

Research Paper

Anxiety Trends in Officers of Varying Ranks in Merchant Navy

Vaibhavi Naik¹, Neelima Goswami^{2*}

ABSTRACT

Merchant navy or seafaring is a profession in which on-board seafarers/ officers constantly face a lot of different stressors that are related to the different responsibilities or ranks held onboard ships. One of the most pressing mental health concerns among the seafarers is Anxiety. Previous research suggests that anxiety may be experienced in different magnitudes as a function of the rank held by the seafarer/ officer. Various studies suggest that anxiety levels may differ according to the ranks held at the ship. The kind of stressors faced by each rank/ position also differs which may lead to varying anxiety trends. There are very few studies done on Indian population of this group. This study sought to identify if there are any differences between the level of anxiety faced by Indian seafarers of various ranks. 315 male Indian seafarers between the age of 20 and 65 years were administered the Cattell's 16 personality factor scale and the scores on Anxiety factors were compared between ranks. The results showed a significant difference in the anxiety levels between ranks. Strategies to cope with anxiety particular to the rank/ responsibility should be investigated and further research on developing specific interventions should be considered.

Keywords: *Indian seafarers, anxiety, mental health.*

The American Psychological Association defines Anxiety as an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure. It is normal to worry or feel tense or scared when under pressure or facing a stressful situation. Anxiety is the body's natural response to danger, an automatic alarm that goes off when we feel threatened (Guidelines for Mental Care Onboard Merchant Ship, 2016).

Merchant navy is a specialized industry that is fully engaged in commercial activities involving the transportation of cargo and passengers through sea routes. Maritime professionals (also known as Seafarers) work onboard ships at sea, they must stay away from their families for an extended period. Working among a limited number of people and in a confined environment means limited social life. Working at sea in a hostile environment is not only difficult but dangerous as well. You are expected to work during rough weather conditions, extreme weather, and temperature, around heavy machinery and toxic substances. Most of the jobs need to be done manually. During an emergency, one would be

¹Research Intern, Sentier Mind, Mumbai

²Director, Sentier Mind, Mumbai

*Corresponding Author

Received: July 18, 2022; Revision Received: September 28, 2022; Accepted: September 30, 2022

Anxiety Trends in Officers of Varying Ranks in Merchant Navy

required to work for long hours with less or sleep. Also, other hazards include piracy, war-torn countries, etc. (The Ultimate Guide To Join Merchant Navy, n.d.)

Seafarers experience high levels of stress in their job. Stressors can be personal or directly connected to work conditions such as specific adverse conditions and hazards like the work being overly strenuous or repetitive, the physical risks associated with their post, their career prospects, employment and compensation and the separation from their loved ones, their perceptions of satisfaction with their job, etc (Manos, 2017). Such high and constant levels of stress due to their work schedule, lifestyle, job profile, and other factors make them vulnerable to suffer from various mental health disorders, most commonly anxiety and, alongside specific factors, it can lead to the development of anxiety disorders (Manos, 2017; Sau, Bhakta, 2019).

When an individual faces potentially harmful or worrying triggers, feelings of anxiety are not only normal but necessary for survival. Incoming danger sets off alarms in the body and allows evasive action. These alarms become noticeable in the form of a raised heartbeat, sweating, and increased sensitivity to surroundings. The danger causes a rush of adrenaline which in turn triggers the “fight-or-flight” response. This prepares humans to physically confront or flee any potential threats to safety (Felman, 2020). Anxiety can help individuals to stay alert and focused, act as a spur to action, and motivate them to solve problems that may arise on the job. However, when anxiety is constant and overwhelming it could interfere with your relationship and jobs and might lead to the development of anxiety disorders. (Guidelines for Mental Care Onboard Merchant Ship, 2016)

Various studies suggest that anxiety levels may differ according to the ranks held at the ship. The kind of stressors faced by each rank/ position also differs which may lead to varying anxiety trends. Beyond some aspects (fatigue, loneliness, sleep disturbances, home missing/ isolation, multinationalism, limited recreational activity), which represent the first source of stress, some specific features differentiate groups of seafarers based on their rank. This is the case with sleep disturbances reported by pilots and engineers with a higher incidence than by deck crew and masters/mates. On the other hand, work pressure is felt by pilots less than by others. Pilots have a great responsibility, must be able to make fast decisions, and should often afford hard and physical work (Carotenuto, Molino, Fasanaro, & Amenta, 2012), higher frequencies of anxiety among deck and galley workers compared to engineers, bulk carriers and tankers had the lowest levels of anxiety (Lefkowitz & Slade, 2019).

