3. METHODOLOGY

3.1: INTRODUCTION:

Present chapter deals with sampling, tools, design, operation definitions of variable, hypotheses and statistical techniques used. Research design is the heart of any fact finding. In the present study, achievement motivation level has been studied in light of family environment and personality factors. Family environment is considered to be available situation and personality factors are known to be unique adjustment pattern of an individual to his environment.

Before going to in the details of the samples, sampling techniques, variables, hypotheses and tools, it will be meaningful if we discuss the operational definitions of the key terms used in the study which will explain to the characteristics involved in each term.

This topic presents the purpose of the study, operational definition of the variables, selection of the sample and the tools used in the study are described. The procedure for the administration and the scoring of the test has been also described. This chapter provides an overview of the detailed research design used for the study.

3.2: Purpose of the study:

The purpose of the study is to determine whether achievement motivation has the relationship between the personality factor (extraversion, introversion, openness, cohesiveness and neuroticism) and the family environment (conflict, cohesion, and expressiveness).
3.3: Operational definition of the variables:

The operational definitions of the important terms used in the study are defined and discussed here below:

3.3.1: Achievement motivation:

Achievement in an educational institution may be taken to mean any desirable learning that is observed in the student by understanding in this way, any behavior that is learned may come within the scope of achievement. In this study the researcher has considered the following operational definition for the research purpose. “The achievement motivation is known as the scores achieved /obtained on the achievement scale by the respondents.”

Achievement as is the knowledge of the principle of science or facts world history or language and literature. Although achievement is used in this broad sense it is costmary for schools and colleges to be concerned to a great extent with the development of the knowledge, understanding equations to skills (Narayanrao, 1980).

The concept of motivation includes the factors governing it, a particular pattern of behavior and the relationship among these factors. The term motivation comprises answers to such questions as. How behavior gets started is energized, is sustained, is stopped and what kind of subjective reaction is present in the organism will all these is going on (Jons, 1955).

Motivation is the contemporary influence on direction, persistence of action, and voluntary activity. A motive is an inner state that energizes activities or moves and that channelize performance towards the goals.

The achievement motivation is characterized by desire to attain a high standard of excellence and to accomplish the unique objectives to show concern with competition with a standard of excellence. Such a concern may
be stated explicitly or may have sufficient evidence of such competition. The self imposed requirement for goal performance and description of instrumental act from the quality of the work, sometimes they involved in long term goals achievement or in accomplishment of some unique work.

3.3.2: Family environment:

Family environment, share an influential space in child’s life. The psychological atmosphere family may have four quadrants each of which represent one of the four general combinations: acceptance-autonomy, acceptance-control, rejection-autonomy and rejection control (Johnsons and Medinnus, 1969 and Grebow, 1973).

The family environment focuses on the measurement and description of the interpersonal relationship among family members, on the directions of the personal growth which is emphasized in the family and on the basic organizational structure of the family.

In this study the researcher has considered the following operational definition for the research purpose. “Family environment indicates obtained scores by the respondents on family environment scale.”

The family environment scale has included following three dimensions:

i. relationship dimension,

ii. Personal growth dimension and

iii. System maintenance dimension.

Among these three dimension researchers has selected only relationship dimension for the study. The operational definition and the relationship dimension as follows.
Relationship dimension:

The cohesion, expressiveness and conflict subscales are conceptualized as relationship dimensions are triangular in nature as it is related to cohesion expressiveness and conflict.

Cohesion:

The extent to which of family members are concerned and committed to the family and the degree to which family members are helpful and supportive to one another.

Expressiveness:

The extent to which of family members are allowed and increased to act and express openly and direct their feelings.

Conflict:

The extent to which of the open expression of anger and aggression and generally conflictual interactions are characteristic of the family.

3.3.3: Personality factors:

In this study the researcher has consider the following operational definition for the research purpose. “Personality is an apparent quality of an individual which is obtained score by the respondents on personality test”. The NEO-FFI was used for the measurement of personality factor in NEO-FFI included five factor of personality operational definition of these following:

Neuroticism:

The individual is anxious, generally apprehensive and dispute worry. Sometimes he angry with others and is prone the feeling sad, lonely and
objected, controlling his impulses and desires, but he can handle stress as the most people.

