Effect of Job Stress and Job Satisfaction on Performance: An Empirical Study

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Occupational stress is commonly acknowledged to be a critical issue for managers of private manufacturing companies. This study attempts to fill part of this void in literature by examining the relationship between job stress, job satisfaction and performance among 100 managers of private manufacturing firms. The study's findings suggest that higher stress levels are related to lower performance whereas higher job satisfaction indicates higher performance. The main objective was to see if there was any relationship between job performance, job satisfaction and job stress & to preface model for the same. The research was assessed by using various instruments.

Keywords: Job Satisfaction, Job Stress, Job Performance, Private Manufacturing Firms, Occupational Stress Index

1. Introduction

1.1 Job Performance in Relation to Job Satisfaction

In the field of Industrial / Organizational psychology, one of the most researched areas is the relationship between job satisfaction and job performance (Judge, Thoresen, Bono, & Patton, 2001). Landy (1989) described this relationship as the "Holy Grail" of Industrial psychology. Research linking job performance with satisfaction and other attitudes has been studied since at least 1939, with the Hawthorne studies (Roethlisberger & Dickson, 1939). In Judge et al. (2001), it was found by Brayfield and Crockett (1955) that there is only a minimal relationship between job performance and job satisfaction. However, since 1955, Judge et al. (2001) cited that there are other studies by Locke (1970), Schwab & Cummings (1970), and Vroom (1964) that have shown that there is at least some relationship between those variables. Iaffaldano and Muchinsky (1985) did an extensive analysis on the relationship between job performance and job satisfaction. Across their many studies, they found a mean correlation of 17 (Iaffaldano & Muchinsky, 1985). There are also stronger relationships depending on specific circumstances such as mood and employee level within the company (Morrison, 1997). Organ (1988) also found that the job performance and job satisfaction relationship follows the social exchange theory; employees' performance is giving back to the organization from which they get their satisfaction.

Judge et al. (2001) argued that there are seven different models that can be used to describe the job satisfaction and job performance relationship. Some of these models view the relationship between job satisfaction and job performance to be unidirectional, that either job satisfaction causes job performance or vice versa. Another model states that the relationship is a reciprocal one; this has been supported by the research of Wanous (1974). The underlying theory of this reciprocal model is that if the satisfaction is extrinsic, then satisfaction leads to performance, but if the satisfaction is intrinsic, then the performance leads to satisfaction. Other models suggest there is either an outside factor that causes a seemingly relationship between the factors or that there is no relationship at all, however, neither of these models have much research.

The final model is "Alternative Conceptualizations of Job Satisfaction and/or Job Performance." This model discusses how positive attitudes toward one's job can predict a high degree of job performance. George and Brief (1996) and Isen and Baron (1991) both found that employees' attitudes are reflected in their job performance. If this is the case, then we can argue that there is a relationship between employees' job satisfaction and job performance, as satisfaction is an attitude about their job. Industrial psychologists do not justify any relationship between job satisfaction and job performance, although it has been found that a positive mood is related to higher levels of job performance and job satisfaction.

1.2 Job Performance in Relation to Job Stress

Stress is a mental and physical condition, which affects an individual's productivity, effectiveness, personal health and quality of work. Job stress victims experience lowered quality of work life and job satisfaction. The harmful and costly consequences of stress demonstrate the need for strategies to limit stressors within the organization. Organizations that do not adopt strategies to alleviate stress may find their employees looking elsewhere for better opportunities. The impact of stress from overwork, long hours at work and work intensification has had a major and often devastating effect on organizations of developed nations. Japan, where Karoshi – death by overwork – is officially recognised as a fatal illness, America where job stress alone costs American business an estimated $200 billion annually, the UK £63 billion and Australia $15 billion. This is the cost for compensation claims, reduced productivity, absenteeism, added health insurance costs and direct medical expenses for stress related illnesses (Savery and Luks, 2000b).

A recent American Management Association survey of 292 member firms revealed that per capita disability claims tend to increase when positions are eliminated. The survey, which dealt with layoffs between 1990 and 1995, found that the illnesses disabled workers sought treatment for – gastrointestinal problems, mental disorders and substance abuse, hypertension and the like – were stress related (Reese, 1997).

