

# Impact of Job Burnout on Job Satisfaction of Crew Onboard Coastal Marine Vessels - An Empirical Analysis

**Raja Rathinam,**

School of Business, UPES, Dehradun. Email: rajarathinamrs@outlook.com

**Dr. Totakura Bangar Raju,**

School of Business, UPES, Dehradun. Email: bangarraju@gmail.com

## ABSTRACT

Seafaring is a unique profession which is a physically challenging job. Multifaceted factors are characterized in job satisfaction among the seafarers. These elements either impact or have an impact on how satisfied they are with their work as sailors on board. The maritime sector has recently placed a strong emphasis on enhancing seafarers' quality of life. They have been focussing in fostering the job satisfaction among the seafarers onboard. The other aspect is the Job Burnout faced by the seafarers onboard which directly affects their job satisfaction. Job Burnout has severe consequences for the seafarers regarding their physical and mental health, job performance and safety. Examining the shipping sector as a whole, this research seeks to understand how burnout and contentment on the job stack up. Burnout is a real problem in the maritime business because of the unusual working conditions, such as lengthy periods away from home and stressful events. But little is known about how burnout affects contentment on the job in this sector. In order to address this knowledge gap and provide practical and theoretical insights, this work employs an empirical approach. This research will investigate the frequency of burnout symptoms and their relationship to levels of job satisfaction by surveying and interviewing individuals working in different positions within the shipping sector. Burnout may have many causes, and this course will go into some of those causes, including workload, scheduling flexibility, and organisational support systems. The research will also look at how factors like work duties, organisational culture, and individual traits may moderate the connection between burnout and contentment on the job. This study's results will shape shipping industry policy and organisational management in important ways. Organisations may improve employee health and productivity by implementing tailored interventions based on an awareness of the elements impacting burnout and work satisfaction. These findings may also help lawmakers craft rules and regulations that will make the shipping sector a safer and healthier place to work. Ultimately, this research addresses real-world issues in an important part of the world economy and adds to the expanding corpus of literature on workplace health and wellness.

**Key words:** Job Satisfaction, Job Burnout, Seafarers.

## 1. INTRODUCTION

The shipping industry is a reflection of the Indian economy. Shipping is the primary means of supporting around 90% of world trade. Import and export is supported by the shipping sector. Most of the goods are transported by sea through ships. These transportation needs skilled and satisfied seafarers to operate and maintain the ship. Being an isolated work environment, the seafarers require a satisfied working condition. Job dissatisfaction can contribute to mental health issues such as depression and anxiety among seafarers. Job Satisfaction of seafarers is crucial to ensure the resilient and contented workforce in meeting the shipping operations. Adequate rest and quality of living conditions on board have been identified as crucial factors for job satisfaction. The way work is organised, living and working conditions on board, unmet benefit promises or the disadvantageous position of seafarers, and being away from home and family are the main reasons behind the discontent of the researched sample. (Slišković and Penezić 2015).

This study on job burnout and job satisfaction in the shipping business is necessary for various reasons. The shipping sector is known for hard hours, tight timetables, and extensive absences. These settings render workers prone to burnout, which may lower job satisfaction. Understanding how burnout affects work satisfaction in this industry is essential to find ways to reduce it. Burnout and work dissatisfaction may increase turnover. Addressing burnout and job satisfaction may improve organisational performance, minimise fatigue related accidents and mistakes, and maintain the industry. Thus, this research benefits employees and the shipping industry's long-term performance and resilience.

This study's goal is to ascertain what causes shipping sector workers to experience burnout. In order to create focused treatments and methods to reduce burnout and increase work satisfaction, this knowledge is crucial. Researchers may learn more about the factors that contribute to burnout in the shipping sector by conducting surveys, interviews, and data analysis. These factors include workload, organisational culture, and job expectations. Then, they can develop evidence-based treatments that are specifically designed to address the needs of these workers. The creation of evidence-based initiatives to combat burnout and promote job satisfaction among shipping industry personnel may be achieved through the use of a systematic and rigorous approach to data collecting, analysis, and interpretation.

## **2. LITERATURE REVIEW**

### **2.1 JOB SATISFACTION**

There are behavioural and emotional components to job satisfaction. Behavioural component is related to the work including, avoiding work. Universally Job Satisfaction refers to employee's overall belief about the job itself. Low Job Satisfaction hinders the healthcare and induces the employees to quit the organization. Hence, the organization faces different direct and indirect facets of Job Satisfaction. A sense of camaraderie and good relationships with coworkers are important factors in sailors' job happiness. A favourable relationship between PsyCap and job satisfaction as well as safety perceptions and job satisfaction was discovered in a multicultural sample of marine workers. (Bergheim et al. 2015).

Burnouts, both physical and mental, are associated with seafaring. The loneliness and being away from home are the most important factors. A primary factor contributing to the challenge of keeping sailors on the job is their estrangement from their families. Long-term exposure to environmental, social, or physical stressors might make it more difficult for people to handle them. Distress is a state that arises when a stressor starts to malfunction. (Carotenuto et al. 2012). Scholars have endeavoured to investigate the distinct elements that contribute to job satisfaction. Job Satisfaction is very much related to various organizational concepts especially Job Performance. Reduction of workload, increase in compensation, work life balance, reducing stress enhances Job Satisfaction (Lu et al. 2016).

A number of variables might have a favourable or negative effect on how well seafarers perform at work. Seafarers' level of stress is correlated with physical, psychological, and work-related stress variables (Rengamani and Murugan 2012). Access to training and opportunities for career advancement contributes to job satisfaction. Work satisfaction is particularly important from an organisational perspective because it is associated with employee performance, attrition, and withdrawal tendencies. (Slišković and Penezić 2015).

Knowledge creation practices influence the job performance of employees (Sujatha and Krishnaveni 2018). There is a strong correlation between innovation and work performance. (Osman, Shariff, and Lajin 2016). While considering soft skills, the training methodology and trainers' effectiveness has a direct influence on the job performance (Ibrahim, Boerhannoeddin, and Kazeem Kayode 2017). Seafarers experiencing burnout may exhibit reduced job performance, which can impact the safety of the vessel and crew (Shirom 2003).