**Extraversion:**

The person is warm and affectionate toward others and sometimes enjoys large and noisy crowd or parties, prefers a slow and steady space. Excitement, stimulations and thrills have little appeal to him and he is less prone to expressiveness, feeling of joy and happiness than most men.

**Openness:**

In experimental style, this individual is generally open. He has average imagination and only occasionally daydreams of fantasies. He is particularly responsive to beauty as found in music, art, poetry, or nature, and his feelings and emotional reactions are varied an important the seldom enjoys the new and different activities and has low need of variety in his life. He has only a moderate level of intellectual curiosity and is generally middle-of the road in his social political and moral beliefs.

**Agreeableness:**

This person easily trusts others and usually assumes the best about anyone the meets. He is generally frank and sincere, but he tends to put his own needs and interests before others. This individual holds his own in conflicts with others, but he is also willing to forgive and forget. He is quite proud of himself and his accomplishment. Compared to other people he is hard headed and tough minded and his social and political attitudes reflect his pragmatic realism.
**Consciousness:**

This individual is responsibly efficient and sensible and rational in making decision. He is moderately neat, punctual and well organized and responsibly dependable and reliable in meeting his obligations, he has moderately high need for achievement, but he can also set work aside for recreation. He is average in self discipline and generally finishes the task he starts. He is responsible cautious and generally think thing through before acting.

**3.4: Hypotheses:**

By considering differences in personality factors (Neuroticism, Extraversion, Openness, Agreeableness, and Consciousness), family environment (conflict, cohesion and expressiveness) and their relationship with achievement motivation, the hypothesis is as follows:

1. Achievement motivation would be positively correlated with cohesion and expressiveness, dimensions of family environment.

2. Achievement motivation would be negatively correlated with conflict dimension of family environment.

3. Achievement motivation would be positively correlated with extra-version, agreeableness conscientiousness and openness.

4. Achievement motivation would be negatively correlated with the neuroticism.

5. The boy students would be high score on achievement motivation than the girl students.

6. The boy students would be high score on extra-version, agreeableness conscientiousness and openness than girl students.

7. The girl students would be high score on neuroticism than boy students.
8. The boy students would be high score on cohesion expressiveness and conflict dimension of family environment than girl students.

3.5: Sample:

The students of junior college in Ahmednagar district is the base of sample of this study.

In the first stage of study primary data of 900 students was collected. After the tests 600 students were finally selected for further study. From the among 600 students in order to have homogeneity in sample 300 males and 300 female students were selected for defiled study.

The primary sample of 600 students was obtained from the population. Family environment scale, achievement motivation test and NEO-FFI personality scale, has been administered on them.

The distribution of final sample has been shown in the following table

Table No. 3.1. Gender wise distribution and sample:

<table>
<thead>
<tr>
<th>Base of sample</th>
<th>Boy students</th>
<th>Girl students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students on Junior college</td>
<td>300</td>
<td>300</td>
<td>600</td>
</tr>
</tbody>
</table>
3.6: Design:

The present study was of a correlational nature. Descriptive statistics, correlation, Regression analysis, t test, one way ANOVA

<table>
<thead>
<tr>
<th>IV</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boy Students</td>
</tr>
<tr>
<td>1.</td>
<td>Achievement motivation</td>
</tr>
<tr>
<td>2.</td>
<td>Family Environment</td>
</tr>
<tr>
<td></td>
<td>a. Cohesion</td>
</tr>
<tr>
<td></td>
<td>b. Expressiveness</td>
</tr>
<tr>
<td></td>
<td>c. Conflict</td>
</tr>
<tr>
<td>3.</td>
<td>Personality Factors</td>
</tr>
<tr>
<td></td>
<td>a. Neuroticism</td>
</tr>
<tr>
<td></td>
<td>b. Extraversion</td>
</tr>
<tr>
<td></td>
<td>c. Openness</td>
</tr>
<tr>
<td></td>
<td>d. Agreeableness</td>
</tr>
<tr>
<td></td>
<td>e. Consciousness</td>
</tr>
</tbody>
</table>

