Chapter - III

METHODS
PLAN OF THE STUDY:

3.1. Definition of the problem:

It is a common perception that in our system of education a substantial number of students fail to realize their full academic potential. A plethora of reason are responsible for this reality. Some of them are related to matters pertaining to the school practices and policies whereas others have to do with larger, psychological social and cultural reasons.

The kinds of problems that young people going through schooling face today is developing positive self-concept is an important precondition influencing their achievement at school are worrisomely common, both in urban and rural settings. Anxiety and stress are common features of school life in our country indicating a serious position of educational reforms especially in the context of curriculum and pedagogic practices.

The present study focuses upon a range of psychosocial variables which contribute to negative feelings like anger, resentment and emotional reticence. In a dramatic order the goal education is to enable every student irrespective of social background – to develop his or her capacity to the maximum.

Schools hold a central place in the developmental agenda set for children and adolescents throughout the world (Rogoff 1990; Sameroff 1987). School as a central context of development can shape both academic and mental
health outcomes in children. Academic and emotional problems are often ignored. In recent years there is a growing recognition that schools have a significant role in producing such problems. In the way, the intelligent underachievers need to be helped to get rid of their incapacitating personal emotional problems so that they can realize their full potential. But it needs to be pointed out here that the holistic purpose of education, for its proper fulfilment is not only the responsibility of the school but also actually the home, the family members especially the caregivers and earning adults have a more important role to play. Not only has the socio economic status of the families had a lot to contribute to academic pursuits and success of the students. But such a step presupposes identification of reasons behind underachievement empirically as well as scientifically. The present research is a humble attempt of the researcher to find out the reasons behind the underachievement of the intelligent students.

Many reasons are identified as contributing to students dropping out and underachieving. Educators blame students’ lack of motivation. Preoccupation and low achievement need etc. on a long list of psychological problems, poor study habits, low self-esteem, withdrawal, aggression, social isolation, conflicts at home, over and under expectation of parents, physical and medical causes, social/class differences, learning disabilities, poor home life, unsupportive parents, previous experiences, poverty and low self-confidence. Thus even when intelligence is adequate some pupils tend to fall below the proper level of educational achievement. As such the present researcher would try to explore psychosocial reasons of underachievement when there is no intellectual deficit.

3.2. Variables of the study:

Three kinds of variables operate in any research situation:
i) **Independent Variable**, in whose influence researcher is interested, ii) **Dependent Variable**, upon whom the influence is reflected, and the iii) **Extraneous Relevant Variables**, which operate beside the independent variable to contaminate study findings, but in whose influence the researcher is not interested (D’Amato, 1970).

The independent variables (IV) were i) **Achievement Motivation**, ii) **Aggression**, iii) **Family Pathology**, iv) **Study Habit**, v) **Poor satisfaction from communication with father and mother**, vi) **School Adjustment**.

**Dependent Variable:**

For the present study the dependant variable (DV) was *academic underachievement at school*.

The *academic underachievement* of the students at the school is the dependent variable for the purpose of the present study; The academic underachievement was operationally described as scoring upto 45% in aggregate in three consecutive examinations. For the purpose of identifying normal achievers, scoring 55%-60% marks, in three same consecutive examinations was taken into account.

**Independent Variables: Conceptual Definitions**

**i) Achievement Motivation:** According to the dictionary of psychology by Atkinson, Berne and Woodworth (1996) *achievement motivation* is the tendency to strive for success or the attainment of desired end. Murray defined *achievement motivation* as the motive to overcome obstacles or the strive to do difficult things quickly and well.

**ii) Aggression:** According to Freud it refers to the conscious manifestation or projection of death instinct or thanatos. Adler defined aggression as
the manifestation of the will to exercise over other people. In short, aggression is hostile action directed against a person or object or any response to frustration.

**iii) Family Pathology.** It refers to how mothers perceive their own way of relating to the child. It also includes problems due to disturbed family relations between mothers and children.

