<td>1</td>
</tr>
<tr>
<td>Service</td>
<td>62</td>
<td>24.80</td>
<td>17</td>
</tr>
<tr>
<td>Professional</td>
<td>37</td>
<td>14.80</td>
<td>1</td>
</tr>
<tr>
<td>Housewife</td>
<td>24</td>
<td>9.60</td>
<td>51</td>
</tr>
<tr>
<td>Agriculture</td>
<td>2</td>
<td>.80</td>
<td>36</td>
</tr>
<tr>
<td>Retired</td>
<td>17</td>
<td>6.80</td>
<td>7</td>
</tr>
<tr>
<td>Others</td>
<td>20</td>
<td>8.00</td>
<td>13</td>
</tr>
</tbody>
</table>

The information contained in Table 3.6 indicates that occupation ranges between 6.00 per cent retired persons to 19.75 per cent doing service among total respondents. In case of urban respondents, occupation ranges between .80 per cent doing farming to 24.80 per cent in services. Among rural respondents, as much as 34 per cent are housewives while 24.00 per cent are involved in agriculture. Professionals and businessmen are to the tune of 0.67 per cent each. The occupations are identified as studies, business, service, profession, agriculture. The unemployed (housewives) and retired persons are also taken to fill the gap.

This shows that socio-economic characteristics, by and large, differ between urban and rural respondents, which may affect their awareness pattern regarding social advertisements.
**Data Analysis**

Only one mediating variable is taken to examine the influence of different aspects of social advertisements on respondents i.e. urban and rural. It is ironical that although the majority of Indian population resides in rural areas, the rural population has not been the focus of studies on social advertisements. The rural people lag behind their urban counterparts in terms of education, awareness and emancipation. Indeed the three factors stated above can be seen as interdependent. Education brings awareness which, in turn, leads to emancipation. This emancipation can be brought through social advertisements which aim at bringing awareness to the rural populace. But it is surprising to find that even though the urban population is more aware and educated, and the need is to make the rural people aware, most studies are carried out by keeping the urban population in mind. Most of the studies carried out in India focus on the sensibilities of the urban residents. Thus, the rural respondents, which make for the majority of Indian population remains languishing in the grip of illiteracy and ignorance. The need, therefore, is to focus on the needs of the rural population so as to make them as aware and informed as their urban counterparts. The present study focuses on this gap that exists between the two and tries to determine where sensibilities of the two differ. The aim of the research is to identify the ethos of the urban population so that social advertisements, designed to bring awareness and emancipation to all, can be crafted keeping the wants of the rural people in mind.

The universal statistical package called ‘statistical package for social sciences’ (SPSS-11.0) was used for data analysis and data was organized/reorganized using MS Excel 2003 and SmartSuite.

**Weighted Average Scores**

The weighted average score (WAS) has been computed where the respondents were asked to rate, rank or express their level of agreement with same statements. For example, in a five point Likert scale, the scale ranges from 1 to 5. The low score indicates disagreement, dissatisfaction or unimportant while high score indicates agreement, satisfaction or important. The WAS score was computed as below:
\[ \text{WAS} = \sum_{i=1}^{5} \sum_{w=1}^{fW} \frac{w \cdot fW}{fW} \]

Where:

\( W \) = Weight given to a factor/statements and

\( fW \) = Number of respondents who attached weight ‘\( w \)’ to the factor/statement

**Statistical Techniques Used**

**Students’ Unpaired t-test**

It assesses the statistical significance of the difference between two independent sample means. In order to compare two mean values, e.g. between urban and rural respondents, students’ unpaired t-test has been applied as under:

\[
t = \frac{\bar{x}_1 - \bar{x}_2}{\text{S.E.}(\bar{x}_1 - \bar{x}_2)}
\]

\[
\text{S.E.} = S \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}
\]

\[
S = \sqrt{\frac{\text{SD}_1^2 (n_1 - 1) + \text{SD}_2^2 (n_2 - 1)}{n_1 + n_2 - 2}}
\]

