CHAPTER THREE

METHOD AND DATA COLLECTION
This chapter contains 'Objectives of the study', 'Method' (sample and tools) and 'Data collection' in that order.

III(i) Objectives of the Study

This study aimed to accomplish the following objectives:

a) to find out if the demographic variables of age, sex, marital status, total teaching experience, and qualification are related to perceived teacher stress;

b) to find out if the personality variables of locus of control, trait-anxiety, neuroticism and extraversion are related to perceived teacher stress;

c) to find out if the attitudinal variables of teacher morale and teacher job satisfaction are related to perceived teacher stress;

and

d) to find out if the environmental variables of 'consideration' and 'initiating structure' dimensions of principal's behaviour, school organizational climate, type of school (high versus senior secondary), location of school (rural versus urban), management of school (government versus private), size of school, subject-taught, and teaching load are related to perceived teacher stress.

III(ii) Method

The data in the present investigation were collected by employing a descriptive method in which all the tools used were self-report measures. Admittedly, such data could also be gathered through structured and unstructured interviews and recording of various physical responses such as heart beat, blood pressure, sweating, and so on.
This method doesn't enable one to establish any causal relationship between any two variables, and less so when an 'ex-post facto' descriptive survey method is employed. However, it does provide data to explain, control and predict human behaviour. As Kerlinger (1973, p. 379) opines: "ex-post facto research is a systematic empirical enquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulatable. Inferences about relationships among variables are made, without any direct intervention, from concomitant variation of independent and dependent variables". However, notwithstanding this limitation, the descriptive survey method has been widely and successfully used in educational research over the years to study the prevailing conditions.

The study is limited to the conducting of a latitudinal survey. Admittedly, it would have been ideal if both latitudinal and longitudinal approaches were combined as different periods of the school academic year, like times when examinations are set, results are prepared and reports are made, bring in their own levels of stress (Brown, 1985; Makinen and Kinnunen, 1986). The combining of the two approaches, however, was made impossible by the constraints of time and resources.

III(iii) Sample

The sample was selected by following a two stage randomization and stratification of the parent population of high and senior secondary school teachers of Punjab. Randomization was employed in selecting three districts, out of twelve, in the State. This was done to ensure each sampling unit an equal opportunity of being chosen without bias. They came out to be Amritsar, Ludhiana and Ropar. In the second stage,
schools were stratified: based on location (rural versus urban), type (high versus senior secondary) and management (government versus private). In this process of stratification, schools were divided into homogeneous subgroups. Stratification overcomes the drawbacks of biased sampling.

In the second stage, based on stratification, eight schools from each district were randomly selected representing the following eight subgroups of schools:

- High - Rural - Government
- High - Urban - Government
- Senior Secondary - Rural - Government
- Senior Secondary - Urban - Government
- High - Rural - Private
- High - Urban - Private
- Senior Secondary - Rural - Private
- Senior Secondary - Urban - Private

In Ludhiana district, however, this original sampling design could not be fully operated as only five of the eight schools selected gave cooperation in the collection of data. Afterwards, two schools from Firozpur district of Punjab and two from Chandigarh Union Territory were included in the sample. Chandigarh is geographically within the boundaries of Punjab. So, the inclusion of two of its schools in the sample is not out of place. After discounting the incomplete and unreturned questionnaires, it was found that 255 teachers from 25 high and senior secondary schools fully participated in the study. A final breakdown of the sample is given in Table III-1.
Table III-1: Distribution of the Sample (Location x Type x Management of School)

<table>
<thead>
<tr>
<th>Type of School</th>
<th>Rural Private</th>
<th>Rural Government</th>
<th>Urban Private</th>
<th>Urban Government</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>n = 25</td>
<td>n = 48</td>
<td>n = 27</td>
<td>n = 38</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>(9.8%)</td>
<td>(18.8%)</td>
<td>(10.6%)</td>
<td>(14.9%)</td>
<td>(54.1%)</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>n = 28</td>
<td>n = 30</td>
<td>n = 17</td>
<td>n = 42</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>(11.0%)</td>
<td>(11.8%)</td>
<td>(6.7%)</td>
<td>(16.5%)</td>
<td>(45.9%)</td>
</tr>
</tbody>
</table>

