CHAPTER 3

RESEARCH METHODOLOGY

The previous chapter represents the literature and review of the work carried out in the field of achievement motivation, assertiveness and anxiety with reference to professional and non-professional college students. This chapter describes the procedure adopted for this study. Discussion about the population and sample of the study, details about tool and data collection, the scoring and the data analysis, etc.

3.1 Methodology:

Present study is a type of survey research and based on random sampling. With respect to this research, the researcher has been used suitable methodology and planned and appropriate research design. Following are the points involved in the research methodology:

1) Selection of the appropriate sample design for the study.

2) Application of the appropriate research design in the study.

3) Selection of the appropriate tools for the study.

4) Selection of the appropriate method for data collection.
5) Administration of tools and data collection.

6) Interpretation and analysis of the data by using appropriate statistical technique.

7) Interpretation of the results and drawing conclusions.

In the initial stage, researcher has been set following objectives and hypotheses of the study.

3.2 Population:

The purpose of this study is to study/examine the difference between professional and non-professional college students and their achievement need, assertiveness and anxiety.

The population for this study consisted of all the professional and non-professional colleges from the Aurangabad city.

3.3 Sample:

In the present chapter researcher try to achieve four goals of research in management: Description, prediction, understanding, and creating change. Researcher used survey research method to develop detailed descriptions of behavior, often in natural settings. Survey research method allow researcher to describe people's attitudes and opinions. Researcher will able to make predictions about behavior and mental processes when he or she discover measures and observations of professional college students. Description and prediction are essential to the scientific study of behavior; researcher also seeks
for understanding the "why" of behavior. We achieve scientific understanding when we identify the causes of a phenomenon.

3.4 Objectives:

1. To find out the anxiety level in professional and nonprofessional college students.
2. To study the anxiety level in professional and nonprofessional college students with relation to gender.
3. To study the anxiety level and socioeconomic status of professional and nonprofessional college students.
4. To find out the assertiveness behaviour in professional and nonprofessional college students.
5. To examine the assertiveness behaviour and socioeconomic status of professional and nonprofessional college students.
6. To study the assertiveness in professional and nonprofessional college students with relation to gender.
7. To find out the achievement motivation in professional and nonprofessional college students.
8. To examine the achievement motivation and socioeconomic status in professional and nonprofessional college students.
9. To study the achievement motivation in professional and nonprofessional college students with relation to gender.
10. To study the relationship between anxiety, assertiveness and need for achievement of professional and nonprofessional college students.
3.5 Hypotheses:

1. There is no significant difference between professional and nonprofessional college students in relation to their anxiety level.

2. There is no difference between professional and nonprofessional college students and their gender in relation to anxiety level.

3. There is no significant difference between high and low socioeconomic status of professional and nonprofessional college students in relation to anxiety level.

4. There is no significant difference between professional and nonprofessional college students in relation to their assertive behavior.

5. There is no difference between professional and nonprofessional college students and their gender in relation to assertiveness.

6. There is no significant difference between high and low socioeconomic status of professional and nonprofessional college students in relation to assertive behaviour.

7. There is no significant difference between professional and nonprofessional college students in relation to their need for achievement.

8. There is no difference between professional and nonprofessional college students and their gender in relation to achievement need.

9. There is no significant difference between high and low socioeconomic status of professional and nonprofessional college students in relation to their need for achievement.
10. There is no relationship between anxiety and assertiveness behaviour of professional and nonprofessional college students.

11. There is no relationship between anxiety and need for achievement of professional and nonprofessional college students.

12. There is no relationship between need for achievement and assertiveness behaviour of professional and nonprofessional college students.

3.6 Variables:

**Independent Variables**

A – Type of college students-

A1- Professional college students

A2- Nonprofessional college students

B- Gender-

B1- Male students

B2- Female students

C – Socioeconomic Status (SES)

C1 – High SES students

C2 - Low SES students

These are all the categorical (discrete) variables.

**Dependant Variables**

A- Anxiety test scores

B- Assertiveness test scores
C- Need for achievement test scores

These are all the continuous variables.

3.7 Delineation of the concepts included in the study:

Following are the concepts included in the present study.

a) Professional and non-professional college students:

Professional college students are the students of various medical, engineering, architect, management colleges and nonprofessional college students are of the arts and commerce stream which also called traditional education college students.

b) Anxiety

Anxiety is a physiological and psychological state characterized by cognitive, somatic, emotional, and behavioural components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, apprehension, or worry.

