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VITAL EXHAUSTION AND PSYCHOSOCIAL HEALTH AMONG OFFSHORE PERSONNEL WORKING IN THE PHILIPPINES

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The thesis attached hereto, entitled **"Vital exhaustion and psychosocial health of offshore personnel working in the Philippines"** prepared and submitted by **MR. MICHAEL LAGARDE**, in partial fulfillment of the requirement for the degree **Master of Arts in Nursing** with specialization in **Adult Health Nursing** is accepted.

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We, the members of the oral examination panel for **MR. MICHAEL LAGARDE** unanimously approved the thesis entitled **"Vital exhaustion and psychosocial health of offshore personnel working in the Philippines"** The thesis attached hereto was defended on December 11, 2020 virtually for the degree of **Master of Arts in Nursing** is hereby accepted.

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Very truly yours,

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ABSTRACT

The offshore environment is a high-risk and demanding workplace exposing crew members to various physical and psychological stressors. Health and safety programs are implemented to prevent accidents and promote well-being among personnel. This study aims to determine the association between vital exhaustion and psychosocial health among offshore workers in the Philippines. Quantitative non-experimental descriptive correlational design was used. Standardized questionnaires namely: Maastricht Vital Exhaustion (MVEQ) and Copenhagen Psychosocial Questionnaires (COPSOQ III) were utilized to gather data from fifty-five (55) respondents. The majority of the participants were male, belong to late middle adult age group (41-60 years old), completed a bachelor's degree, were assigned in the maintenance and marine departments and have been working for 11-35 years offshore. Offshore workers have low vital exhaustion (VE) levels (*M= 5.25, SD= 6.66*) and good psychosocial health (PH) scores. Highest recorded scores fall under *Influence and Development (M= 76.16, SD= 16.61*), *Outcome Scales (M= 75.68, SD= 17.58*) and *Interpersonal relations and leadership* (*M= 68.08, SD= 11.35*). Lower mean scores in *Further Parameters (M= 47.27, SD= 24.73*) and *Demands at Work (M= 40.9, SD= 14.15*) also translate to favorable PH. There was a significant relationship among four (4) psychosocial health scales (p-value at .05), *Demands at Work* (< .001), *Interpersonal relations and leadership* (.001), *Further Parameters* (.001) and *Outcome Scales* (< .001), and the level of VE of offshore workers. There was also a significant relationship between VE (p-value at .05) and the demographic profile of offshore workers in terms of job assignment (.020) and work type (.002) however there was no significant association

between PH and all demographic variables considered in the study. Majority of the respondents also claimed that environmental conditions were well-designed *(M= 78.18, SD= 26.81*) and safety concerns *(M= 82.72, SD= 26.3*) were managed appropriately in the workplace.

Keywords: Vital exhaustion, psychosocial health

CHAPTER I

THE RESEARCH PROBLEM

Background of the study

An industry that brings needed fuel to cars, homes and factories is also considered to be one of the most dangerous places to work in. The offshore environment can be described as high-risk, isolated and demanding. Studies among American petrochemical workers and Danish merchants show that these group of labourers have mortality rates six times higher than other occupations ashore (Allison & Mandler, 2018; Borch et al., 2012). The reasons behind this disparity can be attributed to the higher number of accidents, cardiovascular diseases and lung cancer cases in the offshore setting according to Hjarnoe & Leppin (2013). Similarly, maritime jobs are associated with various mental, psychosocial and physical stressors higher than the jobs of people working onshore (Juozulynas et al. 2006; Comperatore et al., 2005; Cater, 2005 as cited in Oldenburg et al., 2009).

Employees deal with heavy machineries, toxic chemicals combustible materials, working at heights and confined spaces. Offshore workers toil long work hours in an isolated work environment for an extended number of days (Parkes, 2010). The respondents in this paper work for 28 days straight in twelve-hour shifts daily. Platform workers travel to work by chopper an hour away from the nearest heliport while those working in the shipping vessels join in port stations in Manila or in Batangas. Work could be demanding at times to meet client requirements and deadlines. Some workers deal with stress better than others.

A range of factors affect the over-all wellbeing of offshore workers and these include weather extremes at sea, being away from their families and communities, living and working in confined areas, risks posed by helicopter or ship travel and daily routine jobs that may push workers at times to their limits (Sutherland and Flin, 1989; Sutherland and Cooper, 1989; Parkes, 1998 as cited in Wei-Qing, 2001). The stress that workers experience in the process affects their health and it has an impact on their families as well (Cooper & Sutherland, 1987; Gann, Corpe, Wilson, et al., 1990; Parkes, 1992; Parkes, 1994; Ulleberg & Rundmo, 1997; Sutherland & Cooper, 1991; Rundmo, 1992; Aiken & McCance, 1982; Norman, Ballatine, Brebner, et al., 1988 as cited in Wei-Qing, 2001).

All offshore personnel are required to complete medical examinations biannually in Manila before they are deployed to ensure they are fit enough to carry out their job responsibilities. Fatigue is a well-studied topic among seafarers (Wadsworth & Smith, 2008) but its progression to vital exhaustion (VE) needs further investigation specifically in this group of workers. No study has been done to check the association of VE and psychosocial health (PH) among offshore personnel in the Philippines or elsewhere in the world. Having worked in several petrochemical sites in the past seven years in the Middle East and Africa, the proponent observed how stressful drilling operations can be and its effects on offshore workers. Constant pressure, tight schedules and risky work exposures can make them irritable, tired and drained at times.