Rural: n = 131 (51.4%) Private: n = 97 (38.0%) Total: 255
Urban: n = 124 (48.6%) Govt.: n = 158 (62.0%) Total: (100%)

A government school, used in this study, is one which is wholly owned, administered and funded by the State Department of Education through its hierarchical set up. A private school, on the other hand, is recognized but may or may not be funded by the State Department of Education. It is run by its own management body. A high school is defined as one where education is imparted up to class ten, and the senior secondary school, where the two additional classes of '11' and '+2' are also catered for. Urban schools are those which are located in towns. A town, as per the Census of India (1981) is:

a) a place administered by a statutory body, like a municipal committee and cantonment board; or,

b) a place which satisfies the following criteria:

i) a minimum population of 5000;

ii) at least 75 per cent of male working population engaged in non-agricultural pursuits; and,

iii) a density of population of 400 per square kilometre.

A rural school is the one located in a village. A village is a revenue unit as a segment of rural area for which a separate record of rights exists.
III(iv) Tools used to collect Data

These include

i) Demographic Data Sheet (Prepared by the investigator)

ii) Occupational Stress Index (Srivastava and Singh, 1981)

iii) Internal-External Locus of Control (Rotter, 1966)

IV) State/Trait-Anxiety Inventory (Spielberger et al., 1970)

v) Eysenck Personality Inventory (Eysenck and Eysenck, 1968)

vi) Leadership Behaviour Descriptive Questionnaire (Halpin, 1966)

vii) Organizational Climate Descriptive Questionnaire (Halpin and Croft, 1963)

viii) Purdue Teacher Opinionnaire (Bentley and Rempel, 1980)

ix) Job Satisfaction Scale for Teachers (Anand, 1980).

Tools in detail

i) The Demographic data sheet

The 'Demographic Data Sheet' was used to collect personal information about the respondents. That included information on variables of age, sex, qualification, subject-taught, weekly teaching load, marital status, and teaching experience. A copy of the 'Demographic Data Sheet', which was prepared by the investigator, is given in Appendix-E.

ii) Occupational stress index

Measurement of teacher stress has been tackled in a number of ways. One of them is self-report measures. These have been widely used by researchers (Hiebert and Farber, 1984). These can also take the form of a single item question with a response scale, as used by Kyriacou and Sutcliffe (1978b) or an index based on several such items or a score based on averaging the severity of sources of stress reported (Maslach and Jackson, 1981; Pratt, 1976). These techniques do have a
number of inherent limitations; for instance, the fear that reports of finding the job highly stressful or of finding, say, pupil behaviour a major source of stress might be indicative of the respondents' incompetence as teacher (Borg, 1990). The anonymity of the respondents and the promise of keeping the given information confidential may overcome this limitation to some extent.

The Occupational Stress Index (OSI) of Drs. A.K. Srivastava and A.P. Singh (1981) was employed to measure teachers' stress levels. The OSI was standardized in Indian conditions. According to the authors, "The Occupational Stress Index purports to measure the extent of stress which employees perceive arising from various constituents and conditions of their job. The tool may be conveniently administered to the employees of every level operating in context of industries or other non-production organization". The OSI was preferred because of its usability for employees in any occupation, and the ease with which it can be administered and scored.

The OSI is in 'Likert' type format. It consists of 46 items with five alternative responses, from 'Strongly disagree', through 'Disagree', 'Undecided', 'Agree' to 'Strongly agree'. Out of these items, 28 are 'true keyed' and 18 are 'false keyed'. The items relate to 12 subscales covering all relevant components of the job life, such as 'Role overload', 'Poor peer relationships' and 'Low status', which cause stress in some way or the other.

