

Job Stress among Offshore Personnel in Oil and Gas Extraction Industries

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Abstract

Objective: This paper discusses about the job stress among offshore oil and gas extraction industry personnel and some possible suggested prevention to avoid it from getting worse. The physical and psychosocial aspects of the offshore oil work environment, job characteristics, job satisfaction, individual differences of mental and physical health will be given priority in this paper. **Methods/Statistical Analysis:** The cause of job stress among offshore personnel in the oil and gas extraction industries was studied based on the approach used in the offshore research which carried out in 1995 by Oxford University that include a total of 6 personnel. **Findings:** Overall, all personnel deal with stress yet they are facing it at different levels. Those with high post cope with stress better than their lower post mates. It is clear too that the offshore working community presents unique situations that need to be addressed specifically, rather than the routine of the normal people onshore. The study also reveals some unique features of the offshore workplace and a number of possible solutions to curb stress amongst those in industries. The process of developing solutions is often seen as the most difficult part of managing the possible causes of work-related stress. The ideal to aim for is the development of locally developed solutions that take into account the particular context of the workplace. **Applications/Improvements:** The results from this study showed that workers are stressed with no matter where they worked, and steps need to be taken in order to improve the productivity of the workers.

Keywords: Job Stress, Offshore Personnel, Oil and Gas, Physical and Psychosocial Aspects

1. Introduction

Stress is the adverse reaction of people which have excessive pressures or other types of demand placed on them. There is a clear distinction between pressure which can create a 'buzz' and be a motivating factor, and stress that can occur when this pressure becomes excessive¹.

The offshore working environment has been described as dangerous, arduous and isolated as the working environment is full of noise and activity. The workers which no matter whether they are the first class degree engineers or school dropout cleaners live and work in the same restricted working area. The difference is just that

one giving orders and the other receiving it. But one thing in common: both works for a certain period of time without any breaks. Both are far away from their loved ones. Consequently, the working environment in the offshore oil and gas industry contains many factors that are potential sources of stress².

Given the nature of such work, it can be determined by logical deduction that those working offshore cannot operate at optimal capacity as they constantly experience stress caused by a myriad of factors. What is often done by the few caring and well-meaning supervisors aboard offshore platforms is to phone in counselors as a means of fatigue management. However, these supervisors should

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ratify an evidence based approach and not just call a dial-a-0800 counselor as it may not be appropriate for the mental wellness of the workers in the long-term. Now, it should be determined the appropriate way to handle stress among offshore personnel to ensure not only their physical welfare but also their mental prosperity. To resolve this arguably mammoth conundrum, it is important to investigate the circumstances and factors that contribute to the upheaval of the offshore workforce so that they may be able to broaden their horizons and ensure the continual progress of their sector.

2. Research Background

Earlier research in stress at work was reviewed^{3,4}. Conversely, more offshore research studies have appeared successively which more current periodicals conceal wide arrays of psychosocial and human factors matters, encompassing risk perception, safety culture and offshore safety management⁵. More elements and factors were discovered like work environment perceptions, sleep and health outcomes associated with offshore shift work⁶⁻⁸, stress and health offshore⁹⁻¹². This is in line with who added some other factors like personality, self-esteem, life habit, and job stress in order to develop health-related quality of life should be considered¹³.

Somehow, work stress in a new dimension where describes it from the structural or organizational aspects of the work environment and not the individual characteristics. The interaction between the job demands, which is put on the employees and the management to coordinate those demands. Employees involved in positions with low control, high demands and low support are in a higher danger of physical and psychological harm from work stress. Personnel with the perception of work pressure have more job stress and do their work rapidly. Therefore, it is at the time of working with organization's machinery and perhaps even at the time of commuting to the workplace that they involve in more injuries. In other words, stress is the key factor contributing to the loss of the billion dollar profits in the offshore oil industry¹⁴.

The agents of stress or what so called stressors that make people experience stress. Such stressors can be 1. Physical such as vibration, crowding, noise, pollution, temperature and high/low light levels, 2. Psychological stressors such as anxiety or 3. Social like a drilling rig is a small and isolated workplace¹⁵. The stressors are not much different from the one mention where it about noisy

and crowded environments which can lead to ill-health. Other sources of stress in the workplace include the time pressures, social isolation of many assembly-line type jobs, piecework, equipment breakdowns, irregular hours or shift work overload and a lack of control over job decisions^{16,17}. A comprehensive report as they mention twelve potential sources of stress in the offshore oil and gas industry. Among the stressors are unpredictability of work pattern, living conditions, physical well-being, work overload and transportation.