Where

\( \bar{x}_1 \) = Mean among urban respondents

\( \bar{x}_2 \) = Mean among rural respondents

\( \text{SD}_1 \) = Standard deviation among urban respondents

\( \text{SD}_2 \) = Standard deviation among rural respondents

\( S \) = Common Standard Deviation

\( \text{S.E.} \) = Standard Error of mean difference

\( N_1 \) = Number of urban respondents

\( N_2 \) = Number of rural respondents
Analysis of Variance

Analysis of variance technique (ANOVA) is used as a test of means for two or more populations. The null hypothesis typically is that all means are equal. Analysis of variance must have a dependent variable that is that is metric (measured using an interval or ratio scale). There must also be one or more independent variables. (Green and Tull, 1986). ANOVA tells us whether there is a difference between two or more of groups.

ANOVA Table

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>d.f.</th>
<th>T.S.S.</th>
<th>M.S.S.</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories (s)</td>
<td>n-1=a</td>
<td>s₁</td>
<td>s₁/a=x</td>
<td>x/y</td>
</tr>
<tr>
<td>Error (E)</td>
<td>b-a=c</td>
<td>E₁</td>
<td>E₁/b=y</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>N-1=b</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where
d.f. = Degree of freedom
N = Number of respondents
T.S.S. = Total sum of squares due to categories/error
M.S.S. = Mean Sum of squares due to categories/error
n = Number of categories to be compared

If the F-ratio is significant then there is a significant difference regarding a advertisement campaign among urban respondents or rural respondents otherwise not.

In the present study it has been used to compare the mean ranking scores assigned to different factors, scores assigned to various social advertising campaigns and various campaigns within one category of respondents. These categories are total respondent, urban respondents and rural respondents. After getting the F-ratio, it was seen whether F-ratio was significant or not. If F-ratio was significant, Critical
Difference (CD) was calculated to compare all the possible pairs of mean values. C.D. was calculated as under:

\[
C.D. = \sqrt{\frac{2 \times M.S.S.e}{\text{No. of respondents}}} \times t_{\text{error d.f.}}
\]

Where M.S.S.e is the mean sum of square due to the error, denoted by ‘y’ in the previous equation.

If the arithmetic difference in any two mean values is greater than or equal to CD, then it was taken significant, otherwise non-significant. The Critical Difference (C.D.) technique has been used to find out the level of preference and to similarities/dissimilarities of agreement on a particular campaign. From the highest score of agreement, C.D. was subtracted and that becomes cut point for the set of similar statements with the highest agreement. Then from the highest score of the remaining statements, C.D. was again subtracted to get the second set of statements with similar level or second highest level of agreement and so on.

**Z-test:**

In order to see whether the responses of urban and rural differ significantly or not i.e. to compare two proportions or percentages of respondents, Z-test, which is the test of proportions, has been applied as under:

\[
Z = \frac{|P_1 - P_2|}{\text{S.E. of } (P_1 - P_2)}
\]

\[
\text{S.E. of } (P_1 - P_2) = \sqrt{pq \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}
\]

\[
P = \frac{n_1P_1 + n_2P_2}{(n_1 + n_2)}
\]

\[
q = 1 - p
\]

Where

\[P_1 = \text{Proportion of urban respondents}\]

\[P_2 = \text{Proportion of rural respondents}\]
**Coefficient of Correlation:**

To see the relationship between two variables, Karl Pearson’s Coefficient of Correlation (r-value) has been worked out. This was done to see the significance of relationship between believability and success of social advertising. The coefficient of correlation was computed by using the following formula: The coefficient of correlation was computed by using the following formula:

\[
r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})(y - \bar{y})^2}}
\]

or

\[
r(X, Y) = \frac{\sum xy}{\sqrt{\sum(x^2)(y^2)}}
\]

Where

\[x = (X\text{-Mean of } X)\]

\[y = (Y\text{-Mean of } Y)\]

