



ASSESSMENT OF JOB BURNOUT FACTORS AMONG INDIAN SEAFARERS

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Abstract

The purpose of this study is to investigate the factors influencing Job Burnout among Indian Seafarers who work on-board the merchant ships. The study investigates the work-related stress factors, physical stress factors and psychosocial stress factors in the process of assessing the job burnout levels of the seafarers who work on-board the ships. The job burnout has been documented as one of the most important workplace health hazards for employees in developed and developing countries. The job burnout is a result of prolonged exposure to stressful working environments and is described as a state of physical and emotional depletion. Stress rarely has a single source point, rather stress has been found to have many different sources. Job burnout can be caused by acute or chronic physical stressors, or by psychological and social stressors. The majority of job stressors tend to be those associated with psychological and social issues that are related to both personal and work lives. The study had analysed the work-related job burnout factors using the exploratory factor analysis and one way Analysis of Variance.

Keywords: Job Burnout, Stressors, Psychosocial stressors, Physical stressors, Work-related stressors.

1. Introduction

The Job Burnout has been an important social issue for many years, with an increasing number of people from various disciplines doing research to understand the phenomenon and to suggest solutions for the problems that burnout poses. Recently, there has been a growing interest in developing interventions to reduce burnout, from government agencies and organizations in both the public and private sectors. Without a doubt, burnout poses a major challenge for society.

Stress may be acute or chronic in nature. It exists in different forms. It may be psychological, emotional, social, and occupational or job related. Stress experienced by workers at work is called job stress. It may be due to a number of factors such as poor working condition, excessive work load, shift work, long hours of work, role ambiguity, role conflicts, poor relationships, with the boss, colleagues or subordinate officers, risk and danger, to mention a few. Certain responses indicate the presence of job stress in an individual, or group. It may manifest by the presence of headache, sleep disturbances, difficulty in concentration, short temper, upset stomach, job dissatisfaction and low morale.

Job-related psychosocial stressors are often attributable to high job demands, shift work, external work controls and the limited scope for decision-making. The effort-reward model is increasingly used to assess job-related stress, mainly with regard to cardio-vascular diseases.

Seafaring is associated with special mental, psychosocial and physical stressors and cannot be compared with jobs ashore. The working and living conditions in seafaring are characterized by long-time separation from family and home for months, growing economic pressure as well as considerable and partly extreme psychosocial problems. As is characteristically found in various studies, higher levels of stressors (e.g., heavy workload and uncertainty about supervisors' expectations) were associated with physical symptoms, such as headaches, and poor job attitudes.

The working conditions on board cargo or passenger ships are different. The crew of cargo ships consists of about 10 to 20 seafarers. These crews have a physically stressful job, especially on container ships (i.e. lashing of containers in a storm). Additionally, seafarers on cargo ships or tankers are possibly exposed to dangerous goods (i.e. toxic gases and fumes, explosive substances, chemicals). On passenger liners the physical stress is less when compared with the stress on cargo ships. Besides the type of ships, their size also influences the working situation: the stress increases in smaller vessels, with more reduced crews, shorter stays at ports and through insufficient recreation. On the other hand, large container ships operating worldwide are regarded as stressful due to monotony and isolation during long-term voyage. Systematic investigations of the seafarers stress have as yet scarcely been performed.

2. Review of Literature

The Job Stress is inevitable in today's complex life since right from the time of birth till death an individual is invariably exposed to various stressful situations. The threat of political and economic imbalances and uncertainties, unemployment, poverty, urbanisation and increased socio-economic complexities and innumerable other factors contribute to Stress (Aziz, 2004). Job stress has been documented as one of the most important workplace health hazards for employees in developed and developing countries (Paul Spector, 2002; Danna & Griffin, 2002). Cartwright and Cooper (1997) further pointed out that in the short term stress can lead the employees to stomach disorder, headaches, sleeplessness, emotional distress and loss of



energy/motivation, and in the long term it can give to serious illness and even early death, most likely due to cardiovascular disease (heart diseases).

In spite of the evidence accumulated over forty years of research work, Kasl (1996) has demonstrated that “nearly all the significant issues surrounding the concept of stress remain unsettled and/or controversial. Several stress theories have been proposed to developed sense of the diverse research findings (Cooper, 1998). These theories differ in their views of the major determinants of stress. Some (e.g., Friedman & Rosenman, 1974; Kobasa, 1979) put emphasis on personal characteristics of human being; others (Theorell et al., 1998) highlight that stress is the cause of work environment (e.g., Siegrist, 1996; Edwards, Caplan, & Van Harrison, 1998; Demerouti, Bakker, & Schaufeli, 2001) and some view stress as a function of an interaction between person (worker) and environment (workplace). Certainly, the theoretical and practical background that has most influenced thinking and research about job stress over the last three decades is the interactive and transactional, framework proposed by Lazarus and his colleagues (Lazarus, 1966; Lazarus & Folkman, 1984; De Jonge, Janssen, and Van Breukelen, 1996). As Parkes (1991) described that contradictory results of the Job Demands Control (JDC) model is that individuals have different styles of adaptation and perception to the job environment within an organization.