Other topics addressed in the recent literature on offshore work comprise the measurement of psychosocial factors¹⁸ namely the lifestyle of the families of offshore personnel¹⁹, sleep, fatigue, caffeine intake and health complaints. Also pertinent in this context, a report reviewed sociological and psychological aspects of offshore employment from a cross-national perspective²⁰.

3. Methodology

Research method data collection closely followed the approach used in the offshore research which carried out in 1995. The qualitative measures were generally similar to those used previously. However, some items (not found to be salient in the previous analyses) were dropped to reduce the length of the questionnaire and some were modified to reflect the particular characteristics of offshore oil personnel. Six personnel were part in the study. They were from various backgrounds and different companies.

Personnel as far as possible, all personnel on board when the researchers visited were invited to take part with the exception of short-term contractors and specialists with less than two months' experience of the installation concerned. The main focus was thus on established 'core crew' members, where this group included both operating company personnel and contractors. All occupational groups were included in the survey.

Data collection took place between March and June, 2015. All data were collected on site, thus encouraging a high response rate and allowing the researchers to gain first-hand experience of the oil work environment. The study was introduced to potential participants by the researcher in small groups which arranged by the supervisors of particular work areas. These meetings provided an opportunity for the personnel concerned to ask questions about the work. The interview took approximately 45 minutes to complete, although there were wide variations between individuals in the time required. All

participants were offered individual feedback (sent out after the completion of the study) which outlining on how their personal profile of responses that related to the overall findings.

4. Results and Analysis

The response was obtained from six subjects with the overall response rate of 100%. The six cooperative respondents were all men, with two working as riggers, two engineers and two senior mechanics. The age of the participating respondents ranging from the youngest is 30 years old and the eldest is 61 years old. The respondents were of differing seniorities and experiences which contributing to different offshore companies. Sounding out the boons and banes of working offshore that preferring to work offshore is only the minority. Mostly, they enjoyed working offshore at the starting of their career, but later figured out the problems that troubled them as the days dragged on. In fact, it is deduced that the longer the experience of the worker, the better his adaptation to living offshore.

Respondent A: 45 years old, 22 years offshore, rigger

“I commenced my offshore work as a painter. Life was hard and unpredictable as I did not have any educational qualification. The working hour was lengthy and could be up to 12 hours a day. Sleep was utterly badly affected with shorter sleep periods during the overtime week. As a consequence, I had serious problems with fatigue and sleepiness. It was very stressful and led me to move from one company to another. I have contributed to five offshore companies and this is my sixth offshore company. It is not a big company and I would say it is not stable in terms of its financial. I work for 2 months offshore and another two months onshore. I get more allowance when I work offshore compared to working onshore. My apprehension would not alleviate as my three children are still studying. Next year, my eldest daughter is going to college and with a bare income, I hesitate on how to send her.”

Respondent B: 52 years old, 35 years offshore, engineer

“I was particularly excited with my first salary working offshore and did not mind to stay there longer when I was young. At that time, money became my master and I still left my family for a long time even after marriage. My wife who was young too at that time left me, and that was when devastation crept into my life. I was offshore and feeling to end up my life. I could not concentrate on

my job and made a lot of mistakes. Luckily, my boss gave me a three-month break. Since then, I have recuperated from my sorrow and when I was remarried, I focus on my family more now. I tried to make myself busy on land like having a boat and gardening. It alleviates my work stress and I try to allocate more quality time with my family. The stress at the platform is totally different from being at home. I think it (the stress at the platform) doubles the effect. One might risk getting badly injured as they are dealing with heavy machinery. One really needs to focus or the stress may take the focus away.”

