CHAPTER - II

PRESENT STUDY.

It is necessary to define operationally the variables selected for investigation before discussing the present study any further. The variables which need operational definition are the following ones:

Intelligence:

In ancient times intelligence was thought of "as a process of abstraction or faculty", expressed in the reasoning power of the individual (Jalota, 1972, p. 235). It was taken mainly as analytical in nature.

The dictionary meaning of intelligence to the layman is "Quickness of understanding" (Ostler, 1941, p. 260) or "having or showing understanding" (Coulson, 1969, p. 279). "In general, intelligence is thought of as a general ability, a common factor in wide variety of special aptitudes" (Boring, Langfeld and Weld, 1963, p. 402).

To the psychologists, the task of defining intelligence has been a difficult one and they "have failed to reach any agreed definition as to what it is they are measuring" by intelligence tests (Vernon, 1971, p. 3).

In 1921, an international symposium was held on the topic "Intelligence and its measurement" and thirteen different views were expressed (Sinha and Bose, 1937, p. 174;
Vernon, 1971, p. 3; Jalota, 1972, p. 238). The concepts put forward in this symposium were influenced by the content and organisation of the intelligence tests the psychologists were developing. Though there was no unanimous opinion regarding the nature of intelligence, yet they were not totally independent of each other.

The various definitions of intelligence given by the psychologists may be grouped into three heads:

1). Adjustment or adaptation of the individual to his environment.

2). Ability to learn.

3). Ability to carry on abstract thinking (Freeman, 1963, p. 149-150).

Upto the present day, no universally accepted definition of intelligence has been given (Eysenck, Arnold and Meili, 1972, p. 144-145). However, the most widely accepted point of view is that intelligence is not a lone capacity but rather a global factor which operates in all human activities. This concept was put forward by Wechsler, according to whom "Intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment." (Wechsler, 1943, p. 3).
Wechsler's definition has been accepted and for the present study, intelligence has been conceptualised as an ability which manifests itself in all human actions—learning, rationality, adjustment etc.—in short, a general mental ability.

It is said regarding intelligence tests that the language based ones tend to penalise the lower-class children who are weak in linguistic ability, whereas they give an advantage to middle and upper-class children who are more proficient in language skill. The class-difference in intelligence has been attributed by many psychologists to the socio-cultural factors in intelligence tests. Non-verbal tests are free from such bias (Mussen, 1969, p. 50) and as such, it was decided to use non-verbal tests of intelligence for this investigation.

One of the popularly used non-verbal intelligence test in India is the Raven's Progressive Matrices Test. The main handicap in using this test was that two separate forms of the Progressive Matrices Test are required to cover the age-group of student subjects in this study. It is also quite difficult to segregate the children (in the same class) on the basis of age because some differences in age amongst the students are mostly found in the same class.

Cattell's Culture-Fair Intelligence Test of 'g' Scale - 2, Form A was used for this study. It is a standardised non-verbal test consisting of four subtests—Series, Classifications, Matrices and Conditions (Topology). The subtests contain 12, 14, 12 and 8 items and time allotted is 3 mins.
4 mins., 3 mins., and 2½ mins. respectively. Thus the actual testing time is 12½ minutes but the instruction, demonstration etc. make the total time to complete the testing about forty-five minutes. The test was administered as per the instructions given in the Manual.

This test was selected to assess the intelligence of the student subjects because of certain advantages:

a) It is a culture-free test, standardised on a sizeable population in different countries which makes it applicable to any sample irrespective of the cultural environment. (Cattell and Cattell, 1960).

b) This test is applicable to age group 7+ years to 13 years which covers the age range of 7+ to 12 years taken for the present study. Hence a single test could be applied to the entire student population included in this investigation whereas most of the other intelligence tests require two separate forms to cover the same age-range.

c) Cattell’s Culture-Fair test is less time consuming, (45 minutes which covers one school period) easy to administer and score.