Production operations in this deep-water gas-condensate reservoir might only last for another seven to ten years if no new gas fields are discovered (Department of Energy, 2018). Offshore work is unstable in the past years with the introduction of

renewable energy sources like wind and solar power. Jobs are also dependent on oil price and demand. Workers might be laid off if no new drilling or explorations projects are available. A total of 441,371 oil and gas industry layoffs worldwide were recorded in February 2017 by Graves and Company, a Texas consulting firm. Further job cuts will be observed in the oil and gas industry if crude oil prices play with the $50 range. Majority or 40% of the cuts were recorded in the US (178, 466), followed by 28% (124,000) in UK North Sea and 10% in Canadian oil companies (Jones, 2017).

The domestic shipping industry is also facing two main issues; contractualization and the shortage of deck and engine officers. Non-officers and non-technical crew receive low wages, have limited opportunities for skills and career advancement and limited social protection mechanisms. These are the main reasons why most seafarers, especially the young and highly-skilled mariners, join international shipping vessels (Anchustegui, 2011). Majority of junior officers are not at ease of securing another contract after their vacation if the crewing is casual (Carter, 2005).

Vital exhaustion and poor psychosocial health may not appear as a pressing issue at the moment in the installations but preventing the occurrence of vital exhaustion and poor psychosocial health is relevant in maintaining the current state of health of crew members onboard. Schnorpfeil and his group (2002) proposed in their study that VE is not just a cardiac health marker as predicted in many postcardiac arrest studies. It can also gauge the overall productivity and quality of life of healthy subjects or communities.

A report released by WHO (2004) mentioned that one out of four people may develop mental or behavioural disorders in their lifetime. Ranking fifth among the top ten leading causes of disability and premature deaths are psychiatric illnesses. Data

gathered by the Philippine Statistics Authority in 2010 show that 200,000 or 14% of the 1.4 million Filipinos with disabilities had mental illnesses (Lally, Samaniego & Tully, 2019). Work stressors faced by offshore workers in their daily tasks make them a vulnerable population in developing mental disorders. There is also a stigma placed on mental illness and patients often hide their symptoms. Psychiatric consults are quite expensive with only limited specialists practicing nationwide (Reyes, 2020). Thus, this study aims to assess the current levels of VE and PH to decrease the burden of disease among them and promote prevention strategies.

Statement of the Problem

If an individual is developing vital exhaustion, his psychosocial health will suffer gradually and might be unnoticed. The study's goal was to give an insight on the following inquiries:

1. Determine the level of vital exhaustion among offshore workers.
2. Determine the level of psychosocial health among offshore workers according to the following scales:
   2.1 demands at work
   2.2 influence and development
   2.3 interpersonal relations and leadership
   2.4 further parameters
   2.5 outcome scales
3. To determine the relationship between vital exhaustion (VE) and psychosocial health (PH) among offshore workers.

4. To determine the relationship between VE and demographic profile among offshore workers in terms of:
    4.1 Age
    4.2 Educational level
    4.3 Tenure
    4.4 Job assignment
    4.5 Work type
5. To determine the relationship between PH and demographic profile among offshore workers in terms of:
    5.1 Age
    5.2 Educational level
    5.3 Tenure
    5.4 Job assignment
    5.5 Work type

Objectives of the Study

The general objective of this study was to determine the association between vital exhaustion and psychosocial health among offshore workers in the Philippines.

Significance of the Study

Health and safety standards are priority goals in the offshore industry. This study will help crew members gain an understanding about the effects of physical and psychological stress in their daily activities. This research could also pave the way to the implementation of policies to improve health and safety programs. The results of this study will be shared to the corporate medical advisor and safety managers, and in that

way specific intervention can be applied to prevent the development of comorbid conditions associated with VE and PH like cardiovascular disease (CVD), obesity and other mental health issues. This research can also inspire other offshore nurses to develop their own studies that may benefit their practice in their occupational health settings.

Scope and Limitation of the Study

The limited number of subjects in this research was a main limitation to the applicability of results to other populations. Some crew members may have felt inhibition in placing their true feelings about work matters on paper for fear of being reprimanded by the management.

Another major limitation of this study was the cross-sectional nature of data that may not show causal relationship between VE and PH. There were also limited studies done in VE and PH among oil rig workers and seafarers to compare the results of the study. Longitudinal studies will be needed to explain how both variables impact the work performance and safety standards of the crew. Despite these limitations, the study has several strengths which include the assessment of VE and PH scores among offshore workers which is a first of its kind in this sector of the maritime industry. It also utilized validated measures to determine VE and PH levels among offshore workers.

CHAPTER II

THEORETICAL BACKGROUND

Review of Literature

Word searches in different occupational health journals and search engines like EBSCO, Proquest and Science Direct were used to come up with related studies to this topic. The study draws inspiration from a research done on police officers in Des Moines, Iowa. This population just like offshore personnel is exposed to various stressors and risks in their daily operations. Shifting work, violence and risky operations faced by police personnel can contribute to the development of VE. The researchers found a significant difference in the relationships of CVD with perceived stress, vital exhaustion, and age (Ramey et al., 2011). There was another study made in Iran to correlate the relationship of psychosocial factors and work ability index (WAI). Mazloumi et al. (2012) have concluded that a combination of the “psychosocial characteristics” of jobs and “individual resources” of employees can promote work ability.

The oil and gas industry has three main sectors namely upstream, midstream and downstream operations. The upstream sector is concerned with the exploration and drilling of underwater or underground natural gas or crude oil fields. The midstream sector deals with transportation, storage, and processing of oil and gas. Finally, the downstream sector refers to the refining of crude oil or purifying natural gas (Muspratt, 2019**)**. The group of offshore workers in the natural gas platforms in Palawan, Philippines are involved in the midstream and downstream segments in the duration of this study. This applies as well to seafarers manning cargo vessels that carry supplies to and from the platforms.