### **2.2 JOB BURNOUT**

Seafarers experience loneliness, and fatigue by being away from home for many months. Some feel anxiety and depression (Iversen 2012). The seafarers get only few days as vacation after nearly spending even a year or more on board. Hence, it leads to stress (Clare 2014). Some of the well noticed health issues among the seafaring sector are depression. Healthier people are more likely to stay in the workforce or survive it, as opposed to workers who are more reactive or sensitive to threats, who are more likely to switch to positions with less exposure or abandon the profession entirely. (Hystad and Eid 2016). The importance of intervention techniques to lessen work-related stressors must be stressed in order to lower the chances of mental health problems among seafarers. Depression is also linked to the quality of relationships in society. (Teo, Choi, and Valenstein 2013). Also, the inequalities shown among the seafarers may lead to stress (Carter 2005). Social isolation experienced by the seafarers onboard is related to poor mental health. Limited access to emotional and social support, both on board and ashore, can intensify feelings of burnout among seafarers. Feelings of helplessness and social isolation can be time bombs for potentially dangerous circumstances for both individuals and organizations on board. (Borovnik 2011). Autonomy in decision-making and control over work tasks can act as protective factors against burnout.

It is a known fact that the seafarers operating universally often face challenges due to occupational hazards. Poor food conditions while at sea, visiting foreign ports, unpaid salary, and problems with contracts are a few examples. Many more stressors occur to the seafarers on board that creates physical and mental strain (Comperatore, Rivera, and Kingsley 2005). Seafarers' stress levels are linked to a number of personal and professional concerns. (Rydstedt and Lundh 2012). Job insecurity and concerns about future employment prospects in the maritime industry contribute to chronic stress and burnout. The amount of time spent at sea was investigated as a potential cause of chronic stress in seafarers, in addition to the mediating effects of toughness and previous seafaring experience between duration and stress. (Doyle et al. 2016).

Seafarers often work long hours with minimal rest, leading to fatigue and exhaustion, which are contributing factors to burnout. Extended periods of isolation at sea can exacerbate feelings of loneliness and disconnection, increasing the risk of burnout. Long maritime travels raise the risk of job burnout, depression, and discontent among mariners and lead them to become physically and emotionally exhausted (Moghaddam et al. 2013). The demanding nature of seafaring, including unpredictable weather conditions, heavy workload, and strict schedules, can lead to chronic stress and eventual burnout. Hence, variations in the work environment, organizational culture, and even job requirements may have an impact on whether and to what degree time spent at sea is seen as a chronic stressor. (Doyle et al. 2016).

The below listed Table:1 specifies the particulars of the detailed Literature Review.

**Table: 1 specifying the particulars of the detailed Literature Review**

Factors	Papers
1. Career advancement	1. Weintrit and Neumann ( 2015)
2. Contract issues	2. Ibrahim, Boerhannoeddin, and Kazeem Kayode (2017)
3. Inequality	3. Bhattacharya (2015)
4. Insufficient work life balance	4. Bergheim et al.(2015)
5. Isolation	5. Rydstedt and Lundh (2012)
6. Job Rotation	6. Borovnik (2011)
7. Job safety	7. Slišković and Penezić (2015)
8. Job Satisfaction	8. Jezewska, Leszczyńska, and Jaremin (2006)
9. Loneliness	9. (Bakker and Oerlemans 2016)
10. Occupational hazards	10. Moghaddam et al (2013)
11. Physical stress	11. Carotenuto et al.(2012)
12. Psychological stress	12. Bhattacharya (2015)
13. Quality of living conditions	13. Fei, Chen, and Chen (2009)
14. Unscheduled work hours	14. Magramo et al.(2010)
15. Work-related stress	15. Alderton (2004)
16. Safe work environment	16. Bergheim et al.(2015)
17. Conflict management	17. Borovnik (2011)
18. Availability of facilities	18. Caesar, Cahoon, and Fei (2015)
19. Ethnicity	19. Carotenuto et al. (2012)
20. Grievance handling	20. Doyle et al.(2016)
21. Insufficient work life balance	21. Friborg et al.(2006)
22. Length of contract	22. Hystad and Eid (2016)
23. Occupational hazards	23. Iversen (2012)
24. Stress and fatigue	24. Jezewska, Leszczyńska, and Jaremin (2006)
25. Diversified workforce	

### 2.3 OPERATIONAL DEFENITIONS

The term "Marital Status" refers to the state of crew members concerning whether or not they are married; "Job Description" refers to various categories of positions, such as Master, Engineers, Officers, Seaman, Crew, and so on;

"Ethnicity" refers to a group of people who reside in a particular geographical area and who share a common language, in addition to cultural beliefs and practices: In the context of the investigation into the link between job satisfaction and oppressiveness among crew members working on coastal marine boats, the term "Years of Seafaring Experience" refers to the cumulative sailing experience of the crew members aboard. This is an important factor to take into consideration.

### 3. RESEARCH GAP

There are long time issues leading to Job Burnout among the seafarers that must be addressed very crucially. Cultural factors and diversified work environment are yet another major issue faced by the seafarers onboard. Work related factors contributing to burnout must be critically analysed. They frequently experience loneliness and being cut off from friends and relatives. These intervals must be found, and a period of amusement may help to reduce the degree of unhappiness. Proper and regular training and coping programs would overcome such barriers among the seafarers onboard. Job burnout among the seafarers need to be understood and prevent the negative consequences.

### 4. RESEARCH QUESTIONS

The study and literature evaluation lead to the formulation of the following queries:

**RQ – 1:** What are the factors behind job burnout that prevails among the seafarers?

**RQ – 2:** What effect does job burnout have on seafarers' job satisfaction?

### 5. OBJECTIVES OF THE STUDY

**RO – 1:** To determine the causes of crew job burnout on coastal marine vessels.

**RO – 2:** To evaluate the effect of burnout on the crew's job satisfaction on coastal marine vessels.

### 6. HYPOTHESES OF THE STUDY

The study's aims informed the formulation and testing of the hypotheses listed below.

