CHAPTER-IV

METHODOLOGY
The purpose of the present study was two fold i.e. to answer the questions:-

(i) To what extent all the four ranks of police personnel differ in terms of Job Stress, Burnout, Negative Mood Regulation, Anger and Coping behaviour.

(ii) To what extent multidimensional intervention will be effective to help all the four ranks of police personnel to overcome the negative impact of job stress, burnout, anger and to enhance their negative mood regulation and coping behaviour as compared to relaxation intervention.

In the present study the police stress questionnaire, Maslach burnout inventory, negative mood regulation scale, anger scale, coping behaviour scale have been included as to assess the extent to which these aspects are present among the police personnel of different ranks. Since the impact of stress, burnout and anger can be cognitive, emotional, psychological and behavioural, a multidimensional programme has been composed to provide help to police personnel experiencing stress, burnout and anger at the job. Influence of multidimensional versus only relaxation intervention was examined on all of the dependent variables of the study.

The goals of the present chapter are to clarify:

1. The design of the study
2. Instruments used
3. Modes of sample selection
4. Procedure
5. Scoring
6. Statistical analysis
4.1 Experimental Design:

(i) To meet the first objective, one way analysis of variance was carried out to see if any between group differences existed among the police personnel of different ranks with regard to all the dependent variables of the study.

(ii) For the second objective, a three factor mixed design $4 \times 2 \times 2$ ($A \times B \times C$) with repeated measure on the third factor trials ($C$) has been used in this study (see Table 4.1). In this design factor $A$ consists of four different ranks of police personnel taken from the ranks of Constables ($A_1$) Head Constables ($A_2$) Assistant Sub Inspectors ($A_3$) and Inspectors ($A_4$). Factor $B$ type of intervention consists of two levels, multidimensional intervention ($B_1$) and only relaxation intervention ($B_2$). The group receiving only relaxation intervention was regarded as control group. Factor $C$, (trials of assessment) consists of two levels ($C_1$ – pre intervention trials and $C_2$ – post intervention trials) taken immediately after the completion of each intervention.

4.2 The Intervention:

4.2.1 Multidimensional Intervention:

A multidimensional intervention prepared for the present purpose comprised of 3 sessions of one hour each with at least one day gap between each session for homework assignments. Since emotional states are often expressed in terms of bodily reactions the first session consisted of:-

The Stress Management Session:

As session one, this phase included a relaxation training plan to enable the police personnel to have control over bodily reactions through breathing and muscular exercises. Since it took long to learn them they formed a constant part of the home assignment till the last phase.
Table 4.1

Police Personnel of different ranks
N = 80

Control Group
N = 40

Experimental Group
N = 40

Relaxation Intervention

Multidimensional Intervention

10 Constables (A1)
10 Head Constables (A2)
10 Assistant Sub Inspectors (A3)
10 Inspectors (A4)

Pre Post Pre Post Pre Post Pre Post Pre Post
Phase-II:

Phase-II was given one day after the completion of the first session. This was designed to provide police personnel with a variety of coping skills in terms of how to achieve mastery through self management and mood management techniques.

(i) Goal setting and goal accomplishment was the focus of this phase.

(ii) Police personnel were taught tactics to enable them to maintain their motivational level by recognizing de-motivating work situations and burnout potential of their job.

(iii) A thought control technique formed the part of mood management. Police personnel learned to overcome negative thinking through cognitive restructuring. This technique also formed the part of mood management.

(iv) Police personnel were taught how to develop “I can do” attitude and to rid themselves of negative thinking and anger by “thought stopping process.”

(v) Training in the task management to help them to set priorities was given.

Phase-III:

Phase-III was the rehearsal of all the phases before a formal termination of this multidimensional programme. The police personnel were also asked to apply the coping skill they have learned in an imaginary situation.
4.2.2 Only Relaxation Training:

One method of counteracting the harmful effects of stress is the possibility of regular exercises. The relaxation training programme which formed the first phase of multidimensional strategy was given to control group for one day in the same way as done in the 1st phase of multidimensional intervention. There was no homework assignment for this group. The pre and post treatment scores on all the dependent variables were taken just prior to this intervention and immediately after the completion of the intervention. The police personnel of all the ranks under this intervention served as control group of the study.