**iv) Study Habit.** Psychologists as well as laymen attempted to define the word ‘study’. To some of them study means hard work and is usually associated with school work. Mace (2002) pointed out that study is a systematic acquisition of knowledge and an understanding of facts and principles that calls for retention and application. And study habit refers to how diligently and consistently one is devoted to his academic activities.

**v) Poor satisfaction from communication with father and mother.** Satisfaction being a positive emotion does exert positive influence on its recipient physiologically as well as psychologically. But if parents’ communication with the child is negatively oriented and unpleasant, the bonding with the parents suffers badly, and child becomes agonized.

**vi) School Adjustment.** School adjustment is a broad concept which consists of mainly different aspects such as academic achievement, school satisfaction, school engagement, and poor social behaviour. Abdullah et al. (2009) defined school adjustment as a person’s interaction with his or her environment and covers academic achievement, personal growth and accomplishments outside the classroom such as in art/music, creativity and leadership. According to him an adjusted student is one who obtains adequate grades and passes his or her courses, and eventually graduates.
**Dependent Variable**

Academic Underachievement: Underachievement is defined as a discrepancy between a child’s school performance and his or her actual ability. The word “underachiever” should not be a label placed on a child, but rather a definition used to describe a child’s current progress in school. A child who is underachieving has a significant gap between his or her ability and what he or she is actually achieving at school.

**Extraneous Variables:**

One important relevant extraneous variable appeared to be the socio-economic status of the family from which the students come. By applying Warner’s Social Status Index it was ensured that participants are belonged to the middle class Bengali families in Kolkata.

**Design of the Study:**

It was an ex-post facto design (Kerlinger 1985) and also called a correlational research by D’Amato (1970). In ex-post facto research it can be said that the researcher instead of creating a treatment condition evaluates the effects of naturalistically occurring treatment after that treatment has occurred. There are two common types of ex post facto design, namely correlational design and criterion group design. A correlational approach is one in which the experimenter collects two or more sets of data from the same or similar group of subjects so that relationship between the two subsequent sets of data can be determined (A.K. Singh 1998).
**Study Area:** The study area of the present study is psychology applied to education.

**Sample:**

Eight Government recognized H.S Girls' Schools were selected from four zones. (North, South, East and West). List of schools to be obtained from the Educational Directorate, Govt. of West Bengal would contribute to population.

Adolescent female students of these 8 schools were taken as sample. 300 female adolescent students [150 normal achievers and 150 underachievers] were to be selected from Class VIII and IX from each School. The age of the students ranged from 13-16 years. The approximate income of the family of the students ranged from 5,000-30,000 and above INR. The students who secured 55-60% marks, in 3 consecutive exams, were selected as normal achievers, and students who secured 41-45% marks in 3 consecutive exams were taken as under achievers. For this purpose, schools progress reports were examined.

Multistage stratified disproportionate random sampling was used to select the normal and under achiever students.

**Statistical Analysis:**

Statistics were chosen according to nature of the data and need of study. It was provisionally decided that both descriptive as well as sampling statistics as listed below would be employed - (i) Mean, (ii) S.D., (iii) $\bar{z}$ ratio test and (iv) Logistic Regression.

**Study Tools Used**

1) *Raven’s Progressive Matrices.*
2) *Achievement Motivation Measure.*
3) Study Habit Inventory.
4) Family Pathology and Mothers’ Perception of relating to her child scale.
5) Perception of communication satisfaction questionnaire.
6) The Spielberger State Trait Anger Expression Inventory (STAXI).
7) Warner Social Status Index.

**Description of the Tools**

**Raven’s Progressive Matrices.** It was prepared by J. C. Raven in 1936. It contain 5 sets of pictures A; B; C; D and E. Every picture has a blank space within it. The subject is asked to choose the correct piece of picture as given below the fill in the blank and complete the picture. Standard Progressive Matrices measure the educative component of an individual.

In the US standardization, the correlation between the items difficulties established separately for different ethnic groups, ranged from .97 to 1.00.

The concurrent and predictive validities of the SPM vary with age possibility, sex and homogeneity of the sample. For the English speaking children and adolescents, reliable correlations of the SPM with Binet and Wechsler scales range from .54 to .86.