- **HYPOTHESIS I:** The relationship between marital status and job satisfaction and job burnout is not statistically significant.
- **HYPOTHESIS II:** The relationship between job description and job satisfaction, job burnout is not that different.
- **HYPOTHESIS III:** Years of seafaring experience does not significantly affect job satisfaction or job burnout.
- **HYPOTHESIS IV:** The relationship between ethnicity and job satisfaction and job burnout is not statistically significant.

### 7. RESEARCH PROBLEM

The maritime industry has been taking various steps in improving the well-being of the seafarers. Satisfied job needs a better and safe work environment. A safe and secure working environment is critical for seafarers' job satisfaction. Based on theory and previous empirical evidence, work satisfaction mediates the effect of psychological capital on perceptions of a safe setting. (Bergheim et al. 2015). Job burnout is a very crucial issue the seafarers onboard are facing. Overall safety in maritime is another major issue as they face difficult and critical situations during seafaring. For seafarers, burnout is linked to a variety of mental health conditions, such as depression, anxiety, and substance addiction. (Robertson et al. 2015). It is essential to understand the variables behind Job Burnout and Job Satisfaction among the seafarers onboard. Effective strategies in overcoming these job burnout factors need to be emphasized. Henceforth, the study emphasis on improving the job satisfaction of the seafarers by analysing their Job Burnout.

### 8. RESEARCH METHODOLOGY

#### 8.1 DATA COLLECTION

The research design outlines the methodological approaches and operational processes that will be used in order to collect the necessary information. The general operating pattern, also known as the framework, is the pattern that determines what data should be gathered from which sources and how it should be acquired. This study received backing from primary and secondary sources of data. Likert scales with five points were used in the questionnaire's design, and the response choices went from 1 (strongly disagree) to 5 (strongly agree). The author of this article has conducted

several studies related to the maritime industry in Tamil Nadu, India. This paper presents the results from those studies. Tuticorin is selected as the place to be sampled for the research project. In Tamil Nadu, Tuticorin is well-known for its extensive history and long-standing customs pertaining to the marine sector. In order to conduct the research, a questionnaire is used to collect responses from 450 seafarers who are located in the aforementioned region. Out of the 450 questionnaires that were issued, only 409 (90.9% of the total) were full questionnaires, 26 (5.8% of the total) were partial questionnaires, and 15 (3.3%) of the surveys were not returned. Because of this, the total number of samples was 409. It is an empirical piece of study. A wide range of reliable sources, including books, newspapers, journals, and websites, are included in the category of secondary sources of information. For the purpose of gathering primary data, the method of simple random sampling is used. An approach known as descriptive research is used in this investigation.

**Table:2 Demographic Background of Seafarers**

<b>Demographic Characteristics</b>		<b>n (Total=409)</b>	<b>% of n</b>
<b>AGE</b>	Less than 30 years	83	20.3
	30 years - 40 years	207	50.6
	40 years and above	119	29.1
<b>MARITAL STATUS</b>	Married	316	77.3
	Unmarried	93	22.7
<b>JOB DESCRIPTION</b>	Engineer	126	30.8
	Tug Master	117	28.6
	Deck Officer	103	25.2
	Crew	63	15.4
<b>YEARS OF SEAFARING EXPERIENCE</b>	Less than 5 years	62	15.2
	5 years – 10 years	139	34.0
	10 years – 15 years	113	27.6
	15 years – 20 years	74	18.1
	20 years and above	21	5.1
<b>ETHNICITY</b>	Asian	214	52.3
	European	122	29.8
	African	52	12.7
	Others	21	5.1

**Source:** Primary data  
**n** - Number of seafarers

Table 2 shows that seafarers who fall within the age range of 30 to 40 years old (50.6%) are overrepresented in the study with just 20.3% falling into the age group of under 30 years old. Also 29.1 % of the seafarers belong to age above 40 years. In terms of marital status, 22.7% of sailors are single and 77.3% are married. It is observed from the study that 30.8 % of the seafarers are Engineers, followed by 28.6 % of the Tug Masters, 25.2 % of Deck Officers and 15.4 % of Crew.

34.0 % of the seafarers have 5 years to 10 years of experience which has a high representation. 27.6 % of them have 10 years to 15 years of experience, 18.1 % have 15 years – 20 years of experience, 15.2 % of the seafarers have less than 5 years of experience and only 5.1 % of them in the study have more than 20 years of experience in seafaring. Regarding the ethnicity, Asians (52.3 %) are found higher in representation, followed by Europeans (29.8 %), African (12.7%), and 5.1% from other counties.

## 8.2 TOOLS AND TECHNIQUES

The study endeavour makes use of statistical techniques like factor analysis, regression analysis, analysis of variance (ANOVA), and t test. One statistic that is computed is Cronbach's Alpha, which is used to assess the reliability of the data. Validation of the questions in the questionnaire pertaining to job satisfaction and job burnout among crew members working aboard coastal marine vessels is accomplished via the use of confirmatory factor analysis.

## 9. ANALYSIS AND DISCUSSIONS

### 9.1 HYPOTHESIS I

**Null Hypothesis:** The correlation between marital status and job satisfaction and burnout is not statistically significant.

A t-test is employed in order to investigate whether or not there is a relationship between seafarers' marital status and their levels of job burnout and work satisfaction.

**Table:3. t test for Marital Status and Job Satisfaction, Job Burnout.**

		t-test for Equality of Means		
		t <sup>a</sup>	df <sup>b</sup>	Sig. <sup>c</sup> (2-tailed)
<b>JS</b>	Equal variances assumed	0.253	407	0.001**
<b>JB</b>	Equal variances assumed	0.166	407	0.009**

**Source:** Statistically analysed data

**Note:** <sup>a</sup> t-Statistic, <sup>b</sup> Degrees of Freedom, <sup>c</sup> Significance

JS refers to Job Satisfaction

JB refers to Job Burnout

According to Table 3, there is a substantial difference ( $p < 0.001$ ) between the marital status of seafarers and job satisfaction and burnout. The hypothesis is rejected since certain aspects, including job satisfaction, are significant at the 0.001 level. Because job burnout is significant at the 0.001 level, the hypothesis is not supported.