The process of restructuring, downsizing and reengineering have helped companies to become lean, but not without great costs. Employees are experiencing more stress and uncertainty because companies got leaner without building their "muscle". Just like going on a diet without exercising. The organization weighs less but the percentage of fat" – which manifests as high stress, low morale and less than optimal productivity has actually increased. Some organizations have even become anorexic. They are too lean, but because the think they are fat, they continue to "diet".

Further, research by Froiland (1993) has shown that there is practically no correlation between either job burnout or performance problems and any of the physical issues that are commonly addressed by employee assistance programmers. A study by North Western National Life Insurance Co. concluded that job stress is generally a consequence of two ingredients: a high level of job demands and little control over one's work. Many of today's workers are finding their jobs more stressful than they were simply because they are working too many hours. The study concluded that "where employees are empowered where they have more control over how they perform their work reduces the risk of stress and burnout considerably" (Froiland, 1993). This supported work by Umiker (1992) which showed that "… individuals who feel that they are in control of their jobs and their futures are better able to handle stress. Also that these empowered workers become more productive out of being in control" (Umiker, 1992).A study conducted by Bushe et al. (1996), reported increased productivity and efficiencies from being empowered measured by reported increased customer satisfaction and innovation. Further, stress was reduced when a person did no longer have to report to someone daily. By empowering employees they took upon themselves control over their work giving them a higher sense of accomplishment, and that this was found regardless of occupational grouping.

The purpose of empowered work teams in Bushe et al. (1996) research was to; reduce costs through fewer overheads and to speed up problem resolution. The organizational outcomes were found to be increased productivity and efficiencies. This was due mainly to quicker response rates through empowerment and, in part, to the removal of organizational barriers often brought about by increased motivation from a greater sense of ownership and responsibility. Also, automation has left workers virtually on call 24 hours a day, as well as shortened the turnaround time from project conception to completion. The ten hour business day has become routine for many workers. Corporate restructuring has left employees anxious about the security of their job. Symptoms of these stressed workers include drops in productivity, changes in work attitude, low morale and increased absenteeism.

1.3 Productivity

As cited in Clement (1993), Brayfield and Crockett (1955) examined the relationship between employee satisfaction and performance. Their findings concluded that productivity is not an important goal that employees bring with them to their jobs, this research was further supported in the 1964 work of Vroom. What they suggested was rather than satisfaction leading to performance, it is performance that can lead to higher satisfaction and that individuals who seek challenge, achievement and personal growth can fulfil those needs performing well. Most professionals and managers probably fall into this category (Clement, 1993). Organizations such as Wilson, Eastman Chemical and Rhone-Poulenc all report that through the use of empowerment they have managed to establish new and better ways of working as well as increasing profits by up to $25 million per year. Management of these organizations have pointed to empowerment of employees as the key to these companies transformations from basic US manufacturing companies to ones that have production facilities and infrastructure in the major growth areas of the world. (Wright, 1993).

1.4 Participants

The participants for this study were all managers of different manufacturing companies. The study was performed only on those who either currently or previously held a manager status. In total 100 managers from 15 private manufacturing companies completed assessments. Out of the 15 industries, 3 were from iron and steel sector, 4 from textile industry, 2 from paper industry, 2 from oil mills and 4 from pharmaceutical company. Each participant was given the choice to participate in the research as stated in the informed consent form handed to each participant

1.5 Research Tools

The tools required for this research included two different assessments. The first tool is job satisfaction instrument (developed by Mishra, R.S., Tiwari, Manorama). The author has found the split half reliability of the test to be 0.78 and the test retest 0.69. The validity of the test is stated to be 0.68. The test includes 11 important areas which are relatively more prominent and found common in the literature. They are security, monetary remuneration, service conditions, future advancement, and recognition of good work, social circle, working conditions, nature of job, supervision, accommodation and leave facility. The second tool is occupational stress index. The scale consists of 46 items with 5 alternative responses. Out of 46 items 23 are true keyed and 18 are false keyed. The items relate to almost all relevant components of the job life which cause stress in some way or the other such as role overload, role ambiguity, role conflict, group and political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, low status, and working conditions. The reliability index ascertained by split half (odd - even) method and Chronbach's alpha coefficients for the scale were found to be 0.935 and 0.90 respectively. The other instrument was a current (2005) performance evaluation that was completed by the executives of the each company.