Home:

The original German word "home" means "warmth, safety and emotional dependence" and lacks any exact equivalent of the word in other languages. It denotes a fixed place of residence shared with limited number of other people. (Sills, 1968, p. 495-496).
A home is a place "in which one's affections 'centre, where one finds rest, refuge and satisfaction". (Onions, 1961, p. 914).

A home can be taken as a "family's place of residence". (Gove, 1969, p. 397).

According to Crow and Crow (1962, p. 451-454) a home is a place where a child's physical and psychological needs are fulfilled through parental care and child rearing, enabling him to develop personally and socially. A home should be a place in which the child can participate in different activities and can relax and recuperate his energy.

The ideal home should provide an environment in which the children as well as the adults can develop their potentialities and meet their needs in a constructive manner. There should be a minimum of emotional imbalance. The parents should be just, reasonable and cooperative. Attention and protection should be given to all the children in an impartial manner, according to the individual needs.

According to Teagarden (1950, p. 225), a good home should provide the child with "love, sympathetic intimacy, emotional security and opportunity for growth", together with education, money, morality and physical comforts.

The under-privileged homes are characterized by lack of love and understanding. There is more regimentation and punishment for children in the less privileged, lower-class

Fortunately or unfortunately, in practical experience, we rarely find an absolutely favourable or an entirely underprivileged home for a child. Each home mostly presents the child with some plus points and some minus points.

In our country home is viewed in a slightly different way. There are very few strictly nuclear families or joint families in the truest sense of the terms. Usually, some relative stays with the family.

For the purpose of this study, home may be taken as a more or less permanent place of residence with both parents and other family members providing the child with affection, protection, emotional security and fulfilling his physical and psychological needs.

The advantage of using an interview schedule over the self-reporting inventory is that the former permits a better classification, if needed, on any point and provides with added information in the course of the interview. So the information regarding various aspects of home which may exert any influence - negative or positive - on the school achievement of the student was collected with the help of a structured interview schedule.

As the aim of different investigations vary from one another, so does the information needed by each investigator. Hence no one schedule prepared for a previous study to collect environmental information can fit into another study. Some
Some alterations and modifications are always necessary and it is preferable to prepare an interview schedule according to the investigator's needs.

Information regarding home in the previous studies was obtained either by schedule or by self-reporting inventories (Fraser, 1959, Gupta (H.G.), 1968; Kaushal, 1971; Marjoribanks, 1975).

**Construction of Interview Schedule:**

To prepare the schedule, first a non-directive type of interview was undertaken with several housewives to find out what information was relevant to home with reference to this study.

Then, on the basis of information thus gathered and also from the past studies, items were collected which would provide the required home information of the subjects. It was then given to twenty experts to sort the relevant items under suitable headings and to rate them on a five-point scale from "most relevant" to "not at all relevant" categories. They were also requested to add, modify or make comments, if necessary, to improve the items. The items in each heading were arranged according to majority rating (75% agreement) of the experts. This form was administered to fifty mothers for their response. They were also requested to give their comments if they faced any difficulty in answering the questions or had any reservation regarding any item in the schedule.
The second form was prepared after making the necessary modifications obtained from the respondents. The second form was tried-out on thirty mothers. The form was finalized after this administration as the subjects reported no difficulty in answering the questions. After finalizing the schedule, the possible responses were given pre-determined scores. (Appendix A).

The final form was divided into the major heads of:

1. General information - 5 items.
2. Education of the family - 1 item.
3. Income - 1 item.
4. Social Status - 4 items.
5. Property - 1 item.
6. Spatial Environment - 1 item.
7. Encouragement at home - 7 items.

The total number of items in the schedule was twenty eight (Appendix 'A').

Parental Attitude Research Instrument:

The mother's attitude towards child-rearing was studied as one of the important variables of home as it was considered to influence the environment of the home for the child.
Several studies are available in which either both parents' or one parent's child rearing attitudes depicting the parent-child relationship have been measured. (Baldwin, Kalhorn & Breese, 1945; Beherens, 1954; Schaefer & Bell, 1957; Marshall, 1961; Cook, 1963; Hussaini, 1975).