### 9.2 HYPOTHESIS II

**Null Hypothesis:** The relationship between job description and job satisfaction, job burnout is not that different.

One-Way Analysis is used to support the assessment of the relationship between the work description and job satisfaction as well as job burnout for sailors.

**Table:4 One-way analysis for Job Description and Job Satisfaction, Job Burnout**

		Sum of Squares	df <sup>a</sup>	Mean Square	F <sup>b</sup>	Sig. <sup>c</sup>
<b>JS</b>	Between Groups	5.440	3	1.813	0.031	0.003**
	Within Groups	23627.895	405	58.340		
	Total	23633.335	408			

<b>JB</b>	Between Groups	0.934	3	0.311	0.040	0.009**
	Within Groups	3122.734	405	7.710		
	Total	3123.667	408			

**Source:** Statistically analyzed data

**Note:** JS refers to Job Satisfaction

JB refers to Job Burnout.

<sup>a</sup>Degrees of Freedom, <sup>b</sup>F-Statistic, <sup>c</sup>Significance

The table:4 illustrates that there is a significant difference at 0.001 level among the seafarers onboard, with respect to Marital Status towards Job Satisfaction, Job Burnout. The dimensions such as Job Satisfaction is significant at 0.001 level and hence the hypothesis is rejected. Job Burnout is significant at 0.000 level and hence the hypothesis is rejected.

### 9.3 HYPOTHESIS III

**Null Hypothesis:** Years of seafaring experience does not significantly affect job satisfaction or job burnout.

An examination is conducted using One-Way Analysis to determine the relation between years of seafaring experience and both job satisfaction and exhaustion among mariners.

**Table:5 One-way analysis for Years of Seafaring Experience and Job Satisfaction, Job Burnout**

		Sum of Squares	df <sup>a</sup>	Mean Square	F <sup>b</sup>	Sig. <sup>c</sup>
<b>JS</b>	Between Groups	19.347	4	4.837	0.083	0.008**
	Within Groups	23613.988	404	58.450		
	Total	23633.335	408			
<b>JB</b>	Between Groups	1.809	4	0.452	0.059	0.004**
	Within Groups	3121.859	404	7.727		
	Total	3123.667	408			

**Source:** Statistically analyzed data

**Note:** JS refers to Job Satisfaction

JB refers to Job Burnout.

<sup>a</sup>Degrees of Freedom, <sup>b</sup>F-Statistic, <sup>c</sup>Significance

The table:5 represents that there is a significant difference at 0.001 level among the seafarers onboard, with respect to Years of Seafaring Experience towards Job Satisfaction, Job Burnout. The dimensions such as Job Satisfaction, Job Burnout are significant at 0.001 level and hence the hypothesis is rejected.

### 9.4 HYPOTHESIS IV

**Null Hypothesis:** The relationship between ethnicity and job satisfaction and job burnout is not statistically significant.

The association between ethnicity and job satisfaction and job burnout among sailors is examined using a one-way analysis.

**Table:6 One-way analysis for Ethnicity and Job Satisfaction, Job Burnout**

		Sum of Squares	df <sup>a</sup>	Mean Square	F <sup>b</sup>	Sig. <sup>c</sup>
	Between Groups	8.527	3	2.842	0.049	0.006**

<b>JS</b>	Within Groups	23624.808	405	58.333		
	Total	23633.335	408			
<b>JB</b>	Between Groups	1.165	3	0.388	0.050	0.005**
	Within Groups	3122.502	405	7.710		
	Total	3123.667	408			

**Source:** Statistically analyzed data

**Note:** JS refers to Job Satisfaction

JB refers to Job Burnout.

<sup>a</sup>Degrees of Freedom, <sup>b</sup>F-Statistic, <sup>c</sup>Significance

Table 6 indicates a statistically significant difference ( $p < 0.001$ ) between the ethnic groups of seafarers on board in terms of job satisfaction and job burnout. The hypothesis is rejected since the measures like job satisfaction and job burnout are significant at the 0.001 level.

## 9.5 COMPREHENSIVE ANALYSIS

**9.5.1** Researchers make an attempt to understand the relationship that exists between a dependent variable, which in this case is Job Satisfaction, and one or more independent variables, which are either predictors or factors that have the potential to affect Job Satisfaction.

**Table:7 Regression Analysis- R Square - Job Satisfaction**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
0.954 <sup>a</sup>	0.824	0.821	7.52871

**Source:** Statistically analyzed data

With job satisfaction as the dependent variable, Table 7 displays the multiple correlation coefficient (R) of the independent variables, which is 0.954. The overall variance of the dependent variable is represented by the R square value. The R square value in the aforementioned result is 0.824 (82.4%), indicating a strong fit as well.

**9.5.2** A statistical method called regression analysis is used to examine the relationship between one or more independent variables—which are various factors that could have an impact on Job Satisfaction—and a single dependent variable, in this example, Job Satisfaction. In this particular instance, the dependent variable is Job Satisfaction.

**Table:8 Regression Analysis- Job Satisfaction**

	<b>Sum of Squares</b>	<b>df<sup>a</sup></b>	<b>Mean Square</b>	<b>F<sup>b</sup></b>	<b>Sig.<sup>c</sup></b>
<b>Regression</b>	563.954	1	563.954	9.950	0.002** Significant
<b>Residual</b>	23069.381	407	56.682		
<b>Total</b>	23633.335	408			

**Source:** Statistically analyzed data

**Note:** <sup>a</sup>Degrees of Freedom, <sup>b</sup>F-Statistic, <sup>c</sup>Significance

In table:8, the F value of 9.950 is found to be accepted at significance level of 0.01 percent. Therefore the independent variables such as job motivation, job features, authority, and responsibility account for a considerable portion of the variance in job satisfaction (82.4 percent). Job category, nature of work, facilities available, co-workers, supervision, rewards and recognition, pay and benefits, job benefits, seafaring experience, wage and employee stability, promotion, organisational policy, handling of grievances, empathy, handling of conflicts, and mutual understanding.