VITAL EXHAUSTION AND PSYCHOSOCIAL HEALTH

There are three main platforms that house 30-40 crew members. The average number of crew members in the shipping vessels also included in this study was 17. The seafarers are responsible in distributing needed materials and supplies to the platforms. Jobs onboard include maintenance of the engines, organizing decks, transfer of loads from vessel to platform, crane activities, watchkeeping and administration tasks.

All employees work for 28 days and go on days off for another 28 days. Fatigue due to noise, sleep problems, dynamic and stressful environment can strike anytime especially during critical operations with laborers working 12-hour shifts daily. It may lead to poor health and work performance and even accidents (Strauch, 2015**)**.

2.1 Vital Exhaustion

Vital exhaustion is defined as a condition where patients experience fatigue, hopelessness, listlessness, loss of libido, increased irritability and sleep problems. In a collaboration done by Appels with Mulder (1980), they ruled out the presence of VE as a predictor of another myocardial event within ten (10) months and it can also be prognostic of a future myocardial infarction.

Appels and Van Diest (1991) investigated how vital exhaustion (VE) is different from mental depression. Both depression and VE are strongly correlated (Wojciechowski et al. 2000) however other notable features of VE include the symptoms mentioned above. Vital exhaustion is related to burnout which is defined by the team of Maslach & Laiter (2014) as a condition where a person manifests excessive fatigue, pessimism, detachment and feeling of not being able to accomplish a task at work. The International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) also

categorizes a “state of vital exhaustion” with a diagnosis code Z73.0 or burnout. The terms VE and burnout are used interchangeably by several researchers depending on where a patient experiences the group of symptoms. They identify it as burnout if it is work-related overload and VE if associated to family and financial stress (Hallman et al. as cited in Kakiashvili, 2013). The American Psychiatric Association (APA) however still does not classify burnout as a disorder under DSM-5.

The team of Bianchi (2017) argued that VE is just a subclinical form of depression based on the symptoms a patient experiences. They also mentioned that there is an overlap between VE and depression with the use of items listed in the Maastricht Vital Exhaustion Questionnaire (MVEQ). They claim that depression may have been a cofounder in VE research in relation to congestive heart disease (CHD). The group of Frestad and Prescott (2017) refutes this claim stating that VE and depression are two different psychological constructs. There were only a few studies that show that both concepts overlap and majority of patients that are vitally exhausted do not necessarily meet the criteria for depression and vice versa. They still conclude that VE is associated with increased risk of fatal and nonfatal CHD.

The exact mechanism of VE is yet to be determined however researchers assume that a person experiences it if his coping mechanism to chronic stress fails. (van Diest and Appels, 2002; Noser et al., 2018 as cited in Schoch et al. 2018). The original proponents of the tool, Appels and Meesters, found that VE is associated with subjects having a Type A Behavior Pattern (TABP) when they used the structured interview version of the MVEQ termed as Maastricht Interview for Vital Exhaustion Questionnaire (MAVI). The same findings were reported by Falger (1989). These results indicate that

respondents who are with TABP and are also hostile are at risk to exhaust themselves. Those who are suffering from angina pectoris have elevated interview scores indicating that VE increases the risk of angina pectoris. Similar results were noted among hypertensive controls who registered higher VE scores over non-hypertensive controls.

Recent studies on VE have shown that patients suffering from this condition have increased levels of cytokines and endothelial dysfunction which are early markers for CVD (Yudkin et al., 2000). Majority of the studies on VE with associated CVD factors were done on high-risk patients or those with a prior history of cardiac problems (Cene et al., 2012; Victor et al. 2011, Koertge et al. 2007). Wirtz and his group (2003) did a research on healthy men and found that exhausted men had higher levels of inflammatory markers than those who are not exhausted. In addition, the dexamethasone levels of the former group were not as responsive to interleukin-6 release *(p=.0l)*. Their group hypothesized that the dysregulation of monocyte cytokine production could be a pathway connecting exhaustion to coronary artery disease. Patients that were involved in the Atherosclerosis Risk in Communities showed that social isolation as an independent risk factor for the development of heart failure and it is strongly influenced by VE (Cene et. al, 2012). In that same community of 11,445 participants, Garg et al. (2020) concluded that VE is also correlated with an increased risk of atrial fibrillation (AF) incidents. In a span of 23.4 years, 2220 cases of AF were recorded. Their investigation reveal that subjects belonging to the 4th Vital Exhaustion Questionnaire (VEQ) quartile (referent = 1st VEQ quartile) and were on antidepressants showed increased risk for AF (hazard ratio = 1.45, 95% confidence interval 1.29–1.64

for VEQ; hazard ratio = 1.37, 95% confidence interval 1.11–1.69 for anti-depressant use).

Vital exhaustion which is characterized as a mental state of psychological distress is also associated with the risk of developing dementia through neurologic and cardiovascular mechanisms. Islamoska et al. (2019) substantiated this finding after observing a 2% increase in dementia incidence for every additional VE symptom (IRR = 1.024; 95% CI: 1.004–1.043).

2.1.1 Maastricht Vital Exhaustion Questionnaire

Appels and Meesters developed this tool to find an explanation on the unusual tiredness and sudden death among patients who had myocardial infarction (1980). From the initial interviews, patients mentioned the symptoms they experience post-MI. From the cluster of complaints they labeled it as vital exhaustion. The questionnaire back in 1980 is initially composed of 63 questions and after testing it between healthy controls and coronary cases they came up with form A of the Maastricht Questionnaire (MQ). The final version or form B of the questionnaire has 21 items, and it was formulated in 1987 after an item analysis of form A. Form B was used in this study. Each item has three answer categories, *Yes*, *?* and *No*. If a respondent gives a confirmation it will coded as 2. If they are not sure or don't know it will be coded as 1 and if they answered No it will be scored as a 0. This scoring applies to all items except for questions 9 and 14 which will reverse coded: Yes= 0, No= 2 and Not Sure/Don't know=1. The range of scores are between 0 to 42 and the cut-off point between "exhausted" and "non-exhausted" subgroups is a score of 17 or higher.