In another review article, while citing various research studies Mellby and Carter (2017) stated that officers were the most stressed rank of seafarers due to their high responsibility for the crew and the ship and by permanently changing job demands (port clearance, district routes, and watch-keeping at sea) Though officers stayed onboard for considerably shorter periods they had significantly more often an extremely high number of working hours. Correspondingly officers complained more frequently of a higher stress level due to time pressure. In regards to rank, it would therefore seem, based on self-reported stress levels, that officers are the group that is at most risk. (Mellbye & Carter, 2017)

Carotuntoett. al (2013) conducted a study to assess seafarers' stress on board merchant ships using the Psychological General Well-Being Index (PGWBI). The study group consisted of 162 male seafarers. The test was anonymous and subjects were required to indicate only their age and generic rank (deck officers, engine officers, deck crew, engine crew, chief stewards/ /catering staff) And were compared using between-subjects One-Way Analysis of

Anxiety Trends in Officers of Varying Ranks in Merchant Navy

variance (ANOVA). A significant difference ($p < 0.05$) was found between deck crew and engine officers, and between engine crew and engine officers on the Anxiety scale. Engine officers showed the lowest scores (more anxiety). The comparison between the groups revealed that deck crew and engine crew have higher scores (less anxiety) than other groups. The data available on anxiety amongst various ranks in seafarers is very limited and even more scarce with regards to Indian Seafarers. However available data does suggest that anxiety levels may vary according to the ranks held at the ship.

This study aims at examining anxiety trends in officers of varying ranks in Indian Seafarers.

METHODOLOGY

The 16PF was originally constructed in 1949 by Raymond Cattell by analysing Allport's list of personality traits (which included more than 4,000 words in the English language that could be used to describe personality traits) and whittled it down to 171 characteristics, mostly by eliminating terms that were redundant or uncommon. He then used a statistical technique known as factor analysis to identify traits that are related to one another. With this method, he was able to whittle his list to 16 key personality traits/factors (also called as primary factors) which after further analysis revealed five so-called Global Factors, which describe personality at a broader level and helped to show the degree of relationships among the 16 primary scales. According to Cattell, there is a continuum of personality traits. In other words, each person contains all of these 16 traits to a certain degree, but they must be high in some traits and low in others.

Cattell developed an assessment based on the 16 factors known as the 16PF Personality Questionnaire. It is now used to identify effective strategies for establishing a working alliance, developing a therapeutic plan, and selecting effective therapeutic interventions or modes of treatment. It can also be used within other areas of psychology, such as career and occupational selection. The test is composed of forced-choice questions in which the respondent must choose one of three different alternatives. Personality traits are then represented by a range and the individual's score falls somewhere on the continuum between the highest and lowest extremes. (Cherry, 2019; PAN; AIPC, 2013)

For this study, the participants were measured using 4 primary scales under the global factor- Anxiety, which are as follows:

- Emotional Stability: Stable/ Reactive
- Tension: Relaxed/ Tense
- Vigilance: Trusting/ Vigilant
- Apprehension: Self-Assured/ Apprehensive

Participants:

Participants included 315 males working in the Indian Maritime industry. The participants' age ranged between 20 and 65 years.

Hypothesis:

Anxiety trends would vary between the various ranks i.e: Juniors & Seniors in Indian Merchant Navy.