Anxiety is a generalized mood state that occurs without an identifiable triggering stimulus. As such, it is distinguished from fear, which occurs in the presence of an external threat. Additionally, fear is related to the specific behaviors of escape and avoidance, whereas anxiety is the result of threats that are perceived to be uncontrollable or unavoidable.

Here, researcher has been try to understand the anxiety level which is found among professional and non-professional course students.
c) **Assertiveness**

Assertiveness is a trait taught by many personal development experts and psychotherapists and the subject of many popular self-help books. It is linked to self-esteem and considered an important communication skill.

As a communication style and strategy, assertiveness is distinguished from aggression and passivity. How people deal with personal boundaries; their own and those of other people, helps to distinguish between these three concepts. Passive communicators do not defend their own personal boundaries and thus allow aggressive people to harm or otherwise unduly influence them. They are also typically not likely to risk trying to influence anyone else. Aggressive people do not respect the personal boundaries of others and thus are liable to harm others while trying to influence them. A person communicates assertively by not being afraid to speak his or her mind or trying to influence others, but doing so in a way that respects the personal boundaries of others. They are also willing to defend themselves against aggressive incursions.

Here, researcher has been try to understand the assertiveness of behaviour of professional and non-professional course students.

d) **Need for Achievement** (n-Ach)

Achieving a goal or obtained something is rewarding thing for almost everyone. For some people, the achievement of goal takes on a special importance. They enjoy working to achieve something whether it is in school,
in work or in community service. When they achieve a goal, they immediately, set a new one. Such people may be said to have a strong need for achievement.

Students with a strong need for achievement are frequently overachievers. That is, they make better grades than their intelligence and ability test scores, would lead one to expect. Need for achievement is a valuable kind of motivation in a society that strongly values individual achievement.

Achievement motive or need for achievement (N-Ach) refers to an individual's desire for significant accomplishment, mastering of skills, control, or high standards. The term was introduced by the psychologist, David McClelland (1958). David McClelland and his associates' investigations of achievement motivation have particular relevance to the emergence of leadership. McClelland was interested in the possibility of deliberately arousing a motive to achieve in an attempt to explain how individuals express their preferences for particular outcomes- a general problem of motivation. In this connection, the need for achievement refers to an individual's preference for success under conditions of competition.
3.8 **Design of the study:**

The research design is 2x2x2 factorial structure

<table>
<thead>
<tr>
<th></th>
<th>Professional - A1</th>
<th>Nonprofessional - A2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High SES C1</td>
<td>Low SES C2</td>
<td>High SES C1</td>
</tr>
<tr>
<td>Male B1</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Female B2</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

3.9 **Selection of Sample:**

In the Aurangabad city researcher has been selected the samples from the population of medical and engineering and arts and commerce college students. In it, researcher has selected 200 professional and 200 non-professional representative, in which the proportion was same remaining male and female students and high and low socioeconomic status students.

After contacting to respondents, filled up all questionnaires and collected the data.
3.10 Tools for the present study:

1. For measuring anxiety of professional and non-professional college students, researcher used A. K. P. and L. N. K. Sinha’s Comprehensive Anxiety test. This widely used test has sound reliability (test retest 0.85 and internal consistency (0.92) and validity (0.62).

The first and foremost need of the present research was to test a large number of college students in order to ascertain their anxiety level. Although there are many limitations, the reason for the continued widespread use of inventories for the measurement of personality characteristics, perhaps, is their ability to hasten the collection of data, particularly in such studies where the investigator is obliged to select only a few relevant cases after testing of a large number of them. Moreover, psychologists also use standardized Inventories because of their demonstrated reliability and validity. In addition, it may be said that the measurement of anxiety has, to this day, been accomplished mostly by means of one or the other anxiety questionnaire, and that such measurement has produced valuable data for theory and research.

