The Vitality of Psychosocial Risks Identification: Results from Malaysian Oil Rigs

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Abstract

The growing focus on psychosocial risks and their possible effects on the mental and physical well-being of employees has thrived as a result of the transformations occurring in the workplace. The transformations in the realm of employment and the recent global occurrences have intensified the pre-existing psychosocial risks and introduced novel psychosocial risks that must be taken into account in order to safeguard the well-being of the employees. Thus, this study explores psychosocial risks among offshore O&G industry

employees in Malaysia. Psychosocial risks have consistently been challenging in workplace health and safety practices. A generic descriptive research study was conducted with 412 offshore O&G employees from four states: Sabah, Sarawak, Kelantan, and Terengganu. The data collected were analysed using SPSS 28. Based on the findings, job demands, job security, social support, and job satisfaction were identified to influence the mental health state among offshore O&G employees. Among the most significant factors were social support and work environment, with mean values of 4.09 and 5.76, respectively. Meanwhile, job security (mean 2.06) indicated a low level in the score category. Simultaneously, the onset of COVID-19 in 2020 resulted in changes in how people live and work, which are dominant examples of psychosocial influences. The findings emphasized the importance of these aspects in measuring employee's mental health state. The study also discusses the research implications.

Keywords: job satisfaction, mental health, offshore, O&G, job demands, job security, social support

1. Introduction

The Sustainable Development Goals (SDGs') serve as a framework for attaining a more sustainable and improved future for everyone. SDGs tackle worldwide issues comprising poverty, inequality, climate change, environmental degradation, peace, and justice. The oil and gas (O&G) industry is an essential collaborator in achieving the core ambitions of the SDGs. In this regard, there are both direct and indirect effects in contributing to the SDGs. It has the potential to provide the affordable and dependable energy required for economic growth, employment, education, poverty eradication, and global health (IPIECA, 2021). Mental health issues are a common workplace concern, with approximately 20 percent of the population suffering from a mental illness and the majority of employees reporting at least one symptom of poor mental health (Rosado-Solomon et al., 2023). On the same matter, offshore employees are prone to psychosocial risks that lead to mental health issues (D'Antoine et al., 2023). According to the Law Office of George Escobedo (2022), mental health disorders are the fourth leading cause of work impairment worldwide. It is essential to understand what environmental factors might have contributed to these disorders in O&G employees to provide support for them. Nonetheless, studies concerning work and mental health issues are fragmented and sparse (Brooks & Greenberg, 2022; Lu et al., 2022).

The pandemic has directly impacted many occupational groups, including offshore O&G employees (Koren et al., 2023). Work has undoubtedly been perceived as uncertain and stressful during the pandemic, resulting in a wide range of emotional responses in employees. Affected employees usually experience mood changes, exhaustion, anxiety and depression, burnout, and suicidal thoughts, as well as diminished motivation and behaviors such as higher consumption of alcohol, tobacco, and other unhealthy habits (ILO, 2020; Stansfeld & Candy, 2006). In regards to mental health, the COVID-19 pandemic is expected to contribute to or worsen pre-existing symptoms (ILO, 2020). Personnel with mental health issues may struggle to cope with the pandemic's multiple stressors. According to the most recent World Health Organization (WHO) statistics, the pandemic has resulted in a 25 percent increase in the prevalence of anxiety and depression (WHO, 2022a; WHO, 2022b).

On top of that, a study on the psychological health of workers discovered numerous risk factors for O&G employees' mental health (Pignata, 2022). The sources of psychosocial risks include job content, workload, and work pace, working hours and shift work, employees' autonomy, control and participation in decision-making, and organization climate, including poor communication, poor leadership, and perceived injustice. Job insecurity, role problems such as ambiguity or role conflicts, interpersonal relationships, lack of social support or adverse social behaviors, such as harassment and violence, and work-life balance, among others are additional sources (Cox & Griffiths, 2010). Psychosocial workplace issues are commonly called stress, which is not an illness (Koren et al., 2023). It can lead to severe physical and mental illness if not addressed. Although the repercussions of psychosocial stressors on employees may differ depending on an individual's mental health, personal life, and ability to cope with stress healthily, several prevalent symptoms indicate the presence and impact of stress in the organization.