The reliability indices of the 12 subscales range from .454 to .840, with eight of them .630 or above. For the whole inventory, the authors report reliability indices of split-half (O-E) and Cronbach's alpha coefficients as .935 and .900, respectively.
The validity of the OSI was determined by correlating scores on it with the scores on the measures of other organizational variables. The authors report coefficients of correlation between the scores on the OSI and the measures of job involvement, work motivation, ego strength and job satisfaction as -.56, -.44, -.40 and -.51, respectively. Correlation between the scores on the OSI and the measure of job anxiety is reported to be .59. The authors further report that scores on the OSI have also been found positively correlated with various measures of 'Mental Ill Health'.

For scoring, the 'True Keyed' items, 'Strongly Agree', 'Agree', 'Undecided', 'Disagree' and 'Strongly Disagree' responses are given 5, 4, 3, 2 and 1 marks, respectively. In the case of 'False Keyed' items, scoring is reversed. Scores on all items are added to obtain the total score of a respondent.

iii) Internal-external locus of control

The tendency of an individual to perceive reinforcements as internally or externally controlled is typically referred to as 'Locus of Control'. Rotter (1966) constructed an 'Internal-External Locus of Control Scale' to tap this dimension. The scale is designed to measure an individual's tendency to regard reinforcement as internally (due to personal ability) or externally (due to chance) controlled. Since the creation of this instrument, several hundred investigations have used it (Rotter, 1975).

The Locus of Control Scale consists of 29 paired statements (including six 'filler' items), and is based on a forced-choice format. Internal statements are paired with external statements. Ss are instructed to select the statement in each pair which they believe more
strongly to be true of them. One point is given for each external statement selected. Items are scored towards externality so that a high score indicates more external direction. Scores can range from zero (most internal) to 23 (most external).

The scale is self-administered and can be completed in about 10 to 15 minutes. The scale has been used with college students, other adolescents and older subjects. No upper or lower age limits have been prescribed.

As for reliability, an internal consistency coefficient (Kuder-Richardson) of .70 was obtained from a sample of 400 college students (Rotter, 1966). The author also found a test-retest reliability coefficient of .72 for 60 college students. The literature does indicate that there are individual differences in perception about one's control over one's destiny, and the Rotter's scale has been found sensitive to these differences.

iv) State/Trait anxiety inventory

In order to measure the SS' trait anxiety levels, A-Trait sub-scale of the State/Trait Anxiety Inventory (STAI) of Spielberger (1970) was used. The inventory was developed to provide 'reliable, relatively brief, self-report measures' of both A-State and A-Trait. The STAI A-State scale consists of 20 statements which ask people to describe how they feel at a particular moment in time. The STAI A-Trait scale also consists of 20 statements which ask people to describe how they generally feel. The range of scores, on each scale, varies from 20 to 80. Ss respond by rating on four categories which, for A-State scale are: 'Not at all', 'Somewhat', 'Moderately so', and 'Very much so'.
The categories for A-Trait scale are: 'Almost never', 'Sometime', 'Often', and 'Almost always'. The STAI A-State is balanced with 10 items scored directly and 10 reversed items. The STAI A-Trait has 7 reversed and 13 directly scored items.

The STAI A-Trait scale was used as it measures individual differences in anxiety proneness. The scale is generally used to select Ss, for research purposes, who vary in their disposition to respond to psychological stress with different levels of A-State.

The two scales may be administered in 5 to 3 minutes per scale. The test-retest reliabilities of the A-Trait scale, used in this study, for periods varying between one hour and as long as 104 days, range from .79 to as high as .86 (Spielberger, 1970). The concurrent validity of the scale was obtained by administering it to various validation samples in conjunction with IPAT Anxiety Scale (Cattell and SCEIER, 1963), AACL (Zuckerman, 1960) and TMAS (Taylor, 1955). The highest correlation was with TMAS, $r = .79$ for under-graduate men and .80 for undergraduate women. The corresponding values for correlation between A-Trait and IPAT Anxiety Scale were .76 and .75, while the correlation between A-Trait and AACL were .58 and .52, respectively (Spielberger, 1970).

