A Systematic Literature Review on the Working Dilemma Of Petrochemical Offshore Workers: A Gender Perspective

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Abstract
This paper aims to identify offshore petrochemical workers’ dilemmas using a systematic literature review. The feminisation of labour examines how gender identities, norms, and power dynamics shape experiences, opportunities, and outcomes for different groups of people. This research employed two databases, namely the Web of Science and Scopus. The results indicated that 11 articles were accepted after the identification, screening and eligibility processes were undertaken. Based on the thematic analysis, four emerging themes include psychosocial risks, gender stigma, benefits, and social capital. The findings have practical contributions.

Keywords: Psychosocial Risks, Gender Stigma, Benefits, Social Capital

1.0 Introduction
Petrochemical offshore work is a highly demanding and challenging industry with attractive salaries and benefits but significant risks and uncertainties. Workers in this field face a wide range of physical, mental, and ethical dilemmas that can impact their health, wellbeing, job satisfaction, and motivation (Destrée, 2023). The working conditions on offshore rigs or platforms can be harsh isolating, and pose significant physical and mental health risks, such as exposure to hazardous chemicals and extreme temperatures. Despite the challenges, petrochemical offshore work remains a crucial and profitable industry, with many workers attracted to the high salaries and opportunities for career advancement (Lebdioui, 2022).

However, gender-related issues add another layer of complexity to offshore petrochemical workers' working dilemmas (Abuhelaiqa, 2020). Based on the feminisation of labour, the movement of females into the workforce has broken down men's control over specific fields (Wharton, 2012). The movement is attributed to low fertility, an egalitarian solid belief system, and adjustment on the government.
policy. Still, this movement heavily depends on patriarchal relations and gender perceptions to provide women with opportunities or disadvantages (Aytekin & Özşahin, 2020). In the context of petrochemical offshore work, applying a gender lens can help identify the specific challenges women and men face in the industry, such as discrimination, lack of representation, and inadequate facilities. It can also help to inform policies and practices that promote gender equity and ensure that women have equal access to opportunities and support in the workplace. Yet, there is a lack of studies on gender equality in the workplace (Belingheri et al., 2021).

Therefore, with the above arguments, this paper aims to provide a comprehensive literature review of the multifaceted working dilemmas faced by offshore petrochemical workers, explicitly focusing on the gender perspective. The review highlights the key themes and challenges that workers face in the industry and offers practical recommendations for addressing these challenges. In essence, this paper contributes to a deeper understanding of the working dilemmas faced by offshore petrochemical workers. It emphasises the importance of creating a more equitable and sustainable work environment for all workers in the industry.

2.0 Methodology
An examination was carried out through a systematic literature review (SLR) to explore the predicament encountered by offshore petrochemical workers from a gender perspective. Elliott et al. (2017) explained that an SLR involves collecting and synthesising research outcomes on each cycle phase, utilising well-organised, precise, and reproducible methods.

2.1 The review protocol – ROSES
The study followed the ROSES review protocol, which is explicitly designed for systematic reviews in environmental management (Haddaway et al., 2018). ROSES, or Reporting standards for Systematic Evidence Syntheses, provides guidelines and frameworks. The decision to choose ROSES over PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was based on several justifications outlined by Haddaway et al. (2015). One of these justifications is that ROSES requires experts’ quality assessment of selected papers. Additionally, ROSES supports the combination of different synthesis methods. It consists of three sub-measures: identification, screening, and eligibility.

Obtaining the data from the sub-measures was guided by the formulation of a research question. In this study, the PICo principle was used, which provides identification of the “Population” or “Problem”, the “Interest”, and the “Context” (Toronto & Remington, 2020). In this article, the O&G, or oil and gas women and men employees (Population), gender dilemma (Interest), and offshore (Context) were the variables of investigation. Thus, the research question for this study was, “What is the gender dilemma faced by O&G women and men employees working offshore?”