2.2 Psychosocial health

Psychosocial health is defined by WHO (2001) as an important link between mental and physical well-being. It is multidimensional in scope because it deals about a person's mental, emotional, social and spiritual health. The mental aspect explores his thinking process and how he deals with life's challenges constructively. The emotional part talks about feelings or subjectivity of a person. The social bonds, social support and someone's adaptability to life issues comprise the social aspect. Finally, the spiritual component shows an individual's feelings of belongingness and connection to people, nature or to a higher being.

Psychosocial risk factors are organizational aspects that affect the psychological safety and health of employees (CMHA, 2001). These factors include the interaction between work content, work organization and management, other organizational and environmental conditions, and the skills and needs of the workers (International Labor Association, 1986). In a study done by Niedhammer and Chea (2002), psychosocial factors were found to be significant contributors to the health of the workforce especially with their cardiovascular health.

Psychosocial factors are associated with several demographic variables like age, education and work standing. In a study on job stress and mortality in Poland, the proponents found that older men exposed to jobs with high physical demands regardless to the level of control had 2.5 times higher mortality rates compared to the reference group (Tobiasz-Adamczyk, Brzyski, Florek & Brzyska, 2013). As with education and work standing, the Framingham Offspring Study shows that lower

mortality rates were associated with men with higher levels of education, income and work standing (Eaker et al., 2004).

Psychosocial health is correlated with work demands and interpersonal relationships among employees. In a study done on employees of four (4) medium-sized and large companies in Switzerland, researchers discovered that frequent interruptions, growing workload, monotony and low social support have a great impact on their employees' mental health. It also revealed that time pressure, poor promotion and job insecurity were the factors that affect self-rated general health (Hammig & Bauer, 2014). A research done among Chinese seafarers reveal that those who received a higher level of social support had better quality of life scores as compared to those who only had medium or low-level social support group (Xiao et al., 2017). These results reflect findings in elderly people with chronic diseases; social support improves their health and quality of life (Ekback, MP et al., 2014, Staniute, M et al., 2015, Gao, Y, 2013, Ke, X et al., 2008 as cited in Xiao et al., 2017). Support from family, friends, neighbors and other members of the community help a stressed seafarer cope with the stress, overload, fatigue, and emotional tensions posed by maritime work. Social support and positive coping style have been found to be correlated to better mental health in a survey among Chinese seafarers using the SCL-90 scale. (Li, Y, 2007, Wang, Y, 2010 as cited in Xiao, 2017)

Hystad and his colleagues in Norway (2014) found out that seafarers who reported high psychological demands and who think their safety climates are handled poorly felt more mentally and physically fatigued and lack energy. Employees with temporary job status or are still in the apprenticeship period were also more fatigued and had lower

levels of energy as compared with workers with permanent contracts. Also, younger respondents (24 and younger) yielded the same results as compared to the next age bracket (30-39 years). Researchers explain that temporary and younger crew members are less experienced and exposed to more physically and mentally demanding conditions offshore. Apprentices also endure more challenges to prove their worth to supervisors that help them get regular contracts. To secure their jobs, seafarers must be fit for work. Being sick onboard is unfavorable for it can result into termination or replacement because an immediate reliever for someone's post can pose significant logistical challenges. Several of them stay at work and ignore their ailments posing a threat to their health and safety (Carter, 2005).

In a study done among older Swedish mariners, Rydstedt and Lundh (2012) observed that work demands were highly related to general mental health as well as to perceived stress of the respondents. There is no significant difference between how older and younger employees adapt to general mental health issues but the former reported higher perceived stress. To encourage continued work performance and mental health in increasing work demands, this group of older employees need enough support from management and colleagues.

Role clarity refers to how employees understand their job responsibilities, tasks, work methods, and priorities. It leads them to a higher performance in the organization (Wiljinands, 2014). Swedish engine officers expressed increasing levels of role conflict because of changes in their work roles, work conditions, increase regulatory requirements, advances in automation and computerization (Rydstedt & Lundh, 2010).

This prompts the need to educate themselves further to cope up with the everchanging demands of work in the maritime sector.

Because of hard working conditions on a drilling platform, findings from a study done by Leszczyńska and Jeżewska (2010) in Poland reveal higher objective stress levels over subjective stress on offshore crew members. Higher general and intellectual demands at work yield stronger attachment to the firm but greater stress levels at home. Conversely, high psychophysical and responsibility demands result in tighter attachment to the firm and greater work satisfaction. Role conflict also results in greater psychical burden and stress at home and thereby weakening an employee's effectiveness and reducing work satisfaction.

Layoffs due to production cuts and low oil prices increase the anxiety levels of personnel as the job capabilities of driller and roughnecks are mostly limited in the offshore sector. It will also lessen the remittance they send to their families in their home countries due to salary cuts. Psychosocial factors such as stress and depression can trigger multiple disease process like CVD and low-grade inflammation processes through both direct and indirect pathways (Hoekstra, Leiker & Twisk, 2012).

Life at sea is not all about stressful working conditions. Offshore workers do find contentment and job satisfaction if their PH needs are met. This applies to the case of 1,700 Polish seafarers who registered high ratings in their social relationships (16.27), psychological functioning (15.62), and environmental conditions (15.51). This is attributed to the higher levels of education, happy marriages, good healthcare and adequate standards of labor and social conditions reported by the respondents. (Jeżewska1, Grubman-Nowak & Moryś, 2015). A study on Croatian seafarers reflects

the same results. Main sources of job satisfaction include financial stability and security, the ratio of work days to days off, the quality of days off, and the nature and dynamics of work. Separation from home and family along with tax burden and non-compliance with safety standards are some of the sources of job dissatisfaction (Slišković & Penezić, 2015).