1.6 Procedure

The author contacted the managers of various private manufacturing companies and discussed the possibility of conducting a study investigating relationships between job performance, job satisfaction, and job stress; she granted permission to carry out the research. After agreement on the terms of the research, steps were taken to ensure confidentiality by having the confidential secretary aid in the process of removing names from the performance evaluations and later handing the evaluations to the participants. At no time did the researcher see the performance evaluations with the names on them, nor did she take the evaluations out of the department. Because of the extreme confidentiality of these evaluations, they were only given to the researcher, by the companies, after the secretary deleted the names and all other identifiers.

The researcher scheduled an hour and a half of classroom time for each of the three shifts at various departments of different manufacturing companies. During this time, the informed consent form and the instructions for the assessments were handed to each participant and it was made sure that all questions pertaining to the research that the participants had were answered. Each participant received a large envelope containing the assessment instruments. At this time, the secretary handed out the

sealed envelops with the confidential performance evaluations sealed inside to the participants so they could put them in the large envelope with the other assessments. A copy of the instructions was handed out to each participant and the instructions for each assessment were also read and any questions were answered. Participants were also divided into four groups according to job tenure. Each employee was given a number that corresponded with a group and were instructed to write this number on the inside flap of the large envelope. After filling out the questionnaires, the participants put these along with the confidential performance evaluation into the large envelope and handed the package back to the researcher.

2. Data Analysis

2.1 Hypothesis

Job performance is significantly related to Job Stress & Job Satisfaction.

2.2 Analysis

The data was analyzed giving thought to the main hypothesis: to find relationships between job performance, job satisfaction, and job stress. Each assessment was looked at individually and descriptive statistics were computed for each. Frequency reports on the specific questions were run to determine agreement within the measures. All assessments were also correlated with one another to view any existing relationships between the variables. Both questionnaires contained some positive questions and some negative question. The scale used was from 1 to 5, 5 being the maximum score for each question, for example if there are four questions on job security then the maximum score for job security will be 20. For negative questions the score was reversed. Total scores for each area of Job Stress & Job Satisfaction were calculated and the total score was tabulated as per the individuals.

2.3 Multiple Regression Analysis

Performance = f (Satisfaction, Stress)

$Y = f(X_1, X_2)$

$Y = 84.69 + 0.2599\ X_1 - 0.37744\ X_2$

Where,

Y → Performance

X_1 → Satisfaction

X_2 → Stress

Negative coefficient for variable x_2 shows that as stress increases performance lowers down.

RMS error for this model = 5.8

= 13.928

X bar = 22.11, r = 0.868, $R^2 = 0.75$

The value of R^2 shows that for 75% of the time the model will give correct result.

The following model shows the relationship of stress with the dominant factors causing stress.

$X = 28.20 + 5.48\ X_1 + 3.2\ X_2 + 1.49\ X_3 + 0.29\ X_4$

X → Stress

X_1 → Role overload

X_2 → Political Pressures

X_3 → Poor relation

X_4 → working condition

The following model shows the relationship of satisfaction with the dominant factors giving satisfaction.

$Y = 48.91 + 3.82\ Y_1 + 1.98\ Y_2 + 0.31\ Y_3$

Y → Satisfaction

Y_1 → Job security

Y_2 → Service Condition

Y_3 → Social circle

2.4 Results of ANOVA

1. The performance was significantly better in low stressed group (M=74.65) in comparison to the performance of highly stressed group (M=63.19), $F = 33.41$, $p < .01$.
2. The performance was seen greater in highly satisfied group (M=71.35) in comparison to the performance of low satisfaction group (M=66.49), $F = 5.87$ $p < .05$.
3. Interaction effect between stress & satisfaction was found to be non-significant $F = 0.16$, $p < .05$, $p < .01$.