Identification was the first sub-measure searched for in the articles in the databases. Table 1 shows the search strings used in the research. The result indicated 371 articles in Scopus, and 2501 in Web of Science (WoS). The second phase of filtering these articles was through screening, which involved applying the inclusion criteria determined by the authors and removing any duplication. The inclusion criteria for the selection were: 1) articles published from 2010 to 2022, 2) full-text empirical research, 3) article, and 4) English as the medium of writing. The result showed a total of 24 articles remaining. In the final stage, the eligibility of each article was inspected through reading the abstracts. However, 13 more articles did not meet the research criteria. The selected papers from the screening phase were assessed by two experts who rated them as of high, moderate or low quality. As a result, 11 articles were ready to be analysed. Figure 1 shows the step-by-step selection process based on the three sub-measures.

<table>
<thead>
<tr>
<th>Terms</th>
<th>Search strings</th>
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<tbody>
<tr>
<td>Oil and gas</td>
<td>“Oil and gas” OR “petrochemical” OR “oilfield” OR “offshore”</td>
</tr>
<tr>
<td>Employees</td>
<td>“workers” OR “workforce”</td>
</tr>
<tr>
<td>Mental health</td>
<td>“depression” OR “mental disorder”</td>
</tr>
<tr>
<td>Gender</td>
<td>“femininity” OR “masculine”</td>
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<tr>
<td>Psychosocial risks</td>
<td>“Psychosocial risk factors”</td>
</tr>
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</table>

3.0 Results
The authors compiled 11 relevant articles that applied to this study. Four themes resulted from these articles’ thematic review: psychosocial risks, gender stigma, benefits, and social capital. Out of the 11 articles selected, five were published in 2018, three in 2020, and one each was published in 2019, 2021 and 2022 respectively.

3.1 Psychosocial risks
Psychosocial risks involve a wide range of challenges in the environment. Elser et al. (2020) conducted a cross-sectional online survey consisting of 566 residents from Texas. They found that the high level of workplace environment pressures (e.g., increased work demands, long shifts, and exposure to chemicals) and the continuous unconventional oil and gas development caused environmental distress among the residents.

On the other hand, Lightfoot et al. (2020) discovered that poor disaster management and post-disaster stress management policies resulted from unresolved psychosocial risks in disaster-related problems in the USA. In an Iranian O&G company survey, Khaksar et al. (2019) asserted that both genders faced negative impacts, such as job burnout and low work resilience in a hazardous work environment. Consistent with previous scholars, the authors found that poor facilities, policies and communication across the hierarchy contributed to
these negative impacts. Murphy et al. (2021), through their multi-method study, identified that most respondents had the perception that women would have lower resilience in facing psychosocial stressors compared to those who survived more than five years in the O&G industry. The study later interviewed 13 women and identified that a minority experienced a positive working experience in the O&G industry and perceived a harsh working environment as a norm in the work culture.

On another note, Mette et al. (2018) highlighted that employees with psychological detachment from work saved them from work stress. Although offshore O&G employees were swamped with quantitative job demands, their detachment skills ensured their survival in the industry.

3.2 Gender stigma
Research conducted within the O&G industry in North America and Western Europe identified low acceptance of female diversity, where femininity became a major threat to male employees (Shortland, 2018a). The study interviewed 26 female expatriates who reported they experienced sexual harassment, unfair treatment in career development and cuts on maternity leave, which is evidence of systematic workplace discrimination. Moreover, the companies’ policies on leave and work–life balance were less likely to accommodate the needs of women. Williams (2017) determined that many policies were not diverse and favoured men.

Moreover, Elser et al. (2020) proved that gender differences in treatment existed in the O&G sector. Female employees reported high anxiety about health and environmental issues that affected them and their families, compared to men. Younas et al. (2020) disclosed that both male and female employees were usually treated based on their normative gender roles, which explains that systematic discrimination against female employees still exists. Consistent with Murphy et al. (2021), female blue-collar workers in O&G production were viewed as going against the traditional social expectations for women as they forged careers in a male-dominated environment.

On a similar note, Lightfoot et al. (2020) proved that females were voiceless, especially in disaster management and recovery, since their roles were seen less important. When an oil spill directly impacted all Gulf Coast residents, women continued to be suppressed and experienced lower resilience towards the disaster. In another study focusing on male employees' wellbeing, Seaton et al. (2019) asserted that hegemonic masculinity, as prescribed for men had a perilous effect on men's mental health. As a result, they failed to discuss their spillover stresses at work and accumulated stresses at home. Interestingly, in Kuwait O&G companies, Jijin and Kashyap (2022) stated that no significant relationship exists between gender and tension among employees where they scored high in job
satisfaction. Furthermore, the researchers highlighted that people happy with their professions were more productive and had better lifestyles.