The above considerations led to the selection of Sinha Comprehensive Anxiety Test (SCAT) as the measure of anxiety. The test has been developed by A. K. P. Sinha and L. N. K. Sinha. Though other anxiety scales are also available for use in the Indian setting (viz. S. D. Kapoor's adaptation of Cattell's IPAT Anxiety Scale Questionnaire; Durganand Sinha's W-A Sinha Anxiety Scale based on Taylor's Manifest Anxiety Scale; Hindi adaptation of Taylor's MAS by B. N. Singh and R. C. Thakur; Hindi adaptation of
Spielberger's State- Trait Anxiety Inventory by Spielberger, Sagar Sharma etc.), this is one of the original scales developed in this country. The test developers say that: "The disagreement and confusion centering around the concept of anxiety during the past three decades led the present authors to develop a comprehensive test of anxiety covering a variety of anxiety indices proposed by different investigators from time to time (1976)". This test measures anxiety as an enduring personality trait. It is a self-administering inventory consisting of 90 items. There is no time limit for completing the test. The testee responds by choosing either the 'yes' or the 'no' response to each item. No item is left unanswered. The test-retest and split-half reliabilities of the test have been found to be 0.85 and 0.92, respectively. The validity of the test has been established by correlating the test with Taylor's MAS (r=.62) with Kapoor's adaptation of Cattell's IPAT Anxiety Scale Questionnaire (r =.54); and with Sinha's W-A Self-Analysis Anxiety Scale (r = .59). The scoring procedure is simple. For any response indicated by an 'yes', a score of one, and for every 'no' response, a score of zero is awarded. The sum total of all the positive responses gives the total anxiety score of an individual.

2. For assessing assertive behaviour of professional and non-professional college students, researcher used Tasneem Naqvi’s assertiveness inventory. This test has widely used test and it has sound reliability and sound validity.

**Reliability:**

The reliability of the inventory was calculated by the following methods (N=100)
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type</th>
<th>Part-1</th>
<th>Part-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spearman-Brown Formula (Split-half method)</td>
<td>.821</td>
<td>.781</td>
</tr>
<tr>
<td>2</td>
<td>Kuder-Richardson Formula (Rational Equivalence method)</td>
<td>.762</td>
<td>.698</td>
</tr>
</tbody>
</table>

**Validity:**

Point bi-serial correlation is the test validation in which the criterion of validity is considered to be internally consistent. An item by item computation of point biserial correlation was calculated by using the formula, suggested by Garrett (1967) which shows the test is valid for the measures of assertive behaviour.

**Instructions:**

**For part- I**

‘In this inventory some questions have been given. These questions will be helpful I assessing your assertiveness. Be honest in your responses. All you have to do is draw a circle around the number that describes you best for same question. The assertive end of the scale is at 0, for others at 4 ’

**Key:**

0 means ‘No’ or ‘Never’

1 means ‘Somewhat’ or ‘Sometimes’

2 means ‘Average’

3 means ‘Usually’ or a ‘Good deal’
4 means ‘Practically Always’ or ‘Entirely’

For part –II

The following questions cover six areas that are often blocks to assertive behaviour. There are two questions for each area. The first allows you to assess your attitude and irrational beliefs, the second gives you a chance to examine your behaviour.

Scoring procedure:

The scoring procedure of this inventory is very simple.

In the part-I of this inventory, the scores 0,1,2,3,4 have already been given which mean No, Somewhat, Average, Usually and Practically Always. Add the all scores of the subject.

For the part-II please note that the following answers on the questionnaire indicate assertive beliefs and behaviors:


Interpretation

<table>
<thead>
<tr>
<th>Scores</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>110-135</td>
<td>Practically Assertive</td>
</tr>
<tr>
<td>91-109</td>
<td>Usually Assertive</td>
</tr>
<tr>
<td>60-90</td>
<td>Average Assertive</td>
</tr>
<tr>
<td>34-59</td>
<td>Non-Assertive</td>
</tr>
<tr>
<td>7-33</td>
<td>Entirely Non-assertive</td>
</tr>
</tbody>
</table>
3. For measuring need for achievement of professional and non-professional college students researcher used **achievement test of Deo-Mohan test**.

