CHAPTER IV

DESIGN AND METHODOLOGY
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The present investigation was carried out to explore Burnout Stress Syndrome (BOSS) among medical professionals in context with their behaviour pattern, sex differences and job-level.

The study was designed in multivariate \((K \times L \times M)\) factorial paradigm. Factorial designs, other things being equal, are 'better' than one way designs. These not only enable the researcher to manipulate and control two or more variables simultaneously but also to analyse independent as well as interactive effects of various factors (Kerlinger, 1983).

The present work was conducted by taking \(2 \times 2 \times 2\) factorial design to study the intervariate interactions of the three factors.

(i) The first factor was "Behaviour Pattern" (BP) with its two levels, i.e. 'Type A Behaviour Pattern' (TABP) and 'Type B Behaviour Pattern' (TBBP).

(ii) The second factor was "Gender" i.e. males and females.
(iii) The third factor was "Job Level" i.e. 'Junior' and 'Senior'.

The paradigm of research was as under:

<table>
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<tr>
<th>BEHAVIOUR PATTERN</th>
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<tr>
<td>TABP</td>
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<tr>
<td>GENDER</td>
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<tr>
<td>MALE</td>
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<tr>
<td>JOB LEVEL</td>
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<td>JUNIOR</td>
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<td>SENIOR</td>
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The independent variables of 'Behaviour Pattern', 'Gender' and 'Job Level' relate to each other's levels in a systematic way, and great control over extraneous variance is affected in consequence.

The dependent variable of the study was Burnout Stress Syndrome (BOSS). The scores of BOSS are taken on three components of Burnout i.e. Emotional Exhaustion (EE), Depersonalization (DP) and Reduced Personal Accomplishment (PA). Each one was dealt separately.

The above noted paradigm constitutes following eight groups which are uniquely exposed to the variable of 'Behaviour Pattern', 'Gender' and 'Job-levels'.
The study was broadly divided into three parts. In Part I the effect of type A/B Behaviour Pattern, Gender and Job-level, on the three components of BOSS (EE, DP and PA) were analysed. In part-II - relationship of these components with ‘Organisational Role Stress’, ‘Job-involvement’, ‘Speed and Impatience’, ‘Hard-driving and Competitiveness’ was studied. Part III dealt with the ‘objective based analysis. ‘Level Analysis’ of the scores of three sub-scales of Maslach Burnout Inventory. Three-way ANOVA on ORS scores, and Regression Equations’ of ORS and BOSS had been undertaken.

SAMPLE

The sample of the study was composed of the medical professionals of medical colleges and hospitals from North India i.e. Haryana, Punjab and Rajasthan. Since the study had been based upon multivariate factorial design, the Subjects (Ss) were first drawn on the basis of their Behaviour Pattern, then on ‘Gender’ and ‘Job Level’. The final sample of 200 Ss had been selected as per the requirements of the cells of
2x2x2 paradigm of research. The eight cells rendered by the design comprised of an equal number of Ss i.e. twenty five elements in each cell. The distribution of the sample was, therefore, as under:

<table>
<thead>
<tr>
<th>BEHAVIOUR PATTERN</th>
<th>TABP</th>
<th>TABP</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td></td>
<td>GENDER</td>
<td>GENDER</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
<td>MALE</td>
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<tr>
<td>JOB JUNIOR</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>LEVEL SENIOR</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>50</td>
<td>50</td>
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</table>

The sample can be assumed to be representative on account of the paradigm providing sufficient and equal number of observations for each treatment of the study (Edwards 1981).

MATERIAL

The subjects were assessed on the following three psychological tools:

1. Maslach Burnout Inventory (MBI).

2. Jenkins Activity Survey (Form C).

3. Organizational Role Stress Scale.
1. Maslach Burnout Inventory (MBI) was developed by Christina Maslach and Susan E. Jackson (1986). It is verbal in nature. It is comprised of two parts:

a) Human Services Demographic Datasheet that consists of different open-ended and close-ended questions to have knowledge about testee’s personal information i.e. age, family size, family type, marital status, education and degree of religiousity etc. [Appendix-la(i)]

b) Human Services Survey - a measure of BOSS, is designed to assess its three aspects i.e. Emotional Exhaustion (EE), Depersonalisation (DP) and Reduced Personal Accomplishment (PA). Each aspect is measured by a separate sub-scale. Out of total 22 statements 9 statements assess the feelings of being emotionally exhausted by one’s work. The DP subscale has 5 statements measuring an unfeeling and impersonal response towards recipients of one’s service, care, treatment or instruction. The PA subscale consists of 8 statements to assess feelings of competence and successful achievement in one’s work with people. The frequency with which the respondent experiences feelings related to each subscale is assessed using a six-point ('how-often) scale, fully anchored response format. [Appendix-la(ii)]
A scoring key is provided to score the three sub-scales of MBI. Interpretation of scores on EE and DP are different from that of PA. High scores on EE and DP indicate high feelings whereas high scores on PA subscale indicate lesser feeling of the same. As per mention in the manual for the three aspects of burnout, the scores of each subscale are to be considered separately and are not combined into a single, total score. Thus, three scores are to be computed for each respondent.

MBI is a reliable and valid tool. It's reliability of EE subscale is .90 of DP subscale is .79 and of PA subscale is .71. The test-retest reliability coefficients for the subscales were .82, .60 and .80 respectively, ranging from low to moderately high, all are significant beyond the .001 level. The inventory possesses convergent, face and discriminant validity; which is confirmed by Corcoran (1986). Besides, MBI is one of the best available measure to assess BOSS and it claims simplicity too. Although there is no time limit for its administration but it does not take more than 15 minutes normally. Belcastro, Gold and Hays (1983) studied the factor structures of the original MBI for a homogeneous population of 710 Ss. from 2 states. The data were factorially analysed and
resulting factor structure was found consistent with the original factor structure, scaling and norms specific for analyses.

