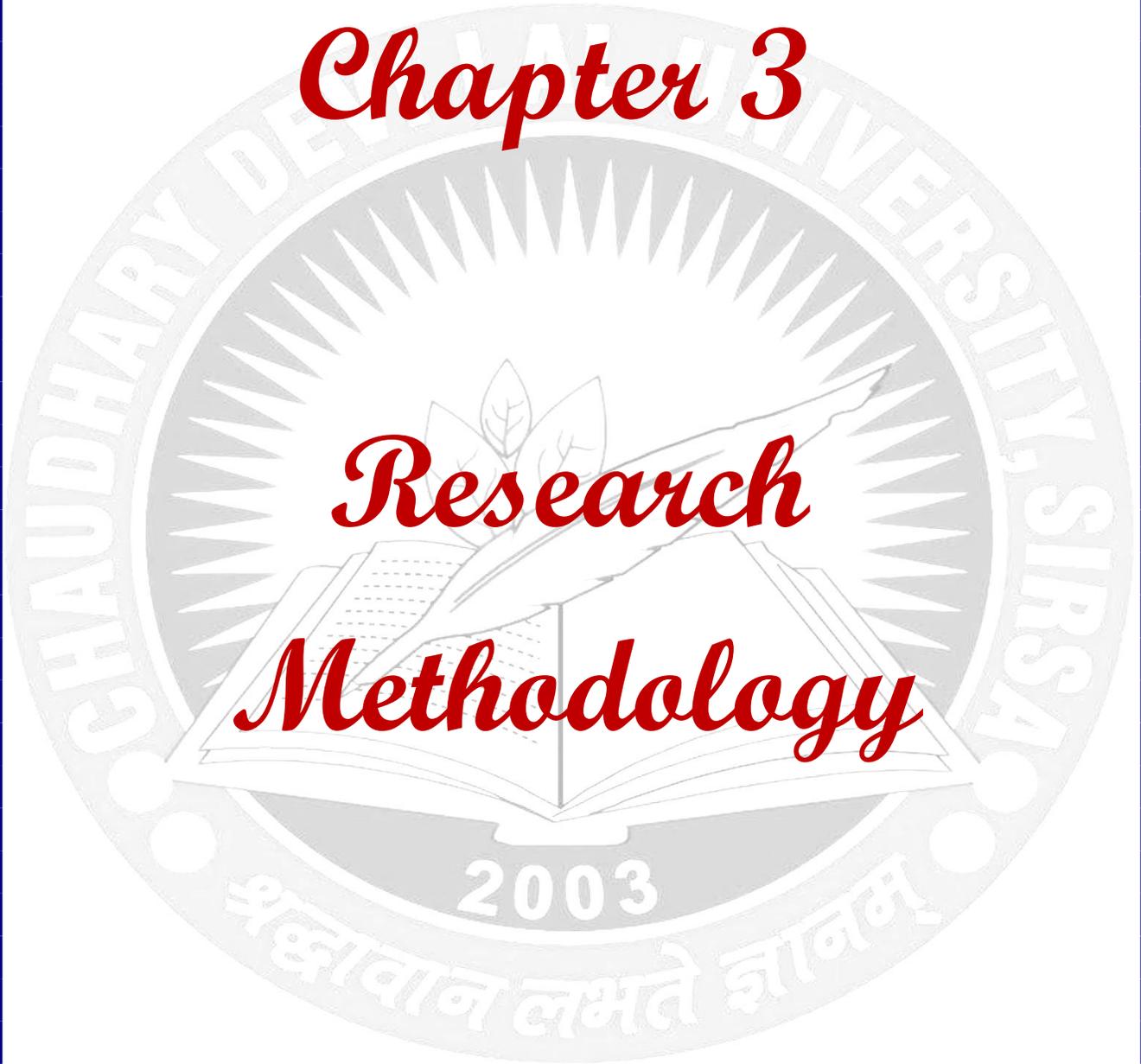


# *Chapter 3*

## *Research Methodology*



### **3.0 Introduction**

*Merriam-Webster Online Dictionary* defined that “Research is a studious inquiry or examination; especially : investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws.”

