CHAPTER IV

METHODOLOGY

This chapter includes the sample studied, tools used, procedure (data collection), scoring and statistical techniques used.

4.1 SAMPLE

This study was conducted on a sample of 200 secondary school teachers from Shimla (Himachal Pradesh). The subjects studied were female teachers selected from state-owned secondary schools and these teachers participated in the study voluntarily. The female respondents were between the age of 25 to 58 years with median age of 39 years. The educational qualifications of all the teachers were nearly similar. Most of them had B.Ed. degrees and some had post graduate degrees. The annual income earned by them and their spouses was in a range between Rs.50,000 to Rs.1,75,000. The working experience of this sample of teachers ranged from five to twenty five years. Their family structure was either nuclear or joint.
The measures of organizational role stress, anger-expression, anxiety, depression, job satisfaction, well-being and coping were administered to the respondents in that order. The investigator was always present while the respondents were engaged in answering questions or statements. The respondents were not allowed consultations with any one else while responding to the questions and were assured anonymity and confidential nature of the data.

4.2 RESEARCH TOOLS (INSTRUMENTS)

4.2.1 Organizational Role Stress Scale (Pareek 1981, 1983)

The ORS scale is a 5 point scale indicating how true a particular statement is for the role. The following stresses are assessed by this instrument: Self Role Distance (SRD), Inter Role Distance (IRD), Role Stagnation (RS), Role Ambiguity (RA), Personal Inadequacy (PI), Role Isolation (RI), Role Erosion (RE) and Resource Inadequacy (RI).

Originally this instrument was named "your feelings about your role", which consisted of 40 items (5 for each of the 8 role stresses mentioned above) later this instrument was named ORS scale. In the light of the
findings of factor analysis two role stresses were split into four. Role ambiguity was split into role ambiguity and role expectation conflict. Role inadequacy was split into personal inadequacy and resource inadequacy. Thus the new instrument i.e. the ORS scale has 50 items, the score of each role stress may range from 0 to 200. The answer sheet is given separately to facilitate quick calculations of the stress scores. The ratings of the respondents can be added row wise to give the stress scores on 10 role stress dimensions. Pareek (1993) has provided four broad categories for these role stresses.

These are:

(i) Ambiguity related stresses - Role Ambiguity (RA) and Role Expectation (REC);

(ii) Stresses of Role taking - Self Role Distance (SRD), Role Overload (RO), Role Stagnation (RS);

(iii) Inadequacy stresses - Role Erosion (RE), Resource Inadequacy (RIn), Personal Inadequacy (PI),

(iv) Linkage Related stresses - Inter Role Distance (IRD) and Role Isolation (RI).

Retest reliability co-efficients were calculated for a group of about 500 employees from 3 banks (Sen, 1982). Retest reliability was obtained for the 8 stressors and the total role stress score. The reliability co-efficients range from 0.37 to 0.73. All the co-efficients except one, are significant at .001
levels one co-efficient was significant at .003 level. The scale has acceptable reliability (Pareek, 1981).

Some evidence about validity is provided by a measure of self consistency of this instrument. Each item was correlated with the total score on the instrument for about 500 respondents. All but 7 correlations were significant at .001 level, one at .002 and another at .008 levels. The results show high internal consistency of the scale (Pareek, 1981, 1983).

4.2.2 Anger Expression (AX) Scale (Spielberger, C.D., 1986, Krishna, 1988; Rana, 1990)

The AX scale is comprised of 24 items. The three subscales assess the individual differences in the tendency to (i) express anger toward other people or objects in the environment (AX/out) (ii) experience but hold in (suppress) angry feelings (AX/in) and (iii) control the experience of expression of anger (AX/con). The Hindi version of anger expression (AX) scale has been developed by Krishna (1988) and further cross validated by Rana (1990).

The item remainder correlations range from 0.34 to 0.73 for males and 0.19 to 0.84 for females in the English AX-scale where as in the Hindi AX-scale, item-
remainder correlations range from 0.38 to 0.80 for males; and 0.58 to 0.93 for females, while in Hindi Ax/out the item-remainder correlation range from 0.66 to 0.77 for males; 0.24 to 0.60 for females. In Hindi Ax/con the item-remainder correlations range from 0.30 to 0.78 for males and 0.15 positive and significant item-remainder correlations were found for both the Hindi and English Ax/scale on Indian samples as well.

The Alpha co-efficient for English Ax/scale and Ax/in, Ax/out and Ax/con subscales were 0.96, 0.93 and 0.88 for males and alpha co-efficients were 0.91, 0.85, 0.70 and 0.88 for total anger-expression and its respective subscales for females.

