Chapter III
Methodology
METHODOLOGY

The methodology followed in conducting the study plays a prominent role in determining the dependability and usefulness of the findings. Identifying and defining the nature of population, techniques used to select the representative sample and efficiency of the techniques used in data analysis are the important process of an investigation which requires immense care and expertise on the part of the investigator.

Sample of the Study:

Samples is one of the most important aspect of the methodology followed in an investigation. The sample for the present study consisted of two hundred and seventy teachers (Lecturers, Reader and professors) of the various faculties of Aligarh Muslim University. The number of teaching staff at Aligarh Muslim University, according to the annual report 2004-05 of the university, prepared by the central section Registrar office A.M.U., is 1261. Originally three hundred and fifty teachers were randomly selected from the teaching staff list and were requested to participate in the research work. Out of three hundred fifty teachers only 270 teachers responded to the tests and inventories, which were given to them. Both male and female were included in the sample. One forty teachers among the respondents were Lecturers, and eighty were Readers and fifty others were Professors.
Sex wise breakup of sample

Male = 200
Female = 70

Age wise breakup of the sample

Below 40 years = 141
Above 40 years = 129

On the whole the sample is representative of the teaching community of A.M.U.

TOOLS

Four tests were used in this study. The details of the all tests are as follows.

1. **Teacher effectiveness scale by Kumar and Mutha (1974)**

   It is a likert type scale. It has been developed for identifying effective/in-effective teachers both for applied and research objectives. Initially, the Teacher Effectiveness scale consisted of 93 items selected on the basis of previous studies and interviews, with 30 secondary school teachers, 25 principals of secondary schools and 15 teacher educators and lecturers of psychology. These items belonged to the following teaching behavior categories.

   (i) Information sources

   (ii) Motivation

   (iii) Disciplinarian
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(iv) Advisor and guide
(v) Relationships with people, fellow teachers, principals and parents.
(vi) Teaching skills
(vii) Co-curricular activities
(viii) Professional knowledge
(ix) General appearance and habits
(x) Classroom managements
(xi) Personality characteristics

These 93 items belonging to eleven different teaching aspects were given to a group of 25 experts for their opinion and comments. These were discussed with 20 teachers and 10 principals of secondary schools. In view of the criticism and comments offered by experts, teachers and principals of secondary schools. Twenty two items were modified or rewritten. These items showed hundred percent agreement amongst judges as related to teacher effectiveness.

The teacher effectiveness scale in its final form consists of 69 highly discriminated items (Kumar and Mutha, 1974).

Reliability: The split half reliability (correlating the odd even items) of the scale. Applying the Spearman Brown formula is found to be 67 (N=100) with an index of reliability of 82. The test retest reliability of the
scale is also studied. It is found to be 75 (N=6) with an index of reliability of 85 with two months interval time (Kumar and Mutha 1974).

Validity:
Only highly discriminating items are included in the scale. The upper 27% and lower 27% served as criterion groups (Garret 1961).

Discriminating value of each item has been determined by calculating C.R. on the basis of the responses of upper and lower groups. The face validity of the measures is fairly high. The content validity is ensured as the items for which there has been 100 percent agreement among judges regarding their relevance to teacher effectiveness, are included in the scale. Further, the scale has been validated against principals rating and staff rating is found to be 77 (N = 50).

Scoring: All the items of the scale are positively worded items are scored as “1”, “2”, “3”, “4”, “5” for strongly agree, agree, undecided, disagree strongly disagree respectively. The total score of the respondent is obtained by adding the scores given for each items in the scale.

Occupational Stress Index (OSI) By Shrivastava and Singh. (1984)
It purports to measure the extent of stress which employees perceive arising from various constituents and conditions of their job. The scale consists of 46 items, each to be rated on a five point scale. Out of forty six items, twenty eight are true keyed and rest eighteen are false-keyed.
The item relates to almost all relevant components of the job life which cause stress in some way or the other, the components included in the test are role over-load, role ambiguity, role conflict, unreasonable group and political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishments, low status, strenuous working conditions and un-profitability.

**Reliability:** The reliability Index ascertained by split-half (odd-even) method and Cronbach’s alpha coefficient for the scale as a whole were found to be 935 and 90 respectively. The reliability indices of the 12 subscale were also computed through split half method.

