Methodology

There are a number of approaches developed, many designs created to carry on researches but before getting into fathoms of investigation, “lets have an birds eye view”, on what exactly research is. Its an methodological investigation into a subject in order to discover facts.

As far as social sciences is concerned researches are carried out as the sheer requirement of social sciences research is to control, predict, describe and explain the phenomena with which they deal. Almost all behavioral sciences, especially the discipline of “psychology”, attempt to describe behavior in the same manner. As recognized by all sciences, for any scientific endeavor to be carried on observation is the key to answer queries of interest. Else, we may put together their zeal as the scientists ascertain facts and analyze them in an unbiased manner to draw conclusion (Festinger and Katz, 1953; Lindzey, 1954; Underwood, 1957; Selltiz et al, 1964; Shontz, 1965; and Megargee, 1966).

Research design plays a significant role in inference drawing. They use behavioural observations on a limited number of subjects, make decisions, predictions regarding the behavior of the large group, represented by the subjects. Researches are designed to proceed in an orderly manner. They are carried on to control variances and to answer pertinent questions (Lindquist, 1956). Basically, any research design stands for maximizing the effects of systematic variance, control of extraneous sources of variance and minimization of error variance (Broota,1989).

There are number of methods developed, many designs created to carry on researches, but the selection of a particular research design depends upon peculiar nature
of sample; types of tools and restraints regarding the major manipulation of variable being studied. Furthermore, the choice of methodology is guided through aims of study, variable under investigation and nature of data itself.

It may be recalled that the present work has been designed to investigate the “Personality Traits, Cognitive Distortions, Life expectations and Achievements as risk factors of Anxiety and Depression among Students”. Present chapter is devoted to layout definite plan and procedure of the study.

It includes research design sampling procedure, tools used and their administration and selected statistical procedure. Keeping this in view, the study follows a planned procedure set by investigator under experts’ advice to draw empirical inferences.

**Design of the study**

The present study was conducted on students, the description of the sampling procedure is given below, as far as design of present investigation is concerned it is correlational as well as comparative in nature.

**Sampling Procedure**

It is always a difficult task faced by a researcher, particularly in social sciences regarding the method of drawing samples and deciding about the size of the sample. Though it is not possible for any investigator to cover the entire population of interest for the purpose of study, hence a representative sample from the population is always used. This means that sampling is the process of drawing a small part of the population and assuming it to be representing characteristics of the whole population.
Further an appropriate sample size makes a study scientific as the results so obtained may be reliable in making the inferences drawn and generalization made appropriate about the population from which the sample is drawn. In the present endeavor, random sampling technique was used and lottery method was used to collect the data. The sample of present research comprises of 300 students, the age range of the students was 16 to 25 years, while income range was 5000 to 30,000 Rs per month and most of the students were from Urban background, selected from students population of Higher Senior Secondary Schools, for Graduations and Post Graduations levels, data was collected from different faculties of Aligarh Muslim University.

**SAMPLE BREAKUP**

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\text{N}=300
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- Higher senior secondary (N=100)
- Graduation (N=100)
- Post graduation (N=100)

**Tools:**

To measure and understand human behavior psychological tests are developed and used. It is a matter of fact that there is not a single tool or psychological instrument, which may tell about all aspect of behaviour because of complex and varying psycho-emotional attributes of personality. Hence there is a need for developing psychological instrument for each specific purpose. Questionnaires since long have been most convenient tools in psychological research. In the present research work the following tools were used for the purpose of collecting the information.
The NEO Five –Factor Inventory (NEO-FFI)

The NEO-FFI was used by present investigator it was designed by Costa and McCrae (1992) contains 60 items to provide self and other reported measures of the five factor model of personality. Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C) are the personality dimensions measured by the test. The NEO-FFI was developed from factor-analytic work on data from a 1986 administration of NEO-PI to 986 men and Women Costa and McCrae (1988).

In a study with 983 adults, Costa and McCrae (1988) found that the NEO-FFI scales showed correlation ranging from .75 for conscientiousness to .89 for N when correlated with the NEO-PI, internal consistency for the NEO-FFI was calculated using alpha coefficient values were .89, .79, .74, and, .84 for N,E,O,A, and C, respectively.

The validity of the NEO-FFI scales was tested by correlating the scales of the NEO-FFI to other measures of the five-factor model based on self-report, rating by spouses, and by peer rating of the NEO-PI factors. On the self reports, the convergent correlations ranged from .56 to .62, divergent correlation ranged from p<.20. The spouse report of the NEO-PI factors showed convergent correlation ranging from .39 to .53. The divergent correlation were p<.30. On the peer rating of the NEO-PI factors, the convergent correlations ranged from .34 to .59 and all divergent correlations were p<.19 Costa and McCrae (1985).