The alpha co-efficient for Hindi Ax-scale and subscales were 0.96, 0.92 and 0.82 respectively. All these significantly high alpha values prove that both Hindi and English test items are quite homogeneous in their contributions of variance to the total scale scores. Three highly significant alpha co-efficients also established the internal consistency of both Hindi and English Ax/scales.
4.2.3 Hindi Version of A Trait Scale of State-Trait Anxiety Inventory (STAI : Spielberger, Sharma & Singh 1973).

The Hindi version of the A-Trait scale of STAI developed by Spielberger et al (1973) has been used to assess general anxiety. This version has been empirically demonstrated to provide internally consistent, reliable and valid scale for measuring general anxiety. The STAI has also been translated into 36 languages the world over and hence reliable cross cultural comparison can be made.

The STAI A-Trait scale consists of 20 statements that ask people to describe how they generally feel. Subjects respond to each item by rating themselves on the following point scale: (i) almost never, (ii) sometimes, (iii) often (iv) almost always. Individual items were selected for the STAI A-trait scale on the basis of the concurrent validity of each item as determined from the correlations with two widely accepted A-trait measures, the Taylor MAS and the IPAT anxiety scale. Each A trait item was also determined to be impervious to the situational stress and relatively stable over time. Cross language equivalence of the English and Hindi version has been amply demonstrated on the sample of bilinguals (Spielberger & Sharma, 1976). In order to determine the test, retest reliability of the
Hindi STAI, a sample of 72 Indian graduate students was retested under more or less similar classroom conditions after a period of 30, 50 and 90 days. The Hindi STAI A-trait scale is stable over the period of 30 to 90 days. The concurrent validity of the hindi STAI A-trait has also been demonstrated (see Spielberger, Sharma & Singh, 1973).

4.2.4 **Zung Self Rating Depression Scale (Zung 1965)**

The SDS developed by Zung (1965) to fill the need for assessing depression, whether an affect, a symptom or a disorder, was chosen because of its accepted clinical value. It covers a broad range of depressive symptomatology, dealing with the areas of pervasive affect, physiological equivalents and psychological concomitants (Zung 1965). It has a well established reliability, validity and replicability (Zung 1965). Additionally it is short convenient to administer and being self completed is not subject to the halo effect of rater bias.

Knight et al (1983) assessed the internal consistency of SDS, used alpha coefficients. The alpha coefficient for the SDS was 0.79, which indicates a satisfactory level of scale homogeneity. The mean scores on the SDS are higher than those for the normal group
reported in Zung (1965). The mean SDS score reported by Zung is 26, while for the sample used by Knight et al (1983) the equivalent mean SDS score for males was 31 and for females about 33.5. This discrepancy emphasizes the need for sex and age specific norms for use in situations where people are being screened for depression. More recently Upmanyu and Reen (1991) on an Indian sample of employed and unemployed female subjects found alpha coefficients for SDS to be 0.84.

4.2.5 S.D. Employees Inventory (SDEI: Pestonjee, 1981)

Job satisfaction has been assessed by Satisfaction-Dissatisfaction (Employees Inventory (SDEI). This inventory has been developed and standardized by Pestonjee (1973, 1981). The inventory is based on the interactional model of job satisfaction with the number of on-the-job and off-the-job factors. S.D. Employees Inventory is an 80 item questionnaire consisting of 4 broad areas, namely:

(i) **Job**

Nature of work, hours of work, fellow workers, opportunities for on-the-job promotion and advancement (prospects), overtime regulations, interest in work, physical environment, machines and tools etc.
(ii) **Management**

Supervisory treatment, participation, rewards and punishments, praise and blame etc.

(iii) **Personal Adjustment**

Emotionality, health, home and living conditions, finances, relations with family members etc.

(iv) **Social Relations**

Neighbours, friends and associates, attitudes towards people in the community, participation in the social activities, sociability etc.

The first two together are termed as on the job while the later two are known as off-the-job factors. Thus on-the-job satisfaction includes supervisory treatment, considerations, equity regarding work load and pay, supportive function, interest in work, rules and regulations, working conditions, cooperation of the coworkers, supervision of subordinates. Off-the-job satisfaction covers relations with the family members, emotionality, neuroticism anxiety about health, neighbourhood, intra-psychic factors, isolation, trust and living conditions.
Each area includes equal number of items (20 items in each area). The items have been framed in the form of interrogatory statements. Each item can be responded in terms of "Yes" or "no". The area-wise split-half reliability has been found to be 0.99 for job; 0.99 for management; 0.98 for personal adjustment and 0.90 for social relations. The construct validity has been determined by using the known group and items-test correlation techniques (Pestonjce 1973, 1981).