2.2.1 COPSOQ III

Psychosocial factors gauge how workers respond to various work stressors and demands. The Copenhagen Psychosocial Questionnaire (COPSOQ) is an internationally recognized instrument that can be used in majority of work settings as a risk assessment tool. This tool was used to describe the PH of workers onboard, one of the main variables in this study. This questionnaire has been utilized to gather information among employees regarding work environment development and follow-up of organizational changes (Nuebling et al., 2014). Five main scales are explored in this survey and they include “demands at work”, “influence and development”, “interpersonal relations and leadership”, “future parameters”, and “outcome scales” (Nuebling, M. & Hasselhorn, HM., 2010).

COPSOQ was developed in 1997 by Kristensen and Borg of the Danish National Institute for Occupational Health. It has three versions COPSOQ I, II (Kristensen et al., 2005) and III (2018). When COPSOQ II was released, new and relevant topics were added that were not included in the original version (NRCWE, 2007). The new scales that were added are ‘work pace’, ‘variation of work’, ‘rewards’, ‘horizontal trust’, ‘vertical trust’, ‘justice and respect’.

This research instrument is considered as a generic, valid and comprehensive tool because it tackles most of the factors that employees face in their work environments. Psychosocial issues, health, well-being, personality traits, coping mechanisms and sense of coherence are among the concepts that it can present. Psychosocial factors are just too broad to encapsulate in one theory, so this tool uses a variety of theories to shed light on the multidimensional aspects of the workplace (Kristensen et al., 2005).

The questionnaire comes in three different lengths according to where the tool will be used. There is a long version for research purposes, a medium-length version for work environment professionals and lastly a shorter version for the workplace. In July 2018, the group of Nűbling et al. released the third version COPSOQ which has 157 items with 31 core items. To reduce the response burden among subjects in this study, the shorter version with 37 items was prepared. There were 31 “core” items with two (2) items added regarding *work environment/safety* from the “beta” version of COPSOQ III (Occupational Health Clinics for Ontario Workers, 2018). Another four (4) questions were also included under *conflicts and offensive behavior*. Questions on *work environment/safety* were added to show if workplace conditions and safety concerns are addressed properly. Items under *conflicts and offensive behavior* tackle issues on sexual harassment, violence and bullying among workers.

2.3 Seafaring

Filipino seafarers are in demand in different offshore vessels from cruise ships to cargo tanks. The country is regarded as the manning capital of the world for it is the largest supplier of seafarers in the global labor industry (Evangelista, 2002 as cited in Anchustegui, 2011). In 2014, 402,000 Filipino seafarers were deployed in various

locations worldwide accounting to almost 30% of the global maritime workforce moving 90% of world trade (TESDA, 2017).

The Philippine maritime industry is vital in the country's growth for it generates more than $5 billion in terms of remittances amounting to 9.8 % of the Gross Domestic Product and 8.3 % of the Gross National Income (CFO, 2016 as cited in TESDA, 2017). The country is composed of 7,641 islands and shipping is a major infrastructure that links people in every region.

The Maritime Industry Authority (MARINA) is the government agency under the Department of Transportation and Communication (DOTC) that oversees the integration, development, promotion and regulation of the maritime industry in the Philippines. A registered seaman must pass standard requirements as a licensed mariner for the seamanship profession and trade. He/she must possess a valid Seafarer's identification and Record Book (SIRB) from the MARINA (TESDA, 2017).

Seafaring involves work and non-work activities in constrained environments. It is regarded by some crew members as secluded or restricted. There is an alternating schedule from time spent home and work at sea. Psychosocial issues faced by offshore workers are greater than those who are land-based in terms of long-term health, safety and performance. Personnel onboard are divided according to ranks, departments, nationality and watch. This may leave some members isolated in the process (Carter, 2015). A study done regarding Filipino seafarers show that two-thirds (66 %) of the respondents did not have serious problems relating with multinational crew while the other 31% experienced some problems that include language barriers, arrogance and

the lack of trust of non-Filipino superiors in them (National Maritime Polytechnic Manila, 2009 as cited in Oldenburg, 2009).

Higher ranking engineering officials in an Italian shipping company registered greater anxiety and dissatisfaction levels as compared to the deck crew (Carotenuto et al., 2013 as cited in Xiao, 2017). Major responsibilities and accumulated job tasks in port stays are some of the major reasons why officers report high stress levels (Oldenburg et al. 2009). Non-officers on the other hand have varying lengths of tour at sea which may extend to more than 10 months onboard (Jensen et al. 2006; Jensen 2009 as cited in Oldenburg, 2013). During their hitch, permanent job-related physical factors on vessels like less leisure time, constant noise and vibration during work and rest hours contribute to job stress (Oldenburg, 2013).

Seafarers are accustomed to tension and stress due to high demand and low control characteristic of their jobs onboard. Prevention measures have been dealt with managerial and organizational approach rather than clinical (Carter, 2005). Mental health and perceived stress were consequences of higher work demands in a research conducted among 685 Swedish seafarers (Carotenuto et al., 2013 as cited in Xiao, 2017).

Early symptoms of burnout are manifested individually relative to a patient's culture and it gradually develops over time. It might be interpreted differently or missed by medics onboard. The burnout risk is also dependent on the workload and vessel type where they are working. This is more evident among seamen assigned in tankers and passenger liners over those who are in cargo or container ships (Oldenburg, 2013). If not addressed, burnout may lead to unhealthy coping behaviors that include mental

health disorders, drug and alcohol misuse (Carter, 2005). It can also reduce their alertness at work that results in workplace incidents (Spurgeon et al.1997; Comperatore et al. 2005). Symptoms of burnout were observed among German seafarers (n=264) like emotional exhaustion (10.8%), risk of depersonalization (14.0%) and low sense of personal accomplishment (62.2%) (Oldenburg et al., 2009 as cited in Xiao, 2017).

