

CHAPTER-3

METHODOLOGY

In India the price p.a. as a results of absence and loss of productivity as a result of stress is calculable to be roughly Rs 500 million ("executive stress", 1991), with managers and high level staff affected by high levels of labor stress. Analysis has been conducted on stress inherent in specific teams at intervals the work context with some findings, suggesting that roughly 30-40% of Indians suffer from high levels of stress. Typically the analysis focuses on the assorted sources of stress and on the symptoms related to the expertise of stress. However, no analysis relating stress, varieties of work aggression and structure downside determination ways of staff may be derived within the Indian analysis literature. The degrees of stress within the Indian organizations area are exceptionally high. The seriousness of the strain expertise in India ought to encourage analysis to not solely specialize in the causes and consequences of stress however conjointly on however staff address their experienced stress with the aim to help organizations and people to develop improved ways and programmes to counter the negative result of stress. See able of the higher than discussion, the most aims of this study were to determine-

- Overall levels of stress experienced by staff.
- To establish however stress varies in meaty ways that in several context as– sex, physical atmosphere of the work place, job uncertainty and ambiguity, job satisfaction, role conflict and ambiguity, job and role management, employment and social support.
- The physiological and psychological effect that stress may need on the sample of staff.
- Coping ways utilized by the samples to counter the negative result of the strain.
- Means and ways of managing stress by the supervisors from staff perspective.

This chapter sets out the method approach that was accustomed win the aims of the printed study.

Research objectives

1. To compare employee's stress between two groups-male & female.
2. To determine the causes of stress that employees experience at the work place.
3. To find out consequences (psychological and physiological) of stress.
4. To study different types of coping strategies adopted by the employees in stressful conditions.

5. To find out how stress varies in meaningful ways in different context as– sex and different areas of stress like- physical environment of the work place, job satisfaction, role conflict and ambiguity, job and role control, job uncertainty and ambiguity, workload and social support.

6. To find out means/method of managing employee’s stress by the employers.

The aim was to determine the causes of stress arising outside and originating within the work situation, the impact that these stressors had on the individual's experience of stress, the individual consequences in terms of workplace aggression, anxiety, worry and depression as well as the ability of the individual to cope with the situation. Thus, this study is named as **“Stressful Work Organization: A Systematic Study on Occupational Health”**.

Assumptions

In this light of discussion presented in the last few pages, the following assumptions were framed to initiate the study-

1. Employees’ stress (causes & symptoms) and coping strategies may/may not vary for Men and Women.
2. Employees’ coping with stress may/may not vary in meaningful ways in different context as physical environment of the work place, job uncertainty and ambiguity, job and role control, job satisfaction, role conflict and ambiguity, workload and social support.
3. Stress does/does not affect employees’ behavior and adjustment.

Methods of data collection

The data required for the purpose of study was collected from both primary and secondary sources. The survey was conducted through the distribution of the structured questionnaires. Thus, primary data were collected through structured questionnaires.

The secondary sources included both print media and electronic media. The print media includes magazines, reports, journals, working papers and research dissertations. The electronic media includes search websites, blogs, engines, twitter, face book, my briefcase etc.

Selection of the locale

The area selected for the present study was Chennai city. This area was purposely selected by the researcher because of the following reasons.

Firstly, Chennai is a metropolitan city and all kind of industrial and business companies are present here. Hence, population of all types is easily available here. Moreover, the investigator being resident of Chennai is facilitating easy accessibility.

Selection of the sample

For the purpose of survey, sample was made through a convenient sampling method. A total sample of about four hundred employees was selected for the study. The sample for this research was selected on the basis of random sampling method. The sample has to meet certain requirements considered under different categories of samples and they should belong to different socio-economic status. The present study was conducted on two sample groups follows: 400 employees (200 Men & 200 Women)

Design of the study

The study explores the organizational role of stress and coping among Men and Women employees. The study uses a descriptive research design. For this purpose, a normative survey was conducted among the professionals with the help of questionnaires.

Selection and development of tool

The present investigation was conducted on the lines of normative survey method of research, which is adequate interpretation with fact finding in the light of the norms. It is essentially a method of quantitative description of the general characteristics of a group. Under this method, the true meaning of the data collected was reported from the point of view of the objectives and the basic assumptions of the project.