4.2.6 **P.G.I. General Well-Being Scale (Verma, Dubey & Gupta 1983)**

The PGI General Well Being Scale is a 20 item scale in simple English, constructed along the lines of the scale by Fazio (1979) and Dupuy (1970) and modified and simplified for Indian population at the department of psychiatry, Post Graduate Institute of Education and Research, Chandigarh.

4.2.7 **Role Pics(0) Pareek, 1983.**

The organizational role pics (0) developed by Pareek (1983) is a semi projective instrument for the assessment of various coping strategies employees adopt to deal with their role stresses. Role PICS was used to identify 8 basic coping styles. This instrument consists
of 24 pictures or situations in which two persons are shown as interacting. In each situation two persons are talking. The statement made by one person is printed and the space for the statement by the other person is blank. The respondents are asked to imagine what the other person would have said and to write this down in the blank space. In all situations the role occupant is involved in conversation with another person and the role occupant or the other person makes a statement about a role stress situation. To maximise projection these are presented in cartoon like pictures. It is presumed that the responses will be projective expressions of the way the respondent would himself cope with a particular stress.

**RELIABILITY (INTERNAL CONSISTENCY)**

The internal consistency of this instrument has been tested by split half and even odd methods. Values of correlation co-efficient for 52 respondents was found to be 0.71 for split half and 0.93 for even odd methods, which are significant at .001 level. The data has been analysed to see the consistency amongst various coping styles. In each category the scores of 52 respondents on 8 styles have been rank ordered for frequency and rank order correlations were calculated. The results
indicated high internal consistency of the instrument. There was a similar pattern of ranks of the various coping styles as in the entire test. The results further showed that there is less similarity of responses amongst some stress categories.

**VALIDITY (INTERNAL STRUCTURE)**

In order to get some insight into the nature of coping styles in the Indian organizations, and to have some indicators of meta strategies, data from about 500 employees from some banks have been analysed (Pareek, 1983). Principal components analyses were used. The factors were rotated with variance method. The 8 variables of coping styles have four factors - defensive externalization, problem solving, dependent persistence and collaborative internalization, explaining 100% variance of coping styles.

**4.3 PROCEDURE**

All measures were administered individually to all respondents. The order of presentation of the measure was: Organizational Role Stress (ORS), Anger-Expression Scale, Trait-Anxiety Scale, Zung's Depression Scale, SD Employees Inventory, PGI General Well-being
scale and Role PICS (0). The female school teachers, were assured that all information given by them would be kept confidential and would be used for the research purpose only. The cover sheet of the questionnaire elicited the demographic data: age, work experience, marital status, family structure, etc.

4.4 SCORING

4.4.1 Scoring for Organizational Role Stress Scale

There are 50 items on the organizational role stress scale. Scores have been obtained on a 5 point scale i.e. the respondent indicated his response by writing 0,1,2,3,4 on the answer sheet against the serial number of each item as given in the questionnaire. The following abbreviations in the last column of the answer sheet stand for the following role stresses: Role Ambiguity (RA), Role Expectation conflict (REC), Self Role Distance (SRD), Role Overload (RO), Role Stagnation (RS), Role Erosion (RE), Resource Inadequacy (RIn), Personal Inadequacy (PI), Inter Role Distance (IRD), Role Isolation (RI).

By adding the scores for each role stress (row wise), their summation provided the total organizational role stress score. Each individual had eleven scores (10
scores on role stresses and one summation of all stress scores). Maximum score on each role stress was 20 and minimum 0 and the total score ranged from 0 to 200.

4.4.2 Scoring for Anger Expression Scale

The items on the anger expression scale are classified as under:

Anger-out (Ax/out): 2, 7, 9, 12, 14, 19, 22, 23
Anger-in (Ax/in): 3, 5, 6, 10, 13, 16, 17, 21
Anger-Control (Ax/con): 1, 4, 8, 11, 15, 18, 20, 24

Anger out in and control, subscale scores are computed by summing the column of item scores for each scale. The range of possible scores for the three subscales varies from a minimum of 8 to a maximum of 32.