Thus, recognizing and evaluating new psychosocial risks merging from pandemics, related mental health problems, and vulnerable groups is an essential phase in implementing preventive measures to protect employees' health and wellbeing in the context of the COVID-19 pandemic.

2. Literature Review

2.1 Psychosocial Risks

Psychosocial risks are interconnected elements, as stated by the ILO (1986). The phase psychosocial risks refer to the way psychological and social elements interact with each other (Committee of Senior Labor Inspectors, 2012). Psychosocial risk comprises several aspects, including but not limited to organizational culture and function, job demands within the organization, workload and work pace, and interpersonal connections inside the workplace (Rousssos, 2023). These factors possess the capacity to induce psychological, social, or physical injuries. Nevertheless, the on-going modifications in the workplace generate novel hazards that remain unidentified and thus, are not documented in scientific literature. Various evolving work patterns have been recognized, including downsizing, outsourcing, the growing utilization of information and communication technology (ICT) in professional settings, self-regulated work, increased demand for employees' adaptability in terms of skill amount and functionality, shift work, and non-traditional working hours (Di Tecco et al., 2023). These factors have been identified as contributors to the emergence of novel psychosocial risks.

Approximately 60 percent of the global population is employed (WHO, 2022b). Every employee has the right to work in a safe and healthy environment. Decent work promotes good mental health by providing a living, a sense of confidence, purpose and achievement; an opportunity for beneficial connections and inclusion in a community; and a platform for structured routines. Work can be helpful to one's mental health. However, it can also be harmful (WHO, 2022a). COVID-19 was the primary cause of absence among employees, followed by mental health difficulties as the second most prevalent reason (Chartered Institute of Personnel Development, 2023). Hence, these factors are substantial and require consideration in order to mitigate any adverse effects of employment on employees. It is imperative to prioritize the focus on psychosocial risks in the workplace at this moment. In June 2021, the International Organization for Standardization (ISO) released ISO54003, a novel standard for managing psychosocial risks in the workplace. This standard serves as a universally accepted framework for effectively addressing mental health in the workplace.

Psychosocial risks pose the most significant threat to employee health and wellbeing globally. Physical and mental health do not exist in a vacuum; alternatively, they are affected by internal and external stressors that appear independent at first glance (Barret, 2020). Several psychosocial risks that contribute to poor employee mental health have been identified and classified as follows: 1) job stresses (job demands, and job security); 2) job resources (social support, and work environment). Job stress is the adverse emotional and physical reaction when job demands conflict with the employee's capacity, resources, or desires (Centers for Disease Control and Prevention, 2021). On the other hand, job resources comprise aspects of

the job that aid in achieving work-related goals, reducing job demands and associated costs, and stimulating personal growth and development (Bakker et al., 2023; Demerouti et al., 2001). Job resources are crucial not only for fulfilling job demands, but also for the employee's inherent importance (Katja et al., 2016).

2.2 Job Stresses

There are two dimensions of job stresses, which include job demands and job security. The first dimension is job demands. Job demands are those mental, physical, social, or organizational aspects of the job that necessitate sustained physical and psychological effort and are thus associated with specific physiological outcomes (Bakker & Demerouti, 2017). Job demands may cause health impairment in employees. High job demands, such as an extreme workload, lead to constant stress and burnout (Tummers & Bakker, 2021). In addition, high job demands can lead to significant adverse outcomes for employees since there is a positive correlation between job demands, stress, and burnout (Hussein, 2018; Pelon, 2017; Johnson et al., 2005). Burnout develops when "one is cynical about the value of one's job and doubtful about one's capacity to perform" (Maslach & Leiter, 2016). However, the Job Demands-Resources (JD-R) model also mentions that job resources can compensate for job demands so that job demands do not result in exhaustion (Bakker et al., 2021).