**Chi-square test**

In order to facilitate comparative analysis of psycho-socio variables forming behavioural pattern of rural and urban respondents regarding social advertising, chi-square test of homogeneity was applied. Developed by Prof. Fisher, Chi-square test is most versatile of all the non parametric tests and is capable of being used in different situations. It is a statistical measure with the help of which is possible to assess the significance of difference between the observed and expected frequencies obtained from some hypothetical universe. Contrary to the parametric tests, non-parametric test do not require any information whatsoever about specific form of the population distribution should be continuous. Further, application of these tests does not need the assumption of normality of population which is required in parametric test. Thus non-parametric test are also known as distribution free tests, since these can be applied to all types of population distributions. (Malhotra, 2005)
Kendall’s Coefficient of Concordance

It is also known as test of concordance. It is used for assessing agreement among various groups of respondents. Kendall’s W ranges from 0 to 1. If the W is 1 then all the survey respondents agree with each other. If the W is 0 then there is no agreement between the respondents. Middle values of W indicate a greater or lesser degree of unanimity among various responses. In this study it has been used to analyse the level of similarity between urban and rural respondents regarding likeability.

Factor Analysis Technique

Factor analysis is a multivariate statistical technique used to condense the information contained in a number of original variables into a smaller set of composite dimensions (factors) with a minimum loss of information (Hair et al., 2005). It is an interdependence technique in which all variables are simultaneously considered each related to all others. As observed by Malhotra (2005), it is used:

To identify the underlying dimensions of factors that explains the correlation among a set of variables.

To identify a new, smaller set of uncorrelated variables to replace the original set of correlated variables.

To identify a smaller set of salient variables from a larger set for use in subsequent multivariate analysis.

Factor analysis is an interdependence technique in which all variables are simultaneously considered, each related to all others. Since the objective of this research was to summarize the variables, ‘R’ Factor analysis was applied. It studies the structure of inter relationships (correlations) among a large number of variables by defining a set of common underlying latent dimensions, known as factors. As a result variables within each factor are more highly correlated with variables in that factor than with variables in other factors. This makes it possible to interpret the data from a much smaller number of factors than the original individual variables.

With Factor analysis, the analyst can first identify the separate dimensions of the structure and then determine the extent to which each variable is explained by each
dimension. Once these dimensions and the explanation of each variable are determined, the two primary uses of Factor analysis – summarization and data reduction – can be achieved. In summarizing the data, Factor analysis derives underlying dimensions that when interpreted and understood, describe the data in a much smaller number of items than the original individual variables. Data reduction can be achieved by calculating scores for each underlying dimension and substituting them for the original variables (Hair et al; 1995).

The adequacy of sampling can be tested on the basis of following four criteria: (1) a visual inspection of the correlation data matrix can reveal whether there are sufficient correlations to justify factor analysis; (2) Anti image correlation matrix shows the negative values of partial correlations among variables. In order for true factors to exist in the data these values must be small; (3) Kaiser-Meyer-Oklin (KMO) measure of sampling adequacy (MSA) is another measure to quantify degree of inter-correlations among the variables and appropriateness of factor analysis. The index ranges from 0 to 1. KMO should be examined for the overall matrix and also for each variable to exclude values falling below acceptable level; (4) Bartlett’s test of sphericity provides statistical probability that the correlation matrix has significant correlations among at least some of the variables.

Choice of methods used to extract factors is an important step in factor analysis. Since the objective of the study was to summarize most of the original information (variance) in a minimum number of factors ‘Principal Component Analysis’ was used. This is a statistical technique that linearly transforms an original set of variables into a substantially smaller set of uncorrelated variables, which represents most of the information in the original set of variables. A small set of variables is much easier to understand and use in analysis than a larger set of correlated variables (Dunteman; 1989).

