

Studies on Stress Management: A Case Study of Avatar Steel Industries, Chennai, India

Geeta Kumari and K. M. Pandey

Abstract—In this work the analysis has been done on stress management of Avtar steel indudtries, Chennai. A sample size of 100 is taken for the purpose of analysis made from primary and secondary data. Out of the total sample most of the respondents are male and many are between 50 and above. Most of the respondents are under graduate and have professional qualification. Most of the respondents have 10-15 years of long association with the organization. Almost all the respondents are satisfied with the physical and psychological working condition of the organization, and only fewer respondents are dissatisfied with the psychological working condition of the organization. The opinion about the training programs conducted by the organization is almost better, according to majority of the respondents.

Index Terms—Working condition, stress management, work pressure, reaction

I. INTRODUCTION AND REVIEW OF LITERATURE

A review on the previous studies on stress among the employees is necessary to know the areas already covered. This will help to find our new areas uncovered and to study them in depth. The earlier studies made on stress among the employees are briefly reviewed here. The research study of Jamal. M [1] finds that job stressors were significantly related to employees' psychosomatic problems, job satisfaction, unproductive time at the job, and absenteeism. Type A behavior was found to be an important moderator of the stress outcome relationship. Brief. A. P. and J. M. Atieh [2] argues that it is not safe to assume that job conditions that have an adverse impact on affective reactions to the job will also have a negative impact on overall subjective well-being.

Fienmann [3] views stress as a psychological response state of negative effect characterized by a persistent and a high level of experienced anxiety or tension. Recent research into the interaction between the mind and body shows that we may place our body on stress 'alert' quite unconsciously, because of our psychological and emotional attitudes to stress. Anticipatory emotions like impatience, anxiety, and anger can produce the same nerve impulses and chemical reactions as being faced with a concrete challenge. So when faced with a stressful situation, we must either use up the energy created by the body to challenge or learn how to "turn off", the response using a conscious relaxation technique [2]. Hans Seyle, the endocrinologist, whose

research on General Adaptation Syndrome (GAS), for the first time, revealed how human beings adapt themselves to emotional strives and strains in their lives. According to him emotional stress occurs in three important stages. 1. Alarm reaction stage 2. Resistance stage 3. Exhaustion stage. Alarm reaction is caused by physical or psychological stressors. Resistances are brought about by Aprinocorticotrophic hormone (ACTH) of the body. Exhaustion follows when ACTH dwindles as a result of continual stress. According to Stephen .P. Robbins, "stress related headaches are the leading cause of loss of work time in U. S. industry". Cooper and Marshall* visualize stress as characteristics of both the focal individual and his environment. They designate the internal and external convulsive forces as 'pressures' or 'stressors' and the resulting stalk of the organism on stress. Geeta Kumari and K.M.Pandey[4] worked on Job Satisfaction in Public Sector and Private Sector: A Comparison. Their main findings are given below : Public Sector versus Private Sector comparisons are a debate which seems to be a never ending topic. It is very difficult to take stand for either of these two forms of administration. The reason behind that is not unknown but obvious as both provide scopes in different ways. Job satisfaction describes how content an individual is with his or her job. The happier people are within their job, the more satisfied they are said to be. This paper surveys both the sectors in most of the aspects of analysis.. As the current findings show, jobholders vary regarding the extent of ambivalence experienced with respect to their attitude toward their job. The current findings also open up opportunities for further research regarding the consequences of job ambivalence. For instance, the present findings imply that job performance of individuals with high versus low job ambivalence may fluctuate such that job performance is comparatively high when positive beliefs and affective experiences are salient and thus predominate at a certain point in time but that their performance may be comparatively low at other times when negative beliefs and affective experiences are salient and predominate. In this respect, research could, for instance, collect manager perceptions of performance consistency. Future research should aim to replicate the present findings with larger and more diverse samples as well as profit from the use of multiple-item scales to measure job performance.

II. RESEARCH METHODOLOGY

Research is defined as human activity based on intellectual application in the investigation of matter. The primary purpose for applied research is discovering, interpreting, and the development of methods and systems

Manuscript received May 13, 2011; revised August 28, 2011.