3.3 Benefits
Employment benefits or remuneration packages are perceived as one of the pull factors that attract future employees and retain current employees. A study conducted by Shortland (2018b) identified that some O&G companies had neglected the need for social protection policies for female employees, potentially impeding their survival in the industry. Similarly, Shortland (2018a) posited that childbearing, childrearing and childrens’ educational support would ease female employees’ fears of being neglectful mothers while pursuing their careers in the industry. Thus, formulating good family support systems would help deter their un easiness.

Mette et al. (2018) indicated that supplementary support in terms of education, social support and rewards in the workplace was highly beneficial to reducing workers’ pressures and stress. Additionally, Williams (2017) pointed out that policies with benefits enabling women to combine family life with their work routines and successful careers helped them fulfill the social responsibility of childbirth and childrearing as well as contributed to the productivity of the sector.

3.4 Social capital
Social capital is a critical element that supports employees’ wellbeing. Elser et al. (2020) suggested that positive reinforcement and active two-way communication brought about a sense of connectivity and understanding among employees and managers of both genders. Furthermore, Khaksar et al. (2019), in their study of an Iranian gas company, highlighted that those who leveraged good public relations by utilizing positive employee–manager relationships brought about high psychological resilience among employees and improved their mental wellbeing. In this way, the structural and relational components bound with social ties helped in easing communication while dealing in a hazardous environment.

Similarly, positive networking habits within an organisation sustained and actively developed an awareness of the importance of social support (Seaton et al., 2019). On the other hand, Lightfoot et al. (2020) postulated that social support was vital to facilitate social cohesion, especially for socio-demographic immigrants. Using the Job demand-resources (JRD) model, Mette et al. (2018) revealed that social support and influence at the workplace could increase one’s personal and job resources and quantitative demands, and reduce stress.

<table>
<thead>
<tr>
<th>No</th>
<th>Country</th>
<th>Authors</th>
<th>Year</th>
<th>Method</th>
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<th>Gender stigma</th>
<th>Benefits</th>
<th>Social capital</th>
</tr>
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<tr>
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<td>2018a</td>
<td>QL</td>
<td>√</td>
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<td>2</td>
<td>UK</td>
<td>Shortland</td>
<td>2018b</td>
<td>QL</td>
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<td>3</td>
<td>US</td>
<td>Williams</td>
<td>2017</td>
<td>QL</td>
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<td>Mette et al.</td>
<td>2019</td>
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<td>5</td>
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<td>7</td>
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<td>Younas et al.</td>
<td>2020</td>
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<td>8</td>
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<td>Murphy et al.</td>
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<td>9</td>
<td>Canada</td>
<td>Seaton et al.</td>
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<td>10</td>
<td>Iran</td>
<td>Khaksar et al.</td>
<td>2019</td>
<td>QN</td>
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<td>11</td>
<td>Kuwait</td>
<td>Jijin &amp; Kashyap</td>
<td>2022</td>
<td>QN</td>
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QL – Qualitative
QN – Quantitative
MM – Multi-Method

4.0 Discussion
This paper aimed to identify the dilemma offshore petrochemical employees face using a gender lens. The oil and gas industry is known for its challenging working environment, which can lead to significant psychosocial risks for workers, including physical and mental health and wellbeing problems. This paper analysed 11 articles from different countries, including US, Western Europe, Canada, Pakistan, Iran and Kuwait studies. The authors identified four main themes from the literature: gender stigma, psychosocial risks, benefits, and social capital. This discussion explores the root causes of these themes and provides recommendations for O&G companies to mitigate psychosocial risks and improve the health and wellbeing of their workers.

The cultural expectations of gender roles have influenced the perspective of many in perceiving women at work. Women are expected to adhere to traditional roles involving childrearing and caring, caretaking of older adults, and domestic chores, which often fail to translate into economic value.