Lazarus (1966), conceived stress to be a threat of anticipation of future harm, either physical or psychological events that lower an individual self-esteem. It is an affective behaviour and physical response to aversive stimuli in the environment. There are a number of workplace factors, called job stressors that make jobs stressful and difficult for number of employees in services as well as manufacturing industries. Additional stressors concern interpersonal relationships at work, such as conflicts with the behaviour of supervisors, conflicts with colleagues, conflicts with subordinates and conflicts with management policies (Paul Spector, 2002). Kahn and Byosiere, (1992) and Taylor, (1999) further pointed out that there are some other stressors in the organizational context, such as having insufficient resources to do the job (e.g., defective equipment or inadequate supplies), or low salaries structure. Research has clearly demonstrated that all of these job stressors are connected with employees’ health and well-being.

Crimmins and Hayward observed that work disability was associated with stressful jobs, lack of job control, and environment hazards for humans. Seamen are often faced with time-pressure and hectic activity during their voyage. The likely stress level depends on the rank and the job tasks on board. It is assumed that officers have to endure high stress due to their comprehensive responsibilities for personnel and material.

3. Research Objectives

The objectives of the study were to assess the job burnout factors (stressors) influencing the seafarer’s work-place stress:

- To investigate the mean differences of the work-related job burnout factors.
- To examine the physical & psychosocial stressors of the seafarers.

In order to achieve the objectives, this article is organized around the following working hypotheses:

- **H₀₁:** There is a significant difference in the mean values of individual work-related job burnout factors of seafarers.
- **H₀₂:** There is a significant difference in the mean values of the Physical, Social & Psychosocial stressors of the seafarers.

4. Research Methodology

The population that was considered for this study is the set of seafarers of Indian origin who were working at various levels/job categories on the deck side and the engine side of foreign going merchant vessels. The total sample size considered for the study was 385. The study consists of two parts. In the first part of the study, the work-related stressors of the seafarers such as Mental strain of accomplishing the set-task, Lack of rewards for accomplishment, Lack of self-confidence to work, Social relations, Feeling of threat, Physical oppressiveness, Unpleasant work conditions, Lack of support & Sense of responsibility, were measured on a five-point scale from 1 (strongly disagree) to 5 (strongly agree).

In the second part of the study, the survey elicited the demographic and job-related data, usual shipping routes, shipboard working hours, type and size of the ships and average number of crew members on board. To assess the stress due to long continuous working days, the occurrence of extremely long working times was registered. Furthermore, the most stressful job activities such as watch-keeping at sea (officer on watch on the bridge), district route of a seagoing vessel (navigation through highly frequented routes), port clearance (loading and unloading, safety techniques and hygiene control measures), port manoeuvres (arrival and departure), administrative tasks, and routine activities during the voyage. To assess the stress load, the seafarers were asked to mark based on a scale from 1 (very weak) to 5 (very strong), the individual relevance of each factor was recorded to determine the respective stress level. By means of a subsequent factor analysis, the loading of each stressor to the above mentioned stress categories were explored.



5. Data Analysis and Interpretations

5.1 Cronbach's Alpha & Student's t-test

In the first part of the study, it is evident from Table-1 that the Cronbach's Alpha values are reasonably high and hence it can be concluded that the scales are consistent and reliable.

Table 1: Cronbach's Alpha Values

Factors	Cronbach's Alpha
Mental strain of accomplishing the set-task	0.92
Lack of rewards for accomplishment	0.81
Lack of self-confidence to work	0.88
Social relations	0.81
Feeling of threat	0.73
Physical oppressiveness	0.88
Unpleasant work conditions	0.85
Lack of support	0.83
Sense of responsibility	0.82

The result of the Questionnaire survey regarding the work-related stress of the seafarers shows that the p-values of all the stress factors are less than 0.05 (Table-2). Hence the null hypothesis H_{01} is rejected. This clearly indicates that the seafarers, irrespective of the deck-side seafarers or the engine-side seafarers, have a sort of mental burnout while accomplishing their tasks and they are also incurred to the high levels of physical oppressiveness. In addition, the seafarers have strong feeling towards the factors such as lack of rewards for accomplishment, lack of self-confidence to work, feeling of threat, unpleasant working conditions and the lack of support from their peers or superiors. In spite of the levels of stress incurred by the seafarers on-board, the seafarers with long period of service at sea subjectively estimated their work as less burdening and stressing as compared to the new entrants.