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for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe. Research can use the scientific method, but it is not necessary all the time to have a scientific approach. Scientific research relies on the application of the scientific method and provides scientific information and theories for the explanation of the nature and the properties of the world around us. It makes practical applications possible. Research methodology is a way to systematically solve the research problem. The research methodology in the present study deals with research design, data collection methods, sampling methods, survey, analysis and interpretations. Descriptive approach is one of the most popular approaches these days. In this approach, a problem is described by the researcher by using questionnaire or schedule. This approach enables a researcher to explore new areas of investigation. A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

- A well structured questionnaire is framed.
- Data is collected from the employees in AVTAR STEELS.
- Findings are made and necessary suggestions and recommendations are given on the basis of primary data and secondary data collected and analysed.

III. A DATA COLLECTION METHOD

The data collection method used in this research is survey method. Here the data are systematically recorded from the respondent

RESEARCH TOOL.

A structured questionnaire has been prepared to get the relevant information from the respondents. The questionnaire consists of a variety of questions presented to the respondents for their response. The various types of questions used in this survey are:

- Open ended questions
- Closed ended questions
- Multiple choice questions

The employees of AVTAR STEELS are the sample unit in the survey.

The sample size chosen for this study is 100.

HR - 15
CIV - 10
ELECTRICAL - 10
STEEL - 35
ACCOUNTS - 25
COMMERCIAL - 5
.....
100

The sampling type is non-probability which involves deliberating selections of particular units constituting a sample, which represents the universe.

STRATIFIED SAMPLING:

Stratum means a layer population from which samples are to be selected may contain a number of layers from each layer a few samples are selected that is why this method is called stratified sampling.

STATISTICAL METHODS USED

- Percentage analysis

- Bars & charts

- Pie diagrams

STATISTICAL TOOLS USED

- Chi-square
- Weighted average

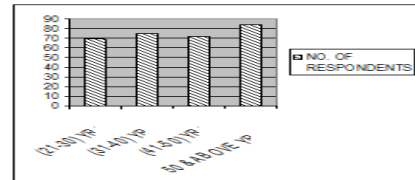
IV. RESULTS AND DISCUSSIONS

The various data that were collected during the survey are tabled below. Table 1 records the data of the age of the employees and their percentage among the respondents.

TABLE 1: DATA ANALYSIS AND INTERPRETATIONS

Age in Years	Number of respondents	Percentage
(21-30)	69	23
(31-40)	75	25
(41-50)	72	24
50 & Above	84	28
Total	300	100

Chart .1.Age wise classification of employees



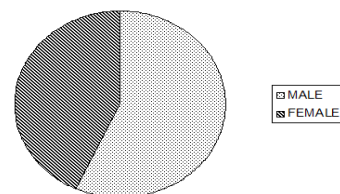
Inference:

It is observed from the survey that 25% of the respondents are between (31-40) yrs, 24% of the respondents are between (41-50) yrs, 28% of the respondents are above 50 years and 23% of the respondents are between (21-30) yrs.

TABLE 2: GENDER WISE CLASSIFICATION OF EMPLOYEES

Gender	No. Of respondents	PERCENTAGE
Male	171	57
Female	129	43
Total	300	100

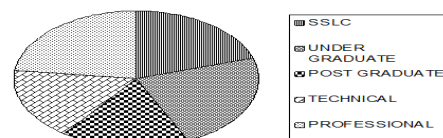
Chart2: Gender wise classification of employees



Inference:

It is found from the survey that 57% of the respondents are male and 43% of the respondents are female.

Chart.3: Classification on educational qualification



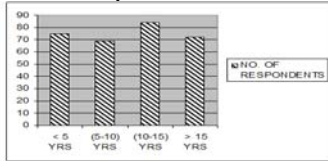
Inference:

It is evident from the survey that 69% of the respondents are professionally qualified, 23% of the respondents have graduation, 17% of the respondents have post graduation and technically qualified, 20% of the respondents have only done finished SSLC.

TABLE 3: WORK EXPERIENCE WITH AVTAR STEELS

Attributes	No. Of respondents	Percentage
<5yrs	75	25
(5-10)yrs	69	23
(10-15)yrs	84	28
>15yrs	72	24
Total	300	100

Chart 4: Work experience with avtar steels



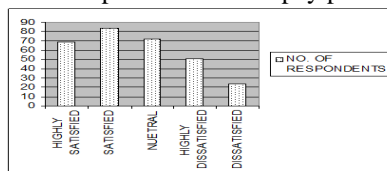
Inference:

It is found from the survey that 24% of the respondents have more than 15 years of experience, 23% of the respondents have (5-10) yrs of experience and 28% of the respondents have their experience between (10-15) yrs remaining 24% of the respondents have less than 5 years of experience.