3.7: Tools:

1. Achievement motivation scale: by Dr. V. P. Bhargava,

Nature of this test is to complete a sentence. The test is intended to measure the achievement score of a person based on the following pattern of Bishwanath Mukerji and the method of sentence completion test. The tests consist of 50 items on incomplete sentence/items with 03 alternatives. The subjects are instructed about what they have to do and are required to complete the statement (item) by choosing one of the alternative responses which are indicated. In this all the items are to be checked indicating his responses on the whole test another special feature of the test is that items are repeated move them once is ordered to know the level of consistency with which the subject is answered in the test.
There is no specific time limit however; the usual time which is needed for administrating the test is 30 minutes including the time needed for giving the instructions to the subjects and that to the responding.

Reliability:

For Hindi version:

Test reliability after an interval of one month : 0.87
By comparing the responses with similar items : 0.79
Considering the responses indicate to measure the sample aspects for which they were intended to measure, it was found that they did so, the index of reliability being 0.78.

English version:

For English version of the test the values of reliability were 0.91 and 0.78.
Validation index: the test was tried for getting the agreement with the criterion test of achievement motivation, and with educational achievement in various faculties. It was found that the test score on this test and that with the test- scores for SCT of Dr. Bishwanath Mukerji had an agreement of 0.80 and with educational achievement test (general) it had an agreement of 0.75.

For English version the values of validity indices were 0.85 with educational achievement test.

2. Family Environment Scale: By Rudolf H. Moos, Paul M. Insel, and Barrie Humphrey.

The purpose of designing the family environment test was to measure the social environment characteristics of all types of families and population of family members. The family environment scale assesses the social climate of all types of
families. It focuses on the measurement and description of the interpersonal relationship among family members on the directions of personal growth which are emphasized in the family and on the basic organizational structure of the family.

The exact choice and wording of items, was guided by a general formulation of environmental press (Moos, 1974 a). Each item had to identify characteristics of environment with would exert a press toward cohesion or toward achievement or toward moral-religious emphasis.

The data from these three samples were used to develop revised go items; ten sub-scale From R (real) of the family environment scale. In brief, various psychometric test construction criteria were used to select items to be included in the final From R.

The family environment test was developed to measure social and environmental characteristics of families. The scale is based on a three dimensional conceptualization of families. Additionally separates from the family environment are valuable that correspondingly measure different aspect of these dimensions. The real From (From R) measure people’s perception of their actual family environments, the ideal From (From I) rewards items to assess individuals perceptions of their ideal family environment, and the expectations From (From E) instructs respondents to indicate what they expect a family environment, will be like under for example anticipated family changes.

The family environment tests scoring the relationship dimension includes measurements of cohesion, expressiveness and conflict. personal growth dimension involving assessments of the independent achievement orientation, intellectual-cultural orientation, active recreational orientation and moral religious emphasis. The system maintenance dimension includes organization and control measures. Scores for each of these ten sub-scales are derived to create an overall profile of family environment. Based on these scores, families are then group in to one of three family environments. Topologies based on their most silent characteristics.
Table no. 3.2. Means and standard derivations of family environment scale from R sub-scales:

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N= 285 families</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Cohesion</td>
<td>6.36</td>
</tr>
<tr>
<td>Expressiveness</td>
<td>5.43</td>
</tr>
<tr>
<td>Conflict</td>
<td>4.65</td>
</tr>
<tr>
<td>Independence</td>
<td>6.67</td>
</tr>
<tr>
<td>Achievement orientation</td>
<td>5.64</td>
</tr>
<tr>
<td>Intellectual- cultural - orientation</td>
<td>6.15</td>
</tr>
<tr>
<td>Active recreational orientation</td>
<td>6.19</td>
</tr>
<tr>
<td>Moral religious emphasis</td>
<td>4.55</td>
</tr>
<tr>
<td>Organization</td>
<td>5.27</td>
</tr>
<tr>
<td>Control</td>
<td>4.80</td>
</tr>
</tbody>
</table>

*Each sub-scale has nine items

Table No. 3.3. Internal consistencies average item- subscale correlation and tests. Retest reliabilities for family environmental scale From R sub-scales.