**Validity:** The validity of O.S.I. was determined by computing coefficient of correlation between the scores on O.S.I. and various measures of job attitudes and job behavior. The employees scores on the O.S.I. is likely to positively correlate with the scores on the measures of such job related attitudinal and motivational and personality variables which have proved lowering or moderating the level of occupational stress. The coefficient of correlation between the scores on O.S.I. and the measures of job involvement (Lodhal and Kejner, 1965), work motivation (Srivastava, 1980), Ego strength (Hasan, 1970) and job satisfaction (Pestanfe, 1973) were found to be .56 (N = 225), – 44 (N = 205 and – .51 (N = 500), respectively. The correlation between the scores on the O.S.I. and the measure of job anxiety (Srivastava 1974) was found to be 59 (N = 400).
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Since the questionnaire consists of both true-keyed and false-keyed items two different patterns of scoring have to be adopted for two types of the items.

**Significant Others Scale (SOS) By Power and Champion (1988)**

The scale measures different functional resources of social support that may be provided by a number of significant role relationships within an individual social network. The name of this scale is the significant others (SOS) scale by A.J. Power and Champion, 1988).

A 12 x 10 grid was produced as follows: first a set of items that reflected either emotional support or practical support was collected from a number of serial support questionnaires which were currently in use (e.g. Barreta, 1981, Champion, 1985 Henderson et al, 1981 Bashma and Sarason, 1983 and Surtecs 1980), and further items generated by the authors. Redundant items were disposed from the list and those items that in the authors views were conceptually related were combined to form sigh items. The aim was to generate five items for each of the two categories of emotional and practical support. The following items were selected for emotional support.

1. Trust, talk to frankly and share feeling with;
2. Lean on and turn in times of difficulty;
3. Get interest, reassurance and a good feelings about yourself;
4. Get physically comfort;

5. Resolve unpleasant disagreements if they occur.

The following five items were selected to measure practical support

6. Get financial and practical help;

7. Get suggestions, advice and feedback;

8. Visit them or spend time with socially;

9. Get help in an emerging

10. Share interests and hobbies and have few with

In the questionnaire, all 10 items were preferred with the phrase "To what extent you can" and they written along the ordinate axis of the grid.

The columns of the grid consisted of the manners of potential relationships that the average person might expect to engage in; mainly (spouse or partner, mother father, closest child, best friend closest brother and sister) In addition, there was a twelfth column labeled “other” in which the respondents were asked to state the relationship to them of any other individual who was important, but who had not been included in the named categories.

Two versions of the 12 × 10 grid were produced. The first was labeled “actual” support and the respondent was asked to rate each currently applicable relationships on each of the support functions. A 1 -
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7 scale was used from 1 – never to 7 = always. If a relationship was not applicable, then respondent was asked to leave the column blank. The second version of the grid was rewarded to measure the “ideal” level of support that the respondent would have liked for each of the relationship that were currently applicable. Again they were asked to rate each relationship on each of the functions on a 1 – 7 scale.

Reliability: Seventy three of the women completed the significant other scale at two points in time six months apart the test-retest correlations for the four support scores were all highly significant and ranged from 0.73 to 0.83. These correlations are based on scores calculated when ratings were provided on both occasions for the same role relationships. The correlation between the quantitative measure and the follow up of = 0646 shows that there were some changes in the size of the network of significant other during the six month period.

Validity:
The respondent’s scores on the GHQ-28 were used to divide the time 1 sample into three groups.

(I) Non-case (n=34) those respondents who scored zero on the sample the scale and zero on the depression subscale.

(II) Non-depressed case (n = 27) respondents who scored > 4 on the complete scale and > 5 on the depression subscale.
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(III) Depressed case (n = 15) respondents who scored > 4 on both the complete scale and the depressed subscale.

Spiritual Orientation Inventory (SOI) By Elkins, et al. (1988)

This inventory was constructed by Elkins et al. (1988). It is a measure based on humanistic model to measure spirituality more comprehensively without equating it with narrow religions believes rituals and practices. In fact Elkins et al. has made the pioneer work towards operationally defining spirituality and constructing a test to measure it. The first step in the actual construction of the inventory was the generation of an item poll covering the nine components of spirituality drawing on the information from the review of literature and interviews with the highly spiritual persons, and examination of other published measures.

The author initially wrote two hundred items for the inventory. The second step was a preliminary item delimitation and content validity study. The 200 item were presented to five experts in psychology and spirituality for evaluation. The experts were instructed to consider their total reaction to an item. Including, but not limited, to such criteria as clarity, readability, goodness of fit with the factor of spiritual, by under consideration and their own agreement or disagreement with the content of the item as being relevant to spirituality. These experts’ evaluations
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were used to for eliminate all items that failed to achieve average rating of about 4. This procedure passed the inventory down to 157 items; these 157 items were used in the construction of the preliminary form of the inventory. Thus the initial "research form" of the inventory consisted of 157 statements reflective of nine dimensions of spirituality. Through statistical studies, the inventory was further delimited to 85 items. Subjects were instructed to indicate agree of agreement or disagreement with each item using the following guide. (1) Intensively disagree (2) strongly disagree (3) disagree (4) uncertain (5) Agree (6) strongly agree (7) intensively disagree. Below are the nine subscales of the spiritual orientation inventory (S.O.I), which are based on nine components of spirituality.