**9.5.3** In the context of regression analysis, the term "significance" is used to refer to the statistical significance of the coefficients associated with the independent variables. This is the situation that is most well understood. It could be useful to identify important variables in order to gain a better knowledge of the components that significantly influence employees' work satisfaction levels. This understanding is vital for decision-makers when they are striving to improve work satisfaction within a certain context. This is because it helps them to focus on the variables that have the biggest overall influence on the situation.

**Table:9 Regression Analysis- Significance- Job Satisfaction**

Particulars	Unstandardized Coefficients		Standardized Coefficients	t <sup>a</sup>	Sig. <sup>b</sup>
	B	Std. Error	Beta		
(Constant)	89.227	3.198	-	27.900	0.000**
<b>JB</b>	0.425	0.135	0.154	3.154	0.002**

**Source:** Statistically analysed data

**Note:** aT-Statistic, bSignificance

Table:9 explains that the highest positive value in beta is 0.425 for Job Burnout which is significant at 0.001 level. The beta value of Job Burnout (0.425) has a positive impact and would increase the unit on Job Satisfaction and is significant at 0.001 level.

**9.5.4** The total variance for Job Satisfaction is the full variability or dispersion in the data. For Job Satisfaction, "total variance" means the overall variability in this variable's values throughout the dataset. It considers how far each data point deviates from the Mean of Job Satisfaction.

**Table:10 Total Variance for Job Satisfaction**

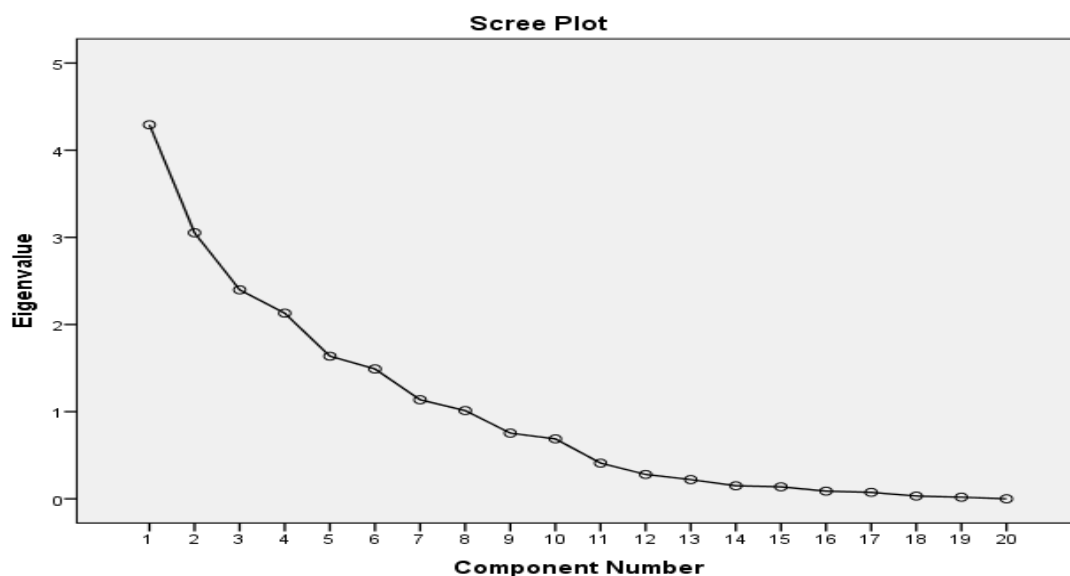
Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.521	12.607	12.607
2	2.427	12.133	24.740
3	2.275	11.376	36.115
4	2.255	11.275	47.391
5	2.177	10.885	58.276
6	1.985	9.923	68.199
7	1.786	8.931	77.130
8	1.722	8.612	<b>85.741</b>

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**Extraction Method:** Principal Component Analysis

Eight factors were identified by using Varimax rotation in Principal Component Factor Analysis. The Total Variance of Job Satisfaction (table:10) shows that all the components have an eigen value above 1 and components 1,2, 3, 4,5,6,7 and 8 altogether explains the total of **85.741** % of the variance. That is 14 % is eliminated from the total twenty components that are derived from the detailed Literature Review such as Ethnicity, Job category, Promotion, Nature of job, Grievance handling, Supervision, Job characteristics, Co-workers, Mutual understanding, Availability of facilities, Conflict management, Job motivation, Authority , Job benefits, Seafaring experience, Responsibility, Organizational policy, Rewards & recognition, Salary & remuneration and finally Wage & employee stability that make up the instrument.

**Figure:1 Scree Plot for Job Satisfaction**



The figure:1 represents the scree plot for Job Satisfaction. Most likely, the part above the first break will be excised.. A smaller break appears for extraction of the component 8 and 9.

Principal Component Analysis (PCA) in table:11 removes superfluous dimensions and highlights relevant features. Large data sets are utilised to uncover patterns, linkages, and deeper structures. PCA analyses and reduces huge datasets well. Using it on Job Satisfaction data might reveal the primary mental health concerns.

