CHAPTER 3

THE PRESENT STUDY

It is evident from the review of the relevant literature that Indian research in the area of childhood psychological disturbance and psychopathology has not kept pace with the developments abroad. To recapitulate, the areas which need the utmost attention are those relating to the epidemiological studies of younger children, the employment of two-stage research strategies, the use of multiple informants, and the need to calibrate measures to suit our population. It is also important to study factors associated with disturbance so that a meaningful understanding of psychological disturbance is possible. The present study was therefore planned, keeping in mind the void left by earlier research in India.

AIMS:

This investigation aimed to study psychological disturbance in a group of five to eight year old school going children.

OBJECTIVES:

1. To study the prevalence of psychological disturbance in five to eight year old school going children.

2. To study the prevalence of scholastic backwardness in the group.
3. To study the association between psychological disturbance and demographic, family, developmental, schooling, and temperamental variables.

4. To study the association between scholastic backwardness and demographic, family, developmental, and schooling variables.

OPERATIONAL DEFINITION OF TERMS:

a) Psychological disturbance: Following Rutter et al. (1970) psychological disturbance has been defined as abnormalities of emotions, behaviour and relationships which are developmentally inappropriate and of sufficient duration and severity to cause persistent suffering or handicap to the child and/or distress to the family and community.

A time frame of two months preceding assessment was taken as "sufficient" duration.

Further, 'handicap' or 'impairment' was defined in terms of poor relationship with family members, neighbours, peers and teachers.

b) Prevalence: Prevalence was defined as the number of cases of psychological disturbance/scholastic backwardness existing in a population at a specified time.

c) Five to eight years: For the purposes of this study five to eight years was defined as children between the
chronological age of five years zero months and eight years and eleven months.

HYPOTHESES:

In view of the inadequate understanding of the psychological problems of Indian children, this study was essentially exploratory in nature. However, based on the limited knowledge of the area with reference to Indian children, the following hypotheses were set up.

1. The boys will have a significantly higher prevalence of psychological disturbance than girls.
2. There will be gender differences in the type of psychological disturbance.
3. The disturbed and non-disturbed children will differ significantly on the temperament dimensions.

MEASURES USED IN THE STUDY:

In keeping with the objectives of the study, the following tools were selected. A brief description of these tools is also provided.

1. School Data Sheet (compiled by the investigator)
2. Classroom Data Sheet (compiled by the investigator)
4. Bender Visuo-motor Gestalt Test (Bender, 1938).
8. Interview Schedule (Compiled by the investigator)

1. School Data Sheet : Appendix 1

This refers to the data sheet prepared by the investigator for the purposes of recording details regarding the school in a structured format. The details included in this sheet were - the medium of instruction, the strength of the school, class-wise break-up, the number of teachers employed by the school, and the structural facilities provided by the school to the teachers and students.

2. Classroom Data Sheet : Appendix 2

This refers to the data sheet prepared by the investigator to record details regarding the classroom and the class teacher in a structured format. The details included in the sheet were - the boy:girl ratio, teacher's age, gender, marital status, educational level, teaching experience, knowledge of/familiarity with the class, the number of hours/week of contact with the class, the reinforcement methods employed, and the frequency of parent-teacher meetings held.
Appendix 3

Rutter (1967) developed the Children's Behaviour Questionnaire (CBQ) to be completed by teachers to distinguish between children who show disorder and those who do not, as well as to discriminate between different types of behavioural and emotional disorders. The CBQ has been used as a screening instrument in different populations of children in Aberdeen (Rutter, 1967), in the Isle of Wight (Rutter et al., 1970), with London school children (Rutter, 1973) and with children in long term residential care (Wolkind, 1974). It has been used in different countries such as Uganda (Minde, 1975), Italy (Zimmermann Tansella et al., 1978), Mauritius (Venables et al., 1983), New Zealand (McGee et al., 1984), Sudan (Rahim and Cederblad, 1984), Japan (Matsuura et al., 1989), Morita, Suzuki and Kamoshita, 1990), and China (Ekblad, 1990). In India, it has been used as a screening tool in school surveys by Vardhini (1983), Rozario (1988), and Sarkar (1990).