Dysfunctional Attitude Scale (DAS)

The DAS was developed by Weissman and Beck (1978) is a 40 item self report inventory designed to measure cognitive schema containing dysfunctional attitudes and beliefs that may place individuals at risk for depression as suggested by Beck et al
(1967,1987), items are rated on a 7-point Likert scale ranging from 1 (totally agree) to 7 (totally disagree). The DAS is reported to have very good internal consistency, with alphas ranging from .84 to .92. The DAS also has excellent stability, with test-retest correlations over 8 weeks of .80 to .84. The range of the DAS scores is from 40 to 280 for each form, with higher scores indicating greater dysfunctional attitudes.

**Life Expectations and Achievements**

In order to investigate the Factor of Life Expectations And Achievements, examiner developed a open-ended frequency based questionnaire pertaining to the study of Life Expectations And Achievements.

Initially investigator took some 10 questions, after this these question were given to few judges in order to check the questionnaire for language and clarity of content, ambiguous questions were paraphrased by the judges, out of 10 questions so formulated only 5 were selected by the judges.

Investigator did this whole process in-order to select appropriate question so that factor of Life Expectations And Achievements should be explored properly and substantial results should be obtained

In order to study this variable researcher developed a descriptive questionnaire pertaining Life Expectations and Achievements, which is comprised of 5 questions these are.

**Question 1:**

**WHAT IS AIM OF YOUR LIFE?**

The above mentioned question is related the study of “LIFE EXPECTATIONS”
Question 2:

ARE YOUR ACHIEVEMENTS UPTO YOUR EXPECTATIONS?

The above mentioned question is related to the study of “ACHIEVEMENTS”

Question 3:

DO YOU HAVE ADEQUATE FACILITIES TO ACHIEVE YOUR GOALS? IF YES INDICATE FACTORS, IF NO INDICATE FACTORS.

The above mentioned question is related to the study of “ACHIEVEMENTS”

Question 4:

WHAT TYPE OF PROBLEMS DO YOU FACE IN FULFILLING YOUR EXPECTATIONS?

The above mentioned question is related to the study of “LIFE EXPECTATIONS”

Question 5:

DO YOU THINK THAT YOU ARE COMPETENT TO ACHIEVE YOUR GOALS?

The above mentioned question is related to the study of “Achievements”.

Later students were asked to write answers of these questions, further the answers were analyzed using frequency counting approach. In the very factor of study and its relation to anxiety and depression investigator analyzed each and every question separately, as responses are in form of frequencies and nature of responses is too diverse, thus keeping in mind investigator grouped like responses/frequencies in one group and other type of responses in another group, as its mentioned earlier that nature of responses is diverse thus it may be possible that three or four sub groups are formed under each and every question depending on the nature of responses, thus keeping in mind this thing
examiner formed the groups under each and every question, and group names so formed will remain same across all three groups.

Question 1:

What is aim of your life?

1. STUDENTS WITH SPECIFIC AIMS.
2. STUDENTS WITH NON-SPECIFIC AIMS.

Question 2:

Are your achievements up-to your expectations

1. ACHIEVEMENTS UPTO EXPECTATIONS.
2. ACHIEVEMENTS NOT UPTO EXPECTATIONS.

Question 3:

Do you have adequate facilities to achieve your goals? If Yes indicate factors, if No indicate factors.

1. YES ORIENTED FACTORS.
2. NO ORIENTED FACTORS.

Question 4:

What type of problems do you face in fulfilling your expectations?

1. PROBLEM ORIENTED RESPONSES.
2. NON-PROBLEM ORIENTED RESPONSES.

Question 5:

Do you think that you are competent to achieve your goal? Indicate factors.

1. COMPETENT TO ACHIEVE.
2. NOT COMPETENT TO ACHIEVE.
Further frequency counting approach was used, researcher kept all like kind of frequencies in one group and other type of frequencies in other sub-group. Let’s have an example here.

EXAMPLE:

QUESTION 1:
WHAT IS AIM OF YOUR LIFE

As two sub-group are formed here they are

1. SPECIFIC AIMS (first sub-group).

2. NON-SPECIFIC AIMS (second sub-group).

For first sub group that is “SPECIFIC AIMS” this sub group comprises “N” of those individuals those who have clear and very specific aims, suppose some one says he/ she want to become IAS, DOCTOR and many more.

Similarly, for second sub-group that is “NON-SPECIFIC AIMS” this sub group comprises “N” of those individuals who have unclear and non specific aims, suppose some one say he/she want to be successful person, or good person, and many more. In this way data was analyzed for other questions.