As far as this investigator's knowledge goes, the studies undertaken in India to investigate the influence of home environment have not dealt with the problem of parent-child relationship. As such, no published instrument, which can be used under Indian socio-cultural set-up, could be located. So it was necessary to adapt one of the available English inventories.

One of the frequently cited investigations in the field of parent-child relationship influencing the home is that of Baldwin, Kalhorn and Breese (1945). The "interview schedule has never been published," (Medinnus, 1967, p. 2) and hence the question of its use did not arise.

Sears, MacCoby and Levin (1957) studied the patterns of child rearing in their famous investigation but their instrument was not readily available to the investigator.

Schaefer and Bell's Parental Attitude Research Instrument (1958) is a "frequently used instrument .... to measure the family life and child rearing attitude" (Hussaini, 1975). The PARI scales assess various attitudes of the parents towards the offsprings and is one of the most recently used instrument.
(Johnson and Medinnus, 1969, p. 353). This instrument was selected to assess the child-rearing attitudes of the mothers. The instrument was translated in Bengali and adapted to Indian cultural condition and used for this study.

Schaefer and Bell's Parental Attitude Research Instrument (PARI) consists of one hundred and fifteen items. These items are grouped into twenty-three scales with five homogeneous items in each scale. The scales are:

1. Encouraging Verbalization
2. Fostering Dependency
3. Seclusion of Mother
4. Breaking the Will
5. Martyrdom
6. Fear of Harming the Baby
7. Marital Conflict
8. Strictness
9. Irritability
10. Excluding Outside Influences
11. Deification
12. Suppression of Aggression
13. Rejection of Homemaking Role
14. Equalitarianism
15. Approval of Activity
16. Avoidance of Communication
17. Inconsiderateness of Husband
18. Suppression of Sexuality
19. Ascendance of Mother
20. Intrusiveness
21. Comradeship and Sharing
22. Acceleration of Development
23. Dependency of Mother

These twenty-three scales were further grouped into three factors on the basis of factor loading by Zuckerman et al. (1958). These factors are:

1. Authoritarian Control - consisting of sixteen scales
   (2, 3, 4, 5, 6, 10, 11, 12, 15, 16, 17, 18, 19, 20, 22, 23).
2. Hostility-Rejection - consisting of two scales
   (9, 13).
3. Democratic Attitude - consisting of three scales
   (1, 14, 21).
Schaefer and Bell (1957) gave five composite scales as five factors based on the factorial structure of twenty-three scales. These are:

1. Suppression and Interpersonal Distance - comprising of five scales (1, 15, 16, 18, 21).

2. Hostile Rejection of Homemaking Role - consisting of five scales (8, 10, 14, 17, 23).

3. Excessive Demand for Striving - consisting of three scales (9, 15, 22).

4. Over-possessiveness - consisting of five scales (2, 6, 7, 13, 19).

5. Harsh Punitive Control - consisting of six scales (3, 4, 5, 11, 12, 20).

The five scales given by Schaefer and Bell were used for this study.

It was necessary to translate the PARI in Bengali language and to adapt it to Indian cultural background because a large section of the sample population was not educated enough to use the PARI in its original English form. Proper care was taken to maintain the original sense of the statements. The translated version was given to ten experts to check the psychological content of the adapted version. The adapted version was then distributed to thirty mothers, ranging from non-matriculate to post-graduate levels of education and having children between the ages of 6 to 12 years. They were requested to complete the
forms and to give comments regarding any difficulty in understanding the language or presentation of statements. The translated version was then further modified according to suggestions obtained from experts and mothers and was administered to a fresh sample of fifty mothers for final try-out. The form was finalised as the mothers did not find any difficulty in responding to the items of the PARI.

To find out whether the adapted version measured the same attitudes of the parents as that of the original one, it was necessary to compute the correlation between the two forms. A high correlation between the two sets of scores would indicate the similarity of the two versions.

