CHAPTER V

METHODOLOGY
This chapter discusses in some details about the tools selected for this study.

(1) SCERT-TAT Pictures:

Selection Rationale

Several types of measures have been developed to assess the strength of n-Ach. in an individual. Among these measures TAT type of projective measurement still dominates the scene and most of the other n-Ach. scales validate their efficacy with reference to such measure. No potential challenge has so far come to this method and the other methods have mostly been developed for the same of better objectivity and expediency of scoring. Thoroughly examining the potentialities of direct observation, rating-scale and projective technique as possible methods of measuring motives, McClelland (1956) strongly recommended TAT measure of n-Ach. on the ground that it is the only method which satisfies most of the requirements of a good measurement of motives, that is, it has a "trio of virtues: validity, flexibility and generality". Being convinced by the forceful arguments of McClelland and due to the consideration mentioned in the previous paragraph the author decided to use TAT measure of n-Ach. in this study.

As for the selection of TAT pictures the choice fell in
favour of NCERT, TAT pictures as developed by Mehta F. (1969) because of the following considerations:

(1) These pictures have been developed for and used on similar population as that of the author. It was developed for high school students and used on the students in Delhi and Rajasthan.

(2) They were successfully used in a number of other research studies (Chowdhary, 1971; Desai, 1971 and 1972; Gokulnathan, 1972; Pathak, 1974; and Tamhankar, 1968) in this country.

Dave (1973) has raised certain points against using these TAT pictures. He has shown in the two phases of his study that the original set of McClelland's pictures are most effective in evoking achievement imagery. His studies were conducted on Kannada speaking population. However, he found that for those students who wrote stories in their mother-tongue the NCERT pictures evoked more n-Ach. than the foreign set of pictures. So even in the case of Dave NCERT pictures were found more effective atleast for those who wrote the stories in their mother-tongue. As the students in the present investigation were to write stories in their mother-tongue, the author finally decided to use the NCERT pictures. The six TAT pictures, method of administration and scoring etc., have been given in Appendix.

Administration of the TAT test was kept on the second day due to the following reasons:
The TAT test was a speed test, so unless the students were sufficiently conversant with the psychological testing procedure and atmosphere, they might not have shown themselves well on it. In this test students had to write six stories very quickly (only four minutes being given for each story) that too keeping in mind four basic questions which they had to answer in each story.

Obtained n-Ach scores were sorted into three categories, i.e., high n-Ach scores, moderate n-Ach scores and low n-Ach. All the scores were arranged in descending order, the highest score being at the top, the next highest below it and so on so forth. They ranged from -6 to 28 in this study. This group consisted of students scoring +9 or more on all the six pictures put together and hence students scoring +9 or above were categorized as high n-Ach students. Thus students scoring total score from -6 to -2 and half of the students scoring a total score of -1 were attributed to the low n-Ach. Total score of +3 fell exactly the moderate group.

**Reliability and validity of the test**

Test-retest and split-half reliabilities of the test have been found to be quite high (Mehta P., 1969; Choudhary, 1971) and compared very well with other similar particularly foreign results (Mehta P., and Mehta A., 1973). Various types of its validity have also been found to be quite
As the author wished to include some new personality variables to find their relationship with n-Ach., a suitable scale was needed to do so. Choice was to be made from such personality inventories as MMPI and Bernreuter's. MMPI was too lengthy to be included in this present study. Moreover, Hindi version or Gujarati version of this scale was not available. JEPJ was available in Gujarati.

The Eysenck Personality Inventory (EPI) (Eysenck and Eysenck, 1966) and Madeslay Personality Inventory (MPI) (Eysenck, 1956), which in turn was developed using a combination of Guilford's STDCR (1940) and GAIN (1943) inventories, and items of the Madeslay Medical Questionnaire (MMQ) (Eysenck, 1952a). Both the EPI and MPI are designed to assess Eysenck's hypothesised personality dimensions of extraversion (E) and neuroticism (N). The MPI differs from the MPI in a number of ways: (1) It is

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* In item-source distribution for the MPI is as follows:
  E scale: 21 items from the STDCR, 3 from GAIN; N scale: 19 items from the STDCR, one from GAIN, 4 from the MMQ. With a few exceptions (items 9, 12, 16, 18, 28, 48 on E, and items 7, 23 and 27 on N), THE E SCALE IS NOT univocal but is a mixture, mostly of social introversion-extraversion (S).
available in two forms, A and B, each consisting of 24 items: a Scale and 24 items N Scale; (2) Each form also includes a nine item Lie (L) scale adapted from the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway and McKinley, 1943); (3) Items are scored dichotomously ('Yes' or 'No') rather than trichotomously ('Yes', '?', 'No') which is reported not to affect the answer pattern (Bending, 1959). The value of this or any similar test depends to a large degree on the stability of the test score under different conditions of stress or of health, particularly of mental health. To the extent to which the scores are stable they are likely to represent more or less enduring characteristics (that is, a personality trait), but if they are not stable then to that extent they reflect only a temporary and accidental stable of the subject. Carrigan (1960)** reviewing the literature on extraversion-introversion, concluded that the unidimensionality of the concept had not been conclusively demonstrated. The referred 'sociability' corresponds to the American concept of extraversion and that 'impulsiveness' corresponds to the European concept of extraversion; results not unlike those