RESULTS

Table: 1: Showing Mean & Std Deviation Between Groups

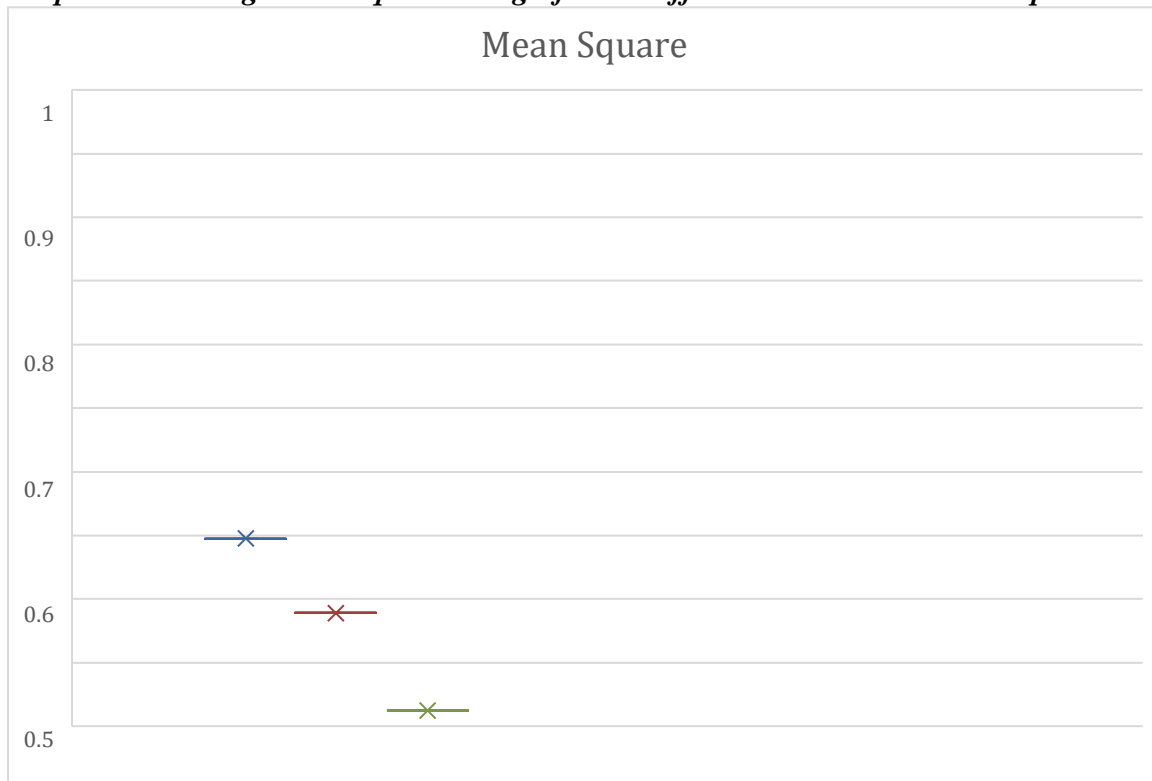
Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Anxiety	315	0	1	.25	.434
Rank	315	0	27	8.58	7.309
Valid N (listwise)	315				

A measure of Anxiety was obtained using the subscales under the Global factor-Anxiety of the 16 Personality factor Scale. The mean Anxiety for the total sample (N=315) was .25 (maximum possible score is 1) and a standard deviation of .434. Anxiety was measured for 27 different ranks. The mean rank was 8.58 with a standard deviation of 7.309

Table: 2: Showing Significant Difference Between two Groups

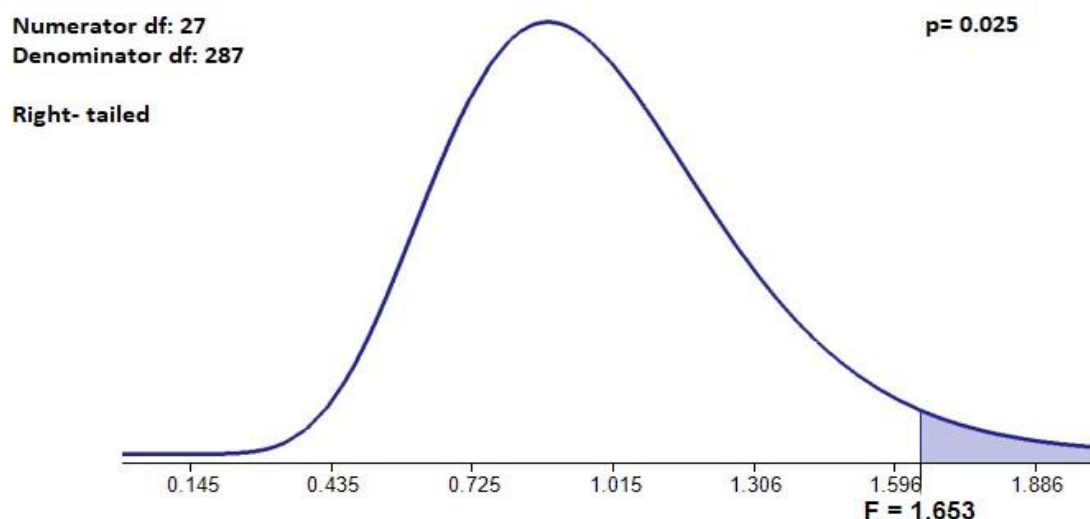
ANOVA					
Anxiety					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.964	27	.295	1.653	.025
Within Groups	51.223	287	.178		
Total	59.187	314			

Graph: 1: Showing Mean Square & Significant Difference Between two Groups



Blue Line: Mean Square of Between Groups
 Red Line: Mean Square of Within Groups
 Green Line: Significant Difference Between Above Two Groups

Anxiety Trends in Officers of Varying Ranks in Merchant Navy



It was predicted that anxiety trends would vary between the various ranks in Merchant Navy. A one-way analysis of variance (ANOVA) was conducted to test this prediction. The results were found to be significant, $F(27,287) = 1.653$, $p = .025$. With .025 level significance, the obtained data provides sufficient evidence to reject the null hypothesis. Thus, consistent with the prediction of the present study, the results indicate a significant role of anxiety between ranks, that is, anxiety was seen present for all the ranks and the level of anxiety differed significantly between ranks.