<table>
<thead>
<tr>
<th>Sub-scales</th>
<th>Internal consistency N=814</th>
<th>Average items Sub-scale correlation N=814</th>
<th>Eight week test retest reliability N=47</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesion</td>
<td>0.78</td>
<td>0.58</td>
<td>0.86</td>
</tr>
<tr>
<td>Expressiveness</td>
<td>0.71</td>
<td>0.48</td>
<td>0.73</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.75</td>
<td>0.56</td>
<td>0.85</td>
</tr>
<tr>
<td>Independence</td>
<td>0.64</td>
<td>0.45</td>
<td>0.68</td>
</tr>
<tr>
<td>Achievement orientation</td>
<td>0.65</td>
<td>0.49</td>
<td>0.74</td>
</tr>
<tr>
<td>Intellectual- cultural - orientation</td>
<td>0.78</td>
<td>0.54</td>
<td>0.82</td>
</tr>
<tr>
<td>Active recreational orientation</td>
<td>0.68</td>
<td>0.48</td>
<td>0.67</td>
</tr>
<tr>
<td>Moral religious emphasis</td>
<td>0.79</td>
<td>0.55</td>
<td>0.80</td>
</tr>
<tr>
<td>Organization</td>
<td>0.78</td>
<td>0.52</td>
<td>0.76</td>
</tr>
<tr>
<td>Control</td>
<td>0.70</td>
<td>0.51</td>
<td>0.77</td>
</tr>
</tbody>
</table>
Reliability:

Internal consistency validly estimates for the From R subscales range from -0.61 to 0.78, inter-correlations among those 10 subscales range from 0.53 to 0.45 these data suggest that the scales are measuring relatively distinct characteristics of family environment and with responsible consistency. Test; re-test reliabilities for From R subscales for 02 months-03 months and 12 months intervals range from 0.52 to 0.91. These estimates that scale is responsibly stable across these time intervals.

Validity:

The face and content validity of the instrument one supported by clear statements about family situations that relate to subscale dominating. Evidence of construct validity is presented in the normal thrush. Comparative description of unhappy and normal family; comparisons of parent responses with those of their adolescent children, descriptions, of responses by families with 3-6 or more members, and descriptions of scales with a single parent, or 90 family environments, and of older fathers. Additional validity evidence is provided in the required through summaries or returns to approximately 150 additional research study.

Five factor inventory (NEOFFI): By Costa and Mc Crae.

This inventory was developed by Costa and Mc Crae (1992). It consists of 60 items, and Measuring 05 personality factors (extraversion, neuroticism, openness, and agreeableness and conscientiousness). Responses are given on a five point scale ranging from strongly agree, natural disagree, agree and strongly disagree.

Validity:

The NEO-FFI ideas showed correlation ranging from 0.75 for C, 2.89 For N, we it correlated with the domain scale soft the NEOPI –R in the ABLSA sample correlation efficient were 0.92 for N 0.90 for E, 0.91 for O, 0.77 for A, and 0.87 for I.
Reliability:

The internal consistency for the NEO-FFI –scales was calculated with the alpha coefficient. The coefficient was 0.86 for N, 0.77 for E, 0.73 for O, 0.68 for I, and 0.68 for A respectively for the present study. Forward-backward translation was above from English to person and the reliability of these for in sample was 0.95, 0.95, 0.96, 0.96 for NEO-FFI (respectively N=200) for Indian sample it ranged from 0.75, 0.86 (N= 200).

3.8: Procedure for administration and scoring of tests:

Procedures for administration of tests:

The Principals and the teachers of various colleges from Ahmednagar district were communicated. They were explained the purpose of the data collection and obtained tentative dates and time from them to administer the required tests for the research.

At the time of the data collection, student were told to fill the questioner, which includes full name, gender, date of birth, age, present education level, parents occupation, family types, number of siblings, number of family members, birth order, annual income of family, rural or urban area, name of the junior college, other and information. The researcher confirmed that the students had recorded request data in student’s information forms.