Research can be defined as the systematic and scientific investigation of any problem. It is a scientific method of studying a phenomenon, problem or event and an endeavour to establish new facts, concepts or methodologies in the light of previous knowledge through the application of scientific procedures. The properly organized inspection into and study of materials and sources in order to create new facts and achieve new conclusions (*Oxford Living Dictionaries*).

Research needs a proper methodology or plan of action to study a phenomenon in a systematic way. Methodology occupies a very eminent place in conducting a research study. Whenever a research study is proposed to be conducted, it is very important to adopt a proper plan of action for the success of research work. Methodology is of paramount importance as it shows the researcher the way to organize the ideas in reaching at the new conclusions. It provides an insight into the procedure and method adopted by the investigator in studying the research problem. It comprises of various steps and assumptions that a researcher generally adopts in studying the research project. The researcher is need to know not only the research methods and its different techniques but also the methodology of the research. He/She need to know not only about the tests, calculation of different statistical techniques, application of research techniques but also need to know which of these methods and techniques are related to his/her study and which are irrelevant and what would all these techniques mean and indicate and why. The researcher has to specify very clearly and precisely Why a research study has been undertaken, how the research problem has been defined, in what way and why the assumptions has been made, what type of data has been collected and what specific method has been chosen, why any specific technique for analyzing data has been used and a huge number of similar other questions are usually answered when we talk of research methodology concerning a research problem or study (Kothari, 2004).

This chapter is devoted to the methodology followed by investigator in conducting the present venture. Different methodological steps were followed as per the requirements of the study to achieve the objectives :

- Research Method
- Setting
- Population and Sample
- Variables of the Study
- Instrumentation
- Description of Tools
- Procedure
- Statistical Techniques Used

### **3.1 Research Method**

The adoption of research method depends upon the nature of the problem and objectives to be achieved. In the present study the investigator went with the descriptive method of research which is the most commonly used method in educational research. Descriptive method of research is used to study the existing conditions and phenomenon. According to John W. Best, “Descriptive research involves the description, recording, analysis and interpretation of condition that now exist.” In the same way the investigator described the current conditions and characteristics of the university students on the basis of their usage patterns of internet, level of alienation and academic achievement. She also adopted correlational strategy of descriptive method to study the relationship among usage patterns of internet, alienation and academic achievement of university students.

### **3.2 Setting of the Study**

The setting of the present study is in a north state of India, Haryana. Haryana is the 16th largest state of India and is stretched over an area of 44,212 sq. km. It is one of the wealthier or economically developed states of India with a rich sector of agriculture and industries. A large number of industries are located in the various districts of Haryana. In the field of education, there is tremendous increase in the literacy rate of Haryana state. As of census 2011, the literacy rate of the state recorded 76.64 percent, slightly more than the national literacy rate (74.04), which is about eight percent more than the state’s literacy rate in 2001 i.e. 67.91 percent. It shows the increasing awareness of the people of Haryana towards education. In this study, data was collected from the university students of Haryana.

### **3.3 Population and Sample**

We can define or population can be defined as any entire collection of people, animals, plants or things on which we may collect data. It is the collection of any specific group of human beings or of non-human entities such as objects, educational institutions, time units, geographical areas, salaries of employee and prices of specific things etc.

The major purpose of research is to make generalizations but it is not possible to encompass the entire population. In the process of sampling, objects, Individuals or events are selected in small number and then analysed to find out something about the entire population from it was selected. It is the miniaturre part of the population and helps the researcher to save time and energy and produce greater precision and accuracy.

“A good sample not only needs to be representative it should also be adequate or sufficient in size to allow confidence in the stability of its characteristics.”