Synthesis

For the past thirty-years, findings on VE have shown that it is not just a cardiac health marker for patients who suffered myocardial infarction. It has been proven in numerous studies that it has a key role in gauging the overall productivity of the workplace and predict CVD events. Schnorpfeil et al. (2002) claims that VE is a warning signal that could impair job performance among healthy subjects in the workplace and predicts loss of capital because of impaired productivity among workers.

With all the psychosocial stressors discussed above it can therefore be concluded that maritime workers, both seafarers and oil rig workers, are at risk for health-related issues and accidents. The safety and well-being are of utmost concern among contractors and stakeholders. Because of hazardous working conditions, the hospitalization and mortality rates among seafarers are higher than their age-matched peers (Andruskienė, Barsevičienė & Varoneckas, 2016).

A meta-analysis done by MacLachlan, Kavanagh and Kay (2012) regarding maritime health studies from 2000-2010 revealed the need to come up with more researchers particularly in *psychological functioning* (10.61%) and *telehealth* (7.58%) to improve understanding and conduct of health care services particularly in this vulnerable population. Majority of the studies were also conducted in Europe (Poland, 40 and

Norway, 19) but only a few in Asian countries like the Philippines, India and Middle Eastern counterparts. These Asian countries comprise majority of maritime workers both seafaring and in drilling platforms. More than a hundred papers were done on seafarers but only 4 on oil rig workers. Drilling operations just like seafaring tasks are associated with relevant mental health risks (Carotenuto et al., 2012). Legal implications of health studies posed by several drilling companies inhibit researchers from getting enough data from oil rig installations. The goal of this study is to utilize findings to improve knowledge sharing on maritime health integrating related psychosocial factors that are present in various maritime settings and groups.

Theoretical Framework

Majority of current research describes stress experienced by offshore workers but only a handful of these studies describe if it leads to VE. Myra Estrine Levine's Four Conservation principles was used a guide to discuss the association of PH and VE.

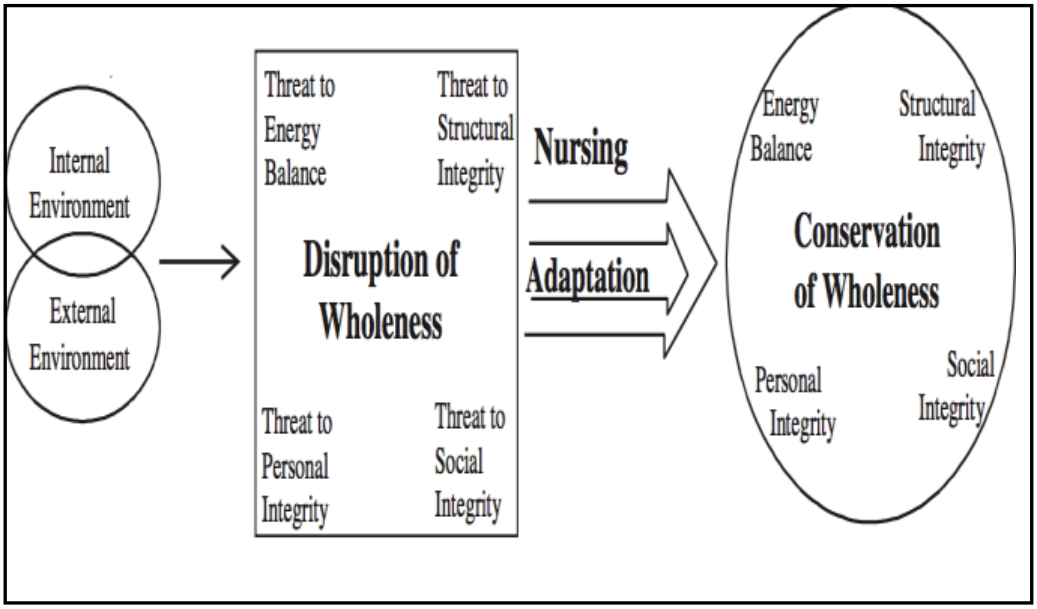
The focus of the theory is to promote wholeness and adaptation through the conservation of energy, personal, structural and social integrities. Adaptation describes how a worker copes to the realities of his health situation whereas wholeness refers the totality of his internal and external environment. Conservation is the capability of a person to function in stressful events and effectively respond to changes while maintaining his uniqueness as a person (Petiprin, 2016). As applied to this study, for an individual to achieve wellness, he should maintain a balance of all four (4) conservation principles. A disruption in either his internal or external environment is a threat to his health.

If various stressors go beyond the level of adaptation of a worker, it could lead to the disruption of energy levels causing VE. This is turn can affect his work performance and morale leading to a breakdown of his physical, structural and social integrities as correlated to poor PH.

Figure 1 shows how Levine stressed the role of nurses in helping patients achieve wholeness through interventions that maintain the four conservation principles.