The techniques which generally employed to the normative survey were questionnaires, observations, rating scales and interview schedules etc. In the present study, the investigator used self-constructed interview schedule, standardized psychological test and general information blank for the collection of relevant data as per the requirement of the objectives.

Psychometric instruments

- 1 General Information Blanks
- 2 NIOSH General Job Stress Questionnaire
- 3 Symptom rating test (SRT)
- 4 The proactive coping inventory (PCI)
- 5 Stress assessment form (SAF)

General Information Blanks (Biographical Questionnaire)

The participants responded to some items, for example by stating their sex, age in years and months, ethnicity, home language, the organization they presently work for, marital status, their present position title, their overall work experience, the department they were presently in, highest qualification achieved, their work experience with their present employer and their occupation. Their name was not required as to maintain confidentiality.

NIOSH General Job Stress Questionnaire (developed by the NIOSH)

This questionnaire, developed by NIOSH, builds upon frameworks proposed by Caplan, Cobb, French, Harrison, and Pinneau (1975), Cooper and Marshall (1976) and House (1974). In this scheme, job stressors refer to working conditions that may lead to acute reactions or strains in the worker. These short-term strains, in turn, are presumed to have an impact on longer-term indicators of Mental and physical health. These categories encompass a variety of personal and situational factors that seem to lead to differences in the way individuals exposed to the same job stressors perceive and/or react to the situation. (Table 1 provides a list of the constructs and the measures ultimately included in the questionnaire).

Table 3

Constructs and measures included in NIOSH general job stress questionnaire

Construct	Source of measure job stressors	Number of items
Physical environment	New items	10
Role conflict	Rizzo et al. (1970)	8
Role ambiguity	Rizzo et al. (1970)	6
Interpersonal conflict	Rahim (1983)	16
Job future ambiguity	Caplan et al. (1975)	4
Job control	Greenberger (1981) & Ganster (1984)	16
Perceived employment opportunities	Ganster (1984)	4
Quantitative workload	Caplan et al. (1975)	11
Variance in workload	Caplan et al. (1975)	3
Responsibility for people	Caplan et al. (1975)	-
Utilization of abilities	Caplan et al. (1975)	-
Cognitive demands	New items	3
Shift work	New items	5

Symptom Rating Test (SRT)

Kellner, R. and Sheffield, B. (1973) constructed the SRT to focus on common symptoms (psychological and physiological) that often result in stressed conditions. It has total 30 items and each of the items describes symptoms (total 12 physiological and 18 psychological symptoms). Participants have to rate each of the 30 items regarding the intensity of stress on a three point scale.

Proactive Coping Inventory (PCI)

The proactive coping inventory is an inventory to assess skills in coping with distress as well as those that promote greater well-being and greater satisfaction with life. The proactive coping inventory has been translated into 12 languages: German, Dutch, Spanish, Polish, Turkish, Italian, Japanese, Portuguese, Hebrew, Russian, Czech and Arabic. The proactive coping inventory has been used in a variety of sample of respondents including Turkish Canadians, Polish Canadian adults, Polish university students, Canadian employed adults, rehabilitation hospital patients, Canadian university students, community residing seniors, German teachers, and Canadian nurses who worked in hospitals and clinics during the SARS crisis.

The basis of the PCI was a psychometrical analysis of an earlier version of the proactive coping inventory consisting of 137 items, 18 sub-scales and five dimensions (Greenglass, 1998). The aim was to create a comprehensive and exhaustive inventory that evaluates proactive cognition and behavior as a positive facet of coping.

Seven new scales consisting of a total of 55 items were developed from the original 137 PCI item set using statistical techniques such as Pearson product-moment correlation, confirmatory factor analysis, and principal component analysis and reliability procedures. The seven scales of the PCI are: the proactive coping scale, the reflective coping scale, strategic planning, preventive coping, instrumental support seeking, emotional support seeking and avoidance coping.

1. **The proactive coping scale-** this scale, consisting of 14 items, combines autonomous goal setting with self-regulatory goal attainment cognitions and behavior
2. **The reflective coping scale-** this scale, with 11 items, describes simulation and contemplation about a variety of possible behavioral alternatives by comparing their imagined

effectiveness and includes brainstorming, analyzing problems and resources and generating hypothetical plans of action

3. **Strategic planning**- this 4-item scale focuses on the process of generating a goal-oriented schedule of action in which extensive tasks are broken down into manageable components.