**Table:11. Principal Component Analysis of Job Satisfaction**

	Component							
	1	2	3	4	5	6	7	8
Ethnicity	0.920							
Job category	0.915							
Promotion	0.764							
Nature of job		0.913						
Grievance handling		0.883						
Supervision			0.773					
Salary and remuneration			0.766					
Wage and employee stability			0.637					
Job characteristics			0.601					
Co-workers				0.963				
Mutual understanding				0.963				
Availability of facilities					0.942			
Conflict management					0.930			
Job motivation						0.921		
Rewards and recognition						0.737		
Authority							0.924	
Job benefits							0.714	
Seafaring experience								0.841
Responsibility								0.668
Organizational policy								0.613

**Extraction Method:** Principal Component Analysis  
 a. Rotation converged in 10 iterations

Table:11, which includes a four-factor solution, shows the removal of weak and cross loadings. A total of twenty items are proposed on the various components in the above table: 10—three on component 1, two on component 2, four on

component 3, two on component 4, two on component 5, two on component 6, two on component 7, and three on component 8. The pieces within the various components have robust and appropriate loadings.

**Factor one** is a combination of ‘Ethnicity, Job category, Promotion, Nature of job and Grievance handling’. **Factor two** is a combination of ‘Supervision, Salary and remuneration, Wage and employee stability, and Job characteristics’. **Factor three** is a combination of ‘Co-workers and Mutual understanding’. **Factor four** is a combination of ‘Co-workers and Mutual understanding’. **Factor five** is a combination of ‘Availability of facilities and Conflict management’. **Factor six** is a combination of ‘Job motivation, and Rewards and recognition’. **Factor seven** is a combination of ‘Authority, and Job benefits’. **Factor eight** is a combination of ‘Seafaring experience, Responsibility, and Organizational policy’. The variables in all the eight factors, are positive factor loading behind Job Satisfaction.

**9.5.5** The overall variation for Job Burnout refers to the dispersion or variety observed in the statistical data pertaining to this specific metric. When discussing Job Burnout, the term "total variance" refers to the range of possible values for this variable that is present throughout the entire sample. Consideration is given to the degree to which each data point deviates from the mean of job burnout.

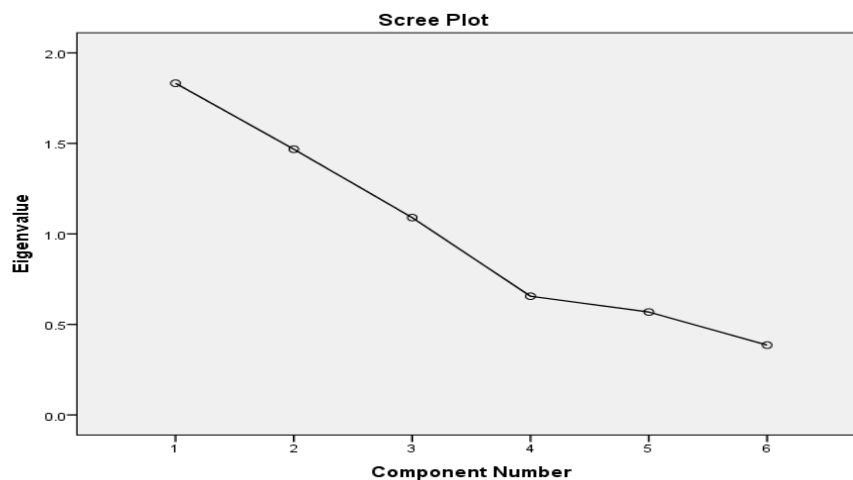
**Table:12. Total Variance for Job Burnout**

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	1.554	25.905	25.905
2	1.537	25.614	51.518
3	1.299	21.651	<b>73.170</b>
4			
5			
6			

**Extraction Method:** Principal Component Analysis

Three factors were found using Principal Component Factor Analysis with Varimax rotation. The Total Variance of Job Burnout (table:12) shows that all the components have an eigen value above 1 and components 1,2, and 3 altogether explains the total of **73.170** % of the variance. That is 27 % is eliminated from the total six components that are derived from the detailed Literature Review such as Low work life balance, Diversified workforce, Lack of control, Barriers in communication, Unclear job role, Workplace dynamics that make up the instrument.

**Figure:2. Scree Plot for Job Burnout**



The figure:2 represents the scree plot for Job Burnout. Most likely, the part above the first break will be excised. A smaller break appears for extraction of the component 3 and 4.

Principal Component Analysis (PCA) is a statistical technique in table:13 that is used to eliminate unnecessary dimensions and extract significant features. It is often used to sift through large amounts of data in search of deeper structures, relationships, or patterns. PCA can expedite and analyse large datasets. If we apply it to Job Burnout data, it might aid in the identification of the primary factors determining physical health.

**Table:13. Principal Component Analysis of Job Burnout**

	Component		
	1	2	3
Low work life balance	0.759		
Diversified workforce	0.654		
Lack of control	0.588		
Barriers in communication		0.532	
Unclear job role		0.725	
Workplace dynamics			0.662

**Extraction Method:** Principal Component Analysis  
a. Rotation converged in 4 iterations

Removal of weak and cross loadings is seen in the Table:13 provided with three factor solution. Six things in total are proposed on the various components in the above table:16—three on component 1, two on component 2, and one on component 3. Strong and appropriate loadings are present on the various component parts.

Factor one is a combination of ‘Low work life balance, Diversified workforce and Lack of control’. Factor two is a combination of ‘Barriers in communication and Unclear job role’. Factor three is ‘Workplace dynamics’. The variables in all the three factors, are positive factor loading behind Job Burnout.

**9.6** A measurement model is a kind of statistical model used to depict the relationships that exist between observable variables and the latent constructs or factors that underpin them. Measurement models are employed in the context of mental oppression to capture and quantify the latent idea of job satisfaction using observable signs or variables. The validity and dependability of the variables presented in the questionnaire are evaluated using the AMOS Measurement Model..