The CBQ has two parts - proforma A and B.

Proforma A: This has 9 items and seeks information about educational performance, consistency in academic work, attendance, sports, reading and writing difficulties, nicknames, physical handicaps and teacher's opinion about the need for psychological help. Two items were added to this
proforma by the investigator in the present study. These included one item dealing with arithmetic difficulty and the other with physical problems such as dizziness, fainting spells etc.

One advantage of the CBQ is that it is also possible to obtain a neurotic subscore by summing up certain items (Nos. 7, 10, 17, 23), and an antisocial subscore by summing up certain other items (Nos. 4, 5, 15, 19, 20, 26).

Reliability: Both test-retest and interrater reliability of the CBQ have been studied. Rutter (1967) reported a test-retest reliability of 0.89 over a three month period, while Zimmermann-Tansella et al. (1978) found it to be comparable 0.80. They further reported test-retest reliabilities of the neurotic and antisocial subscores which were 0.68 and 0.72 respectively.

Rutter (1967) reported an interrater reliability coefficient of 0.72, while Zimmermann-Tansella et al. (1978) reported reliability coefficients of 0.50, 0.07 and 0.62 for the total, neurotic and antisocial scores respectively. Ekblad (1990) reported interrater reliability coefficients of 0.57 and 0.42 for boys and girls respectively.

Validity: Rutter (1967) has made extensive use of psychiatric diagnoses and clinic attendance to validate the CBQ. His validation evidence has been consistent on replication with
different samples. In one of his earlier validation studies, he found that the CBQ could correctly classify 77.1% of the children attending psychiatric clinics as disturbed, as against only 8.1% from the general population. He further obtained a high rate of agreement (85.1%) between the diagnoses obtained on the questionnaire and that made by a psychiatrist. (Rutter, 1967). In another study, Rutter et al. (1975a) found that 40.2% of the general population children with a score over the cut off on the CBQ also obtained a clinical diagnosis after a detailed psychiatric interview with a parent. The cases missed by the CBQ amounted only to 8.6%. When the same children were diagnosed on the basis of a psychiatric interview with the teacher, 61.5% of those above the cut off and 18.8% below the cut off on the CBQ obtained a clinical diagnosis. He further noted that 11.8% of those with a score above the cut off had attended the clinics for psychiatric consultation in the previous year as compared to only 2.2% from those scoring below the cut off.

Morita et al. (1990) examined two aspects of validity of the CBQ - one in terms of agreement between the questionnaire results and judgement of interviewers concerning the presence and absence of disorders, another in terms of agreement between questionnaire diagnoses and judgement of interviewers concerning the type of disorders. Neurotic type deviance tended to have better agreement between an interviewer's
judgement and the parents' questionnaire diagnoses, compared
to the same diagnoses made on the teacher's questionnaire,
although the difference was not statistically significant.

Rutter (1967) and Rutter et al. (1975a) have provided
adequate evidence to indicate a satisfactory discriminative
value of the CBQ. Zimmermann - Tansella et al. (1978) have
established that 34 out of 41 cases could be correctly
identified by the tool, showing a sensitivity of 0.83. In
India, Sekar et al. (1983) studied the feasibility of using
the CBQ as a tool for screening children with maladjusted
behaviour. They found that only 53% of the clinic children
were correctly classified as disturbed by their teachers,
suggesting the possibility of a high rate of
misclassification with this tool.

In the present study, the CBQ was employed as a
screening tool to identify children with psychological
disturbance from schools. The Kannada version of the CBQ was
also made use of (Vardhini, 1983).

4. Bender Visuo-Motor Gestalt Test (Bender, 1938; scoring by
Koppitz, 1975) : Appendix 4

The Bender Visuo-motor Gestalt Test (BGT), a test of
visuo-motor integration developed by Bender (1938) consists
of 9 cards with abstract designs. The subject is required to
copy the designs one at a time on a blank sheet of paper.
In the present study, the Koppitz scoring system standardized for ages five to ten years at six months intervals was employed. Each design was scored wherever appropriate for distortion of shape, for rotation of the whole design or part of it, for failure to integrate the parts of the design and for perseveration. There are a total of 30 scoring items. As the B.G.T scores are for imperfections, a high score indicates a poor BGT performance, while a low score reflects a good test performance.