**Reliability of the Scale**

Test-retest method was applied to obtain the reliability coefficient of the scale. Taking different sets of sample; the administration of the scale was repeated on several occasions. The results are given below:

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Interval</th>
<th>r</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed group</td>
<td>51</td>
<td>4 weeks</td>
<td>.69</td>
<td>0.01</td>
</tr>
<tr>
<td>Males</td>
<td>33</td>
<td>5-6 weeks</td>
<td>.67</td>
<td>0.01</td>
</tr>
<tr>
<td>Females</td>
<td>50</td>
<td>5-6 weeks</td>
<td>.78</td>
<td>0.01</td>
</tr>
</tbody>
</table>

These coefficient of reliability are sufficiently high and the scale can be considered as reliable for use. Earlier, Entwistle (1968) for 24 items inventory obtained test-retest reliability coefficient of .83 with an interval of 2.5 months. Lynn (1969) found that his achievement motivation questionnaire correlated to the extent of .34 with the factor of Cattell's 16 PF, as .16 with superage and .21 with surgency. Bending (1964) established the reliability coefficient of .68 for men and .62 for women for his factor-analytic scale of need achievement. Costello (1967) obtained a split-half reliability coefficient of .82 for scale I and .73 for scale II. Smith (1973) computed a split-half reliability coefficient of .56 for his 10 items quick measure of achievement motivation. Taking into consideration these results, the present scale reliability coefficients by test-
retest method for the total group, as well as for the separate male and female groups, are very satisfactory and the scale can be taken as quite reliable for use.

**Validity of the Scale:**

As far as the validity of the scale is concerned, in the first instance the item validity established by the high-low discrimination method was accepted as the validity of the whole measure. Besides, this scale was also used for validating the projective test of Achievement Motivation. The coefficient of correlation between the scale and the projective test was observed to be .54 which speaks for the validity of the scale also, the validity being of the concurrent nature. Finally, the scale scores were also correlated with the scores obtained by administering the Aberdeen Academic Motivation Inventory of Entwistle (1968) yielding a coefficient of correlation as .75 for a mixed sample of .93. This correlation is high enough to establish the validity of the scale. Regarding the r of .54 between the scale and the projective test, McClelland (1958) explains that self-descriptive and projective measures are usually not correlating high with each other. Even Carney (1966) observed that questionnaire measures correlated poorly with McClelland’s projective measures. These explanations support the results of present scale of achievement motivation to be sufficiently valid for use for measuring achievement motivation.

**Administration of the Scale**

The scale can be administered individually as well as on a group of about 25-30 subjects. With the use of microphone and a few assistants to help,
even a much larger group can be given the scale at a time. The subjects should
be seated comfortably, at some distance from each other and all within such
distance that every subject can clearly hear the tester's voice. The tester should
make sure that each subject has a pen for marking responses. First, the answer
sheets distributed, to each subject and the subjects were asked to write down
his/her particulars i.e. name, age, gender and college/school name and address,
phone number, residence particulars etc. After ensuring that this is properly
done by all the subjects, the tester distributed the scale booklets to each subject.

The Directions printed in the test booklet were read out loudly and
properly explained verbally, if anyone has any queries, doubts and questions,
these were properly clarified and explained. The subjects were told that there is
no time-limit but they are expected to work fast and give their honest, frank
and first response to each item. Every item is to be answered by the subject.
After finishing their responses, the test booklets were collected alongwith the
answer sheets. That completed the procedure of administration.

**Scoring**

Two stencil keys are to be used for scoring, one for positive items and
one for negative items. A positive item carries the weights of 4, 3, 2, 1 and 0
for the categories of Always, Frequently, Sometimes, Rarely and Never
respectively. The negative item is to be scored 0, 1, 2, 3 and 4 for the same
categories respectively that are given above. Separate keys for positive and
negative items are provided. The total score is the summation of all the positive
and negative items scores. The minimum score obtained can be 0 (zero) and the
maximum can be 200, other scores ranging in between these limits. This is a quick-scoring, self-administered scale which is also quick in administration and very easy for use in administration as well as scoring.

3.11 Data Collection and analysis:

For the present study, there were 400 randomly selected samples used for data collection. In which 200 are professional college students and 200 are non-professional college students, 200 are male and 200 are female students and 200 are having high and 200 are having low socioeconomic status. The data obtained of 400 subjects and they are arranged in a (2x2x2) factorial design which was selected to adequate technique of statistical analysis, techniques of analysis of variance (ANOVA) in order to examine the roll of main variables and to study their main as well as interaction effects. Subsequently, another statistical technique termed as the least significant difference (post-hoc) test was applied to find out the significance between two means in specific pairs of sub-groups formed by different levels of mains variables. To check the relation between achievement motivation, assertiveness and anxiety, correlation method was used.