In the present study, all the universities of Haryana constituted the population. There are forty universities in Haryana state. Because of the paucity of time, it was not feasible for the investigator to cover all the universities. Therefore, sample was drawn from the four universities viz. Ch. Devi Lal University (Sirsa), Kurukshetra University (Kurukshetra) and Maharishi Dayanand University (Rohtak) and Ch. Ranbir Singh University (Jind). These universities were chosen by lottery method. Departments (arts/science) of the universities were selected by using simple random technique. Students of M. A. Hindi and M. A. English were taken as sample of arts stream and students of M.Sc. Mathematics and M.Sc. Physics were taken as sample of science stream. 400 students of the arts and science streams form the final sample of the present study, 100 students from each university. 200 students were taken from arts stream and 200 from science stream. And there were 200 female students and 200 male students. 200 students were taken from rural locality and 200 from urban locality. The sample selected gender wise, locality wise and stream wise presented in the tables 3.1, 3.2 and 3.3.

**Table 3.1**  
**Number of Students Selected Gender wise as a Sample from Different**  
**Universities of Haryana**

Sr. No.	University	Gender				Total	
		Female		Male		N	%
		N	%	N	%		
1	Ch. Devi Lal University, Sirsa.	54	13.50	46	11.50	100	25
2	Kurukshetra University, Kurukshetra.	48	12.00	52	13.00	100	25
3	Maharishi Dayanand University, Rohtak.	47	11.75	53	13.25	100	25
4	Ch. Ranbir Singh University, Jind.	51	12.75	49	12.25	100	25
Total		200	50	200	50	400	100

**Table 3.2**  
**Number of Students Selected Locality Wise as a Sample from Different**  
**Universities of Haryana**

Sr. No.	University	Locality				Total	
		Urban		Rural		N	%
		N	%	N	%		
1	Ch. Devi Lal University, Sirsa.	50	12.5	50	12.5	100	25
2	Kurukshetra University, Kurukshetra.	53	13.25	47	11.75	100	25
3	Maharishi Dayanand University, Rohtak.	47	11.75	53	13.25	100	25
4	Ch. Ranbir Singh University, Jind.	50	12.5	50	12.5	100	25
Total		200	50	200	50	400	100

**Table 3.3**  
**Number of Students Selected Academic Stream Wise as a Sample from**  
**Different Universities of Haryana**

Sr. No.	University	Stream				Total	
		Arts		Science		N	%
		N	%	N	%		
1	Ch. Devi Lal University, Sirsa.	55	13.75	45	11.25	100	25
2	Kurukshetra University, Kurukshetra.	54	13.50	46	11.50	100	25
3	Maharishi Dayanand University, Rohtak.	41	10.25	59	14.75	100	25
4	Ch. Ranbir Singh University, Jind.	50	12.5	50	12.5	100	25
Total		200	50	200	50	400	100

### 3.4 Variables of the Study

Variables are the conditions or the characteristics that the researcher manipulates, controls or observes. In the present study, independent and dependent variables were as follows:

**Independent Variable** – Independent variable is a factor that the researcher selects or manipulates to determine its effect on dependent variables. It is the variable which is totally under the control of the researcher. It is a stable variable which is not affected by any other variables of the study. In the present study, the independent variable is '*Usage Patterns of Internet*'. Researcher aimed to check the effect of usage patterns of internet on alienation and academic achievement.

**Dependent Variables** – Dependent variable is a response or output. The dependent variable is the factor that the researcher observes and measures to determine the effect of independent variable. It is the factor that appears, vanishes or varies as the researcher introduces, eliminates or varies the independent variable. In the present study, dependent variables are: *Alienation* and *Academic Achievement* .

### 3.5 Instrumentation

A research tool plays a major role in any worth while research, as it is the sole factor in determining the sound data and in arriving at perfect conclusions about the problem or study in hand, which ultimately, helps in providing suitable remedial measures to the problem concerned Avula, Ranganath. (2012). "Like the tool in the

carpenter box, each research tool is appropriate in a given situation to accomplish a particular purpose.”

There are two ways of selecting and using the research tools. The first is the construction of tool by investigator for his/her study. It seems very easy but in reality it is not an easy task. It takes a long time to construct a tool for study. Investigator may face many problems while constructing and standardizing the tool. It is not only the preparation of some statements related to the nature of the study but the statements should be properly chosen and constructed. And the investigator has to take care about the systematic way of constructing the tool and then standardizing the tool: consultation with experts, data collection and then go through the statistical techniques to check its validity and reliability.