After that researcher has administered achievement motivation scale family environment scale and personality NEO-FFI test successively. For each test situation students were asked to read correctly the instructions printed on the cover page of the each test and record information about them on the provided place. When the students understand the instruction, students were asked to record their responses on the separate answer sheet of the test. The booklets and answer sheet were collected from the students, when they finished their test work and checked carefully that they had
attempted all items of the test. The researcher was very vigilant to maintain the standard psychological testing situation at the time of data collection. In this way all the tests were conducted on 600 students.

**Scoring of the test:**

The scoring of each test was done according to the instructions and norms given in the test manual.

**Achievement motivation:**

This test was developed by Dr. V. P. Bhargava. It includes 50 sentence incomplete which the candidate has to complete choosing and alternative given below it. He has to use X Sign for the selected alternative. Such signed statements are used to count the scoring with the help of the scoring key; if alternatives have been given then 01 mark and not then 00 marks. In this way marks were counted. Dr. V. P. Bhargava has suggested five steps of achievement motivation those are: a high above average, average, below average and low. According to level marks were classified. Levels of achievement motivation Girls and Boys are as below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Scores</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>23 and above</td>
<td>23 and above</td>
<td></td>
</tr>
<tr>
<td>Above average</td>
<td>19-22</td>
<td>20-22</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>17-18</td>
<td>17-19</td>
<td></td>
</tr>
<tr>
<td>Below average</td>
<td>15-16</td>
<td>14-16</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>11-14</td>
<td>11-13</td>
<td></td>
</tr>
</tbody>
</table>

**The family environment scale:**

Constructed by Rudolf H. Moos and Paulon Insel and Barri Humphrey (1974a) has given the family environment scale this test includes total 90 questions,
with the help of this test 1. Relationship dimension, 2. Personal growth dimension, 3. System maintenance dimension measured three dimensions. Each future contains to statements true and false responses the subject had to give.

The family environment scale 90 items responses, but for the research purpose only 30 items of relation dimension were considered for scoring these for scoring responses scored with the standard key given in the manual. The raw score was converting in with the help of score table given in the manual.

**Personality test:**

NEO-FFI conducted by Costa and McCrae had made a personality measurement test it measures 5 types of personalities, it contains total 60 statements. Among strongly disagree, disagree, natural agree and strongly agree, subject has √ (tick) before any one applicable. A simple and easy answer key was made to measure the tests. With the help of the answer key and responses given to 12 which measures personality as well as marks were added. The addition was classified regarding personality for example Neuroticism- personality types scoring as follow:

- Strongly Disagree - 4.
- Disagree - 3.
- Natural - 2.
- Agree - 1.
- Strongly agree - 0.

Classified regarding levels – Neuroticism level

- Below Normal: 12-17
- Normal: 14-30
- Above normal: 31-36
- Neuroticism more than 37 +

In this way scoring table of every personality types used were classified according to marks and scoring.
3.9: Statistical Analysis:

The sample available for statistical analysis consisted of 600 subjects (teenagers). The sample was divided into following two groups.

Table No. 3.4: Group wise sample available for statistical analysis:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Group</th>
<th>No. of subjects (sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Boys</td>
<td>300</td>
</tr>
<tr>
<td>2</td>
<td>Girls</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>600</td>
</tr>
</tbody>
</table>

The GroupWise descriptive statistic for the five personality NOPIE personality traits, their family environment- relationship dimension and achievement motivation variables were carried out.

All the term variables were standardized to have a ground mean between 0-(zero) and the standard deviation of 1 (one) by using the correlation scores. Separate means, standard deviation, multiple regression and correlation analysis were calculated for the achievement motivation, a relationship dimension and personality factor, as well as males and females of teenagers.

Statistical analysis were carried out using SPSS, one way (ANOVA) was carried out for the variables stated in the study. All the further necessary statistical analysis and applications of proper statistical tests are stated in chapter no. of IV, i.e., that the ‘Data analysis and results’.

Raw scores on each test have been taken for analysis purpose. Depending up on needs appropriate statistical analysis has been done. Statistical techniques use for study is given below.

Correlation: person’s product movement correlation test is used to study hypothesis one to four.
‘t’ test: Student’s t-test used to study gender differences on various attributes and to test hypothesis five to eight. Graphical analysis technique is used to show differences among boys and girls.