The other dimension of job stress is job security. In considering a career in the offshore industry, it is crucial to consider the benefits and drawbacks before making a decision (Helder, 2023). Offshore jobs can be rewarding and exciting. However, they also present their own set of challenges. Job security drives employees to progress satisfactorily, and the organization must predict employee retention (Ramli et al., 2021). According to the literature, job security ensures the continuity and stabilization of employees, maximizing the likelihood of their jobs remaining (Aman-Ullah et al., 2021). Employees recognize that remaining in the same position will not provide them with financial benefits or prospects for professional advancement. Consequently, they decide to engage in job hopping or switching jobs as a means to attain this objective (Devi et al., 2023). The COVID-19 pandemic has resulted in significant job losses in most developed economies, as governments-imposed lockdowns to prevent the disease from spreading (ILO, 2020).

2.3 Job Resources

Demerouti et al. (2001) posits that job resources embrace many components of the workplace that facilitate the attainment of work-related goals, reduce job demands and associated costs, and promote personal growth. Job resources encompass two distinct elements, namely social support and work environment.

Extensive research has revealed that there are two types of social support: perceived social support and received social support (van Brakel et al., 2023). Perceived social support is defined as an individual's perception of the sufficiency of support provided by social connections (Akgemci et al., 2017). Received social support is outlined as the quantity and quality of support provided to the individual (Barrera, 1986). Immediate manager relationships are deemed necessary for mental health, as are managers with professional

knowledge and experience who understand working and living environments (Osterman & Hult, 2020). Good interactions between teammates can promote better mental health, and positive relationships onboard should be fostered (Brooks et al., 2015; Brooks & Greenberg, 2018; Health and Safety Laboratory, 2012). More supervisor support corresponds to less lack of energy, physical exhaustion, and lack of moderation (Dohrmann & Herttua, 2019).

Offshore work creates some unique challenges that have the potential to exacerbate mental health risks. In addition, work on offshore rigs takes place in tough conditions, which are influenced by extreme environmental conditions determined by natural forces and technological processes, which can have a negative impact on the health of those who work there (Leszczyńska & Peplińska, 2023). These include the remoteness and physical isolation of the working environment, the absence of family and proximity to co-workers during non-work hours while on shift, and the nature of the shift patterns themselves (Offshore Technology, 2023). Sleep problems are more prevalent in shift employees than day employees in the offshore O&G industry (Baygi & Jensen, 2017). The psychosocial work environment's quality is regularly shown to be essential to individual employees' wellbeing, productivity, and health (Bakker & Demerouti, 2017; Christensen et al., 2008).

3. Method

The most important aspect of designing research is ensuring that data is gathered from reliable sources, resulting in valid and reliable results. Offshore employees represent 12,254 of Malaysia's population (Human Resource Development Fund, 2021). The sample size for this study was 412 employees, extracted using proportionate stratified random sampling. According to the principle of proportionate stratified sampling, the sample size within a given stratum is directly proportional to the overall population size of that stratum (Haute, 2021). The concept of sampling entails that every sample within a given stratum possesses an equivalent proportion of sampling.

The participants included in this study met the inclusion criteria to ensure the data's validity during the analysis stage. These criteria were as follows: 1) the respondents should be 18 years old and above; 2) have at least one year of working experience in the offshore environment; and 3) be currently working in the offshore setting. To obtain the consent from the participant, questionnaire was passed to the focal person who is the representative of the company. The researcher had briefly explained the focal person before the questionnaire was distributed in order to gain the consent from the participants. Data were collected from 412 offshore O&G employees from Sabah, Sarawak, Terengganu, and Kelantan. The questionnaire was distributed to the abovementioned state respondents meeting the required criteria. Table 1 shows the distribution of the offshore population in each of the states.