The second way of selecting and using the research tool by the investigator is the right and proper selection of tool from already standardized tools in the field of study. It is also not an easy task but a tedious job to find an appropriate tool which meets the nature and objectives of the study. But it is more economic and reliable way of selecting the tool for the study than to construct it.

For the present study, keeping the nature of the problem in mind, the investigator used one standardized and one self prepared tools:

To collect the research data, the investigator used the following tools;

1. Student Alienation Scale by R. R. Sharma
2. Self designed questionnaire on Usage Patterns of Internet

### **3.6 Description of Tools**

#### **3.6.1 Student Alienation Scale (SAS) by Dr. R.R. Sharma**

##### **Concept**

‘Alienation’ has been used by philosophers. Psychologists and sociologists to refer to an extraordinary variety of psycho-social disorders, including loss of self, anxiety state, anomie. Despair, depersonalization, rootlessness. Apathy, social disorganization, pessimism and the loss of beliefs or values (Josephson, 1962).

Theorists of alienation have generally distinguished between social condition and the response of individuals to these conditions. Alienation usually refers to the latter. While the term “anomie” has been used to describe a social state in which conditions of normlessness or the breakdown of social rules is identifiable. Sociologists have distinguished between anomie and alienation. Anomie is purely a social phenomenon-a condition of society at a particular stage of social change,

whereas alienation is purely a subjective phenomenon concentrated within the individual framework.

The phenomenon of alienation is slow and systematic at the affective level. It may have some specific psychological reinforcers which might be present in certain type of personalities. But at the social level. When certain situations come into direct confrontation with the conformed norms of behavior, it flourishes. Psychologists observe that alienation grows as soon as the feeling of “significant others in comparison to one’s own feelings of insignificance emerges”. Thus, there may be cultural, economic, educational, structural, ethno-racial, and power-oriented inequalities which make an individual feel inferior and worthless. Another cause of alienation has been found to be social segregation. The psychologists working in the field of organizational psychology like Cline (1960), Kohen (1970), Peter (1973), Porter (1976), and Zillengar (1977) have come to the conclusion that the phenomenon of alienation is accelerated along with the increased complexities and rules of a particular organization. They have also observed that alienation sets in when traditional goals or distribution of facilities and services are replaced. Alienation among youths may differ in important ways; some aspects of alienation are relatively widespread in a particular culture; others tend to be limited to smaller sub-groups.

Oppenheimer (1968) has suggested five kinds of alienation following the usage of alienation given by Seeman (1959) as being the individual’s response to a specific social condition.

- (1) Alienation from decision-making. This is separation from power or control of the decision-making process. This alienation is antecedent to self estrangement. For separation from the decision-making process over what one produces is theoretically the most important factor leading to alienation from self.

It is this particular kind of alienation that is of critical concern to sociologists today, especially in organizational life, e.g, bureaucracies such as welfare establishments and the large university (Aiken and Hege, 1966).

Alienation from decision-making can be conceptually pictured as leading to two separate but interrelated areas of further alienation- personal alienation and social alienation. Under personal alienation, two categories are included- alienation from self and alienation from the meaning existence.

- (2) Alienation from self. This is loss of pride in one's work, hence loss of satisfaction. It involves a failure to find self-rewarding. Self consumatory activities: beyond this, it involves an even wider idea of worth, lack of which may lead to the playing of self destructive and neuron roles in the effort to find substitute satisfaction. It involves, too, the idea of not being "true to one-self".
- (3) Alienation from the meaning of existence. This is the feeling that existence is meaningless As Durkheim (1956) puts it, "life is said to be intolerable unless some reason for existing is involved, some purpose justifying life's trial ..... when, therefore, we have no other object than ourselves, we cannot avoid the thought that our efforts will finally end in nothingness, since we ourselves disappear. Under these conditions, one would loose courage to live, that is, to act and struggle, since nothing will remain of our exertions". Meaning seems to be closely dependent upon "self" which in turn very much depends on the power to affect decision over oneself.

Social alienation in contrast to personal kinds also involves two further categories-alienation from society's means-ends system, and alienation from the system.