Figure 1

Myra Levine's Conservation Model (Petiprin, 2016)



Conceptual Framework

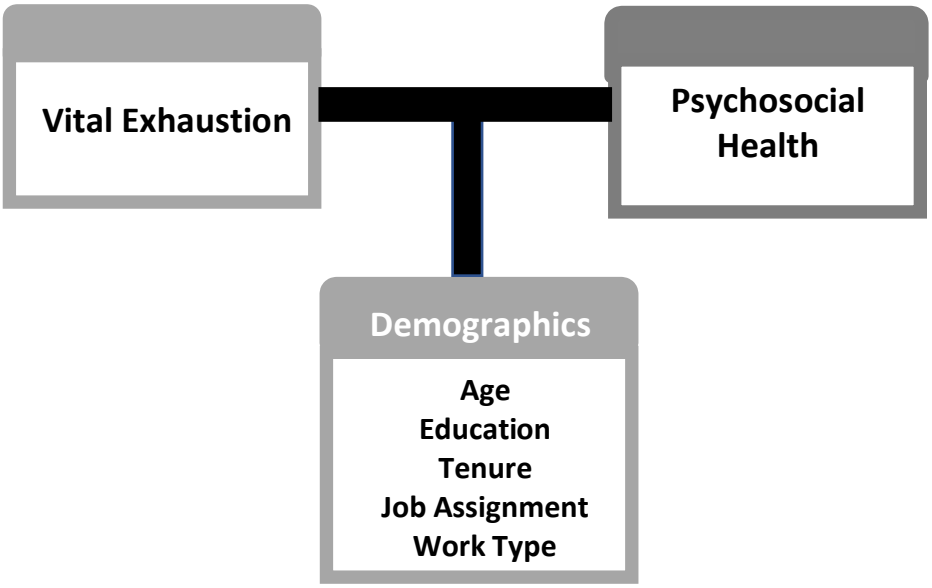
An inverse relationship between VE and PH was expected in this study as depicted in Figure 2. When workers are experiencing burnout, their VE scores will be high and their PH scores will be low. When workers have high VE levels, it could mean that their adaptation and conservation strategies are no longer effective. The VE and PH scores

will vary among respondents according to their age, educational level, tenure, job assignment and work type.

Personnel who are more engaged in physical tasks and are directly involved in drilling/deck/maintenance operations may register higher VE and lower PH scores as compared to respondents doing clerical and administrative work. Also, more experienced and highly educated workers may exhibit better VE and PH scores.

Figure 2

Relationship between vital exhaustion and psychosocial health as mediated by demographic factors



Operational Definitions

Here are some of the terms that were discussed in the succeeding chapters with their definitions:

- Vital exhaustion- the independent factor in this study and is considered as a group of symptoms comprising of physical exhaustion and feelings of hopelessness right after coronary heart disease events such as myocardial

infarction (Carrol, 2013). The MVEQ was used to measure VE among study participants. It is a 21-item version the can elicit feelings of fatigue, irritability, and demoralization (Gillings School of Public Health, 2016). The scores that were obtained range from 0 to 42, the higher the score the greater is the level of VE.

- Psychosocial health- is a multidimensional outlook on someone's health and *quality of life* depending on the psychosocial factors experienced in the workplace. The updated version of the COPSOQ III questionnaire released in July 2018 was used to measure different scales of psychosocial health. Values obtained from psychosocial scores were utilized to measure psychosocial health, the dependent variable in this study. Participants answered the questionnaire by choosing options in Likert scale that best defines their experiences or response to the following scales.
    - demands at work- describes the amount of time and effort exerted in accomplishing a task. It also shows how emotions play a part in dealing with job demands and relationship with colleagues.
    - influence and development- the degree of freedom that a worker has in the conduct of his daily activities. It also gives a picture on how an employee values his job depending on the growth opportunities in the workplace.
    - interpersonal relationship and leadership- defines the involvement of workers about important decisions, changes or career path. It also gives an idea on how dedicated the management is in supporting its subordinates.

- further parameters- describes the insecurity experienced by workers in their tenure at work. It states the likelihood of a worker getting laid off or lose his job due to his performance, attitude or work requirements
- outcome scales- refers to the overall perception of one employee on how happy he is at the workplace and his current state of health (both physical and mental) while staying on the job.

- Demographic Factors
  - Age- measured in number of years and for this study it is divided into two brackets patterned according to Medley's Life Satisfaction across Four Stages of Adult Life (1980). First is the early adulthood to early middle age group whose ages are between 20-40 years old and second is the late middle age group whose ages belong to the 41-60 age bracket.
  - Educational level- categorized into two groups: bachelor and undergraduate. Those who completed elementary or high school levels or hold a vocational or diploma certificate will be classified in the undergraduate group.
  - Tenure- number of years personnel has been working offshore.
  - Job assignment- classified into office, deck, rig floor and maintenance operations. Marine personnel mainly deal with decision making, navigation, supervision and other clerical works while deck crew members are involved in lifting, crane, manual handling and drilling operations. Electricians and mechanics are under maintenance jobs.
  - Work type- describes if the job being performed involves physical or mental tasks or both.

Research Hypotheses

H_a: There is a significant relationship between the level of VE and PH among offshore workers.

H_a: There is a significant relationship between the level of VE and demographic profile of offshore workers.

H_a: There is a significant relationship between the level of PH and demographic profile of offshore workers.

Chapter III

RESEARCH METHODOLOGY

Research Design

This research used a quantitative non-experimental descriptive correlational design to assess the relationship between vital exhaustion (VE) and psychosocial health (PH) of employees in their work sites. The Maastricht Vital Exhaustion Questionnaire (MVEQ) was used to measure the VE levels while the Copenhagen Psychosocial Questionnaire (COPSOQ**)** III was utilized to determine PH.