Table 2: t-test values of individual stress factors

Stress factors	t	p
Mental strain of accomplishing the set-task	3.04	0.005
Lack of rewards for accomplishment	2.45	0.002
Lack of self-confidence to work	2.12	0.011
Social relations	2.04	0.002
Feeling of threat	2.98	0.029
Physical oppressiveness	3.02	0.012
Unpleasant work conditions	3.04	0.006
Lack of support	3.06	0.004
Sense of responsibility	2.02	0.013

5.2. Exploratory Factor Analysis

The job burnout factors were assessed by using 22 individual seafaring stressors. The exploratory factor analysis was used to extract the relevant factor loadings by using principle component analysis through varimax rotation (Table-3). The loaded factors are Physical stressors, Psychosocial stressors, Social stressors & High work demand. The physical stressors comprised six factors: heat in workplaces, noise, ship movement / sea sickness, hard physical work / lifting and carrying, lack of exercise, and climatic changes during the voyage. The psychosocial stress was summarized in four stress categories: shift, long working days, irregular working hours, lack of sleep. The social stressors due to migration were classified as separation from their family, long stay on board, conflicts between crew members, isolation.

The high work demand factors were classified as time pressure / hectic activities, high volume of work, high responsibility for their own activities, and pressure due to decision-making, monotony, and lack of independence.



Table 3: Factor loading by using Varimax Rotation

Factor-1: Physical stressors	
Heat in workplaces	.91
Noise	.93
Ship movement, sea sickness	.82
Hard physical work, lifting, carrying	.84
Lack of exercise	.71
Climatic changes during the voyage	.73
Factor-2: Psychosocial stressors	
Shift	.88
Long working times per day	.84
Irregular working times	.79
Lack of sleep	.75
Factor-3: Social stressors	
Separation from the family	.81
Long stay on board	.74
Conflicts between crew members	.72
Isolation	.78
Factor-4: High work demand	
Time pressure, hectic activities	.89
High volume of work	.86
High responsibility for the own activities	.78
Pressure due to decision-making	.72
Monotony	.79
Lack of independence	.69

The scales of the factors such as physical stressors, psychosocial stressors, social stressors& high work demand have good internal consistency & reliability with the Cronbach's Alpha values of 0.91, 0.82, 0.82 and 0.85 respectively.

5.3 One way Analysis of Variance

One way analysis of variance was conducted on the selected factors of stress. The comprehensive results of one way analysis of variance are given in Table-4. It is evident that the p-values for all the stressors are less than 0.05. Hence the null hypothesis H_{02} is rejected. To study in detail, the stressors are considered individually:

Table 4: One way Analysis of Variance

Stressors	F-ratio	p-value
Physical stressors	4.088	0.008
Psychosocial stressors	4.523	0.006
Social stressors	3.524	0.005
High work demand	4.283	0.004

The Physical stressors such as heat in workplaces, noise, ship movement, sea sickness, hard physical work, lifting, carrying, lack of exercise and climatic changes during the voyage are considered as the most vital factors in influencing the seafarers stress when they are on-board. The Psychosocial stressors such as irregular shift, long working times per day, irregular working times & the lack of sleep would actually put the seafarers in great stress. The psychosocial stressors of the seafarers may even lead to accidents. The Social stressors / problems due to migration such as separation from the family, long stay on board, conflicts between crew members & isolation will enable the seafarers to completely delink from the social life. The High work demand such as time pressure, hectic activities, high volume of work, high responsibility for the own activities, pressure due to decision-making, monotony & lack of independence are considered as the most important factors of stress.

6. Conclusion

This research study reveals that the long working days, heat in work places, separation from their family, time pressure/ hectic activities, and insufficient qualifications of subordinate crew members are the most important stressors on board. The seafarers with higher stress due to heat in shipboard operations had shorter job duration at sea. The stressors of heat and noise show that physical stressors on ships currently are still very important in spite of the increasing mechanization in seafaring. In



the study, the separation from the family is regarded as a further important stressor on ships. The associations between professional group and shipboard stressors were not significant except for heat in workplaces. Especially the engine room personnel, permanently being close to the heat-producing engines, stated a higher stress level due to heat in their workplaces.

The deck-side officers stated a higher stress level due to time pressure and hectic activities on board. This can be attributed to their frequently extremely long working days due to unexpected situations and to the increasing amount of administrative duties. Extremely high number of working hours over a lengthier period of time combined with a lack of sleep can elicit chronic fatigue, health problems and safety risks on the vessels. The study showed that engine room seafarers had a lower stress level than deck side seafarers due to long working days and time pressure or hectic activities. This indicates regular working hours and routine procedures in the engine room, whereas especially the deck personnel has to react to permanently changing job demands such as port clearance, district routes and watch-keeping at sea.

7. References

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