4. **Preventive coping**- preventive coping deals with anticipation of potential stressors and the initiation of preparation before these stressors develop fully. Preventive coping is distinct from proactive coping. Preventive coping effort refers to a potential threat in future by considering experience, anticipation or knowledge. In comparison, proactive coping is not based on threat but is driven by goal striving. The 10-item preventive coping scale has good internal consistency and item-total correlations.

5. **Instrumental support seeking**- this scale (8 items) focuses on obtaining advice, information and feedback from people in one's social network when dealing with stressors.

6. **Emotional support seeking**- this 5-item scale is aimed at regulating temporary emotional distress by disclosing to others feelings, evoking empathy and seeking companionship from one's social network.

7. **Avoidance coping**- avoidance coping, measured by a 3-item scale, includes action in a demanding situation by delaying.

The PCI can be administered an interviewer or self administered in approximately 15-20 minutes. In scoring responses, numbers are assigned as Mentioned below-

1- "not at all true",-4 mark

2 "barely true"-3 mark

3 "somewhat true"-2 mark

4 "completely true"-1 mark

Please note that the following 3 items of the proactive coping subscales are reverse scored: "I try to let things work out on their own", "I often see myself failing so I don't get my hopes up too high", and "when I have a problem, I usually see myself in a no-win situation". So, a score of 1 should be recoded to a score of 4, a score of 2 should be recoded to a score of 3, a score of 3 should be recoded to a score of 2 and a score of 4 should be recoded to a score of 1.

Responses should be added to obtain a summed score for each of the 7 subscales. The range of scores for the seven subscales is as follows:

Subscale Range of Scores

Proactive Coping	14-56
Reflective Coping	11-44
Preventive Coping	10-40
Avoidance Coping	3-12
Instrumental Support Seeking	8-32
Emotional Support Seeking	5-20
Strategic Planning	4-16

The number of missing values permitted varies with the number of items within each subscale. The method we generally adhere to is as follows:

Subscale number of missing items

Proactive Coping	2 items
Reflective Coping	1 item
Preventive Coping	1 item
Avoidance Coping	1 item
Instrumental Support Seeking	1 item
Emotional Support Seeking	1 item
Strategic Planning	1 item

If a respondent has more than the above missing values on a given subscale, a score for that subscale should not be computed. However, other methods for dealing with missing data are available (e.g., case substitution, mean substitution, cold deck substitution, regression substitution, and multiple imputations).

There are no cut-off scores, as we do not endorse the view that people should be categorized this way. However, one could establish groups based on the empirical distributions of a particular reference population. For example, one could create two groups by doing a median split.

Stress Assessment Form (SAF)

It is developed by the investigator self to measure workplace environment and means/measures to control the stress by supervisors. With total 6 items, it covers-

1. Area affected by job stress
2. Environment and experience at work place
3. Major proactive intervention by the employer
4. Means of managing stress of the employees by the employer
5. General ways of reducing stress by the employees themselves

Conduct of the Study

For this purpose investigator visited some companies situated in Chennai city. Permission was granted by the managers/ heads of the various institutions/ organizations in Chennai to conduct the study. The investigator contacted the employees personally or in a small group. For collecting of information, general information blank and other psychometric tests, as Mentioned above, were distributed and administrated to company employees to elicit their responses according to the instructions and conditions Mentioned. Also the participants of the study were shown copies of this consent before they answered the questionnaire.

To ensure confidentiality and anonymity of the employees who are participating in the study, they were neither instructed to write their names, surnames or any other information that would compromise anonymity of the respondents.

Scoring was done with the help of scoring procedure prescribed in the manual, classification and tabulation, according to all necessary instructions and on the percentage bases.

Descriptive and alternative statistics

Descriptive statistics square measure wont to summarize, organize and scale back giant numbers of observations (McMillan & Schumacher, 2001). Once information square measure collected, the observations should be organized in such a fashion to permit the investigator to properly interpret the information and trace underlying trends. The ways that ordinarily won't to offer classified information embrace classification, tabulation, frequency distributions, and measures of central tendency like the mean, variance and Z take a look at that indicate the common variability and comparison of the scores.