4.3 Instruments Used:

4.3.1 Police Stress Questionnaire:

The scale was developed for the purpose of the present study. A pilot study was conducted to identify the type of stressful events that police personnel experience on the job, a sample of 280 police personnel from different categories were asked to list the most stressful events they had experienced at work. A 45 item questionnaire to assess job related stressor for police personnel was specially designed for the present study. The questionnaire originally included 90 items (Severy, Soutar & Weaver 1993). The questionnaire was then ranked by 10 senior police officers. In this way finally a 45 item questionnaire was developed to assess job related stressor specifically among police personnel.


The Maslach Burnout Inventory prepared by Maslach & Jackson (1981); Maslach & Pines (1980) consists of 22 items that are divided into three sub scales (Emotional exhaustion, depersonalization and personal accomplishment). Each item is rated
on both intensity and a frequency dimensions. On a 7-point rating scale ranging from never to every day.

The nine items in the emotional exhaustion sub scale describe feelings of being emotionally over extended and exhausted by one’s work. For this factor, the item with the highest factor loading (84 on frequency and 81 on intensity) is the one referring directly to burnout, “I “feel burned out from my work.” The five items in the depersonalization sub scale describe an unfeeling and impersonal response towards recipients of one’s care or service. The sub scale of personal accomplishment contains eight items that describe feelings of competence and successful achievement in one’s work. With people, for both the emotional exhaustion and depersonalization sub scale, higher mean scores correspond to higher degree of experienced burnout. In contrast to these two sub scales, lower mean scores on personal accomplishment sub scale correspond to higher degree of experienced burnout. Reduced personal accomplishments, refer to the tendency to evaluate oneself negatively. Scores on each sub scale appear to be very reliable. Maslach & Jackson (1981) reported alpha coefficients ranging from 0.71 to 0.90 for their sub scales. Burnout scores have been found to increase in stressful job settings and to predict job turnover and absenteeism (Maslach, 1982).

4.3.3 Negative Mood Regulation Expectancies: Catanzaro & Mearns (1990):

The negative mood regulation scale was developed by Salatore J. Catanzaro and Jack Mearns (1990). The scale measures the generalized expectancies for the negative mood regulation. The construct was defined as the expectancy that some behaviour or cognition will alleviate a negative mood state. Data from 5 samples of college undergraduates was reported by their internal consistency.
Discrimination validity from social desirability and temporal stability was demonstrated for a 30 item scale derived from an initial pool of 50 items. Analysis revealed (a) modest correlation of the 30 item scale with internal-external control, (b) that higher scores on the negative mood regulation scale reported few symptoms of depression and (c) that the negative mood regulation scale predicted a different pattern of emotions than the Beck Depression inventory.

The scale consists of 30 items. In this measure 15 items are positively recorded and 15 items are negatively recorded. The respondents respond to these items on a five point rating scale ranging from strongly disagree to strongly agree. High score indicates less negative mood regulation expectancies.

Reliability of negative mood regulation scale have been reported in terms of alpha coefficients ranging from 0.86 to 0.92 and test-retest reliability for six months being .65 (Mearns, 1991).

4.3.4 Hindi Version of Anger Expression AX/EX Scale (Krishna, 1988):

The original anger expression scale was constructed by Spielberger, Johnson, Russell, Crane, Jacobs and Worden (1985) to assess how people generally react or behave when they feel angry or furious. Feeling of anger may be suppressed, expressed in behaviour or controlled in a variety of ways.

For the purpose of facilitating cross-cultural research and to build on scale for measuring anger in, anger out and anger control, the three sub scales of the English Anger Expression scale were translated in Hindi by Krishna (1988) following the procedure outlined by Spielberger and Sharma (1976).
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The AX-Scale comprises of 24 items. The range of possible AX/EX (i.e. total anger expression) scores varies from 0 to 72 and the range of possible score for three sub scale varies from minimum of 8 to the maximum of 32. The item remainder correlations range from 0.35 to 0.74 for males and 0.19 to 0.84 for females in the English Ax-Scale whereas 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. 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 correlation range from 0.30 to 0.78 for males and ... 0.15 positive and significant item-remainder correlation were found for both the Hindi and English AX/Scale on Indian sample as well.