In computing Ax/Ex scores a constant (16) is added to eliminate negative scores. Ax/Ex scores which ranged from 0 to 72 can be calculated by solving the following equation:

\[ Ax/Ex = \frac{Ax/out + Ax/in - Ax/con}{8} + 16 \]
4.4.3 **Scoring for Hindi Version of the A-Trait Scale of the STAI**

The scoring for the Hindi version of the A-trait scale of the STAI has been done on the basis of the answers marked by the respondent on a four point scale. Reverse order scoring is done for items 1, 6, 7, 10, 13, 16, 19 i.e. if the score is marked 4 by the subject, it is actually counted as one. The scores of the total items have been summed up to obtain the total score for each respondent.

4.4.4 **Scoring for Zung’s Self Rating Depression Scale (JSRDS)**

This scale consists of 20 items, rated on a 4 point scale, assessing the depressive symptoms selected by the author as being most typically experienced by patients with depressive disorders (highest rating indicating greatest psychopathology). The score ranges from 20 to 80.

4.4.5 **Scoring for S.D. Employees Inventory.**

Scoring of S.D. Employees Inventory has been also done with help of the standardized scoring key. The
scores have been obtained by arithmetic summation of true-keyed and false-keyed endorsements for each area of the Inventory. 'One' mark was given for each desired scored.

(a) **Job**:

1, 2, 6, 7, 13, 14, 17, 18, 19, 21, 22, 26, 27, 33, 34, 38, 46, 53, 54, 58, 59, 62, 67, 71, 77, 78 and 79.

(b) **Management**:

11, 31, 37, 39, 41, 42, 47, 51, 57, 61, 66, 73 and 74.

(c) **Social-Relations**:

3, 5, 9, 25, 45, 50, 64, 75 and 76.

(d) **Personal-Adjustment**:

4, 8, 10, 12, 15, 16, 20, 23, 24, 28, 29, 30, 32, 35, 36, 40, 43, 44, 48, 49, 52, 55, 56, 60, 63, 65, 68, 69, 70, 72 and 80.

By adding the scores for job and management, on-the-job facet of job satisfaction has been obtained. By adding the scores on personal adjustment and social-relations the score for off-the-job facet of job satisfaction have been obtained. The summation of all scores together provided the total job satisfaction scores.
4.4.6 Scoring for General Well Being Scale

The scoring for this 20 items scale is done by summing up the items ticked by the respondent as being applicable to her. Only the items ticked (✓) are counted.

4.4.7 Scoring for Coping Scale

Role PICs is a semi projective instrument for assessment of styles on strategies used by a respondent while coping with role stress. 'PICS' is the short form of Projective instrument for coping styles. Role PICS has been developed for the assessment of coping styles in relation to the general role stresses experienced by people in their lives. Role PICS (O) is to be used to assess coping styles in relation to the organizational roles. Some typical situations have been depicted in a pictorial form, where a role occupant is involved in a conversation with another person and a statement about a role stress situation is made by either of them. A respondent is required to write down the response of the person to whom the statement has been addressed. It is presumed that the responses will be a projective expression of the way the respondent would himself cope with a particular stress. A score sheet is provided for scoring the responses.
(i) **Externality**

Feeling that the external forces were responsible for the stressful situation, resulting in aggression and blame on such external factors. It may also indicate the tendency to expect and get solution for the stress from the external sources. Externality may be high or low.

(ii) **Internality**

It is opposite to the externality. The respondent may perceive himself responsible for the stress, and may therefore express aggression towards himself. The respondent may expect solution for the stress from himself. Internality may be high or low.

(iii) **Mode of Coping**

Coping may either take the form of avoiding the situation (re-active strategy i.e. dysfunctional styles, or confronting and approaching the problems (pro-active strategy) i.e. functional styles.

Combining the two aspects of each of the three dimensions, gives eight possible strategies to cope with stress. The dysfunctional styles are Impunitive (M), Intropunitive (I) Extrapunitive (E) and Defensive (D). The four functional styles are Impersistive (m), Intropersistive (i), Extrapersitve (e) and interpersitve (n).
Impunitive (M)

Impunitive has a combination of low internality, low externality and avoidance. This is a fatalistic attitude. Statements indicating either simple admission of the stress, or indicating that the stress is unavoidable and nothing can be done about it are served under this style.

Intropunitive (I)

Intropunitive is characterized by high internality, low externality and avoidance. Blame and aggression is directed by the respondent to himself. Responses showing self blame remorse or guilt are scored I.

Extrapunitive (E)

Extrapunitive is characterized by low internality, high externality and avoidance. Both Rosenzweig's extrapunitive ("the presence of the frustrating obstacle is insistently pointed out") and extrapunitive (blame, hostility etc. are turned against some person or object in the environment) styles are included here. Both irritation with the situation, and aggression and blame for the outside factors and persons are scored (E).