The English and the Bengali versions of PARI were then administered at an interval of three weeks to one hundred mothers of graduate level. The sample was divided into two equal groups of fifty each. To one group the English version was administered first and then the Bengali version. For the second group this order was reversed. The product-moment correlation coefficient for each composite factor for two sets of scores - one for the Bengali version and one for the English version - was computed. The t-test was used to test the significance of difference between two mean scores and also between two standard deviations. The obtained values are given in Table - 2.
**TABLE - 2.1**

SIGNIFICANCE OF THE (i) DIFFERENCE BETWEEN THE MEAN SCORES (t) AND (ii) CORRELATION (r) BETWEEN THE FACTORS OF ENGLISH AND BENGALI VERSIONS OF PARI.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Name of Factors</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Suppression and Interpersonal Distance</td>
<td>.34</td>
<td>.91*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2</td>
<td>Rejection of Home-making Role</td>
<td>0</td>
<td>.92*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>F3</td>
<td>Excessive Demand for Striving</td>
<td>1.78</td>
<td>.87*</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F4</td>
<td>Over-possessiveness</td>
<td>1.25</td>
<td>.90*</td>
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<td></td>
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<td></td>
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<tr>
<td>F5</td>
<td>Harsh Punitive Control</td>
<td>1.71</td>
<td>.86*</td>
</tr>
</tbody>
</table>

* Significant at .01 level.
The differences were not statistically significant. So, the two forms measured the same parental attitudes and the adapted version could safely be used in place of the original English one (Bose, 1977a). Regarding the comparability of the adapted version, Gulliksen stated "The correlations of .86 to .92 between the adapted and original form seems ... to be very good evidence of comparability."** According to Ferguson, "these correlations are quite high, and for most purposes the adapted test and the original test could be viewed as measuring by and large, the same thing."

** Scholastic Achievement **

Scholastic achievement can be assessed either by various combinations and types of examination marks or by achievement tests. Mackey and Verson (1963) in their attempt to construct a series of learning tests "which would approximate more closely to the normal school learning situation", came to the conclusion that the effort "has proved somewhat disappointing". The test turned out to be almost the same as school test.

Fraser (1959, p. 17) has opined that standardised achievement tests as a measure of school progress are not satisfactory; "they are limited in scope and ... give curious and spurious results" when the standard of teaching and time devoted to the subjects taught are not controlled.

** Personal communications. **
Ebel (1970) in his study concluded that achievement tests are useful when handled by specialists but "their limitations, especially in the area of curriculum evaluation must be acknowledged."

According to Kothurkar (1972, p. 279), "standardized achievement tests are essentially improved types of examination which teachers construct to cover an area of learning."

Since achievement tests and examination marks do not differ in their nature and content, because they measure the effect of a past training given in particular course of study, it was decided to take the school examination marks as the criterion of the student's scholastic achievement for this investigation.

The marks secured by the students in the last two examinations of the selected classes were obtained from the school records. These two sets of marks included one half-yearly and one annual examination marks. Usually annual examination marks are regarded to be more reliable as promotions to the next class depend upon this examination and hence the students are motivated to show their best. In order to get a round-the-year academic performance of the subjects, the half-yearly marks were also included. The average of these two sets of marks were normalized by converting them to standard scores. Then, on the basis of the normalized scores, the first two and the last two students from each class were selected as high-achiever and low-achiever groups respectively.
Pilot Study:

After the instruments were ready for use, a pilot study was carried out. The subjects consisted of 42 students from four different schools of Calcutta, studying in class II to class VII and their mothers.

On the basis of statistical analysis it was found that:

1) The mothers of high-achiever and low-achiever groups differed on five PARI scales, namely - Irritability at .01 level of significance and Seclusion of Mother, Equalitarianism, Suppression of Sexuality and Ascendance of Mother at .05 level of significance (Bose, 1977b).

2) Information on home background of the two groups of subjects showed trends of differences though they were not statistically significant.

On the basis of the results obtained from the pilot study, the final study was planned.