The BGT developmental score was then converted to an age equivalent which is compared to the subject’s chronological age and his level of maturation is interpreted.

Concerning reliability, Koppitz (1975) has reported studies involving 31 interscorer correlations of which 25 were at 0.89 or better. The lowest was 0.79. Test-retest reliability coefficients reported from 9 studies with time intervals between 1 week and 3 months, ranged from 0.50 to 0.90.

In the present study, the BGT was administered on a group of scholastically backward children as well as a comparable group of children rated as showing a superior, performance in school. The purpose of administering this test was to determine whether scholastic backwardness was related to maturational lag, as assessed by the test.

The Child Behaviour Checklist - Teacher Report Form (CBCL-TRF); to be referred to as TRF henceforth was designed to provide standardized description of children's behaviour to be rated by the teacher for children between the age ranges of 6-16 years. It consists of 2 parts one a measure of social competence and the other, a measure of behaviour problems. For the purposes of this study only that part of the scale pertaining to behaviour problems was used.

The 'behaviour problem' scale consists of 118 behaviour items to be scored on a three step response scale - the teachers are to circle '2' if the item is very true or often true of the child; the '1' if the item is somewhat or sometimes true of the child, and the '0' if the item is not true of the child. The middle category can be used when mild or ambiguous instances of a behaviour would make a forced choice between present and absent difficult.

The TRF employs a two month rating period mainly for two reasons (a) Because teachers usually know a child for only an academic year, a six-month rating period would restrict teachers' ratings to the last 3 months of the school year. (b) The low frequency behaviour that may be picked up by parent's ratings such as running away and firesetting do not have counterparts in the TRF.
Scoring is done separately for boys and girls and for ages 6-11 and 12-16 years. Factors were derived from factor analyses of ratings on clinically referred children. 'Narrow-band' behaviour problem scales were derived after obtaining norms for these factors from the data based on randomly selected nonreferred children. A second order principal component analysis of these factors was performed to obtain two broad-band groupings called internalizing and externalizing, for which norms were obtained. The narrow-band behaviour problem scales for boys and girls in the 6-11 years age range are given below:

a) Boys - Anxious, social withdrawal, unpopular, self-destructive, obsessive compulsive, inattentive, nervous-overactive, and aggressive.

b) Girls - Anxious, social withdrawal, depressed, unpopular, self-destructive, inattentive, nervous-overactive, and aggressive.

The authors recommend a cut-off T score corresponding to the 98th percentile for the total behaviour problem score and a T score of 70 for the narrow band scales.

Reliability and Validity: The interrater and test-retest reliability have been found to be significantly high (Achenbach and Edelbrock, 1986). The TRF has also been used in a few epidemiological studies such as in Netherlands (Verhulst et al., 1985), and in Thailand (Weisz et al.,
1989). In the Dutch study, the extent of agreement between the teacher and parent reports was found to be 0.37 for girls and 0.38 for boys of the 6-11 year age group. Garrison and Earls (1985), studying the convergent validity of the TRF with that of Child Behaviour Checklist for parents found that the highest agreement between the two informants was on the externalizing scales of hyperactivity and aggression.

In India, Sarkar (1990) used the TRF for a detailed study of children already screened out as disturbed by the CBQ. She noted the need to determine different cut-offs for the total scale as well as the subscales for the Indian sample.

The TRF was used in the second stage of this study to confirm the presence of "psychological disturbance" among those screened as disturbed by the CBQ as well as to pick up disturbed children who might have been missed out by the screening tool.