Green and Walkey (1988) confirmed the three factor structure of the MBI. Therefore, MBI was decided to be used in present study to add to the already existing empirical knowledge related to it.

Lee and Ashforth (1990) examined dimensionality of Maslach's (1982) three aspects of job burnout (EE, DP and PA). A series of confirmatory factor analyses supported the 3 factor model, with the first two aspects highly correlated.

2. Jenkins Activity Survey (From C), developed by Jenkins (1979) is a self-report multiple-choice questionnaire of 52 items designed to measure the Type A/B Behaviour pattern. (Appendix - 1b)

It is most recommended for the use with employed and people engaged with their work career, between the ages of 25-65 years and equally appropriate for both the sexes.

There is no definite time limit for administration of the test but usually it takes 20 minutes for its completion.
JAS renders scores on four scales - Type A Scale and three factorially independent components of this broader construct: i.e. Speed and Impatience (Factor S), Job Involvement (Factor J) and Hard-driving and competitiveness (Factor H). For each item that contributes to a scale score, each response alternative is assigned numerical points based on the product of the item regression weight and the optimal scaling weight for that response. The sum of the points for all the items in a particular scale constitutes raw scores. These raw scores are then converted into standard scores with the help of the scoring key. If more than six items pertaining a scale are recorded as having missing or if the responses are invalid, no score is computed for that scale.

3. Organisational Role Stress (ORS) Scale is developed by Udai Pareek (1983). It is a five point interval scale presented in the form of reusable booklets. Responses are to be given on a separate answersheet. ORS consists of 50 statements with spread of 10 factors - Inter Role Distance (IRD); Role stagnation (RS); Role Expectations Conflict (REC); Role Erosion (RE); Role Overload (RO); Role Isolation (RI); (Personal Inadequacy (PI); Self-Role Distance (SRD); Role Ambiguity (RA) and Resource Inadequacy (RIn). Each statement is to be responded by choosing one of the five response
alternatives. Answersheet facilitates its scoring. The scores for each role stress may range from 0 to 20, Thus, range of total ORS scores is from 0 to 200. (Appendix 1c).

Retest reliability co-efficients are found significant at .001 level. Only one component i.e. Role Erosion is significant at .003 level. Factor analysis provides evidence of construct validation of the instrument (Sen, 1982).

PROCEDURE

After accomplishing the preliminary requirements of sample selection and tools selection; data-collection was started. On getting permission from the administrative authorities of Medical Colleges and Hospitals, appointments were fixed with Medical professionals individually. Being intelligent, enquiring and curious brains, they had to be explained the purpose of the study in detailed manner and that always helped in establishing rapport and collecting information for Human Services Demographic Datasheet. Winning the co-operation of the 'S' JAS was to be the first questionnaire with standard instructions on it.

Scoring of JAS was done manually with great care. Scoring of each and every item of the tool was re-checked.
Scoring of JAS was done manually with great care. Scoring of each and every item of the tool was re-checked. Primarily the 'S' was to be assessed on TA/BBP and then after selection of 'S' in either of the eight groups of the study, further MBI and ORS were administered and scored.

JAS and Demographic Data Sheet were administered to 422 Ss to meet the requirement of factorial design. More females had to be taken initially because they were not meeting the requirement of design.

After collecting and scoring the data, it was tabulated (App.1.II) and then operated on statistical analyses. Analysis means the categorizing, ordering, manipulating and summarizing of data to obtain answers to research questions. The purpose of the analysis is to reduce data to intelligible and interpretable form so that the relations of research problem can be studied and tested.

Analysis for Part I of the Study

Application of any statistical treatment of data for analytical purposes depends upon the design of the research. Since the present study was designed in 2x2x2 factorial paradigm, the data would be operated on 'Three Way Analysis of Variance'. Besides the advantages of independent and
interactive analysis of variables, it is quite insensitive to heterogeneity of variance provided that we have an equal number of observations for each treatment (Kerlinger 1983). To make a test for heterogeneity of variance when one had equal number of observations for each treatment before proceeding with the analysis of variance is, as Box (1953) has stated, somewhat like putting a rowing boat in a sea in order to find out if the water is safe for an ocean liner. Owing to these advantages, three way ANOVA (Appendix - 1d) would be computed for Part I of the study in which the three components of BOSS i.e. EE, DP and PA and ORS would be analysed separately.

In order to relate the differences between means of the amount of variability expected between various groups of the sample, t-test (Appendix 1e) would also be computed.

Analysis for Part II of the Study

For ungrouped data with small numbers of raw scores, Pearson's - r is considered to be the best procedure (Guilford 1956). Therefore, to analyse the relationship of BOSS components i.e. EE, DP and PA, with 'Organisational Role Stress', 'Job-involvement', 'Speed and Impatience', 'Hard-driving and Competitiveness' Pearson's-r (Appendix 1f) would be computed.
Analysis for part III of the study

To determine feasibility of Maslach's model in Indian set up 'level-analysis' would be done for each sub-scale of MBI separately.

To study the relation and equations of BOSS with ORS in Indian Work-set up, ORS scores would be analysed on Three-way ANOVA and Regression Lines of ORS and three components of BOSS would also be drawn. Regression equations would be calculated.

Chi-square test (Appendix 1h) would be computed for the analysis of data pertaining to socio-demographic characteristics of the sample.