**Table:14. Measurement Model of Job Satisfaction**

Item(s) of JS	Factor Item	CFA Loading	Cronbach $\alpha$ (Item wise)	Cumulative Cronbach	Composite Reliability (CR)	Average Variance Extracted (AVE)
<b>Job Itself</b>						
Job motivation	<b>J11</b>	0.890	0.915	0.914	<b>0.955</b>	<b>0.781</b>
Job characteristics	<b>J12</b>	0.980	0.887			
Authority	<b>J13</b>	0.930	0.944			
Responsibility	<b>J14</b>	0.800	0.888			
Nature of job	<b>J15</b>	0.820	0.942			

Job category	<b>JI6</b>	0.870	0.911			
<b>Job Environment</b>						
Availability of facilities	<b>JE1</b>	0.930	0.894	0.909	<b>0.948</b>	<b>0.859</b>
Co-workers	<b>JE2</b>	0.910	0.926			
Supervision	<b>JE3</b>	0.940	0.906			
<b>Organizational Characteristics</b>						
Rewards and recognition	<b>OC1</b>	0.970	0.906	0.912	<b>0.961</b>	<b>0.779</b>
Salary and remuneration	<b>OC2</b>	0.880	0.896			
Job benefits	<b>OC3</b>	0.840	0.953			
Seafaring experience	<b>OC4</b>	0.910	0.910			
Wage and employee stability	<b>OC5</b>	0.860	0.883			
Promotion	<b>OC6</b>	0.810	0.937			
Organizational policy	<b>OC7</b>	0.900	0.898			
<b>Social Dimension</b>						
Grievance handling	<b>SD1</b>	0.840	0.933	0.915	<b>0.942</b>	<b>0.804</b>
Ethnicity	<b>SD2</b>	0.960	0.911			
Conflict management	<b>SD3</b>	0.930	0.889			
Mutual understanding	<b>SD4</b>	0.850	0.926			

**Source:** Statistically Analyzed Data

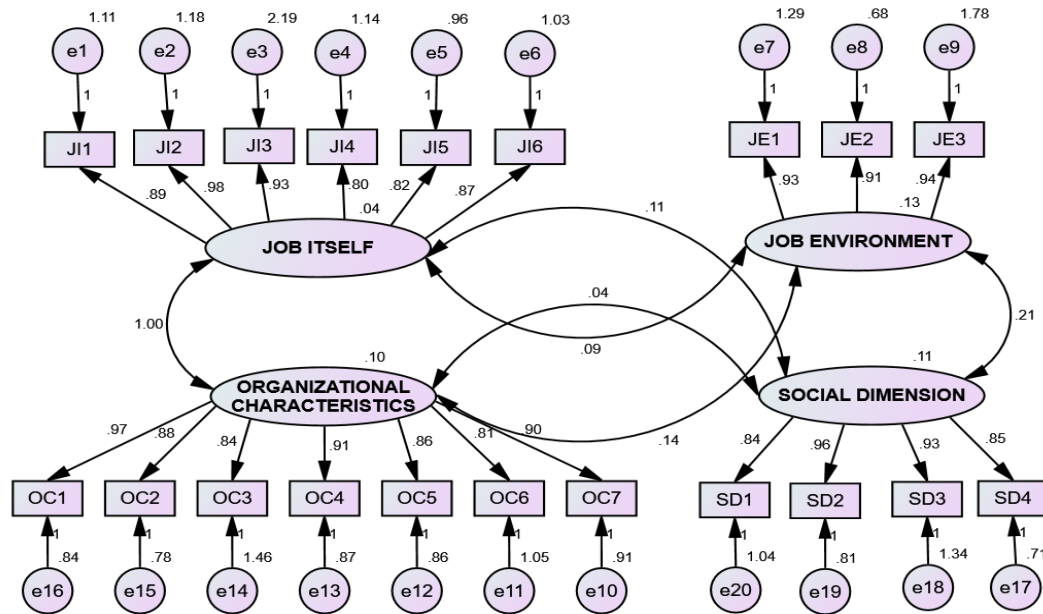
Fig.3. (Measurement Model of Job Satisfaction)

The values of the Job Satisfaction questionnaire's validity and reliability assessment are listed item by item in Table: 14. The study yields the dependability values for the following: Job Itself ( $\alpha = 0.914$ ), Job Environment ( $\alpha = 0.909$ ), Organisational Characteristics ( $\alpha = 0.912$ ), and Social Dimension ( $\alpha = 0.915$ ).

The loadings for the Confirmatory Factor Analysis are computed. It was demonstrated that there is internal consistency throughout the 20 items in the job satisfaction questionnaire using the ALPHA method in SPSS. As a gauge of measurement devices' dependability, the coefficient alpha is used to examine the instrument through a purification procedure.

Good reliability is indicated by a Cronbach alpha and Composite reliability value of the latent component more than 0.7. Each construct's Cronbach alpha ranges from 0.883 to 0.953 above its 0.7 value, which is exactly the range that Hair et al. recommends. As a result, this shows total reliability. The AVE numbers make it evident that each item's factor loadings exceed the 0.60 cut-off point. Every construct's AVE falls between 0.779 and 0.859, exceeding the cut-off point.

**Figure:3. Measurement Model of Job Satisfaction**



9.7 The associations that exist between observable variables and the latent constructs or factors that underlie them may be shown via the use of a measurement model, which is a kind of statistical model. When applied to the setting of Job Burnout, measurement methods are used in order to capture and quantify the underlying concept of work satisfaction via the utilisation of observable signals or variables. Assessing the reliability and validity of the variables that are defined in the questionnaire is accomplished via the use of the AMOS Measurement Model.