TABLE 4: PHYSICAL WORKING CONDITION OF THE ORGANIZATION

Satisfaction	No. Of respondents	Percentage
Highly satisfied	69	23
Satisfied	84	28
Neutral	72	27
Highly dissatisfied	51	17
Dissatisfied	24	8
Total	300	100

Chart 5: Opinion about the pay package



It is found from the survey that more than half of the respondents (28%) are satisfied with the physical working condition of the organization. Among all the respondents 27% are neither satisfied nor dissatisfied with the physical working condition of the organization, 23% of the respondents are highly satisfied with the physical working condition of the organization, 17% of the respondents are highly dissatisfied with physical condition provided and 8% respondents are dissatisfied with physical working condition of the organization.

TABLE 5: OPINION ABOUT THE PAY PACKAGE PROVIDED BY THE ORGANIZATION

Satisfaction	No. Of respondents	Percentage
Highly satisfied	84	28
Satisfied	72	24
Neutral	69	23
Highly dissatisfied	24	8
Dissatisfied	51	17
Total	300	100

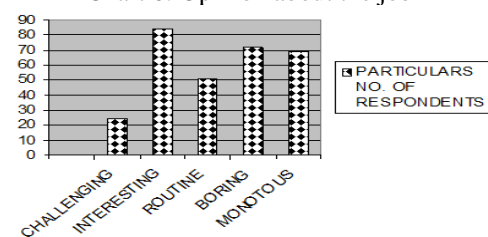
Inference:

It is evident from the survey that 28% of the employees are highly satisfied with the pay scale provided, 24% of the respondents are satisfied with their pay scale, 23% of them are neither satisfied nor dissatisfied, 8% of them are highly dissatisfied, and 17% of the respondents are dissatisfied with the pay scale provided.

TABLE 6: OPINION ABOUT THE JOB

Particulars	No. Of respondents	Percentage
Challenging	24	8
Interesting	84	28
Routine	51	17
Boring	72	24
Monotonous	69	23
Total	300	100

Chart 6: Opinion about the job



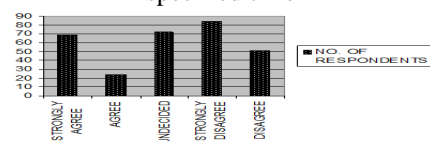
Inference:

It is observed from the survey that 28% of the respondents feel the job interesting, 24% of them feel it boring, 17% of the respondents feel it routine, while for 23% amongst the respondents the job is a monotonous one and 8% of them feel the same job challenging.

TABLE 7: OPINION ABOUT THE COMPLETION OF THE WORK WITHIN THE SPECIFIED TIME

Satisfaction	No. of respondents	Percentage
Strongly agree	69	23
Agree	24	8
Undecided	72	24
Strongly disagree	84	28
Disagree	51	17
Total	300	100

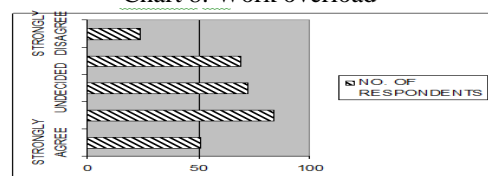
Chart 7: Opinion about the completion of work within the specified time



Inference:

It is clear from the survey that 23% of them strongly agree that they can complete the work at time, 8 % of them agree that they can complete work at time, 24% of them have no idea, 28% of them strongly disagree that they cannot complete the work in time, 17% of them disagreed the completion of job in time.

Chart 8: Work overload



Inference:

It is observed from the survey that 17% of the respondents are overloaded with work, 24% left it undecided and 23% of the respondents say that they are not overloaded with work.