Table 1. Oil and Gas Offshore Population in Malaysia

State	Operating companies in Malaysia by proportion	Sample based on proportion
Sabah	6 companies consisting of 408 offshore employees	35% = 143 employees
Sarawak	5 companies consisting of 340 offshore employees	30% = 102 employees
Peninsular Malaysia	7 companies consisting of 476 offshore employees	35% = 167 employees
	TOTAL	**412 employees**

Source: Researcher, 2024.

The Copenhagen Psychosocial Questionnaire (COPSOQ) has been adopted and adapted to the offshore O&G Malaysia setting to investigate each psychosocial risk element. The seven parts of the questionnaire measure the outcomes, including job demands, job security, social support, work environment, job satisfaction, and mental health state. The questionnaire consisted of 68 items in various parts. Questionnaire items were measured using the 5-point Likert scale and 7-point Likert Scale. The purpose of using different scales was to prevent the common method bias in the study. Common method biases are problematic because they are a major source of measurement error. Measurement error, widely recognized as having a random and systematic component, jeopardizes the validity of conclusions about the relationships between measures (Bagozzi & Phillips, 1991; Nunnally, 1978; Spector, 1987).

The data collected was analyzed using Statistical Package for Social Science (SPSS). To demonstrated the results of the data, the calculation of mean and standard deviation was performed in the SPSS. Permission to conduct the study was obtained from the university Research Ethics Committee. Data collection commenced following ethical approval (Ethical protocol reference: REC/05/2023 (PG/MR/168) dated 22 May 2023.

4. Results

There were six variables in this study. Table 2 indicates the mean and standard deviation values for all the studied variables.

Table 2. Score Category

Likert scale type	Mean Scores	Score Category
5 points	Equal or less than 2.99	Low
	3 to 3.99	Moderate
	Higher than 4.00	High
7 points	Equal or less than 2.99	Low
	3 to 4.99	Moderate
	Higher than 5.00	High

Source: Podsakoff et al., 2003, 2024.

4.1 Mean and Standard Deviation

To reduce the effects of common method bias, Podsakoff et al. (2003) and Podsakoff et al. (2024) used two different Likert scales, five-point scales and seven-point scales. Items were alternately arranged assuming respondents could correctly interpret them by reducing the standard scale properties. This study measured job demands, job security, social support, work environment, job satisfaction, and mental health.

For items in the five-point Likert scale (job demands, social support, and job satisfaction), mean scores of equal or less than 2.99 were demonstrated as low. Mean scores ranging from 3 to 3.99 indicate moderate scores, while mean scores of 4.00 and higher indicate high scores. On the other hand, items in the seven-point Likert scales (job security, work environment, and mental health state), mean scores of equal or less than 2.99 were low. In contrast, mean scores ranging from 3 to 4.99 were reported as moderate, and mean scores of 5.0 and higher as high. Table 2 outlines the score category for both Likert scales.

Table 3. Mean scores and standard deviation of the study variables

Variables	Mean	Standard Deviation	Score Category
Job Demands	3.38	.30	Moderate
Job Security	2.06	.103	Low
Social Support	4.09	.66	High
Work Environment	5.76	.98	High
Job Satisfaction	3.55	.48	Moderate
Mental Health	5.24	.68	High

Source: Researcher, 2023.

The results obtained from 412 offshore employees are shown in the Table 3. According to the data, the dimensions of job resources (social support and work environment) scored high in their category which were 4.09 and 5.76. The values indicated that offshore employees received good social support either from the organization, their superior, and colleagues. The high values of work environment indicated that even when the employees were isolated, they experienced a good environment such that they could get along with their management, the organization created a fun working environment, and that it offered a work-life balance environment for them.