1. Transcendental dimension subscale: This consists of 13 items.
2. Meaning and purpose subscale. This consists of nine items.
3. Mission in life subscale: this consists of nine items.
4. Sacredness of life subscale: This consists of fifteen items.
5. Material value subscale: This consist of six items.
6. Altruism subscale. This consists of seven items.
7. Idealism subscale: This consists of ten items.
8. Awareness of the tragic subscale: This consists of five items.
9. Fruits of spirituality subscale: This consists of ten items.
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The scoring involves simply summing the numbers circled. There are some negatively scored items, and on these items the scoring is simply reversed, i.e. a7 becomes a1, a6 becomes a2 etc.

Elkins (1988) conducted a through alpha reliability study using data from 96 administration of the inventory. In this study alpha ranged from 81 to 98 for the nine scales.

Laurie and Elkins (1988) conducted a construct validity study of the inventory by comparing the scores of 24 adults nominated by a panel as highly spiritual persons with the scores of 96 graduate students in psychology. The research hypothesis was that the high spirituals would score significantly high on the spiritual orientation inventory than the graduate students. Data analysis by means of one tailed t-test indicated that the total inventory and eight of the nine subjects significantly differentiated between the two groups in the direction specified.

The number of the items in the inventory were delimited by statistical analysis. Mann Whitney was used to identify those individual items that significantly differentiated between the high spiritual and the others in the study noted in the preceding paragraph. Using this approach, the number of inventory items was reduced to 85. Thus as 85 items research form of the inventory is now available. On this shorted form, alpha ranged from 75 to 95 on the nine scales. Ruquiya, Z.(1993) has also determined the
reliability and validity of this spiritual inventory on an Indian sample in the following manner. The reliability was determined by Kuder Richardson method for 9 dimensions of the spirituality. This method gives us a coefficient of internal consistency item heterogeneity under error variance. She obtained the following reliability coefficients of each of the 9 dimensions of spirituality.

<table>
<thead>
<tr>
<th>Reliability Coefficients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transcendental</td>
<td>91</td>
</tr>
<tr>
<td>Meaning and purpose</td>
<td>76</td>
</tr>
<tr>
<td>Mission in life</td>
<td>90</td>
</tr>
<tr>
<td>Sacredness</td>
<td>65</td>
</tr>
<tr>
<td>Material values</td>
<td>88</td>
</tr>
<tr>
<td>Altruism</td>
<td>80</td>
</tr>
<tr>
<td>Idealism</td>
<td>78</td>
</tr>
<tr>
<td>Awareness of the tragic</td>
<td>78</td>
</tr>
<tr>
<td>Fruits of spirituality</td>
<td>91</td>
</tr>
</tbody>
</table>

Validity was determined by selecting external criteria. When the scoring was completed for all subjects, subjects were selected from the high, average and low spirituals determined on the basis of P25 and P75. Those subjects were then given a small questionnaire regarding the incidents of peak experience which was devised by Wuthrow (1978). This
questionnaire served as an external criteria for the determination of validity of the spiritual orientation inventory.

**DATA COLLECTION**

The data for the study collected from March 2002 to April 2003. Each teacher has uses given separate questionnaires, which were filled in two setting, important instructions regarding the questionnaires were given to teachers for completing the questionnaires. The data were gathered individually by the investigator.

**Scoring:**

The scoring of the tests was done according to the instructions provided in the manuals in the scales and inventories.

**Data Analysis:**

The data collected in this study were subjected to Multiple Regression Analysis. Multiple Regression Analyses were conducted to find out the contribution of occupational stress, social support and spiritual orientation on teacher effectiveness. The dependent variable in this study is Teacher effectiveness, whereas the spiritual orientation, occupational stress and social support constituted the independent variables. Multiple Regression Analysis is quite flexible to access two or more predictors (IVs), at a time to see their influence on criterion variable (DV). This method not only tells us about the relationship between dependent and
independent variables, but also the nature of the relationship i.e. the contribution of predictors (IVs) to criterion variable (DV). In stepwise method, predictors enter to the equation stepwise one after the other on the basis of their highest correlation with criterion variable.