v) Eysenck personality inventory

The Eysenck Personality Inventory - EPI (Eysenck and Eysenck, 1968) was employed to obtain measures on the two personality dimensions of neuroticism and introversion-extraversion. The EPI is a descriptive instrument of the behavioural manifestation of personality. It consists of two parallel forms and a lie scale covered by 57 questions, 24 for neuroticism and introversion, and 9 for the lie scale.
It has a forced-choice format. The S is required to tick 'yes' or 'no'. Answers are keyed. A S's standing on a dimension is given by the sum total of the keyed answers ticked by him.

The inventory has been extensively used in research and has proved to be a very dependable instrument. The authors report a test-retest reliability of between .80 to .94 for one group and between .84 and .97 for another group. For the combined scale of neuroticism and introversion-extraversion, the reported split-half reliability coefficients vary between .74 and .91. The EPI can be administered individually or to a group.

vi) **Leadership behaviour descriptive questionnaire**

In order to assess the rating of heads of schools on the two dimensions of leadership behaviour, namely, 'consideration' and 'initiating structure', the Leadership Behaviour Descriptive Questionnaire - LBDQ (Halpin, 1966) was used.

The LBDQ consists of 30 items, 15 items each covering the two dimensions. All the 30 items are scored on a 5-point scale, ranging over 'Always', 'Often', 'Occasionally', 'Seldom', and 'Never'. The respective score points are 5, 4, 3, 2, and 1, thus, giving each dimension a range of 15 to 75 points. All items are scored directly. The LBDQ can be individually and group administered, and it takes about 10 to 15 minutes to administer.

The LBDQ was preferred as it is a group test, is easy to administer, and is equally applicable to Indian conditions (Darji, 1975).

The estimated reliabilities established by Halpin (1966) are .86 for 'Initiating Structure' and .93 for 'Consideration'. The correlation between the two ranged between .38 and .45.
vii) Organizational climate descriptive questionnaire

One of the most popular tools for measuring school organizational climate has been the 'Organizational Climate Descriptive Questionnaire' - OCDQ (Halpin and Croft, 1963), partly because of the clarity with which the authors describe the concept of the organizational climate, and partly because of its simplicity in which it can be used in practical school situations.

The OCDQ was used in the present study to identify schools with open- and closed- climates. The measure is based on teachers' perceptions of principals' behaviour.

The word 'perceive' suggests that teachers are asked questions which are designed to elicit information about the school principal, such as, 'How considerate is he'? or 'How energetic and effective is he'?; 'How approachable is he'?; and so on.

If the principal of a school is socially distant and emphasizes the 'nomothetic' aspect of his role, and 'goes by the book', it may be expected to find a distinctive 'personality' or organizational climate in his school. On the contrary, if he is highly 'ideographic', and is more concerned with the personal dimension of organizational life, this may be predicted as producing another distinctive organizational climate. Such a line of argument reveals a tendency to view the principal as a leader who has a significant role in the shaping and maintaining of the organizational climate in his school.

Very rightly, the organizational climate of a school hinges largely on its principal. The theoretical and research literature has consistently emphasized the importance of the principal in determining the efficiency and morale of staff (Brady, 1988; Goodland, 1988; Myres,
Lieberman (1973) demonstrated that the 'expressiveness' of the principal in the form of the concern for the needs and satisfaction of teachers as a group (consideration) influenced the ability of teachers to work cooperatively. "The climate of a school is heavily dependent on leadership. Where a leader makes most of the decisions, where he dictates what is to be done, and where he is aloof from active group participation, the climate will tend to be closed. In such a school, there will be little integration between the social and emotional needs of the staff, and purposes of the school" (Tye, 1974, p. 37).