- (4) Alienation from society's means-ends system. This is derived from Durkheim's (1966) and Merton's (1938) use of the term 'anomie', which refers to a social condition to which individuals adapt. Individuals are alienated from society's means or its ends system.
- (5) Alienation from the system. This is a conscious rejection of which society stands for as a whole.

From the foregoing account of alienation it becomes clear that alienation, regardless of types, is a dependent variable in sociological terms and the assumption should be made explicit that specific conditions give rise to specific kinds of a alienation.

Seeman (1959) has differentiated five meanings of alienation:

- (1) Powerlessness. The perception that one cannot control what is happening to him.
- (2) Meaninglessness. The perception that one is unclear as to what one ought to believe.
- (3) Normlessness. A high expectancy that socially unapproved behavior is required to achieve given goals.

- (4) Isolation. The assignment of low reward value to goals or beliefs that are usually highly valued in a society, and.
- (5) Self-Estrangement. The failure to find self-rewarding activities.

Alienation as a psycho-social phenomenon is growing among students at almost all levels of educational institutions. Although in western countries, its emergence was observed during the period of Cold war, but it gained popularity during 1960s (Conger. 1977. Schacht, 1971). In India it could catch the attention of social scientists only a few years back. The social scientists have tried to interpret this phenomenon in their own ways and some of them have hypothesised that in the institutions of higher education, its emergence is the result of inadequacy, ambiguity and ineffectiveness of these institutions. It has been reported that the outcome of alienated behavior is so serious and harmful that it not only obstructs the growth of the institution but damages the personality of the individual also.

Since this phenomenon was firstly observed by western social scientists, hence they designed their studies to understand this phenomenon by different ways. It is acknowledged fact that the situations of western countries are much different from that of ours, hence their tools, although valid, cannot be applied here in India to understand and measure this unique phenomenon of student alienation. So it was felt necessary to develop a new tool based on prevailing Indian situations to measure alienation among students at higher level.

### **Development of the scale**

Student Activism Scale measures the alienated behavior of college students. This scale has been developed on the basis of five dimension of alienation (Powerlessness, Isolation, Self Estrangement, Meaninglessness, Normlessness) as categorised and defined by Seeman (1959).

In the development of this scale, the following procedure was followed: Collection of relevant material and preparation of statements. First of all, literature concerning alienation was collected and a thorough study of that material was made. Then the points related to alienated behavior of students were noted. On the basis of these points, some statements were prepared. This was a very exhaustive list of statements.

These statements were discussed with the staff members of Education Department of allied disciplines. On the basis of the discussions, some of the irrelevant statements were dropped and the vagueness and ambiguity of a few were

removed. Thus, the remaining items were ready for inclusion in the first draft of the scale.

**First Draft of the scale.** This draft contained 80 items prepared on five dimensions of alienation, namely, isolation, self-estrangement, meaninglessness, normlessness and powerlessness. The items related to these dimensions were placed disorderly so as to avoid guessing from the side of the respondents. The instructions for filling up the scale were given with it and the respondents were required to put check mark for each such statement to which they agreed. This form of the scale was ready for pre-tryout.

**Pre-Tryout of the scale.** Pre-tryout was done on a sample of 10 teachers of Education, Sociology and Psychology Departments of Garhwal University, Srinagar-Garhwal. They were requested to check (i) those items which were ambiguous and unintelligible, (ii) those items which were unattractive and irrelevant. The judgments of these judges were carefully examined in view of the frequency of their judgments. On the basis of the results of pre-tryout, 16 items were found unsuitable, so these were eliminated. Other items were improved.

**Tryout of the Scale.** The second draft of the scale containing 64 items with necessary instructions for filling it out was administered to a sample of 115 students (male and female both), of Birla Constituent College, Srinagar-Garhwal, randomly selected from different disciplines. The respondents were properly instructed for filling up the scale. Out of 115 booklets of the scale, only 105 were returned and from which 5 were rejected on the ground of incomplete information. Thus, in all 100 booklets of the scale remained for item analysis. Item Analysis is before analyzing the response of the respondents for item selection, each of the agreed statements was assigned the value of I mark. Response frequencies, along with assigned values for each item, were tabulated on a maser sheet. Then total scores of the respondents were examined carefully. After that, these scores were arranged from highest to lowest order (the highest score was placed on the top and lowest score was placed in the bottom). Then from the total cases, top 27% and bottom 27% cases were taken to form two groups. The percentages of the score of two groups were calculated item wise. After that, biserial correlation coefficients between the score of two groups were calculated on the basis of Flanagan's table. These correlations were carefully examined and the items showing zero or below 20 values were deleted for being unsatisfactory.