Respondent C: 36 years old, 12 years offshore, senior field engineer

“During the first three years’ experience, everything was superb. It was extremely adventurous as everything was a new challenge for me. However, thing was different after that as I got married. Having a baby girl after two years sometimes made me difficult to leave them, especially when I cannot be together with them when they needed me. Sometimes, I also needed them to be with me. For sometimes, I also feel reluctant to go to offshore as there is nothing where you only can see the deep blue ocean and the gigantic oil rigs. Dealing with human being is another problem, as in the offshore people comes from different categories and of course with different levels and styles of thinking. High expectation from the client side is another matter that has to overcome. However, as when we go to offshore, we will represent the company. Prior to that, we have to be industrious and professional. The next thing that drives me to go to offshore now is the position, where I am aiming for a higher post and of course the other reason is the money. In five years time, I am looking forward to be in the management team and I will only supervise from the mainland.”

Respondent D: 62 years old, 35 years offshore, senior mechanics

“Before commencing offshore duties, I had reservations about how my life was going to be. Many things concerned me such as the work environment, the isolation from all that is familiar and the relationships to be had if any. However, after I set foot on the platform, I found my concerns uncalled for. True, the environment was different but I was not uncomfortable with it. The demographic was strictly male, and so I made friends easily. I was alone but I was not lonely, not by any emotional count. My job needed me to travel from one platform to the other. Each platform comprised different sets of crew and each time I had to start from scratch, adapting to new work and

social cultures and generally creating new friendships along the way. Of course human behaviour dictates that not all should react to each other in the same manner, so I expected a certain air of unfriendliness to prevail. A color code has been designed to designate the crew's behavioral pattern."

Respondent E: 61 years old, 35 years offshore, senior mechanics

"When I first started offshore work, I was stationed in Brunei. I have been just a company man who worked offshore on a regulated schedule. (A fortnight out to sea and a fortnight on land). The job was quite dull as I did the same thing again and again. Yet, my main concern at that time was bringing home the bacon on a comfortable salary so that my family could have a better life. For that, I was prepared to endure any obstacles and difficulties in my way including bunking on the ship which an experience I barely tolerate. Back then, I chain smoked and I guess the habit did nothing to alleviate the difficulty. Now I feel offshore duties are setting in comfortably for me. I particularly enjoy dealing with the machinery on the rigs. It gives me a sense of purpose and pleasure towards my task. There are new things to learn and experience each day and with 35 years under my belt, I feel like someone who is well focused on this job. A group work with other staff is motivating me to work further. If I am stressed up, there are some good friends to listen. My family is now used to my schedule, and they support me in what I do. I truly appreciate their independence and their sacrifices."

Respondent F: 40 years old, 15 years offshore, rigger

"I had no qualification and ended up being a labor most of the time. Being on land, I was paid very little and it was barely enough to support my family, my parents and nine siblings. Till now, I am single and the people always tease me. Being offshore, I feel more relaxed as no one bother with my status. Sometimes, I wish I can get better job task and forever being a rigger. The bosses somehow do not recognize my role that much. As I am getting older and stuck with this job, I feel inferior dealing with the young ones, especially they give me a lot of orders. Just cross my fingers and who knows, it will be a change to my fate."

5. Discussion

Stress is an integral part of many offshore jobs. It has long been recognized as a factor in increasing risk for mental and physical health problems. In the cases of oil and

gas industries, it will bring a lot of losses not only to the company but to the country as well. This brief review attempts to highlight the physical and psychosocial aspects of the offshore oil work environment, job characteristics, job satisfaction, individual differences mental and physical health. A total of six offshore personnel were interviewed at the sites, and a set of questionnaires was asked verbally to the personnel. The session took about 45 minutes each and being recorded. The responses were transcribed for data analysis. Overall, all personnel deal with stress and they are facing it at different levels. Those with high post cope with stress better than their lower post mates. It is clear that the offshore working community presents unique situations that need to be addressed specifically, rather than the routine of the normal people onshore. The study also reveals some unique features of the offshore workplace, and a number of possible solutions to curb stress amongst those in industries.

Stress prevention at the workplace has demonstrated predominantly effective in fighting stress by attacking its roots and causes, rather than simply handling its effects. From the interview made, most findings underpin the stress in the offshore and cluster it according to job rotation, job enlargement, job enrichment and semi-autonomous job.

As stated by respondent E who gets involved in the same task, offshore workers should be able to alternate through a set of different but similar jobs. This can give more selection and to lessen the dullness that might exist at offshore environment when people are located at the same rig location for long working hours or without a break.