The OCDQ covers both the behaviours of principals and teachers. Based on teachers' perceptions, Halpin and Croft (1963) factor-analyzed 8 dimensions of the OCDQ, four relating to the principal and the other four relating to the teachers. These dimensions are briefly described below:

**Disengagement**: This refers to the teachers' tendency not to be 'in gear with the task in hand'. It relates to their tendency to have no identification with the objectives, programmes, methods and processes, and also with the policy of the institution of which they are a member. No effort is made to either share the credit for achievements or blame for failure.

**Hindrance**: Hindrance denotes the teachers' feeling that the principal loads them with too much clerical work which hinders rather facilitates their primary job of teaching. Teachers are kept busy in too many routine jobs; no effort is made to relieve them of excessive paper work. On the other hand, where 'hindrance' is low, it shows there is comparatively less of clerical work and fewer administrative duties,
leaving more time for teaching. Any official procedure and committee work are so regulated as not to interfere in the normal teaching.

Esprit: It stands for the 'morale' of teachers. They feel that their social needs are being satisfied and that they are, at the same time, enjoying a sense of accomplishment. In a school where 'Esprit' is high, teachers will exhibit greater freedom to decide their own structure of instructions. The job satisfaction will be high and the teachers will feel sufficiently motivated to overcome hardships. Association with the school will be regarded as a privilege, and the duties will be performed willingly. In faculty meetings there will be feeling of 'Let's get things done'. On the other hand, where 'Esprit' is low, there will be frustration and the orientation with regard to task accomplishment and social needs will be minimal.

Intimacy: This dimension covers the teachers' tendency of friendly relations with each other. It describes social need satisfaction which has nothing to do with tasks teachers are ordinarily called upon to perform in their schools within and outside school hours. A school with high 'intimacy' shows that there is a close relationship among its teachers. Teachers invite and encourage other faculty members to visit them at home and even know their family backgrounds. Teachers even feel free to talk to, and discuss about their personal problems with other faculty members. In a school where intimacy is low, teachers crave for greater satisfaction with respect to social needs. They behave in an individualistic and impersonal manner.

Aloofness: It refers to the principal's behaviour which is characterized as formal and impersonal. The principal tries to stay away from the mainstream. He rules by the book. His relationship
with his staff is only official. The faculty meetings are organized like business conferences. The principal's style is legalistic and he favours the establishment of procedures which provides guidelines to teachers. In a school where 'aloofness' is low, the principal is less formal. He tries to behave as if he is one of the members of the group.

**Production emphasis**: This dimension refers to the behaviour of the principal which is characterised by a close supervision of the staff. His actions are only uni-directional. He is hardly sensitive to feedback from the staff. He makes all class scheduling decisions. He even checks the subject-matter ability of teachers that they work to their full capacity. He likes to act as a dictator and wishes that everything should be done the way he desires. On the other hand, where the 'Production Emphasis' is low, the principal provides appropriate leadership and has a full control of the situation. Teachers are free to develop personal initiative to solve their problems, and much is left to their discretion.

**Thrust**: It refers to the behaviour of the principal which is characterized by his evident effort in trying to 'move the organization'. Such a behaviour is marked not by a close supervision but by his attempt to motivate the teachers through the example which he personally sets. Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior though starkly task-oriented, is nonetheless, viewed favourably by teachers. Teachers are asked to contribute to the best of their ability, and no unwilling worker is forced to carry out the job. In schools where 'Thrust' is high, teachers are motivated by example of hard work. There are few delegations. Most of the actions are
initiated by the principal. Where 'Thrust' is low, there is hardly any direction. The principal feels that the external forces are directing the course of events; therefore, not much is done for personal drive.

**Consideration**: It refers to the behaviour by the principal which is characterized by an inclination to treat teachers humanely. The principal even helps teachers solve their personal problems, and even does personal favours to them. Even the minor differences are resolved by the intervention of the principal. Teachers feel safe in the hands of the administration and there is hardly any harassment. In school where this dimension is high, the principal tries to help teachers. There is complete identification of the principal with the interest of the teachers. On the other hand, where 'Consideration' is low, the principal tends to be either philosophical or tries to put blame on others than finding out personally the root cause of the problem. The principal does not care much for the feelings of teachers but the emphasis is on results. Rather than looking into the social needs of teachers, the emphasis is on getting the work done.