On the other hand, the dimension of the job stresses (job demands and job security) was portrayed as moderate and low in their score categories with mean values of 3.38 and 2.06 respectively. The job demands mean value was moderate due to the uneven workload distributed amongst them and led to the employees needing to do overtime to ensure that their tasks were completed in time. Due to the high job demands in the offshore environment, it made employees feel their job security was less. This was due to technology advancement applied by the organization in order to boost profit. Employees were also worried about

giving up their job due to health reasons.

Hence, with the moderate job demands, low job security and high social support and work environment, it put the employees job satisfaction in the moderate category with a mean value of 3.55. In contrast, the mental health state score was high as indicated by mean value of 5.24. This high value of mental health state meant that the employees were aware of the job stresses in the offshore setting; however, job resources countered the job stresses. Table 3 shows the mean scores and standard deviation of the study variables.

5. Discussion

This study examined psychosocial risks among Malaysia's offshore (O&G) industry employees. Identifying and understanding these risks is crucial for ensuring effective workplace health and safety practices. Data was collected from 412 O&G offshore employees in four different locations in the country. The results recorded three variables (social support, work environment, and mental health state), which scored high mean scores. Meanwhile, job satisfaction and mental health indicated moderate and high mean scores, respectively. These results showed that psychosocial risks such as job stress, could be detrimental if not controlled. Meanwhile, maintaining job resources at the workplace bred a positive environment.

These results reflected that employees were aware of the job demands in the O&G fields, which necessitate strong will, a lot of attention and concentration, and excellent physical fitness. Job demands are associated with motivation and passion for work, and lack of job demands resulted in poor job performance in certain areas (Lee & Jo, 2023). Due to the stressful demands being viewed as within employees' locus of control, time pressure and task complexity were labelled challenge stressors. A high level of job demands tends to increase uncertainty, causing employees to feel threatened and hesitant to approach valued outcomes (Karatepe et al., 2018).

According to Lazarus et al. (1991), not only do the real risks result in adverse outcomes, but so do potential threats, such as anxiety, depression, and burnout. A study examining the link between stress and job burnout among 501 Mexican oil workers in the southeastern region of Mexico found moderate stress levels, efficacy, cynicism, and exhaustion (Carrión-García et al., 2023). Mental disorders were found in 11.8% of workers, with stress and burnout being risk factors. Factors like shift rotation, long hours, and lack of teamwork contribute to these risks, leading to psychological discomfort, sleep disorders, and cardiovascular issues. Furthermore, a study compares the impact of role blurring on mental health and work-life integration in Brazilian and Spanish populations during COVID-19. The results showed that role blurring is linked to anxiety, depression, stress, and suicidal ideation (Hincapié et al., 2023).

Another variable examined was job security, which scored low in this study. These results explain why some employees felt that their work was unimportant, that they were powerless over company policies, and that they were helpless over work procedures. On the other hand, some employees are unaware of the psychological aspect caused by the decline in oil prices

that began with the COVID-19 attack. Employees who feel that their jobs are unstable perform less well because they fear losing their most crucial work-related resources, which can meet their needs (Darvishmotevali & Ali, 2020; Nikmah et al., 2019). On a similar note, the pandemic has led to significant changes in lifestyle habits, with suicide attempts increasing before and after the pandemic. Interventions to promote work-life balance and prevent psychosocial risks are needed to mitigate the impact of the pandemic on mental health (Hincapié et al., 2023).

Another essential psychosocial risk is social support (Reife et al., 2020). The high mean value in the score category was possibly due to the employee's beliefs that they received sufficient support at their workplace. During the COVID-19 pandemic, remote working became an ordinary part of business as an organizational response to protect employees' health and maintain business continuity (Slavković et al., 2021). This social support came from various sources, including co-workers, supervisors, and organizations. Employees believe the degree of the quality of supporting relationships derived from supervisors or co-workers can lead to their performance (Kim et al., 2017). Previous studies have focused on support from co-workers rather than support from supervisors or organizations (Ng & Sorensen, 2008).