Table 1 *Average score of all the areas of job satisfaction for all companies*

Job Security	15.42
Remuneration	12.66
Future Advancement	7.86
Service Condition	14.03
Recognition	7.93
Social Circle	19.00
Working Condition	11.20
Nature of Job	15.91
Accommodation	6.34
Leave Facility	3.95

Table 2 *Average score of all the areas of job stress for all companies*

Role Overload	14.50
Role Ambiguity	9.69
Role Conflict	10.08
Group and Political Pressures	13.87
Responsibility for Persons	9.17
Under Participation	9.63
Powerlessness	9.95
Poor Peer Relation	9.77
Intrinsic Impoverishment	10.48
Low Status	6.49
Strenuous Working Condition	10.81
Non profit environment	6.87

The result shows that all companies taken together, the two major areas where the employees of every company showed maximum stress were:

i) Role Overload

ii) Group and Political Pressure

The result shows that all companies taken together the two major areas where the employees of every company showed minimum satisfaction were:

i) Leave facility

ii) Future advancement

3. Strategy for Improving Performance

Due to the change in industrial scenario today the stress has increased significantly. Competition has increased and time to complete the job is required to be reduced significantly in terms of seconds, micro seconds, etc. Due to this factor the stress parameter has become very important in today's industrial scenario. The dominance of the stress is so much that people don't have the time to think of satisfaction. The awareness pertaining to stress and satisfaction has increased today and hence this makes the work very important. Overall, with this study, the results were as expected.

The job satisfaction survey found that overall managers were satisfied with their jobs. They were not as satisfied with pay, opportunities for promotion, and supervision, as on the other facets. Opportunities for advancement in the companies are limited.

On the performance evaluations, the department overall had a very high mean in regards to what the executives had set forth as being average or normal. One of the highest areas was cooperative and teamwork, which is a necessity with being a manager; they have to be able to work together and rely on one another when in difficult situations.

Various factors were found to correlate between job satisfaction, job stress, and job performance. Work on present job was negatively correlated with anxiety, so if a person was more anxious, then their satisfaction with their work on present job went down. This would make sense that if a person is more anxious, they may not be as satisfied.

Rule–Consciousness was positively correlated to pay and opportunities for promotion. So, if a person was more rigid and followed the rules, then there was a relationship that they were more satisfied with their opportunities for promotion and pay. This would make sense because when one follows the rules, they feel that promotions and pay will be reflected in the way they are doing their job.

Supervision was negatively correlated with dominance, independence and social control. This means that there was an inverse relationship with these variables. The more controlling, dominant, and independent a person was the less satisfied they were with their supervisors.

In regard to the overall job satisfaction, there were negative correlations with dominance, tension, and independence. If they were experiencing more tension or tended to be tense people, then they had lower job satisfaction. The more dominant, they tend to experience less satisfaction.

Job stress is negatively correlated with performance. The two major factors causing stress in almost all the sectors are role overload and working conditions.

4. Conclusion

Overall, there were not any surprising findings. The study conducted corresponded with the previous research as to what factors can predict job performance. Because the study was conducted on a small sample, more research on different samples would need to be conducted to draw further conclusions.

The companies that are lagging behind in certain areas of job satisfaction & job stress need to be developed so that their employees show good performance level, as it is proved that performance level lowers with high stress & rises with high satisfaction scores.

Table 3 *ANOVA Analysis*

Source	SS	Degree of freedom	MS	F
A (Satisfaction)	403.2	1	403.2	5.87
B (Stress)	2292.68	1	2292.68	33.41
A X B	11.06	1	11.06	-0.16
Within	5832.8	85	68.62	NS
		88		

The awareness program pertaining to stress & satisfaction is to be taken up in the industries to make them aware of the benefits of knowledge of stress and its relationship with satisfaction and achievement of goal of industries. Simply based upon the measurement of stress level, company itself can take steps to reduce the stress level. This awareness, improvement and maintenance cycle will help the industry to improve overall performance.

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