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suggested by Guilford and Guilford (1934)*. Then Eysenck set up a study to explore the possibilities of the dual nature of extraversion. Four principal components (rotated to orthogonal simple structure) were extracted, the first two successive components being identified as 'sociability' and 'impulsiveness'. It can be seen, then, that at least two dimensions must be evoked to account for 'extraversion'.

Correlation with McClelland's Test Score

McClelland projective test was administered to the same group of 100 subjects. A correlation of 0.49 was obtained between the objective test score and the projective test score. Although this correlation is not high, it comprises quite favourably with a corrected split-half correlation of 0.59 obtained by comparing the scores of the 100 students on the first and third stories with the scores on the second and fourth stories.

Comparison of objective and projective tests

<table>
<thead>
<tr>
<th>Personal data</th>
<th>Correlation with projective test</th>
<th>Correlation with questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.26*</td>
<td>-0.29**</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>0.06</td>
<td>0.00</td>
</tr>
<tr>
<td>Sociability</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

*H 0.05 | **P 0.01

Reliability

A split-half, odd-even reliability was computed using the scores of the 100 students. The coefficient, corrected by the Spearman Brown method, was 0.57. The second phase treats with the personality measurement of college students. A brief description is given here of the Eysenck Personality Inventory EPI or JEP1 scores for rural, urban and overseas students were correlated with examination results. The questionnaire was developed by extensive factor analyses carried out separately for the various age groups. The questionnaire contains scales for the measurement of neuroticism or emotionality extraversion/introversion, and a lie scale. Teachers and educational psychologists have, in the past, concentrated their efforts almost exclusively on the cognitive field, at least in so far as normal children concerned. One of the reasons for this state of affairs has possibly been the absence of properly developed questionnaires in this field, and the known lack of reliability and validity of projective techniques. Two questionnaires for children are in use at present, but there are objections to both. One is the Cattell IPI Scale (Porter and Cattell, 1960) and the other Junior MPI (Furneaux and Gibson, 1961). In both cases it should be noted that there have never been conducted proper items analyses and factor analyses for all the questions used, and for the various age groups separately; it is suggested that such analyses are requisite minimum qualification for a properly constructed scale. Furthermore,
both scales are afflicted with American-type working (the Junior MPI was adapted from the Pinter Scale, like the Cattell Scale, was made and standardized in America). For these reasons it was considered desirable to create a new personality scale for children, which was named the Junior EPI to devote its derivation from the resemblance to the Eysenck Personality Inventory, which is an improved version of the MPI. The scale was designed to measure the two major personality variables of neuroticism (stability/emotional stability) and extraversion/introversion. The inventory also contains a lie scale for the detection of faking. The construction of the 108-items scale was begun by carefully selecting, adding further items. The split-half reliabilities of the scales indicate that they are reasonable for group comparisons at the younger ages, and possibly for individual testing at the older ages. For neuroticism the values range between 3 and 9, and there is no detectable change with age. For E there is an increase with age from 6.5 for the youngest groups to values approaching 9 for the oldest groups. The lie scale, as might have been expected from the fact that it is rather short, shows the lowest reliabilities ranging from .41 for the youngest groups to .73 for the older ones. The personality theory on which this test is based suggests that E and N are independent of intelligence. The size of the correlation appears to be largely independent of age. Too little is known as yet about the validity of the JEP to make any claims for its use, other than as an instrument
for experimentation.

(3) **Mukherjee's Sentence Completion Test**

The SCT was administered to undergraduate students in Ahmedabad. Copies of SCT were circulated to all subjects. Almost 90 per cent students turned in the answer-sheets before time. They filled out the questionnaire in their leisure time in accordance with the instructions, contained on the first page of the booklet. The test can be administered in a group. It has no time limit but can easily be finished within 20 minutes. The manual provides three types of reliability for the test:

- Test-retest reliability,
- Split-half reliability, and
- Parallel-form reliability.