In Hill et al.’s (2021) research, men involved in large-scale mining and O&G projects potentially manipulated their wives’ rights and exacerbated gender inequality. The women were expected to perform their gender roles, increasing their unpaid caretaking contribution to the economy, despite being forced to survive in a foreign land lacking social support. On the other side of the coin, women working outside the house were distressed by the double roles they had to perform as workers and caretakers. Most families worldwide are likely...
to be governed by patriarchal power widely accepted in societies, increasing women's probability of experiencing mental illnesses (Sudarso et al., 2019). In the O&G industry, substandard policies and implementation have contributed to a harmful situation for women. Many studies have recorded that women experienced psychosocial risks affecting employee benefits, widening the gender stigma around their employment. These include systematic discrimination (Kratf, 2022; Shortland & Perkins, 2020); lack of representation (Belingheri et al., 2021; Perks & Schulz, 2020); gender inequality (Pactwa, 2019; Sham et al., 2021); cultural conflict (Sham et al., 2021); and work–family conflicts (Sham et al., 2021). The systemic, organisational and individual barriers could erode women's trust towards the organisation, leaving them feeling alienated and disempowered (Belingheri et al., 2021; Shortland & Perkins, 2020). Hence, the organisation risked losing the human capital they had invested in their female employees after brushing up their skills for years.

In an analysis done in the energy sector, Shatilova et al. (2021) identified that the 'glass ceiling effect' had arrested women's movement in their careers. Furthermore, women were underrepresented in critical decision-making that could create change in this detrimental situation. Despite that, Jiang et al. (2017) identified no statistically significant differences in the incidence of mental health problems based on gender.

From a masculine point of view, men are expected to be strong and bear up to all challenges. However, this is not always the case. Men also expressed frustration in the demanding workplace. Thus, policy revamp should be undertaken immediately to ensure gender needs, equality, women's empowerment and work–life balance are stated clearly in the workplace blueprint and executed effectively (Sham et al., 2021). In promoting sustainable development among women engineers, a framework of equal work opportunities should be pushed forward and monitored to ensure it is not merely lip service.

The findings of this systematic literature review have several implications. Firstly, management should reassess their current policies to eliminate all elements of gender bias. This reassessment is crucial to realign the company's vision with the achievement of sustainable development goals (Goal 5 – Gender Equality). Secondly, the organisation should be sensitised to gender needs, particularly psychosocial hazards. Listening to employee feedback could identify and solve problems with room for improvement (Mathisen et al., 2022). Finally, despite the lack of studies on gender equality in the workplace (Belingheri et al., 2021), the study keywords expansion and grey literature inclusion should be considered in future studies.

The need for gender balance in the petrochemical offshore industry cannot be overemphasised. For future studies, programs to encourage more women to participate in the industry will require efforts to combat gender-biased attitudes, provide adequate support, and create policies to address specific issues affecting women. Addressing the working dilemma of petrochemical offshore workers, particularly women, will enhance their productivity and job satisfaction and promote gender equity, health, and safety in the workplace. Furthermore, there is a need for more research and studies to better understand the specific challenges facing women in the industry, identify best practices, and continuously evaluate programs aimed at promoting their safety and wellbeing.

Campaigns promoting mental health awareness, access to counselling services and stress management programs can help alleviate psychological risks. Addressing gender stigma and reducing inequalities in terms of benefits and opportunities can improve working conditions for all offshore workers, regardless of gender. Finally, governments and industry players must collaborate to create supportive working environments prioritising workers' mental health, safety and wellbeing. By addressing working dilemmas and promoting psychological wellbeing, we can improve offshore workers' futures and ensure sustainable energy production for our societies.

5.0 Conclusion
In conclusion, petrochemical offshore workers face a range of working dilemmas that affect their psychological wellbeing, including gender stigma, social capital and benefits issues. These risks can adversely affect their mental health, productivity, job satisfaction and quality of life. The findings conclude that immediate action and attention must be taken, especially among women workers. Women in the petrochemical offshore industry confront several obstacles, including gender discrimination, a lack of resources and assistance, and a lack of access to sufficient healthcare facilities. They must also contend with exposure to potentially hazardous chemicals, long working hours and harsh environmental conditions.

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Paper Contribution to Related Field of Study
This paper would contribute to the Occupational Psychology and Organisational Behaviour fields.

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