- Job enlargement is where extra tasks are encompassed within the scope of the job to surge the variety and diversity of the job. The fairly flat grading of an offshore connection does not offer many advancement opportunities, and these are virtually non-existent for the personnel employed as contractors. Job enlargement is a technique of providing more diversity and experiment in a job, particularly for older workers who comprehend that they have reached a career plateau²¹.
- For respondent F, he really needs a job enrichment which can assign more significant and stimulating. This has potential for refining production and plummeting absenteeism and turnover. As well as growing autonomy, variety and task identity, some superiors are hesitant to delegate work to their subordinates

and fail to entirely exploit their staff. Incapability or unwillingness to delegate is often a problem for individuals newly selected to the management of the shop floor. The new managers do not receive the necessary training in this skill and regularly linger to work with the same group of employees. As a result, it is hard for them to accept the new role. An interference to lessen role vagueness and to improve role's, clarity should also be encompassed into this type of job redesign.

- Semi-autonomous work groups are grounded on principles related to those of job enhancement, but are presented on the stage of the team rather than the individual. A group of employees is authorized to make judgments which affect their work activities. Groups might also be recognized to work on defining problems, as well as safety offshore or continuous quality development.

Somehow, the effects of these changes will not be limited to the job holder. For instance, the nature of the supervisory and managerial tasks will be reformed when the workforce gives more autonomy. This is supported by the importance of the managerial tasks at work place which is actually nothing new. It mentions that the management of an organization plays a perilous part in backing-up the professional principles, potentials and necessities that are encouraging to a more reassuring occupational setting as well as having an essential role in the running of workplace support. When supervisors and managers who act as organization agents convey concern for worker safety by valuing suggestions for improving safety, workers develop such attitudes that their organization has a positive orientation towards their safety and well-being. For example, respondent C claims this in turn increases the chance that employees will participate in safety related exchanges and other safety-related actions. This feeling of social support may generate a sense of approval and the possibility of positive individual outcomes. Such feeling can contribute to the healthy environment work place and positively can prevent the stress. On the contrary, if the feeling is not fulfilled, it may bring to side harm effect like injuries which related to job stress.

Other points which raised by respondent A and C which gives more comprehensive guidelines to prevent stress. From their statement, this is acceptable as it covers work stress at all organizations and not limited to offshore cases only. The process of developing solutions is often seen as the most difficult part of managing the possible causes of work-related stress. The ideal to aim for is the

development of locally developed solutions that take into account the particular context of the workplace.

All respondents agreed that these could help them and their employees as they need to work through the process. The idea is not to offer pre-packaged 'off-the-shelf' solutions, but rather to offer a resource the staff that can use to develop their own solutions. Some of the things to consider if the personnel have identified the stress, they need to control it and get support. Besides, there are some prompts to be solutions to stress among the oil and gas personnel by remembering the following:

- Make sure there is enough time spent to clarify what the stress is all about.
- Be as specific as possible as this will help the personnel to develop effective solutions from their stress. Ask questions about how this area of work becomes stressful?
- Has the stress always been a problem? If not, what has changed?
- What would be the mechanisms for introducing suggested improvements?
- Who will take the work forward when the personnel are in stress? Who needs to be involved? What are the first steps?
- Suggesting solutions to solve identified problems? Stress attacks all, which it is about on how to deal with it. Finally, it is important not to take on too many actions.

6. Conclusion

Workers who are stressed no matter where they work either offshore or onshore seem to be less intuitive in their jobs, less engaged and more likely to report day-to-day health problems such as depression, headache and muscular pain which leads to more chronic diseases. They also more likely to get exasperated easily, unable to cope up with their daily chores in the job and have mood swings.

To colossal companies which invest multi-billion dollars in the oil and gas sector, having stressful personnel can be a disadvantage and it is something needs to be avoided. Therefore, managing stress not only can be a challenge for employers, but employees as well. While short periods of pressure can boost employee motivation and business performance, employers who overlook the damaging impact of excessive and sustained pressure on employees do so at their peril.

There is a need then to establish clear strategies which prevent problems such as stress, absenteeism due to sickness, higher staff turnover, potential employment claims and also help employees to cope with stress-related illness.

Undoubtedly, taking steps to tackle stress in the offshore will benefit the health, well-being and morale of an employer's workforce. Beyond that, though, it makes good commercial sense and benefits for both parties of employee and employer. This is applicable everywhere, especially in oil and gas industries which generate billion dollars not only to the staff but to the country as well.

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