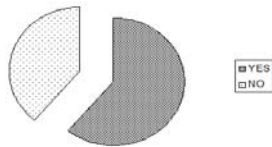
TABLE 8: WORK OVERLOAD

Satisfaction	No.of respondents	Percentage
Strongly agree	51	17
Agree	84	28
Undecided	72	24
Strongly disagree	69	23
Disagree	24	8
Total	300	100

TABLE 9: STRESS IN JOB

Preference	No. of respondents	Percentage
Yes	183	61
No	119	39
Total	300	100

Chart 9: Stress in job



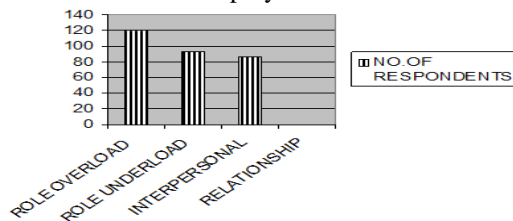
Inference:

It is evident from the survey that 61% of the respondents suffer stress and 31% of the respondents do not suffer stress.

TABLE 10: STRESS CAUSING FACTORS AMONG DIFFERENT LEVELS OF EMPLOYEES

Factors	No. of respondents	Percentage
Role overload	120	40
Role underload	93	31
Interpersonal relationship	87	29
TOTAL	300	100

Chart 10: Stress causing factors among different levels of employees



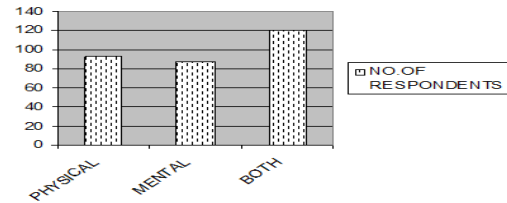
Inference:

It is observed from the survey that for most of the respondents of all the level of employees role overload is the major stress causing factor; the second place goes to the role under load and then comes the inter personal relationship.

TABLE 11: KIND OF STRESS IN JOB AMONG DIFFERENT AGE GROUP

Particulars	No. Of respondents	Percentage
Physical	93	31
Mental	87	29
Both	120	40
Total	300	100

Chart 11: Kind of stress among different age group



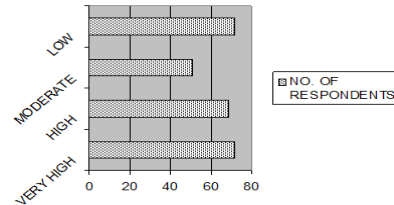
Inference:

It is found from the survey that 31% of the respondents suffer physical stress, 29% of them suffer mental stress and the remaining of them suffers from both the stress.

TABLE 12: LEVEL OF STRESS

Level of stress	No. Of respondents	Percentage
Very high	72	24
High	69	23
Moderate	51	17
Low	72	24
Very low	36	12
Total	300	100

Chart 12: Level of stress



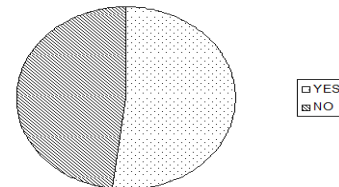
Inference:

It is found from the survey that 17% of the respondents have moderate level of stress, 24% of the respondents have high level of stress, and only 12% of the respondents have very low level of stress.

TABLE 13: PHYSICAL INCONVENIENCE DUE TO STRESS

Preference	No. Of respondents	Percentage
Yes	156	52
No	144	48
Total	300	100

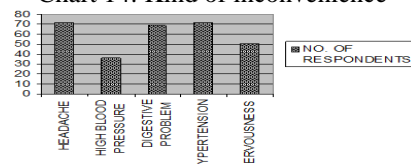
Chart 13: Physical inconvenience due to stress



Inference:

It is evident from the survey that 52% of the respondents suffer from physical inconvenience due to stress and the remaining 48% responded "NO" to the same question.

Chart 14: Kind of inconvenience



Inference:

It is observed from the survey that most of the respondents (24%) suffer from headache and hypertension and the digestive problem due to stress comes next, then comes the nervousness and only less % of the respondents suffers from high blood pressure.

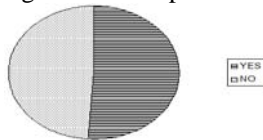
TABLE 14: KIND OF INCONVENIENCE

Inconvenience	No. of respondents	Percentage
Headache	72	24
High blood pressure	36	12
Digestive problem	69	23
Hypertension	72	24
Nervousness	51	17
Total	300	100

TABLE 15: ORGANIZATION STEPS TO MANAGE STRESS

Preference	No. Of respondents	Percentage
Yes	153	51
No	147	49
Total	300	100

Chart 15: Organization steps to Manage stress



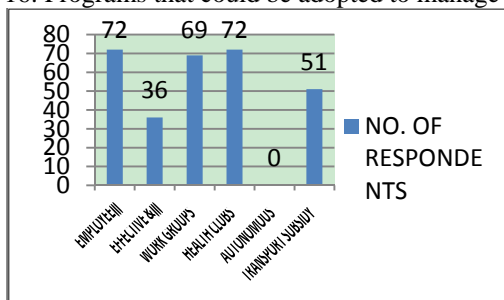
Inference:

It is evident from the survey that 51% of the respondents agrees that their organization is helping them in overcoming stress, and the 49% of them are not satisfied with the help provided by the organization to overcome stress.