Beck Anxiety Inventory

Beck Anxiety Inventory was designed by Beck, Epstein, Brown, Steer (1988). This self report scale has been shown to document levels of Anxiety symptoms in a valid and consistent manner. BAI contains 21 items, each answer being scored on a scale value of 0 to 3. Each symptom item has four possible answer choices: not at all ; Mildly (it did not bother me much); Moderately (it was unpleasant but I could stand it), and; severly (I could barely stand it ), the following value is assigned to each responses: not at all=0,
Mildly=1; Moderately=2; and Severly=3. The values for each item are summed yielding an overall or total score for all 21 symptoms that can range between 0 and 63 points. A total score of 0-7 is interpreted as a Minimal level of anxiety, 8-15 as Mild, 16-25 as Moderate and 26-63 as “severe”. The BAI is psychometrically sound. Internal consistency $\alpha= .92$ to $.94$, for adults and test-retest (one week interval) reliability is .75.

**Beck Depression inventory, second Edition (BDI- 2nd)**

Beck Depression Inventory 2\textsuperscript{nd} was designed by Beck, Steer, and Brown (1996). This self report scale has been shown to document levels of depression. BDI-\textsuperscript{2nd} edition contains 21 items, each answer being scored on a scale value of 0 to 3. The cutoffs used are 0–13 Minimal depression; 14–19 Mild depression; 20–28 Moderate depression; and 29–63 Severe Depression. Higher total scores indicates more severe depressive symptoms. BDI-II is positively correlated with the Hamilton Depression Rating Scale with a Pearson r of 0.71. The test was also shown to have a high one-week test–retest reliability (Pearson r =0.93), test also has high internal consistency ($\alpha= .91$).

**Procedure**

First of all the investigator prepared the list of students studying in Higher Senior Secondary, Graduation & Post Graduation levels, with the help of attendance registers and selected the sample through lottery method.

Then questionnaires were distributed individually to the subjects. A good rapport was established with them before requesting them to fill up the questionnaires. Great care was taken to remove any misconceptions regarding proposed study.

Further subjects were assured of the confidentiality of their responses and requested to extend their co-operation. For making questionnaires much easier to
understand the instructions were invariably explained to the subjects. Each respondent on an average took thirty to forty minutes to fill up the questionnaires. Finally, the questionnaires were collected from all the respondent, scoring and further analysis was carried on.

**Statistical Analysis**

Statistics provides the strategy and methods for gathering the maximum amount of information for a given expenditure of time and other resources. Once the relevant information is obtained, the researcher requires methods to describe and summarize data so that results are interpretable and communicated (Mendenhall and Ramey, 1973). Investigations in behavioral sciences classify the nature of relationship between behavioural and its determinants. In this context, it can be stated that, these behavioural sciences, seek to examine the relationships between various independent variable and the relevant dependent variable.

The choice of statistical analysis depends on purpose and objectives so framed, here it is intended to investigate the, Personality Traits, Cognitive Distortions, Life Expectations & Achievements As Risk Factors of Anxiety and Depression among students. In all there are three independent variables and two dependent variables. Keeping in view the nature of present research work, investigator applied Step Wise Multiple Regression Analysis. Regression is considered to be the most suitable and useful technique because it ascertains the influence of several independent variables on the one dependent variable (Tabachnick and Fidell, 1983). This technique is effective as it not only gives the exact relationship between independent variables and dependent variables but also renders the nature of their relationship, that is, the contribution of predictors
(independent variables) to criterion (dependent variables). Simple linear regression analysis was also used since one of the independent variable didn’t have any dimensions total was used to do analysis in order to find whether there is any relationship appears between independent variable (Predictor) and dependent variable (Criterion), similarly third independent variable as mentioned earlier is based on frequency counting in order to analyze it, investigator applied t-test, finally in order to compare groups investigator used one way analysis of variances, to investigate group differences.

**Hypotheses of the proposed study**

It is imperative to mention that while carrying out a scientific investigation, there is a need to formulate hypotheses in order to draw inferences regarding the sample under study. Keeping in view the objectives of the present research and in light of the relevant research literature, the following null-hypotheses were formulated concerning our investigation purpose. They are as follows.

H₀₁: “Personality Traits”: It is expected that personality traits (Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness) will not appear as significant risk factors of Anxiety and Depression among students of Higher Senior Secondary, Graduation, post Graduation as well as in overall students of three groups.

H₀₂: “Cognitive Distortions”: It is expected that cognitive distortions will not appear as significant risk factors of Anxiety and Depression among students of Higher senior Secondary, Graduation, Post-Graduation as well as in overall students of three groups.

H₀₃: “Life Expectations And Achievements”: it is expected that Life Expectations and Achievements will not appear as significant risk factors of Anxiety and Depression
among students of Higher Senior Secondary, Graduation, post graduation as well as in overall students of three groups.