The alpha co-efficients for English AX/EX scale and AX/in, AX/out and Ax/Con sub scale were 0.96, 0.90, 0.93 and 0.88 for males and were 0.91, 0.85, 0.70 and 0.88 for females. The alpha reliability of Hindi scale in respect to total AX, AX/in, Ax/out, AX/Con are 0.89, 0.88, 0.62, 0.82 respectively for females and 0.96, 0.92, 0.92 and 0.82 respectively for males.

All these significantly high alpha values prove that both Hindi and English test items are quite homogeneous in their contribution of variance to the total scale scores. These highly significant alpha co-efficients established the internal consistency of both Hindi and English AX/Scale. Since the Hindi form is essentially equivalent to the English AX/Scale, it provides potentially useful tool for cross cultural research. For the present study the Hindi form of scale (Krishna, 1988) was used.
4.3.5 Coping Questionnaire: Carver & Weintraub (1989):

This questionnaire is used for measuring coping behaviour of police personnel. The measure consists of 60 items, but 4 items were curtailed due to their irrelevance for the present study. Participants reported the frequency with which they usually rely on various strategies to deal with difficult or stressful events in their lives. Sample items are, “I take direct action to get around the problem and “I get upset and let my emotion out.” A final list of 56 items was used for the present purpose. However, since the police personnel in India are not well versed in English, this instrument was also translated into Hindi for the present purpose.

4.4 Sample:

Sample selection was done at two stages for the first purpose; all the questionnaires were administered to 280 police personnel from four lower ranks. For the second purpose only volunteer police personnel were selected for the present purpose. A notice was circulated in the various police stations in order to inform them about the upcoming stress management workshop. Those interested in attending the same were requested to give their names to the researcher on the date mentioned in the notice out of these volunteers. Study mainly focused 80 police personnel, 20 from each of the lower ranks (e.g. constables, head constables, assistant sub inspectors and inspectors). Out of this final sample of 20 each, 10 police personnel from each of the four ranks were assigned randomly to the two treatment conditions.

4.5 Procedure and Data Collection:

As mentioned earlier out of 80 participants 40 were exposed to multidimensional intervention and 40 were exposed to relaxation intervention (10 of each rank). Subject exposed to only relaxation intervention were designated as control group. The police personnel
were called for their respective intervention on separate days prior to
the intervention. All the questionnaire were stapled together and
were distributed to all the police personnel who were present.
Respondents were asked to fill each questionnaire by reading the
instructions given on top of each questionnaire carefully and were
assured that the information given by them will be kept confidential
and will be used only for the purpose of research. After the pre-test
they were exposed to either of the intervention (i.e. multidimensional
or only relaxation intervention). After the intervention again each
rank was given the same set of questionnaire to fill up.

Further, prior to exposing the respondents to multidimensional
intervention, they were told that their participation required a
commitment to gain what the workshop was going to offer. They were
also informed that there would be 3 sessions of 60 minutes duration
each over the consecutive weeks, which will consist of strategies for
dealing with stress, burnout and anger, group discussions and brief
home assignments will also be given.

4.6 Scoring:

Scoring of the police job stress score has been done on 3 point
scale. This scale uses a response continuum like low, medium and
high. 3 marks are given to high, 2 to medium and 1 to low. Total
score on job involvement scale has been obtained by adding up the
scores to each item. The total police job stress scale scores ranged
from 45 to 135.