Defensive (D)

Defensive is characterised by high internality, high externality and avoidance. With involvement of both self and others, but having avoidance mode, the respondent avoids aggression or blame by use of defence mechanisms. Rosenzweig (1979) used defensive responses as variants of intropunitive category. The assumption here is that with high involvement of the self and of others in the stress, the super ego becomes more active.
and therefore defensive behaviour is stimulated. Defensive is scored for denial of stress, for rationalisation of stressful situation, and for benefits pointed out for the stress.

(v) **Impersistive (m)**

Impersistive is characterized by low internality, low externality and approach. Rosenzweig's (1979) Impersistive category relates to "expression given to the hope that time or normally expected circumstances will bring about the solution of the problem, patience and conformity are characteristics". This interpretation is used to score conformity as m.

(vi) **Intropersistive (i)**

Intropersistive is characterised by high internality, low externality and approach. Statements showing that the respondent himself will take action in relation to stress, are scored i.

(vii) **Extrapersistive (e)**

Extrapersistive is characterised by low internality, high externality and approach. Statements of request made to someone to solve the problem or indicating expectation that the solution will come from other people, are scored e.

(viii) **Intropersistive (n)**

Intropersistive is characterised by high internality, high externality and approach, it is opposite of defensive (d) style. This style is indicated in statements suggesting joint effort, by the respondent and some others, to deal with stress.
Out of these eight strategies first four show 'avoidance' oriented behaviour and they are considered as dysfunctional styles of coping with stress situation. As by using these style the person either tries to accept or deny the problem or simply blames himself or others for the problem. The remaining four strategies are "approach" oriented and are regarded as functional styles. By using these styles the person shows awareness about the problems and tends to take action to solve it either himself or with others help.

The scores on avoidance and approach modes are bipolar. Increase in avoidance scores show a decrease in approach scores and vice-versa. Thus broadly speaking there are two stress coping strategies, avoidance and approach have been arranged and specially identified in terms of four stress sub-coping strategies i.e. avoidance-internality, avoidance-externality, approach-internality and approach-externality. In the present study, the dominant approach and avoidance groups were determined on the basis of the individuals' scores which were derived from the application of formula $a-b/a+b$ to the scores taken from the score sheets of the subjects. These resultant scores were further tested for their level of significance from the table given in the manual. In some instances both the approach and avoidance scores
show same significant value. while in others neither scores reach a significant level. such case are considered unfit for analysis.

4.5 STATISTICAL ANALYSES

(i) Pearson correlations for determining the relationship of organizational role stress with negative and positive indicators of psychological well-being in respect of the total group of teachers.

(ii) This study is mainly concerned with the moderating influence of avoidance and approach coping as dominant modes on the relationship of organizational role stress with the negative and positive indicators of psychological well-being. The term moderator variable is used to describe the notion of "population control" and "subgrouping" variable (Zedeck, 1971) and it is argued that moderating variables influence the direction or strength of the relationship between independent and dependent variables (see Barron and Kenny, 1986). Mediating variables. on the other hand, address to the
question of **HOW** and **WHY** such effects occur. In order to determine the moderating influence of approach or avoidance coping strategies on relevant predictor-criterion relationship, these two dominant coping strategies (a third variable) have been used as a basis for splitting the total group into sub-groups with the expectation that the validity coefficients of the predictor variable (ORS) vis-a-vis criterion variables for one sub-group (avoidance) are significantly different from the coefficients of the other sub-group (approach) i.e. $r_{xy}$ for sub group 1 is significantly different from $r_{xy}$ for sub group 2. For this purpose Partial correlations have been employed to determine the relationships between measure of organizational role stress and the measures of negative and positive indicators of psychological well-being with the variance common to the two coping strategies partialled out in each case. Thus separate analyses was accomplished for avoidance copers and approach copers (see Johnson and Sarason, 1978).

In addition to partial correlations such a subgrouping analyses was further
considered to determine the direction/magnitude of mean differences between avoidance - coper and approach - coper (and their further subcategories on organizational role, stress overall and componentwise), the negative indicators of psychological well-being (Anger-in, Anger-out, Anger-con; T-anxiety, Depression and the positive indicators of psychological well-being (Job Satisfaction and General Well-being). This shows group comparisons of various parameters were also attempted.

(iii) Chi square analysis were also employed for negative/positive indicators of psychological well-being and coping strategies.