(4) **n-Ach. and intelligence (Academic achievement)**

No definite trend seems to emerge out of the researches in this area because in various studies seeking relationship between n-Ach. and intelligence, the two variables are found related in all possible ways. In two studies (Mehta N., 1973; Dossi, 1970) correlation between n-Ach. and intelligence was found to be positive and significant. In two other studies (Smith C.P., 1964; Chowdhary, 1971) no significant correlation could be found between these two variables. And in one study (Muthayya, 1967) the correlation was found to be actually negative and signi-
significant. As Haekhansen writes, "The relationship between motivation and intelligence has not yet been systematically investigated. As a rule they do not reveal statistically significant correlations between achievement motivation and intelligence test scores. It would be premature to conclude, however, in the absence of theoretical treatment, that the two variables are functionally unrelated. Different kinds of relationship may be obscured in the total sample and may appear only if one discovers the selection criteria necessary to produce homogeneous subsamples."

Such restricted samples have been drawn and hence marks of three examinations were taken for consideration of academic achievement. The author to be on safer side decided to make choice on academic achievements at three test examinations. The author has taken havern's Standard Progressive Matrices wherever examination marks were not available in some cases.

PLAN AND PROCEDURE

The search for the right students
Population Defined

In terms of urbanisation, Ahmedabad is not a new town. It is a medieval society which, keeping intact its social mores, has successfully transformed itself and the town into a modern industrial town. The prosperity of Ahmedabad had proverbially depended on three thread; cotton, silk, gold and silver thread - in one word on textile. The textile mills brought about a great increase in the
population of the city, both by providing opportunities for all within it and so checking any exodus, and by attracting many newcomers, workers for the mills and traders and artisans to serve the expanding population. Sills Bridge presents an interesting pattern of suburbanisation. It is one of the three distinct areas in which Ahmedabad can be divided - the middle class area covering the old walled city, the low-income group industrial area on the western side of the main railway line and the comparatively advanced Sills Bridge suburb including the various new society area.

To the suburbs, we have therefore to turn. The suburbs are nestling along the western bank of the river Sabarmati. This is a sensitive region for any student of the history of sociology and psychology of Ahmedabad.

The Sample

The subjects were representative samples of rural, urban and overseas students studying in colleges of Sills Bridge area. The author intended to include roughly 400 cases of students in this study.

Techniques of Investigation

Are there general norms of achievement motivation which can be related meaningfully to the norms of our students’ behaviour so that we can speak of personality types? Some cultural anthropologists have argued that cultures form more or less integrated wholes, configurations or gestalts. They believe that if culture is to
maintain its integration, it must produce at least in part by the training of its children personalities which fit into the culture. This personality and n-Achievement are important and interrelated as a mechanism for the transmission of culture, and its study is important as a clue to the configuration or gestalt which characterizes the culture. Now this point of view is far too intricate to be tested by empirical data from a single culture. Consequently, it is important in any study of personality and n-Achievement to see whether there are any diverse patterns in behaviour, whether these are related to general patterns in the behaviour of their children. Recently, however, a group of psychologists has focused attention on the another motive - the need for achievement (McClelland et al). They found the individuals differed widely in their need for achievement when achievement was for its own sake and not for external reward.

The purpose of the study is to investigate the relationship between n-Achievement motivation and some factors of personality on academic success to fill in some of the gaps left in some earlier studies. The subjects were representative samples of rural, urban and overseas students studying in Ahmedabad colleges situated in the Ellis Bridge area.

The spirit of Ahmedabad intervened in the old and the new is most manifest in this area known as Ellis Bridge. The finest schools, colleges and libraries are situated in
this area. These physical facilities denote the vicinity of intelligentsia. Every good thing needs finance and the presence of these facilities suggest that well to do families must have settled around these facilities. The area of Ellis Bridge is an area of choice. It has drawn the best sections of the local communities as also the well to do and enterprising families from all parts of Gujarat and of India. Ahmedabadi businessmen even today are famous throughout the country for their achievement motivation. It was, therefore, thought quite appropriate to choose this region for the purpose of the present study. It is widely accepted that achievement motive is of secondary order as differentiated from primary needs and drives and hence is partially a product of socialisation. It was decided to carry on the investigation on college students - rural, urban and overseas. Further this group of students from different faculties was located in this area.

Each subject completed form, which was scored for E and N. It may be noted that EP was designed to be equally suitable for either sex. A personal data sheet asking for, among other things, such background information as father's education, subject's past academic performance, and their self-ratings of parental relations, financial standing of the family, as well as their own academic standing in comparison with their class mates. For the latter purposes, a five-step rating from 5 (very good) through 3 (average) to 1 (very bad) was employed. The research nature of this part of the examination was amply emphasised
and subjects were assured that their responses would be treated confidentially.

**Data Getting Procedure**

The selected colleges were visited by the author on the appointed date and time, and data was collected from two main sources:

1. Directly from the students through psychological tests,
2. Students were given J&FI questionnaire and personal data schedule.