Traditional leadership, particularly face-to-face leadership, significantly impacts employees' mental health and job satisfaction (Kuoppala et al., 2008; Montano et al., 2017; Skakon et al., 2010). The way leaders enforce company culture and set the tone directly influences the wellbeing and productivity of employees. Loneliness harms job performance and job commitment, thus leading to psychological issues (Firoz & Chaudhary, 2022). Consistent with these findings, Mambrey et al. (2022) discovered that depersonalization and unmet expectations contribute to burnout, while low job satisfaction increases the risk of burnout. Without such social support, it will cause stress and burnout (Ayusari, 2023). In healthcare settings, younger, less experienced healthcare professionals are more likely to experience burnout due to insecurity, undervaluation, and poor interpersonal relationships (Ismail et al., 2019).

Loneliness is contagious. Based on the study results, the employee's work environment scored a high mean value. The score indicated that employees could counter feelings of solitude being away from their family members. One way to alleviate the feelings was to share them with co-workers whom some would consider friends. Friendship networks are a life savior in a harsh industry (Mambrey et al., 2022). In O&G, employees know the difficult rotation shifts they must bear as offshore employees. Shift work disorder also includes insomnia and excessive sleepiness resulting from their work schedule (Ismail et al., 2019).

Shift work contributes to the health issues identified among Malaysian O&G employees (Booker et al., 2018). Employees should get sufficient rest between shifts, especially when switching from day to night or returning from work on shift (Vedaa et al., 2016). High and consistent demand for production has pushed them to work a 24-hour shift. Many cases are not brought to the attention of the department's supervisor due to the fear of being subjected to an investigation, harsh treatment, or punishment schedule. According to studies by Mambrey et al. (2022) and ILO (2022), high salaries and remuneration packages strongly

influence job satisfaction in the O&G industry. These compensation and benefits offered by employers in the industry play a vital role in retaining employees and influence their decision to stay in their current roles. This highlights the importance of organizations prioritizing competitive compensation packages to ensure employee satisfaction and retention.

The results of the present study have a few implications. Firstly, the findings discovered that job stresses (job demand and security) should be managed effectively to maintain job satisfaction among offshore employees. Uneven workload, rapid technologies and the threat of the pandemic such as COVID-19 could be harmful to employees' mental health. Hence, management should promote open communication on the job load and employees' concerns about their job status. This gesture could help lessen their anxiety about employment ambiguity and cognitive dissonance in their jobs.

Secondly, prioritizing the promotion of social support and the maintenance of healthy work environments is essential to mitigate the psychosocial risks faced by workers in oil rigs. By fostering a supportive work culture and providing resources such as access to counselling services and employee assistance programs, organizations can help employees cope with stress, burnout, and other mental health issues (ILO, 2022).

Additionally, creating a safe and healthy work environment prioritizing employee wellbeing can reduce psychosocial risks and promote job satisfaction and overall mental wellbeing. This calls for an allotment in occupational safety and health guidelines to help employees preserve a healthy body and mind while serving the company.

6. Conclusions

It is essential to recognize which psychosocial risks contribute to the emergence of stress in order to safeguard employees' mental health. The results show that identifying the psychosocial risks within the organization is vital to developing individual and organizational directed interventions. Although the pandemic has exposed employees to new risks and increased levels of stress, it has also raised awareness about the significance of managing work-related stress and mental health problems.

It is recommended to incorporate psychosocial risks prevention measures in order to enhance the occupational health and safety program. This integration serves as evidence that psychosocial risks are accorded equal significance to physical risks and may be effectively mitigated using similar approaches. To conclude, working offshore can provide numerous benefits, including a handsome paycheck, job security, adventure, and career advancement opportunities. However, it is critical to be aware of the potential drawbacks of work.

Acknowledgements

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