The Revised Child Behaviour Checklist to be henceforth referred to as the CBCL, like the TRF, was designed to provide standardized descriptions of behaviour to be rated by the parent. Like the TRF, the CBCL has 2 sections - the social competence and behaviour problem scale - of which only the latter has been used for the present study. The behaviour
problem scale has 118 items of which 94 items are common to both the TRF and the CBCL. The CBCL uses a six-month time reference. However, for the purposes of this study, only a two-month time frame was used so that both parents and teachers refer to the same time period while rating the child. Administration and scoring are similar to that of the TRF. The narrow-band scales identified through factor analyses and subsequently normed, for boys and girls separately are as follows:

a) Boys - schizoid-anxious, depressed, uncommunicative, obsessive-compulsive, somatic complaints, social withdrawal, hyperactive, aggressive, and delinquent.

b) Girls - depressed, social-withdrawal, somatic complaints, schizoid-obsessive, hyperactive, sex problem, delinquent, aggressive, and cruel.

A second order factor analyses of these narrow band scales yielded two broad-band groupings of internalizing and externalizing, for which norms were obtained.

The cut-off as recommended by the authors is the T score corresponding to the 98th percentile, for the total problem behaviour score, and a T score of 70 for other subscales.

Reliability: Achenbach and Edelbrock (1983) report reliabilities of the CBCL as assessed by 3 methods: test-
retest reliability, interrater agreement, and long-term stability

For individual items they computed intraclass correlations (ICCs) between item scores obtained from mothers filling out the CBCL at one-week intervals, mothers and fathers filling out the CBCL on their clinically referred children, and three different interviewers obtaining CBCLs filled by parents of demographically matched triads of children. All the ICCs were in the 0.90s. The ICC for three month stability of mother's ratings of individual items was 0.84 for behavioural problems.

For 'scale scores' and 'total problem' scores, the median Pearson correlation for 1-week test-retest reliability of mothers' ratings was 0.89. The median Pearson correlation between mothers' and fathers' ratings was 0.66.

Test-retest correlation for inpatients' scores over a 3-month period averaged 0.74 for parents' ratings and 0.73 for child care workers' ratings of behaviour problems.

Test-retest correlations for outpatients' scores over a 6 month period were in the 0.60s for behaviour problem scores. Over an 18 month period, mean correlations ranged from 0.46 to 0.76 for problem scores in the various sex/age groups.
Validity: Of the 118 items, 116 were found to be significantly associated with clinical status, thereby establishing the content validity of the CBCL. The correlations of 0.91 and 0.92 with Connor's Parent Questionnaire (Connors, 1969) and Quay - Peterson Revised Behaviour Problem Checklist (Quay and Peterson, 1979) respectively also proved the construct validity of the CBCL. As the CBCL was found to successfully differentiate the normal children from the clinic referred children, the CBCL was considered to have adequate criterion-related validity.

In the Indian setting, the CBCL has not yet been used in surveys of psychological disturbance in children.

In the present study, the CBCL was used in the second phase to obtain information regarding the presence or absence of behavioural disturbance in the child from a parent's point of view.


The Malhotra's Temperament Schedule or MTS was developed for the purposes of assessing the temperamental characteristics of the children under study. The test was based on the 9 temperamental dimensions evolved by the New York Longitudinal Study (NYLS) (Thomas and Chess, 1977). The questions are in simple Hindi and in English and covers the 9 dimensions of activity level, rhythmicity, approach-
withdrawal, adaptability, mood, intensity, threshold, distractability and persistence. The MTS can be used as an interview schedule or as a self administered questionnaire. Information is obtained from parents, preferably the mother, regarding the period prior to the onset of symptoms in the case of a child who has behavioural/emotional problems. In the normal children the enquiry pertains to that period of time when the child is his most usual self. There are 45 questions in the schedule covering the 9 dimensions. Probes and minor elaborations are used wherever necessary. Each question is rated on a five-point scale considering the intensity as well as the frequency of the occurrence of that particular behaviour. Scores of 1 to 5 represent extremes of intensity and of frequency of occurrence of that behaviour rated on positive and negative directions. Scores of 3 at the midpoint represents average. Means of the five item scores are calculated for each of the 9 dimensions.

The 9 variables have been reduced to 5 factors by the authors, on the basis of factor analysis:

Factor I - Sociability - Comprising of approach-withdrawal, adaptability and threshold of responsiveness.

Factor II - Emotionality - Comprising of mood and persistence.

Factor III - Energy - Comprising of activity and energy.