**Table:15. Measurement Model of Job Burnout**

Item(s) of JB	Factor Item	CFA Loading	Cronbach $\alpha$ (Item wise)	Cumulative Cronbach	Composite Reliability (CR)	Average Variance Extracted (AVE)
<b>Competency of Crew Onboard</b>						
Lack of control	<b>JBCC1</b>	0.900	0.902	0.858	<b>0.920</b>	<b>0.794</b>
Unclear job role	<b>JBCC2</b>	0.840	0.815			
Workplace dynamics	<b>JBCC3</b>	0.930	0.857			
<b>Multi - Cultural Environment Onboard</b>						
Diversified workforce	<b>JBMC1</b>	0.890	0.906	0.859	<b>0.914</b>	<b>0.781</b>
Low work life balance	<b>JBMC2</b>	0.910	0.811			
Barriers in communication	<b>JBMC3</b>	0.850	0.860			

**Source:** Statistically Analyzed Data

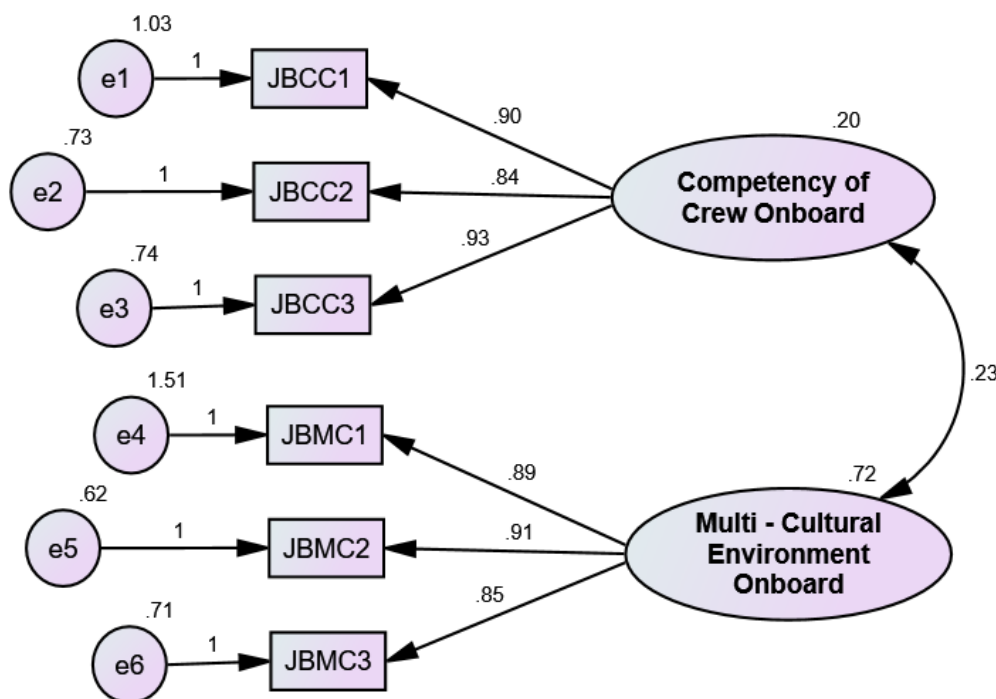
**Fig.8. (Measurement Model of Job Burnout)**

The values of the Job Burnout questionnaire's validity and reliability assessment are listed item by item in Table: 15. The analysis yields the reliability values for Competency of Crew Onboard ( $\alpha = 0.858$ ) and Multi-Cultural Environment Onboard ( $\alpha = 0.859$ ).

The loadings for the Confirmatory Factor Analysis are computed. It was demonstrated that there is internal consistency amongst the six questions in the questionnaire linked to job burnout by using the ALPHA method in SPSS. As a gauge of measurement devices' dependability, the coefficient alpha is used to examine the instrument through a purification procedure.

Good reliability is indicated by a Cronbach alpha and Composite reliability value of the latent component more than 0.7. Each construct's Cronbach alpha ranges from 0.811 to 0.906 above its 0.7 value, which is exactly the value that Hair et al. recommends. This thereby sums up the instrument's whole dependability. The AVE measures of the factor loadings for each item are more than the cut-off limit of 0.60. the AVE for all the constructs ranges from 0.781 to 0.794, which is above the cut-off limit.

**Figure:4. Measurement Model of Job Burnout**



## 10. CONCLUSION

Job security and the availability of career development programs impact seafarers' overall satisfaction. Job burnout does not impact job satisfaction to a higher level as the employees find themselves adapted for the seafaring job. Dissimilarity in pay for the same kind of work also may impact on the mental burn out (Weintrit and Neumann 2015). Competitive wages and benefits are essential for job satisfaction among seafarers.

The seafarers are influenced highly by the Mental Oppressiveness followed by the Physical Oppressiveness in the job. There are various intensive challenges faced by many of the seafaring industry in the global context. Addressing burnout and improving job satisfaction can enhance retention rates. Ineffective human resources processes make mariners less motivated and less satisfied with their jobs (Caesar, Cahoon, and Fei 2015). The seafarer's job satisfaction improves the Job Performance as well as maintains a good relationship among them. The degree of job satisfaction among seafarers is determined by their physical and mental health. Social isolation and conflicts with crew members can lead to reduced job satisfaction and mental health issues. There may be connection between this motivational state and both intended job outputs and organizational success. (Bergheim et al. 2015). In the marine sector, higher job satisfaction is linked to improved job performance and safety results. Seafarers with higher job satisfaction are more likely to stay with their

employers, reducing turnover rates and recruitment costs. The general work environment in the maritime sector may influence and contribute to sailors' job satisfaction.

Examining how job exhaustion affects shipping job satisfaction has broad implications. This research may help design targeted actions and policies to reduce burnout and improve job satisfaction in the shipping sector. Organisations may manage burnout by recognising its causes, such as long work hours, tight schedules, and separation from family and social support networks. Employee happiness in the shipping industry may also boost organisational performance and efficiency. Happy workers are more engaged, driven, and devoted, which boosts productivity, reduces mistakes, and improves customer satisfaction. Shipping firms may become more competitive and sustainable in a globalised market. The future implications of addressing job burnout and boosting job happiness may also benefit shipping sector personnel and their families. Burnout may harm mental and physical health, damage relationships, and increase turnover and absenteeism. Companies may improve shipping workers' and communities' quality of life by providing a healthy workplace and promoting employee well-being. This research may also inform maritime industry-wide measures to improve working conditions and promote well-being. Stakeholders may build industry standards and guidelines that prioritise employee health and pleasure by sharing best practices and lessons learnt from successful interventions. Positive changes within businesses and the shipping industry as a whole may result from an empirical study on work burnout and job satisfaction. Addressing burnout and boosting job happiness might help stakeholders build a more resilient workforce that can handle shipping sector problems in the future.

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