**Achievement Motivation Measure:**

It was developed by Dr. Pratibha De, and Asha Mohan (1985). It consists of 50 items. It is a Likert type scale. Respondents have to choose and tick the answer among options, like ‘always’, ‘frequently’, ‘sometimes’, ‘rarely’, and ‘never’. A positive items carries the weights 4, 3, 2, 1, 0 and a negative item is to be scored 0, 1, 2, 3, 4. The reliability value of the original test for the female group is .78. in the present study the test had been adapted in Bengali. The
Test – Retest reliability value was found to be $r = .75$ (retest data obtained after a gap of one and half months).

**Study Habit Inventory:**

It has been developed in India set up by M. Mukopadhyay and D. N. Sansanwal (2005). It is a Likert type 5 point scale. The scoring guide stipulates that a positive item should be given 4, 3, 2, 1 and 0 for responses ‘always’, ‘frequently’, ‘sometimes’, ‘rarely’, and ‘never’ respectively, whereas, the scoring process should be reversed 0, 1, 2, 3, 4 for negative items. The reliability coefficient of the original scale was .91.

**Family Pathology and Mothers’ Perception of relating to her child scale:** It is basically known as the family pathology scale, developed by Veeraraghaban and Dogra (2000). There are 42 items in the scale to be responded by the subjects with ‘most often’, ‘occasionally’ and ‘never’ - three response categories. The value of test retest reliability of the original scale was .79.

**Adjustment Inventory for the School Studies:**

It is developed by A. K. P. Sinha and R. P. Singh (2007). It consists of 60 items. The respondent is required to choose between Yes or No responses. The reliability value of the original test is .95.

**Perception of communication satisfaction questionnaire:**

It is developed Hecht (1978). It is a 19 item Likert type scale, used to measure perceived satisfaction from parental communication within the child’s psyche. Participants were to use a 7 point agree – disagree scale to rate the degree to which each items describes their conversation with their
respective parents – one for father and one for mother. Score 7 indicates ‘most satisfactory communication’, and score 1 indicates ‘least satisfactory communication’. A modified and adapted version of Hecht’s original inventory (Prof. I. Mukherjee, Department of Applied Psychology, University of Calcutta, India) had been used. Cronbach’s Alpha coefficient reliability of the scale was .84.

**The Spielberger State Trait Anger Expression Inventory (STAXI):**

It is developed by Spielberger (1996). It consists of three subscales of 44 items – the subscales are state anger, trait anger, and anger expression. It is 4 point Likert type scale (1: never, 2: sometimes, 3: more often, 4: always). Ruize (2004), reported internal reliability of STAXI was .84.

**Warner Social Status Index:**

Warner’s socio economic status Index involves computation of weights for difference components of socioeconomic status on the basis of ratings by judges about how much importance they attach to each of the different components as contributing to socio economic status in a given society. The weights (w1…..n) are nothing but average of the ratings by judges (here university teachers) on a 5 point Likert type rating scale.

25 male and 25 female judges each of whom was an adult married having at least one child and meaningfully employed (University Teachers) in society, free of physical or psychological aberrations. The obtained weightages were as follows: Education : 3.2; Occupation : 4.0; Income : 4.2; Nature of dwelling house : 4.2; Nature of surrounding of the dwelling house : 3.8.
It includes 5 categories Status attributes 1. Education (Secondary H.S., B. A., M.A., others), 2. Occupation (Semi skilled, skilled clerk, teachers, managers/professionals), Income (Below 10,000; 11,000 – 20,000; 21,000 – 30,000; 31,000 – 40,000; 41,000 – 50,000 and above), 4. Nature of Dwelling House (slum / rented 1 room, rented 2/3 rooms, ownership flat LIG, MIG, HIG, 5. Surrounding of dwelling house (dirty, crowded, unplanned/ semi planned/ dirty, crowded, planned/ clean, and crowded / posh locality, but little greenery posh area with garden). It is a 5 point Likert type scale.