Factor IV - Attentivity - Comprising of distractibility

Factor V - Rhythmicity.
The authors have provided norms on a group of 290 normal children in the age range of 4 to 14 years of both sexes, from all socioeconomic classes.

Reliability: Two measures of reliability were studied by the author: rest-retest and inter-rater reliability. The reliability coefficients ranged between 0.83 and 0.94 for test-retest (8 weeks) and 0.82 to 0.96 regarding inter-rater reliability.

Validity: Face validity was found to be adequate when tested by the author's professional colleagues. Factorial validity was established through comparison of the results of factor analysis with other factorial studies (Malhotra, Malhotra and Randhawa 1983). Construct validity was established through discriminant function analyses in which temperament variables were found to significantly discriminate between the emotionally disturbed and the normal children (Malhotra et al. 1983). Further construct validity was established by comparing the temperamental profiles of 220 emotionally disturbed children, 110 mentally retarded children, and 290 normal children. The findings were found to be in agreement with the findings reported by other workers and were in the expected direction.

Apart from the wide use of the schedule by Malhotra and her colleagues the MTS has also been used by Daniel (1989) in her study of children with conduct and emotional disorders.
In the present study, the MTS was used to assess the temperamental characteristics of children in the second phase of the study, using parents as informants. In this the 9 dimensions, were not collapsed into the five factors in view of the objectives of the study.

8. Interview Schedule (Compiled by the Investigator): Appendix 8

For the present study, a precoded semi-structured interview schedule was employed. This was based in parts, on the case history proforma used for disturbed children at the child guidance clinic of NIMHANS, Bangalore, as well as the proforma used in a multicentered study of child and adult psychiatric disorders, sponsored by the ICMR. (ICMR, 1984) and modified to suit the requirements of the present study. It taps information on the following major areas:

a) Sociodemographic data
b) Family history
c) Amenities available to the child's family
d) Family interaction patterns
e) Developmental details
f) Schooling details.

Further, a few items such as relationship of the child with his parents, siblings, peers, neighbours and teacher (marked with an asterisk in the appendix) were considered as measures of impairment.
Since information obtained on the schedule was for the most part factual in nature, it was assumed that the reports would be more or less accurate. Rutter (1985b) has also pointed out that well-defined items are reported fairly accurately.

The interviews were carried out with parents/other informants who knew the child closely for at least a year. It was ensured that the method of data collection was identical in the case of all participants.


The Eysenck's Personality Inventory or EPI, developed by Eysenck and Eysenck (1968) consists of 57 questions to be answered Yes or No. It contains 24 items each on Extraversion-Intraversion and the Stability - Neuroticism dimensions and 9 items on the Lie scale.

Abraham et al. (1977) have provided norms for the Indian population after translating them into the vernacular.

The test-retest reliability of the EPI was found to be 0.85. Eysenck and Eysenck (1968) provide direct evidence of the validity of the EPI as a descriptive instrument of the behaviour manifestation of personality.
In the present study, the EPI was used for two purposes—
a) to screen out those teachers who had a high neuroticism score from participating in the study.
b) to assess the presence or absence neuroticism in the mothers of children participating in the second stage of the study.

PROCEDURE

The investigation was carried out in two phases—
(i) the pilot study and (ii) the main study.

a) The pilot study:

A pilot study was undertaken for the following purposes.
1. To translate the TRF and CBCL into Kannada.
2. To determine the sensitivity of the CBCL on a clinic population.
3. To determine prevalence rates for a sample of school going children so that the sample size for the main study could be fixed.
4. To get familiar with the use of the tools
5. To finalize the tools for use in the main study.

The pilot study was carried out in the following steps:

Step 1: Tool translation:

The TRF and CBCL were first translated into Kannada by the investigator and the translated versions were checked by 3 psychologists well-versed in Kannada. Following this, the changes suggested by the group of psychologists were
incorporated and a final translated version was obtained.