The final Scale. On the basis of the results of item analysis, most suitable items of the scale retained there. Thus, the final form contains 54 items.

**Reliability**

Three indices of reliability were found out. Firstly, its reliability was determined by split-half method and was found .61 ; secondly, it was calculated by K.R. (Kuder Richardson) method and was found .84, and thirdly, it was determined by test-retest method. Two test-retest reliabilities were determined : one after an interval of 3 months and the other of 6 months and the values were found .75 and .71 respectively. Thus, all this is a clear indication of adequate reliability of the scale. Three sets of reliability coefficient of Student Alienation Scale are presented in table 3.4.

**Table 3.4**  
**Indices of Reliability of Student Alienation Scale**

Reliabilities			
K.R. Method	Test-retest Method		Split Half Method
N=100	Time gap of 3 months N=50	Time gap of 6 months N=50	N=50
.84	.75	.71	.61

**Validity**

Two indices of validity of Student Alienation Scale were computed. Firstly, discriminant validity was determined on the score of students obtained on Sharma Student Activism Scale developed by Sharma (1988) and it was found .07, which shows that there is no agreement between the two measures. This is an indication of the validity of the scale. Secondly, its validity was determined by calculating correlation coefficient between the scores on total Student Alienation Scale and the scores on its five different dimensions. The values of the validity of this scale have been presented in table 3.5.

**Table 3.5**  
**Validity of Student Alienation Scale**

Discriminant validity N= 30	Validity via correlation coefficients N=30				
	Dimensions of Alienation				
	Powerlessness	Isolation	Self estrangement	Meaninglessness	Normlessness
.07	.69	.60	.77	.62	.72

### **Instructions**

The instructions for filling out the scale are given on the front page of the scale. The investigator should read them carefully and assure himself or herself that he or she has followed them.

### **Administration of the Student Alienation Scale**

The SAS can be conveniently administered in group testing situation. It is desirable that test administrator must establish rapport with the teachers and the students before the testing session begins and explain briefly but distinctly what he wants and what they have to do. He should ask the testees, i.e. students to read the instructions given on the front page of the scale carefully. The test administrator should also explain the instructions to the students verbally. He should also tell them that they should complete the work within 20 minutes.

After the instructions are over, the testees should be asked to record their responses in the appropriate columns. Due care should be taken that the respondents may not leave any item unmarked. The test administrator should count the booklets before leaving the class.

### **Scoring Procedure**

There are 54 items on the Student Alienation Scale. Each agreed statement carries the value of 1 mark and each disagreed statement of zero mark. Thus, on the total scale maximum mark is 54 and minimum is zero. Sum of the total score on five dimensions gives the total alienation score. The scores of the scale can be used dimension-wise as well as in total. Since the items on different dimensions have been

randomly presented in the scale, the guidelines to locate them have been given below in table 3.6.

**Table 3.6**  
**Dimension-wise Distribution of Items**

<i>Dimensions</i>	<i>Sl. No. of Items</i>
1. Powerlessness	1, 5, 9, 12, 17, 19, 23, 28, 41.
2. Isolation	2, 6, 13, 18, 20, 24, 29, 33, 37
3. Self estrangement	3, 10, 14, 21, 25, 30, 34, 36, 38, 42, 45, 46
4. Meaninglessness	4, 7, 11, 15, 26, 31, 39, 43
5. Normlessness	8, 16, 22, 27, 32, 35, 40, 44, 47, 48, 49, 50, 51, 52, 53, 54

### Norms

Percentile norms were computed for both males and females of all five dimensions of Student Alienation Scale and also for the scale as a whole. Table 4 and 5 present the percentiles for male and female students of undergraduate and postgraduate class respectively for meaningful interpretation.