Classification

In statistics, applied mathematics classification is that the methodology of distinguishing the sub-population to those new observations belong, wherever the identity of the sub-population is unknown, on the premise of a coaching set of knowledge containing observations whose sub-population is thought. Therefore the necessity is that new individual things square measure placed into teams supported quantitative data on one or additional measurements, traits or characteristics etc. And supported the coaching set within which antecedently set groupings square measure already established.

Tabulation of data

The process of inserting classified information into tabular kind is thought as tabulation. A table could be a parallel arrangement of applied mathematics information in rows and columns. Rows square measure horizontal arrangements whereas columns square measure vertical arrangements. It should be easy, double or advanced relying upon the sort of classification.

Mean

For an information set, the mean is that the total of the values divided by the amount of values. The mean of a group of numbers x_1, x_2, \dots, x_n is usually denoted by \bar{x} , pronounced "x bar". This mean could be a form of first moment. If the information set were supported a series of observations obtained by sampling a applied mathematics population, this mean is termed the "sample mean" to differentiate it from the "population mean".

Standard deviation

Standard deviation could be a wide used live of variability or diversity employed in statistics and applied mathematics. It shows what proportion variation or "dispersion" exists from the common (mean, or expected value). A coffee variance indicates that the information points tend to be terribly near the mean, whereas high variance indicates that the information points square measure detached over an oversized vary of values.

Z test

A applied mathematics take a look at won't to confirm whether or not 2 population means that square measure completely different once the variances square measure known and also the sample size is giant. The take a look at datum is assumed to own a standard distribution

associate in nuisance parameters like variance ought to be known so as for an correct z-test to be performed.

A one-sample location take a look at, two-sample location take a look at, paired distinction take a look at and most chance estimate square measure samples of tests that may be conducted as z-tests. Z-tests square measure closely associated with t-tests, however t-tests square measure best performed once associate in nursing experiment contains a little sample size. Also, t-tests assume that the quality deviation is unknown, whereas z-tests assume that it's known. If the quality deviation of the population is unknown, the belief that the sample variance equals the population variance is created.

Delimitations of the study

This study is not without its limitations, which should be noted. The present investigation was carried out under the following delimitations:

1. A convenience sample was used, consisting of specialist staff components specific to only few organizational sectors and which does not represent all fields of management, types of organizations and ethnic distribution of all Indian specialist staff. The results can therefore not be generalized to the broad spectrum of Indian managers and specialist staff.
2. A third limitation of the present study may be associated with the fact that only self-report data were obtained. The findings made in the study may be biased by the incorrect information given by the employees. The study was confined to adults (aged 20 - 50) only.
3. One most limitation of this study is small sample size of 400 adult workers (200 Men & 200 Women).
4. This study was conducted in Chennai city of Tamil-Nadu state, India.
5. As the study was for 2 years only, time was a limiting factor.

Description of the total survey group

Individuals with at least one year working experience as well as at least a half a year working experience with their present employer were approached. A minimum qualification of each participating respondent was set to ensure an adequate level of literacy and language proficiency. The groups that were targeted were senior & middle management and specialists who were professionals working mainly in their field of expertise. The number of questionnaires given out and completed is given in this table-

Table 4
Balance of questionnaires

S. No.	Business sector	No. Given out	No. Completed	Response rate in %
1	Banking sector	150	78	52.00
2	Education sector-school	120	95	79.17
3	Education sector-college	110	86	78.18
4	Insurance companies	80	44	55.00
5	MNCs	200	97	48.50
Total		660	400	

The total survey group is described in terms of biographical information that was gathered. This includes gender, age, marital status, highest qualifications achieved, type of organization each respondent works for, position level and work experience.

Gender

For this study 200 male and 200 female (total 400 respondents) employees were selected randomly.

Table 5
Gender distribution

gender	Gender distribution	
	N	%
Male	200	50
Female	200	50
Total	400	100

Age

The youngest respondent was 20 years old and the oldest 64 years. Four respondents did not indicate their age on the questionnaire (table 6).