Step 2: Sensitivity of the CBCL:

Five to eight year old children of both sexes whose parents were able to speak in either English or Kannada were selected from among those reporting for a detailed work up at the Child and Adolescent Mental Health Unit, NIMHANS, between April 1990 and May 1990. Only those who had an Axis I diagnoses according to the ICD-9 classification system (WHO, 1978) were finally taken up for assessment. Among those excluded were children with an Axis I diagnosis of infantile autism, an Axis III diagnosis of mental retardation, and an Axis IV diagnosis of i.e., associated medical problems and underlying organicity. In all, 33 children were included (27 boys and 6 girls).

The CBCL was administered to a parent or an informant who knew the child well. The items of the CBCL were read out to the parents and their responses were noted down by the investigator. This procedure proved useful as it helped the parents clarify doubts regarding items, if any. Further it provided an opportunity for the investigator to probe into some of the reported problems. This procedure also elicited a few problem behaviours which were not covered by the CBCL eg: bruxism and food fads.
Analysis of the data revealed that only 20 out of the 33 children scored over the author recommended cut-off yielding a sensitivity of 0.61. A closer inspection of the individual total scores revealed that employment of a slightly lower cut-off could have raised the sensitivity to 1.00.

Step 3: Prevalence of psychological disturbance in a school sample:

Two schools - one from an urban and another from the outskirts (rural parts) of Bangalore - were chosen for the study. After obtaining consent from the school authorities and the participating teachers, a sample of children studying in standards 1 to 4 (about 50% of the strength for standards 1 to 4) from the urban school (n=199) and all the children from the rural school (n=186) were included in the study. The respective class teachers were asked to fill out the CBQ and hand it over to the investigator at the earliest.

A second stage study was attempted where six boys and girls each who scored over the cut-off on the CBQ were rated by the same teachers on another tool, the TRF. The TRF was filled also for a group of 12 control children who scored below the cut-off on the CBQ, matched on the basis of age, sex, and the class studied. The parents of these 24 children were then contacted and administered the CBCL.
Results showed that the prevalence of psychological disturbance in the urban school was 10.56% whereas that in the rural school was 4.30% on screening. However, it was noted that 24 children had dropped out of the rural school just before the study and therefore could not be included in the study. It was speculated that a large portion of the disturbed children could have been lost to the investigator by virtue of their being in the 'drop out' group.

The second stage data showed that none of the children scored in the disturbed range on the TRF, the 12 'disturbed' children from the screening phase included. Only two children from the 'disturbed' group of the screening phase, scored in the 'disturbed' range on the CBCL, as well.

Based on the above findings, several decisions were taken with regard to the main study.

1) It was decided to restrict the study to the urban area owing to the high rate of drop out of children in the rural schools, and the difficulty faced by the investigator in contacting the parents for the second stage of the study.

2) The possibility of 'neuroticism' in the teachers influencing their ratings of children was considered. Therefore, it was decided to screen out the teachers who were high on this dimension and exclude them from the study.
3) It was felt that more training needed to be given to the teacher before they rated their students.

4) It was decided to retain the TRF and CBCL in the main study. However, it was decided that necessary modifications would be made to lower the cut-off when used in the main study.

5) No definite sample size was fixed. However, it was decided that about 1% of the children enrolled in the schools of Bangalore city in the 5-8 year age group would be studied.

Having incorporated all the changes decided upon, the main study was taken up.

b) Procedure for the main study:

This study was cross-sectional in nature. The universe was the five to eight year old school going children of Bangalore city.

Of the over 500 schools in Bangalore, 11 schools were contacted of which 2 refused permission and 4 deferred permission till the next academic year (beginning June 1992) for the investigator to collect data from their schools. The remaining 5 schools were taken up for the study. Sampling was purposive.

All the 6 schools that could not be taken up for the study were private schools managed without any financial aid.
from the government. A large majority of children attending these schools were perhaps from the upper strata of the city, as only they would be in a position to afford such schools. The 5 schools involved in the study were government aided private schools which catered to the middle and lower class members of the society. This point needs to be borne in mind while interpreting the findings of this study.