The person whose socio economic status is to be determined is the other group of respondents (here they were the mothers of the students). They have to indicate the position of their education, occupation, income, nature of dwelling house, and nature of surrounding of the dwelling house, this time also, on a 5 point Likert type rating scale. Thus the second part yield criterion measurers (c …..n). the SES Index become = C1W1+C2W2+C3W3+….+CnWn)

**Sampling Technique**

**Stage 1**

**Selection of Schools:**

At first multistage area sampling was done in the following way to identify normal and underachievers. The principle of area sampling – a probabilistic sampling technique was put to use, to select schools or sources of the normal
achievers and underachievers a map of Kolkata Corporation areas was used to divided the metropolis into four zones – North, South, East and West. Schools of Central Kolkata are English medium, hence schools in this area were not to be taken into account. Only list of Bengali medium school in each area, obtained from the office of Educational Directorate, Kolkata were enlisted for selection of schools. Then randomly two schools from each zone were selected and approached for ensuring their cooperation. Thus, at the beginning there were altogether eight schools were selected.

Stage 2

Selection of Samples:

After securing necessary permission and cooperation, students of classes VIII and IX were listed, interviewed (to know their school performance) and students’ progress reports were consulted.

The population had two strata intelligent normal achievers and intelligent underachievers. After inclusion of sampling units from these two strata, 90 students (approx) were there, covering the three sections of classes VIII and IX and thus names of 180 students from each school were obtained. Thus, 1440 listed students were found from eight schools. Next, those who secured 55-60% marks in 3 consecutive examinations were segregated as normal achievers and the students who got 41-45% marks were taken as underachievers. After going through their progress report of last one and half year, normal achievers (810) and underachievers (630) were found out. Next, Raven’s progressive matrices test was administered to these students. Out of 1440 students, on the basis of the result of Raven’s Progressive matrices test data, intelligence levels of students were ascertained 810 normal achievers and 630 underachievers were found all with average or higher IQ. Socio-
economic Status Index by Warner (Modified and Standardized by Prof. Indrani Mukherjee) was utilized to determine socioeconomic status of each of the student’s families. They all came from middle-middle and lower middle class of Bengali family at Kolkata.

**Stage 3**

Having divided the population into two strata (810 normal achievers and 630 underachievers) which had been considered homogenous internally a stratified disproportionate random sampling was done (A.K. Singh, 1998). 150 intelligent normal and 150 intelligent underachievers were taken from each stratum. The word ‘disproportionate’ had been prefixed to it due to the following reason. The substrata of the drawn sample were not proportional i.e. sample sizes were not according to their proportionate weight in the population. Thus, from 810 normal and 630 underachievers, 150 normal and 150 underachiever students were randomly selected as the final sample.

**Data Collection:**

Data were collected by administering the remaining study instruments arranged in a booklet administered to the respondents, in a group of five, at a time mutually convenient to class teacher, researcher and the subjects during the school hours. It took about forty-five minutes for a candidate to complete the booklet. Their mother’s mobile numbers were sought and the mothers of the subjects were contacted. A time slot was fixed up at a mutually convenient time and subject’s mothers were approached with Family Pathology Scale. The purpose was explained and mothers were requested to fill up the questionnaires. They were requested to be not in hurry and write the first response to each item which came in mind. It took about ten to fifteen minutes and after exchanging pleasantaries the researcher left. The
whole data collection procedure took a little more than two years. The data were then carefully preserved for tabulation, scoring and subsequent statistical treatment.

**Data Management and Analysis:** Responses were scored and tabulated on square sheets for further statistical analysis. Statistical tests were applied based on the nature of the data. Descriptive statistics, inferential statistics, graphical representation were worked out. Among descriptive statistics Mean, S.D were used. Among inferential statistics z ratio and logistic regression were computed.

**Ethical Issues:**

The following ethical issues guided the researcher in the present study.

1. Researcher followed the standards identified in the APA Ethics Code to protect the rights and Welfare of research participants.

2. Participant’s risk of social injury (e.g. personal information becoming public) is protected by making their responses anonymous or confidential.

3. Before agreeing to participate in research individuals learned about the nature of the research task and the ways in which their rights will be protected.

4. No harm was done to participant’s, either physical or psychological or social in the research.