**Table 3.7**  
**Percentile Norms for Males**

Dimensions of Alienation							
Percentiles	Power-lessness	Isolation	Self-estrangement	Meaning-lessness	Normlessness	Total	Interpretation
90	6.32	6.84	8.90	6.86	15.27	39.50	Very High Alienation
80	5.10	5.72	7.26	5.82	14.54	35.35	High Alienation
75(03)	4.72	5.36	6.84	5.40	14.15	33.80	
70	4.34	5.10	6.42	5.14	13.77	32.60	
60	3.58	4.61	5.58	4.60	13.01	30.20	Average Alienation
50(Mdn.)	2.90	4.16	4.68	4.08	12.20	27.55	
40	2.24	3.78	3.78	3.56	11.30	24.80	
30	1.90	3.04	3.04	3.02	10.40	22.62	Low Alienation
25(01)	1.72	2.66	2.70	2.62	9.95	21.62	
20	1.38	2.66	2.36	2.30	9.50	20.55	Very Low Alienation
10	0.68	2.00	1.70	1.68	4.25	17.00	
Mean	3.06	4.90	4.98	4.12	11.60	28.05	
S.D.	2.18	1.96	2.82	1.90	3.51	9.95	
N.	500	500	500	500	500	500	

**Table 3.8**  
**Percentile Norms for Females**

Dimensions of Alienation							
Percentiles	Power- lessness	Isolation	Self- estrangement	Meaning- lessness	Normlessness	Total	Interpretation
90	5.62	6.50	7.84	6.38	15.60	37.70	Very High Alienation
80	4.50	6.06	6.36	5.82	14.68	35.95	High Alienation
75(Q3)	4.22	5.84	6.04	5.56	14.36	35.00	
70	3.94	5.64	5.70	5.28	14.10	34.15	
60	3.38	5.20	5.04	4.72	13.60	32.35	Average Alienation
50(Mdn.)	2.83	4.67	4.36	4.10	13.10	30.55	
40	2.31	4.20	3.70	3.50	12.60	28.05	
30	1.86	3.42	3.04	2.88	11.88	24.40	Low Alienation
25(Q1)	1.64	3.06	2.70	2.56	11.50	23.45	
20	1.41	2.66	2.30	2.16	11.10	22.40	Very Low Alienation
10	0.95	1.62	1.40	1.34	10.00	20.35	
Mean	3.06	4.46	4.58	4.06	12.86	29.40	
S.D.	1.61	1.78	2.46	1.84	2.10	6.40	
N.	300	300	300	300	300	300	

### 3.6.2 Tool on Usage Patterns of Internet

Usage patterns of internet are the patterns or style or way of using the internet by an individual. It tells about the time, place and purpose of using the internet. It means which time a person uses internet? How much time he/she spend online? What place he/she feels suitable for using internet? What are the dominant places where he/she gives preference for using internet? All these things are included in a person's patterns of using internet.

In the present study, investigator attempted to find out the effect of usage patterns of internet on alienation and academic achievement. To gauge the patterns of using internet among university students, investigator developed a questionnaire.

#### Description of the Questionnaire

The scale is constructed and developed by the researcher with the help of supervisor. It measures dimensions of internet user namely; Purpose to use internet, Location to use internet and Time preference for using internet. Purpose to use

internet is further divided into- Academic Purpose and Non-academic Purpose. Location to uses internet is further divided into- Use at Home, Use at College Campus, Use at College Lawn, Use at Cyber Cafe, Use at Friends' Home, Use in Hostel while Time preferences for using internet are further sub-divided into- Experience of Using Internet, For Academic Purpose, For GK Enhancement, Browsing in a week, Online Shopping, Chatting with friends, Time preference for using internet, Total Hours in a Week and Watching and Download Videos/ Movies.