All the 5 schools were coeducational in nature i.e., they accommodated both male and female students. Boys were selected from only four schools and girls from all the five schools. This was because of the vast difference in the boy: girl ratio found in the first four schools. Of these, 2 schools had English, one school had Kannada and two other schools had both English and Kannada as the medium of instruction. The school-wise break-up of the total sample screened was 397, 500, 268, 232 and 164. While all the 5 schools provided blackboards, benches, lights, play articles, drinking water, and staffroom for teachers, playground was present in only 4 schools, desks, adequate ventilation and toilets for students were present in only 3 schools and fans in the classroom were present in only one school. Thus, although the 5 schools catered to the middle and lower class, they were not comparable with each other with respect to the provision of certain basic facilities to the children.
Sampling was done based on the statistics available at the Department of Education, Bangalore (North and South). Accordingly, 1,03,576 boys and 88,987 girls were found enrolled in standards 1-4 in the schools of Bangalore city giving a ratio of 1.6:1. The sex-wise break up of the total children studying standards 1-4 in the 5 schools was 942 boys and 800 girls, i.e., 1.16:1. Of these, the number of children falling in the age range of 5-8 years was 810 (85.99%) and 725 (90.63%) boys and girls respectively giving a ratio of 1.12:1. Extrapolating from this, it was assumed that about 89,065 and 80,648 boys and girls respectively would be in the age range of 5-8 years among the total boys and girls studying in standards 1 to 4. The sample of the present study is thus about 0.91% and 0.90% of this estimated number of boys and girls respectively, and is only marginally lesser than the proposed 1%.

This study employed a 2-stage research strategy and therefore there were two phases to the study (i) the screening phase and (ii) the detailed study phase.

(1) Screening Phase

After obtaining permission from the head of the schools for carrying out this study in their schools, the School Data Sheet was filled in consultation with the school register/clerk. The class teachers of standards 1 to 4 were then contacted and explained the purpose this study and their
role in the assessment of the children. Their cooperation and verbal consent to participate in the study were obtained. They were then administered the EPI to screen them out for neuroticism. They were then asked to fill out the Classroom Data Sheet.

In all, 48 teachers participated in the study after screening for neuroticism. Of these 46 were females and 2 males; 32 married and 16 single; 12 with SSLC, TCH and 36 with a Bachelor’s degree in Education as their highest qualification. The average age of the teachers was 36.74 years (SD 9.23), average teaching experience in years was 9.28 (SD 7.69), with the average number of hours of contact with the class per week being 19.76 (SD 4.78). While all of them used verbal modes of reinforcement, 36 used physical methods of reinforcement in addition. All teachers held meetings with the parents of their students as and when found necessary. None of them scored over the cut-off on the Neuroticism as well as the Intraversion-extraversion subscales. However, 5 of them, all females, scored over the cut-off on the Lie scale, indicating a high level of social desirability among them. Yet, they were retained in the study as it was assumed that social desirability would operate only while teachers provided information about themselves and not while rating others, especially their students.
After they filled up the Classroom Data Sheet, the teachers were explained the procedure of filling out the CBQ. The investigator initially filled out a minimum of 6-8 forms along with the teachers to help them understand the procedure better. Since most of the teachers preferred to fill out all the remaining forms along with the investigator, this procedure was followed for all the students studied. This procedure not only facilitated the completion of ratings on time but also helped the investigator probe further wherever found necessary. The time taken to fill each questionnaire was 5-6 minutes on an average. When the class size was more than 20, ratings were done in 2 sittings.

On two separate subsamples of children, reliability assessments were made. Test-retest reliability was assessed on a group of 56 children (18 boys and 38 girls) by requesting the same teacher who made the initial ratings to repeat them after a period of four weeks. Inter-rater reliability was studied on another group of 68 children (34 boys and girls each). Here, another teacher, who knew the children as well as their class teacher was asked to rate them on the CBQ, around the same time as the initial ratings, but independently.