The age distribution of the respondents was unevenly spread throughout the sample. Over a third of the respondents were found in the range from 40 to 49 years (32.75% or 131 respondents) and another one third, 30-39 years (30.75% or 123 respondents) followed by two smaller groupings, one ranging from 50 years or older (16.50 % or 66 respondents) and one ranging from 20 to 29 years (20% or 80 respondents). Four respondents had not indicated their age and were regarded as missing. The respondents could be classed as older and more

experienced individuals as they were mainly found in the late adulthood or middle age categories.

Table 6

Age distribution of respondents

Age range	N	%
20-29	80	20.00
30-39	123	30.75
40-49	131	32.75
50+	66	16.50
Total	400	100

Marital status

Of all the respondents, less than a quarter were unmarried (23.76% or 96 respondents), about three-quarters were married (69.80% or 282 respondents), with the remaining respondents either being divorced (5.45% or 22 respondents) or having lost the spouse (1.0% or 4 respondents) (table 7).

Table 7

Marital status

Marital status	N	%
Unmarried	92	23
Married	282	69.80
Divorced/separated	22	5.45
Widow/er	4	0.99
Total	400	100.00

Organizations

A number of organizations were approached from which some large organizations declined to take part in the survey. The types of institutions that took part come from a wide range of organizations mostly from the private sector (table 8).

Table-8

Type of institution

S. No.	Type of institution	N
1	Banking sector	2
2	Education sector-school	1
3	Education sector-college	1
4	Insurance companies	1
5	MNCs	2
Total		7

Qualifications

The minimum requirement with regard to the survey sample was a metric qualification. An exception was made if the individuals had completed either their grade 8, 9, 10, or 11 and had worked themselves up into a management position within their organizations. Of the survey group, a fourth of the respondents had completed their B.E./ B.Tech (39% equal to 156 respondents), a tenth (each) had obtained b.com (8.50% or 34), M.com (9.25% or 37) and M.Tech (9.50% or 38), just over one fifth had bachelor's degrees bask (12.25% or 49 respondents) (table 9).

Table- 9

Qualification of the survey group

Qualification of the survey group	N	%
B.A.	24	6.00
M.A.	20	5.00
B.Sc. (Sc. & Engg.)	49	12.25
M.sc.	12	3.00
B.Com.	34	8.50
M.Com.	37	9.25
B.E./B. Tech.	156	39.00
B. Pharm.	5	1.25
M.S./ M.Tech.	38	9.50
M.Phil / Phd	6	1.50
10+	4	1.00
12+	3	0.75
<10	3	0.75
Diploma/certificate	6	1.50
Others	3	0.75
Total	400	100.00

Position level

The survey group was divided into three categories, namely senior management, middle management and specialist staff levels (table 10). It was found that half of the respondents (52% totaling 208 respondents) worked on a middle management level, a quarter (29.5% or 118 respondents) worked in specialist staff positions and the remaining respondents (11.5% or 46 respondents) were in senior management. 28 (7%) individuals did not indicate their positions.

Table- 10
Position level

Position	N	%
Senior management	46	11.5
Middle management	208	52
Specialist staff	118	29.5
Unknown	28	7
Total	400	100

Work Experience

The respondents overall work experience varied from 8 months to 46 years with a mean of 17.35 years (table 11). Five respondents did not indicate their overall work experience. The distribution of work experience was skewed towards the higher position levels in the various organizations.

In the case of work experience with the present employer, it varied from 8 months to 39 years with a mean of 10.57 years (table 11). Three respondents did not indicate their present work experience.

The results for total work experience (table 11) showed that one third of the respondents (41.26% equal to 163 respondents) had between 10 and 19 years of work experience, about a quarter (25.5% or 102 persons) had between 0 and 9 years of total work experience whereas just over a fifth (21.51% or 85 respondents) had between 20 to 29 of total work experience. The remaining tenth (11.25% or 45 respondents) had more than 30 years of total work experience.

Table-11

Work experience distribution

Type	Years	N	%
Total work experience	0-9	102	25.50
	10-19	163	41.26
	20-29	85	21.51
	30 +	45	11.25
Total		395	100.00

Ethical consideration

- Permission was granted by the managers/ heads of the various institutions/ organizations in Chennai to conduct the study. Also the participants of the study were shown copies of this consent before they answer the questionnaire.
- To ensure confidentiality and anonymity of the employees who are participating in the study, they were neither asked to divulge their names, surnames or any other information that would compromise their anonymity.