1. Scoring of Maslach Burnout Inventory:

This inventory of 22 items yielded 3 scores. The emotional
exhaustion sub scale comprised of 9 items, depersonalization sub
scale comprised of 5 items, and personal accomplishment sub scale
comprised of 8 items.
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Emotional exhaustion : 1, 2, 3, 6, 8, 13, 14, 16, 20
Depersonalization :  5, 10, 11, 15, 22
Personal Accomplishment:  4, 7, 9, 12, 17, 18, 19, 21

A 7-point scale was used to obtain responses to the statements of MBI. These 7 categories are (i) never (ii) a few times a year (iii) once a month or less (iv) a few times a month (v) once a week (vi) a few times a week (vii) every day. Each respondent's test form is scored by using a scoring key which contains directions for scoring each sub scale. Numerical cut-off points are given for three sub scales. In this inventory there are 14 positive items which are scored directly and 8 negative items are reversed while scoring. For positive items 1, 2, 3, 6, 8, 13, 14, 16, 20, 5, 10, 11, 15, 22 weightage of scores will be given 1, 2, 3. For negative items 4, 7, 9, 12, 17, 18, 19, 21 weightage of scores will be given 3, 2, 1.

A high degree of burnout is reflected in high scores, on the emotional exhaustion and depersonalization sub scales and in low scores on the personal accomplishment sub scales. A average degree of burnout is reflected in average scores on the three sub scales. A low degree of burnout is reflected in low scores on the emotional exhaustion and depersonalization sub scales and in high scores on the personal accomplishment sub scales.

2. Scoring of Negative Mood Regulation Expectancies:

Negative mood regulation expectancies scoring of the negative mood scale has been done on a five point rating scale i.e. strongly agree, disagree, agree equal, disagree, strongly disagree. The negatively worded items are 3, 5, 8, 9, 11, 14, 18, 19, 21, 22, 24, 25, 27, 28, 30. The scores for such items are reversed. The positively worded items are 1, 2, 4, 6, 7, 10, 12, 13, 15, 16, 17, 20, 23, 26, 29. The total scores of the negative mood scale is obtained by adding up the scores given to each item.
3. Scoring of Anger Expression Scale (AX-Scale):

The AX-Scale is comprised of 24-items and yields four different scores. Its three sub scales assess individual differences in the tendency to: (a) express (AX/out), (b) experience but hold in (Suppress) angry feelings (AX/in) and, (c) control the experience and expression of anger (Ax/con). The 8 items comprising each of the three AX sub scales are:

- 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.

The score of each item corresponds to the number circled or blackened out on the test form. Item scores can vary from 1 to 4. AX/in, AX/out and AX/Con sub scale scores are computed by summing the column scores for each scale. The range of possible scores for the three sub scales varies from minimum of 8 to the maximum of 32. In computing AX/EX score, a constant (C=16) is added to eliminate the negative scores, AX-scores range from 0 to 72 and can be calculated by solving the following equation:

\[ AX/EX = AX/out + AX/in - AX/Con + 16. \]

4. Scoring of Coping Questionnaire:

Scoring of the cope questionnaire has been done on 4 point scale. This scale uses like this 4 marks are given to 9 usually do this a lot, 3 to 9 usually do this a medium amount, 2 to 9 usually do this a little bit and 1 to 9 usually don't do this at all. Total score on cope questionnaire has been obtained by adding up the scores to each item. The total cope questionnaire scores ranged from 1 to 224.
4.7 Statistical Analysis:

Following statistical procedures are employed to analyze the data:

(i) Mean, standard deviation and one way analysis of variance was carried out on all the self-report measures to see the extent of difference between the total sample (280) police personnel from the four ranks included in the present study.

(ii) **Tukey Multiple Comparison Test:** Tukey test was carried out for the post hoc comparisons between the means of all the four ranks of police personnel after one way analysis of variance.

(iii) T-test was carried out on the pre treatment data of all the dependent variables (job stress, burnout, negative mood regulation, anger and coping behaviour) scores of police personnel under multidimensional intervention as well as regulatory intervention. This test was performed to see if any between group differences existed prior to treatment among these groups.

(iv) **Repeated measure analysis of variance:** From the findings of t-test it was apparent that treatment as well as control groups were comparable on all the dependent variables prior to treatment. Therefore, treatment related changes (pre to post) of these dependent variables were further analyzed by 3 factor repeated measure analysis of variance (mixed) design (Bruning and Kintz, 1987) with repeated measure taken over trials.

(v) **Newman Keul’s Multiple Range Test:** All the post hoc comparisons among all these means were made by Newman Keul’s Multiple Range Test (Bruning and Kintz, 1987).