In Principal Component Analysis, linear combinations of variables are used to account for variation (spread) of each dimension in a multivariate space. The variance of the factors is called Eigen values, characteristic root or latent root. Communality is the amount of variance an original variable shares with others. Factor loadings are the correlations between the original variable and the factor. Guidelines exist (Hair et al, 2005) for identifying significant factor loading based
on the sample size. Squared factor loadings indicate what percentage of the variance in an original variable is explained by a factor. When the set of variable is large as in this study, the analyst first extracts the largest and best combinations of variables and then proceeds to smaller and less understandable combinations. Hence, the number of factors to be extracted becomes an important issue in the absence of any set criterion.

The four possible criteria are ‘a priori criterion’, ‘latent root criterion’, ‘percentage of variance criterion’ and ‘scree test criterion’. In the present study, the number of factors to be extracted was finalized on the basis of ‘latent root criterion’ i.e. having eigen values greater than 1 have been selected.

An important step in factor analysis is rotation of factors. Loadings are rotated to make them more interpretable by making the loadings for each factor either large or small, not in between. For rotation, either orthogonal or oblique method can be employed. In orthogonal rotation method the axis are maintained at 90 degrees so that the resulting factors are uncorrelated. In oblique rotation method, the axis is rotated, without maintaining the 90 degree angle between them. This makes the method more flexible. However, analytical procedure for oblique rotations is still controversial. Within orthogonal method either varimax or quatrtrimax method can be employed. Varimax method simplifies the columns in a matrix whereas quatrtrimax method stresses on simplifying the rows. In the present study, orthogonal method along with the varimax method of rotation has been used. Also, varimax was retained because it is more realistic because since the theoretically important underlying dimensions are not considered to be uncorrelated with each other. The varimax criterion maximizes the sum of the variances of the squared loadings within each column of the loading matrix. This tends to produce some high loadings and some near zero, which is one of the aspects of simple structure (Dunteman, 1989).

The final step in this is to name the factors. The naming of factors has been done intuitively; depending on its appropriateness for representing the underlying dimensions of a particular factor. The naming of factors is not typically a scientific process; still some guidelines are recommended (Hair et al, 2005).
In this study factor analysis was employed to know the attitude of respondents towards social advertising. There were total 23 statements on which factor analysis technique was employed.

**Regression Analysis**

Regression analysis is technique to analyse the relationship between a single dependent variable and several independent variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher. Each predictor variable is weighted, the weights denoting their relative contribution to the overall prediction. Multiple regression can establish that a set of independent variables explains a proportion of the variance in a dependent variables at a significance level. It has been used in this study to know the relationship between various factors of importance and success of various social advertisements. Multiple regression has been used here in this study. Multiple regression is an extension of the bivariate linear regression. The technique reveals the extent and direction of relationship between the dependent variable and several independent variables. The adjusted $r$-square generated by it indicates the proportion of variation in the dependent variable explained by the independent variable. The generalized equation is:

$$ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \cdots \cdots \cdots + b_nX_n + e $$

Where,

- $Y$ = Dependent variable
- $a$ = Constant term
- $X_1, \ldots, X_n$ = Independent variables
- $b_1, \ldots, b_n$ = Regression coefficients of $X_1, \ldots, X_n$
- $e$ = Error term

Besides, student’s t-test was applied to test the significance of the regression coefficients scores.
Limitations of the Study

Like any other study, this study is also subject to certain limitations. Any study based on consumer survey through a pre-designed questionnaire suffers from the basic limitation of the possibility of difference between what is recorded and what is the truth, no matter how carefully the questionnaire has been designed and the field investigation conducted (Singh, 1989). These are explained below so that findings of the present study can be seen in the proper prospective.

1. As the topic is very sensitive there may be some bias in the on the part of the respondents which may affect the findings and conclusions.
2. Lack of awareness among respondents may affect results of the study.
3. The study is confined to the state of Punjab only, so the conclusions drawn cannot be generalized.
4. As the sample selected on the basis of convenience sampling the result may not be as representative of the overall population.
5. Some bias could have crept into the data and hence some proportions may be incorrect.