Following the ratings on the CBQ, the protocols of all the children were scored, and a list was made of all those who scored 9 or above. This group of children were termed
the "disturbed group". Another list was drawn from among those who scored below the cut-off and were termed the "control group". The control group was selected by frequency matching them with the 'disturbed' group for age, sex and the class in which they studied. Two other lists were also drawn up - one consisting of the names of all the students being rated as scholastically backward and another, a comparable group, frequency matched with the former for age, sex, and the class in which they studied, who had ratings of 'excellent' with reference to scholastic performance. While the 'disturbed' and 'control' groups were taken up for a detailed study involving interviews with parents, the 'scholastically backward' and 'superior' groups were taken up for a further study involving the administration of BGT to assess their developmental level.

(ii) The Detailed Phase: The following flow chart explains the procedure involved in the detailed phase of the study.
The following procedure was followed during this phase:

The teachers were given the TRF along with response sheets and asked to rate the 'disturbed' and 'control' group of children using a 2-months time-frame as recommended by Achenbach and Edelbrock (1986). An interview method was adopted here, similar to that employed in the screening phase. The average time taken to fill up the TRF was about 15-20 minutes per child. The average time gap between the first
and the second assessment by the teacher was around 8 days for both the groups. There was a loss of 2 protocols at this stage as they were misplaced by a teacher. Those children rated as scholastically backward and their comparable control group (scholastically superior) were then administered the BGT.

The parents of children who were taken up for the detailed study were requested to contact the investigator by coming to the school on a specified day at a specified time. The request was usually sent through the child by making a note in his 'home work diary'. The flow chart shows that the overall response rate at this stage was 60.80% with a drop out rate as high as 39.20%. This was because the parents were requested to contact the investigator, rather than the investigator attempting to contact them. This procedure was followed, however, because it was found during the pilot phase that most of the addresses given at the school were not complete, or the houses remained locked (both parents working etc), resulting in hardship to the investigator. Only upto a maximum of 8 parents were requested to come on any given day. Further, care was taken to request equal number of parents of both the 'disturbed' and 'control' children to attend on any given day.

The parents/informants were then explained the purpose of the study and their cooperation and consent to take part
in the study were obtained. Following this they were administered these tools - the interview schedule, Malhotra's Temperament Schedule (MTS) and the Revised Child Behaviour Checklist (CBCL) in that order. The order was kept constant for all the participants. Wherever, the informant was the mother, the EPI was also administered in the end. While administering the tools, probes were used wherever necessary and additional information was obtained. In some cases, the investigator counseled the parents regarding the need for consistent disciplining, ways of improving the concentration of the child, methods of inducing interest in studies and the management of enuresis. Any help or suggestion sought by parents with reference to psychological problems of the child were provided. The entire period of interview with the parents lasted upto a maximum of one and a quarter hours.

Whenever the parents failed to turn up at the school following the first request, two more requests were made with a gap of 3 days each. When parents failed to respond to all the three requests, no further requests were made, and the case was treated as a 'drop out'. Data collection in a given school was stopped when none of the parents reported on three consecutive days. The entire period of data collection in any school averaged six weeks.

Following the completion of data collection in the five schools, a request was made again in all the schools for the
'drop out' parents to contact the investigator (in March 1992). However, at this stage, only one parent contacted the investigator and this did not in any way substantially reduce the drop out rate.

Throughout the process of data collection certain ethical issues were kept in mind:

a) Informed verbal consent was obtained from all teachers and parents/other informants who participated in the study.

b) Confidentiality was ensured during and after the collection of information from the teachers and parents/other informants.

c) Care was taken to see that participation in the study did not interfere with the day to day functioning of the people concerned e.g.: while administering the BGT to the children it was ensured that the child did not miss classes; likewise, the teachers were not pressed to fill out the questionnaires (CBQ and TRF) whenever they had heavy work load.

d) Wherever it was felt necessary further assessment of the child was undertaken (IQ assessment was done for three children to rule out mental retardation).

e) Whenever required, the teachers and parents were counselled regarding methods of managing/improving the child.
ANALYSIS:

The data collected was analyzed keeping in mind the objectives of the study. Wherever the data was discrete, percentages were obtained and chi-square analyses were performed to check for significance of difference. For continuous data the Student's 't' test was applied to determine the significance of difference between means. Pearson's product-moment correlation was calculated wherever necessary to determine the relationship between two sets of continuous data. The principal component method of factor analysis was also employed to obtain factors from scales.