### **Development of the Questionnaire**

The investigator begins with the pilot study of the research articles and studies related to usage patterns of internet. After reviewing the items related to usage patterns of internet, investigator started developing the questionnaire keeping in view the nature of her problem. A semi – structured questionnaire was developed with the help of supervisor to gauge the usage patterns of internet of university students. In this questionnaire, items are related to the students' duration of time spent online, purposes of using the internet and places where student prefer to use the internet.

### **Validity**

The investigator, earlier, developed the questionnaire consisted 40 items related to time, place and purpose of using the internet. After preparing the questionnaire, the items of questionnaire were discussed with 25 experts of education and computer science. Keeping in view the considerations of the experts, the investigator put the required changes in the questionnaire and kept 37 items. After that, the questionnaire is tried on 50 students of Kurukshetra University and the items which were felt unnecessary were cut from the questionnaire and necessary modifications were made.

The final questionnaire contains 31 items and is divided in two parts. In the first part, statements are related to the personal information of the student and second part consists of the statements related to the time, place and purpose of using the internet and the general information about the student like locality and gender of the student, present stream, previous stream, name of the university, percentage in the previous class. The validity of the questionnaire ranges from .688 to .721.

### **Reliability**

The test – retest reliability coefficient of the scale ranges from .770 to .871 over the sub-scale.

### **Scoring Method**

There are two types of responses: ‘Yes’ and ‘No’, related to purpose to use the internet, location to use internet and time preferences for using the internet. Further the responses related to time preferences for using the internet are divided into the four or five responses on the basis of hours. These responses are then provided 0, 1, 2, 3, 4 and 5 scores. For scoring the overall responses, the scores of Yes and No are added totally and scores of 0, 1, 2, 3, 4 and 5 are also added for scoring the further divided data.

Each ‘Yes’ answer is given a score of 1 and each ‘No’ answer is given a score of 0. Transparent scoring keys are provided area wise for all the desirable answers. Each key is placed on the answer sheet, with the help of checks and ticked responses under the circles of scoring key are considered the score on that particular area. Subsequently, all +1 scores are added area wise and finally, the sum of total score of each area is added together to yield total or overall scoring.

Low internet users, average internet users and high internet users are divided on the basis of total hours spent weekly. The students who use less than 20 hours weekly categorized low internet users and who use internet between 21-36 hours weekly categorized average internet users. And the students who use internet more than 36 hours categorized high internet users.

### **Academic Achievement**

Academic achievement refers to the degree or the level of successful accomplishment in the school or college subjects or tasks or in which the students have received instructions in class as well as outside the class. It is the accomplishment in proficiency of performance of the students in various subjects of the curriculum in the educational institution.

In the present study, average of the total marks secured by students in the last consecutive examinations (as noted from the university records) was taken as an index of academic achievement.

### **3.7 Procedure**

The investigator collected data during normal working days in the months of January, February and March of the year 2017. It was kept in mind that the study of students would not disturb during data collection. Investigator established rapport with the teachers and students. She assured the students that the information would be used only for research purpose and no information would be disclosed in any form. She also told the students that it would take only 10-15 minutes and gave instructions before filling it and requested not to leave any question unattempted. The students were told to fill their personal details Performa along with the Student Alienation Scale by R.R. Sharma and Questionnaire on Usage Patterns of Internet prepared by investigator. In the end, the investigator collected the questionnaires and counted them before taking leave.

### **3.8 Statistical Techniques Used**

Statistical techniques are very important and useful in the field of research. Statistics is a science which collects, analyze and help in making inferences from data. It is a very useful branch of mathematics which is also widely used by researchers in organizing, analyzing, and summarizing data of their research in many fields. These statistical methods and techniques are frequently used by researchers to communicate their research findings and to support the hypotheses and give reliability to research methodology and conclusions. It is very significant for researchers and research consumers that they should understand statistics so that the credibility and usefulness of information can be informed and evaluate properly and appropriate decisions can be made. In the present study, SPSS (Statistical Package for Social Sciences) program was used for inputting, coding and analyzing the data. SPSS Statistics is a software package used for statistical analysis.

Analysis of data was done by using the following statistical techniques:

- Descriptive Statistics
  - Mean
  - Standard Deviation
  - Correlation
- Inferential Statistics
  - Two-way ANOVA