TABLE 16: PROGRAMS THAT COULD BE ADOPTED TO MANAGE STRESS

Particulars	No. Of respondents	Percentage
Employee counseling	72	24
Effective & training development program	36	12
Work groups	69	23
Health clubs	72	24
Autonomous	0	0
Transport subsidy	51	17
Total	300	100

Chart 16: Programs that could be adopted to manage stress



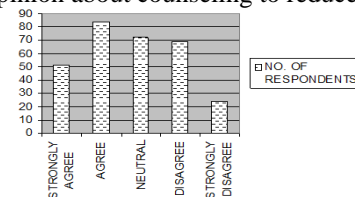
Inference:

It is observed from the survey that 24% of them recommend employee counseling, 12% of them need effective training, 23% need work groups, 24% need health groups, and the remaining need transport subsidy.

TABLE 17: OPINION ABOUT COUNSELING TO REDUCE THE STRESS

Particulars	No. Of respondents	Percentage
Strongly agree	51	17
Agree	84	28
Neutral	72	24
Disagree	69	23
Strongly disagree	24	8
Total	300	100

Chart 17: Opinion about counseling to reduce the stress



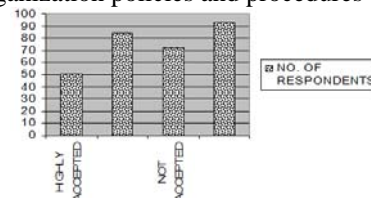
Inference:

From the above data we can find that 17% of the respondents strongly agree that counseling can overcome stress, 28% of them agree that they can overcome stress through counseling, 24% of them don't have any idea whether counseling will help in overcoming the stress, 28% disagree to the same fact while the remaining 8% strongly denies the fact that counseling will help in overcoming stress.

TABLE 18: ORGANIZATION POLICIES AND PROCEDURES ARE STRESS FREE

Particulars	No. Of respondents	Percentage
Highly accepted	51	17
Accepted	84	28
Not accepted	72	24
Highly not accepted	93	31
Total	300	100

Chart 18: Organization policies and procedures are stress free



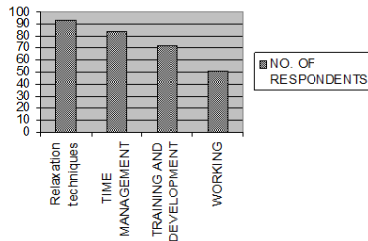
Inference:

It is observed from the survey that most of the respondents accept that the company's policies are stress free, 28% of them have accepted that organization policies are stress free, 24% of them have not accepted it, 31% of them have not accepted that their organization policy is free from stress.

TABLE 19: BEST INTERVENTION TO REDUCE STRESS

Particulars	No. Of respondents	Percentage
Relaxation technique	93	31
Time management	84	28
Training & development	72	24
Working	51	17
Total	300	100

Chart 19: Best intervention to reduce stress



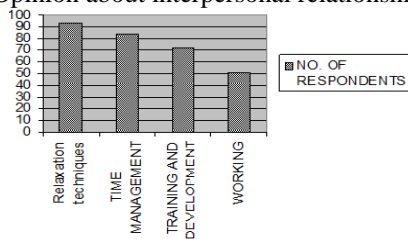
Inference:

It is observed from the survey that to overcome stress most of the respondents (31%) opined relaxation as one of the best techniques, 28% of them need more time management techniques, 24% said that training is the best intervention, 17% said working intervention is the best thing to overcome stress.