DISCUSSION

The present study hypothesized that anxiety trends will differ between ranks. The results support the hypothesis showing significant differences between ranks.

The findings are consistent with previous studies conducted by Carotuntoett. al (2013), Lefkowitz & Slade (2019) where anxiety levels differed according to the ranks and nature of work. Taken together, these findings suggest that the rank of the individual significantly impacts the level of anxiety experienced by the individual. Anxiety is commonly experienced by all the seafarers as a result of the hermetic and high-risk environment at the sea and is one of the most pressing mental health issues in the merchant navy. The varying nature of work and responsibility that every rank entails leads to varying anxiety levels according to the demands of the job.

This research can be helpful in understanding specific issues faced by the seafarers of certain ranks that are causing anxiety and contribute to the development of interventions specific to the ranks/ position that can equip the individuals with coping strategies to deal with specific work stressors. In a maritime field study, 323 sailors on 22 container ships were asked to complete a questionnaire and were biometrically surveyed to find whether the stress and strain experienced by seafarers differ between the various occupational groups on board container ships. The study also showed a significant difference between rankings and suggested that overall job-related stressors of seafarers on board should be objectified and occupational group-specific health promotion programs should be developed (Oldenburg & Jensen, 2019).

In conclusion, this study provides into how anxiety may be experienced differently by individuals holding different ranks as a result of the nature of work and responsibility. The literature focusing on mental health issues of merchant navy seafarers is scarce. more in-

depth studies could lead to a better understanding of the anxiety patterns and facilitate the development of suitable interventions.

REFERENCES

- AIPC. (2013, may 15). The 16PF Personality Questionnaire. Retrieved from AIPC Article Library: <https://www.aipc.net.au/articles/the-16pf-personality-questionnaire/#:~:text=The%20Sixteen%20Personality%20Factor%20Questionnaire,the%20whole%20person%20is%20needed.>
- Arkaprabha Sau, I. B. (2019). Screening of anxiety and depression among the seafarers using machine learning technology. *Informatics in Medicine Unlocked*, Vol 16, 1001-49.
- Carotenuto, A., Fasanaro, A. M., Molino, I., Sibilio, F., Saturnino, A., Traini, E., & Amenta, F. (2013). The Psychological General Well-Being Index (PGWBI). *Int Marit Health*, 64, 4: 215–220.
- Carotenuto, A., Molino, I., Fasanaro, A. M., & Amenta, F. (2012). Psychological stress in seafarers: a review. *Int Marit Health*, 63, 4: 188–194.
- Cherry, K. (2019, November 26). Cattell's 16 Personality Factors. Retrieved from verywellmind: <https://www.verywellmind.com/cattells-16-personality-factors-2795977>
- Felman, A. (2020, January 11). What to know about anxiety. Retrieved from Medical NewsToday: <https://www.medicalnewstoday.com/articles/323454>
- Guidelines for Mental Care Onboard Merchant Ship. (2016). Retrieved from ISWAN: https://www.shipownersclub.com/media/2016/12/ISWAN-Mental-Care-_A4-Guidelines-2016.pdf
- Lefkowitz, R. Y., & Slade, M. Y. (2019). Seafarer Mental Health Study. ITF Seafarers' Trust & Yale University.
- Manos, K. (2017, February 2). Anxiety and Stress Onboard. Retrieved from I.M.E.Q (Innovative Marinetime Emotional Intelligence Center: <https://www.imeq-magazine.com/single-post/2017/02/02/Anxiety-and-Stress-Onboard#:~:text=Prolonged%20stress%20can%20lead%20to,accidents%20and%20piracy%20and%20diseases>
- Mellbye, A., & Carter, T. (2017). Seafarers' Depression and Suicide. *Int Marit Health*; 68, 2:108–114.
- Oldenburg, M., & Jensen, H.-J. (2019). Stress and Strain among Seafarers Related to the Occupational Groups. *International Journal of Environmental Research and Public Health*, 16(7), 1153. <https://doi.org/10.3390/ijerph16071153>
- PAN. (n.d.). Using Five Factors to Measure Personality. Retrieved from 16pf: <https://www.16pf.com/wp-content/uploads/HR-Tips-Global-Factors.pdf>
- The Ultimate Guide to Join Merchant Navy. (n.d.). Retrieved from Marine Insight: <https://www.marineinsight.com/a-guide-to-join-merchant-navy>

Acknowledgement

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Naik, V. & Goswami, N. (2022). Anxiety Trends in Officers of Varying Ranks in Merchant Navy. *International Journal of Indian Psychology*, 10(3), 1775-1780. DIP:18.01.183.20221003, DOI:10.25215/1003.183