The OCDQ is a 'Likert' type questionnaire. It consists of 64 simple statements. The respondents are asked to indicate their responses on a four point scale: 'Rarely occurs', 'Sometimes occurs', 'Often occurs', and 'Very frequently occurs'. The four categories of response can be scored by simply assigning successive integers to respective categories. In the present study, the responses were scored as 1, 2, 3, and 4, respectively. The eight dimensions of the OCDQ are covered by different numbers of items. So each dimension was separately scored. The OCDQ requires about 30 minutes to administer, and can be given individually or in groups.
viii) Purdue teacher opinionnaire

The 'Purdue Teacher Opinionnaire' - PTO (Bentley and Rempel, 1980) was used to collect data on teacher morale. The instrument is simple to understand, and can be administered individually or in groups. It takes about 30 minutes to administer.

The PTO consists of 100 items. Ss are asked to indicate the extent to which each statement characterizes their school situation by ticking off one of the four responses given, namely, 'Agree', 'Probably agree', 'Probably disagree', and 'Disagree'.

Scoring of the responses is done by assigning weightage 4, 3, 2, and 1 if 'Agree' is the keyed response, and 1, 2, 3, and 4, if 'Disagree' is the keyed response. A sum of all the scores gives the total score which is indicative of the level of a teacher's morale.

ix) Job satisfaction scale for teachers

In order to obtain teachers' job satisfaction measures, 'Job Satisfaction Scale for Teachers' - JSST (Anand, 1980) was administered to the sample. The JSST consists of 30 'Likert' type statements on how teachers feel with regard to various aspects of their job satisfaction. Ss are required to tick one of the five response categories which are: 'Strongly disagree', 'Disagree', 'Undecided', 'Agree', and 'Strongly agree'. The five categories are given scores of 1, 2, 3, 4, and 5, respectively. The sum total of all the scores show the overall job satisfaction level of an S which is relative to those of others. The JSST has a score range of 30 to 150.

The JSST developed at the Regional College of Education, Bhubaneswar, is in English, and is primarily used to distinguish between satisfied and unsatisfied school teachers. The scale was
standardized in Indian conditions. The author reports a test-retest reliability of .952 and split-half (0-E) reliability of .83, and split-half (positive-negative) reliability of .810. The validity was "established with expressed satisfaction and scores obtained on the scale. Teachers scoring a score of 80 and above are considered to be satisfied and vice versa". No time limit has been given, but it takes about 10 minutes to administer.

Data Collection

The data were collected during January-March, 1990. The respondents were contacted with the help of their seniors. The nine questionnaires were stapled as a set. Fifteen sets of these questionnaires were given to each school. If a high school had more than 15 teachers, the requisite number was randomly selected for the study. No senior secondary school had more than 15 teachers teaching '1+1' and '2+2' classes; infact, may have fewer. In the senior secondary schools, only those teachers were included who taught '1+1' and '2+2' classes. As some teachers in senior secondary schools teach both '1+1' and '2+2' as well as high classes, in order to obtain the unalloyed responses of teachers teaching high classes, only those from high schools rather than those teaching high classes in senior secondary schools, were administered the questionnaires.

On the whole, 375 questionnaire sets were given to 25 schools. A total of 255 sets were fully responded to, giving an overall response rate of 68 per cent, which is not unreasonable considering responses expected in such descriptive surveys. The school-wise responses are given in Appendix-A.
Teachers were asked to respond to the questionnaires as soon as possible. Since it required nearly three hours for all the questionnaires to be completed, teachers were allowed to take these home. They could fill these in their free time, in or outside the school hours. The senior-most teacher in each school collected all of these and handed over to the investigator on a preagreed day.

Questionnaires were responded to as per their respective instructions. Confidentiality of the data provided by the teachers was sincerely promised and the promise religiously kept.