TABLE 20: OPINION ABOUT INTERPERSONAL RELATIONSHIP

Particulars	No. Of respondents	Percentage
Strongly agree	51	17
Agree	84	28
Neutral	72	24
Disagree	69	23
Strongly disagree	24	8
Total	300	100

Chart 20: Opinion about interpersonal relationship



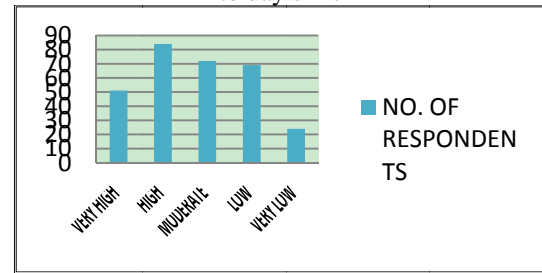
Inference:

From the above we can find that 17% of the respondents strongly agree that they have strained interpersonal relationship, 28% of them agree that they have strained interpersonal relationship stress, 24% of them don't have any idea, 28% disagree that they have strained interpersonal relationship.

TABLE 21: OPINION ABOUT STRESS LEVEL IN NIGHT SHIFT COMPARED TO DAY SHIFT

Particulars	No. Of respondents	Percentage
Very high	51	17
High	84	28
Moderate	72	24
Low	69	23
Very low	24	8
Total	300	100

Chart 21: Opinion about stress level in night shift compared to day shift



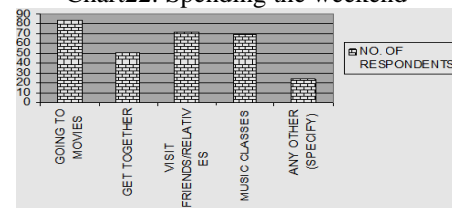
Inference:

From the above we can find that 17% of them strongly agree that they have stress in night shift, 28% of them agree that they have stress in night shifts, 24% of them don't have any idea, 28% disagree that they do not have any stress in night shift.

TABLE 22: SPENDING THE WEEKEND

Particulars	No. Of respondents	Percentage
Going to movies	84	28
Get together	51	17
Visit friends/relatives	72	24
Music classes	69	23
Any other(specify)	24	8
Total	300	100

Chart22: Spending the weekend



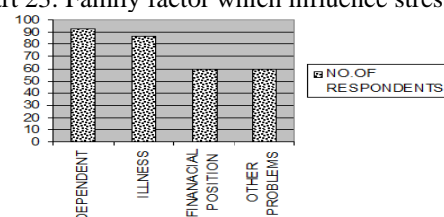
Inference:

From the above data we can find that 28% of the respondents would like to go to movies in the weekend, 17% would like a get together, 24% would like to visit friends/relatives, and 23% would like to go to music class, while the remaining 8% would prefer to go any other place/thing of their choice.

TABLE 23: FAMILY FACTOR WHICH INFLUENCE STRESS

Particulars	No. Of respondents	Percentage
Dependent	93	31
Illness	87	29
Financial problem	60	20
Other problems	60	20
Total	300	100

Chart 23: Family factor which influence stress



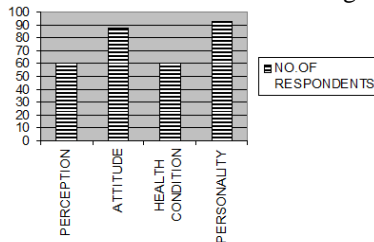
Inference:

It is found from the survey that 31% of them said dependency influences stress, 29% said that illness influences stress, 20% of them said that financial as well as other family oriented problems influence stress.

TABLE 24: PERSONAL FACTOR INFLUENCING STRESS

Particulars	No. of respondents	Percentage
Perception	60	20
Attitude	87	29
Health condition	60	20
Personality	93	31
Total	300	100

Chart 24: Personal factor influencing stress



Inference:

It is found from the survey that 20% of them said perception influence stress, 29% said that attitude influence stress, 20% of them said that health condition influence stress, and the remaining said that personality influence stress.

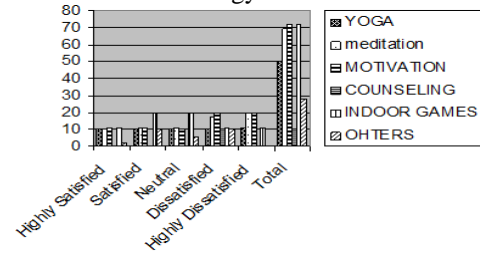
TABLE 25: STRATEGY TO REDUCE STRESS

Factors	highly satisfied	satisfied	neutral	dissatisfied	highly dissatisfied	total	percentage
yoga	10	10	10	10	11	51	17
meditation	10	11	11	17	20	69	23
motivation	11	11	10	20	20	72	24
counseling	0	0	0	9	0	9	3
indoor games	11	20	20	11	11	72	24
others	2	10	6	10	0	28	9

TABLE 26: CROSS TABULATION FOR SPENDING WEEKEND VS STRATEGY TO REDUCE STRESS

Strategy \ Spending weekend	Yoga	Meditation	Motivation	Counseling	Indoor games	Other	Row total
Going to movies	.	.	4				4
Get together	4	16	8	2			30
Visit to friends/relatives	8	22	10	10			50
Music classes		4	4	2			10
Any other			6				6
Column total	12	42	32	14			100

Chart 25: Strategy to reduce stress



Inference:

It is found from the above table that 17% prefer yoga; majority of the respondents (24%) prefers both indoor games and motivation to others (counseling or meditation).

Chi-square test on spending weekend vs strategy to reduce stress

(theory part is given beforehand in the same paper)

Null Hypothesis (H_0): There is no significant relation between spending weekend and strategy to reduce stress

Alternate Hypothesis (H_1): There is a significant relation between spending weekend and strategy to reduce stress

Calculations based on theory

Degrees of freedom = 12

Calculated value = 27.497

For 12 degrees of freedom at 5% level of significance, the chi-square table value is 5.226.

Inference:

Calculated value > Tabulated value.

Hence H_0 is rejected and H_1 is accepted.

V. FINDINGS

- Out of the total sample most of the respondents are male and many are between 50 and above. Most of the respondents are under graduate and have professional qualification.
- Most of the respondents have 10-15 years of long association with the organization.
- Almost all the respondents are satisfied with the physical and psychological working condition of the organization and only fewer respondents faces psychological problem in the existing environment.
- The opinion about the training programs conducted by the organization is almost better, according to majority of the respondents.
- Almost all the respondents are satisfied with the pay package provided by the organization and nearly half of the respondents feel that they do a routine job.
- Most of the respondents agree that they can complete their work within the specified time and some of the respondents are undecided.
- Nearly half of the respondents agree that they are overloaded with work.
- More than half of the respondents suffer stress in their job.
- Among all other factors, role overload causes more stress according to most of the respondents.
- Most of the respondents from steel department suffer from physical stress; most of the respondents from accounts department suffer from mental stress, and most of the respondents from civil department suffer

from both physical and mental stress.

- Most of the respondents feel only moderate level of stress and some of the respondents feel high level of stress in their job.
- More than half of the respondents have physical inconvenience due to stress and most of the respondents suffer from headache and high blood pressure.
- Almost all the respondents prefer to follow coping strategies personally, to manage stress and they prefer to do meditation and yoga to reduce stress. Suggestions
- The employees must give importance to time management techniques thereby they can complete their work within the specified time.
- Many tasks can be delegated to subordinates without losing effectiveness so that we can reduce the overload of work.
- Adopt the work to home transition strategy. It means instead of carrying the pressures of the work to home, the suggestion is to start the unwinding process during the work day and enter the home in a relaxed and peaceful mind.
- Giving counseling to the employees when they are in stressed condition or face problems, because counseling is the discussion of a problem (physical/mental/social) that usually has emotional/financial co-relation with an employee, in order to help him to cope within better.
- The organization must introduce Employee Assistance Programmes (EAPs) and stress control workshops according to the level of employees, because there is a strong relation between the level of stress and level of employees. EAP includes counseling employees who seek assistance on how to deal with alcohol and drug abuse, managing personal finances, handling conflicts at the work place, dealing with marital and other family problems, and coping with health problems.
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VI. CONCLUSIONS

Stress in the work place has become the black plague of the present century. Much of the stress at work is caused not only by work overload and time pressure but also by lack of rewards and praise, and more importantly, by not providing individuals with the autonomy to do their work as they would like. Most of the employees were not satisfied with the grievance handling procedure of the organization which was found by the unstructured interview. Organization must

begin to manage people at work differently, treating them with respect and valuing their contribution. If we enhance the psychological well being and health of the employees, in the coming future the organization would make more revenue as well as employee retention. Because it is said that, **“A Healthy Employee is a Productive Employee”**

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