No treatment or intervention was done in this study. The current VE and PH levels of the offshore personnel were gathered from surveys in various installations from November 2019 to July 2020. Different workers are exposed to various work demands respective to the department they are working in. Some carry heavy materials and are working outdoors for longer periods while some stay indoors and do clerical work. One extraneous variable considered were the environmental conditions at the time of data collection. During the peak of summer, the heat index rises from 33-36 degree Celsius on any given day. Summer months last from March to late June. Workers also encounter torrential rains from July to December. Operations might need to be halted in severe weather conditions like in typhoons. Another variable that may affect findings were shift timings. Several individuals are working night shift and majority of the crew members have a short change every two (2) weeks meaning they adjust their 12-hour duty into split shifts timings to accommodate incoming and outgoing crew members. The organizational and work set-up in the platform and shipping vessels were also considered as extraneous variables. Due to the nature of offshore jobs, platforms and

shipping vessels are composed mostly of male crew members with limited female subjects participating in the study.

Sampling Technique

The quantitative approach is appropriate in the study because interval/ratio data was gathered from the participants like their VE and PH scores. The total population for each platform was less than 40 individuals while average number of crew members working in shipping vessels was 17. Due to the small sample size, total population sampling technique was used. The proponent sought the assistance of onshore coordinators in Manila and Batangas Port to handover questionnaires to medics or managers who then distributed the survey kits to their crew members. All qualified respondents were recruited to fill in the questionnaires. Only employees within 21-65 years old, can understand English/ Filipino, presently working on the data collection dates were accommodated in the study. Crew members on vacation were given a chance to participate in the study once they arrived onboard. Also, only mainstay employees can participate meaning third-party contractors who are working for short-term projects were considered ineligible for the study. All those who are less than 20 years old and above 65, do not understand English were excluded in the study.

Research Setting

The study was done in natural gas field platforms and two shipping vessels that supply materials to the latter. The installations are located 50km off the coast of Palawan Island. The three platforms are supported by a concrete gravity sub-structure (CGS). These are accessible via chopper an hour away from the nearest heliport. Commercial operations began in 2001 and so far, it has generated USD 10 billion

revenues to the Philippines and supplies cleaner fuel or 30% of the power needs of the country. The natural gas obtained from the field is supplied to five Luzon power plants producing 3,200 megawatts. Two additional platforms were recently added in 2013 to extract more natural gas that travels thru a 504-km (313 mile) subsea gas export pipeline to be processed further in an onshore gas plant in Batangas.

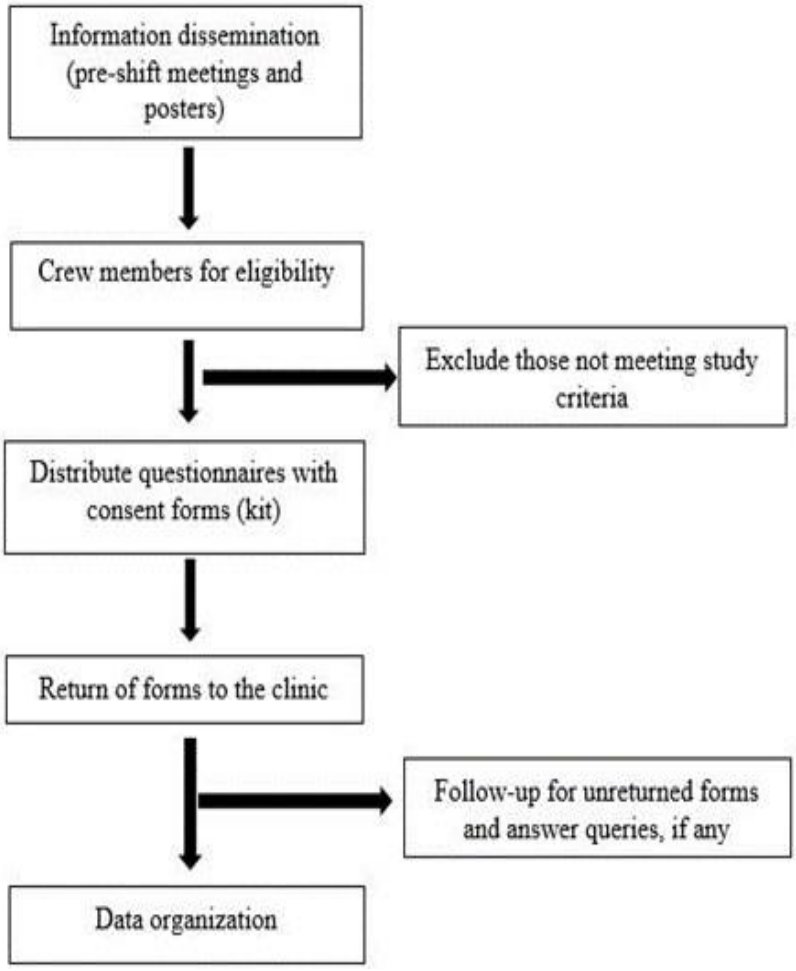
The two ships are modified ROV/construction support vessels weighing approximately 4000 tons each and are used for construction, inspection, logistics and subsea surveys. Both travel to and from the natural gas fields, Batangas and Manila ports to procure materials that are utilized in platform operations.

Data Collection Methods and Procedures

After obtaining ethics approval from UPOU and worksite management, questionnaires and consent forms were prepared. Information about the study, its purpose, how data were collected and analyzed, and participants' confidentiality were disseminated in pre-shift meetings by rig medics and installation managers. Posters were displayed about the proposed study to encourage participation. Two days after the information campaign, questionnaires and consent forms in enclosed envelopes (kit) were distributed to qualified subjects. Participants were given 10 days from date of distribution to return the forms to the clinic. A token was given once the kit was given back. Completeness of the answers was checked and questions regarding the items, if any, were answered. Follow-up was made for those who were unable to return the questionnaires in the prescribed period. Data were collated, organized and analyzed. The proponent's email address and phone number were indicated on the consent forms just in case respondents have additional questions regarding the study.

Figure 3

Data collection procedure



Research Instrument

The Maastricht Vital Exhaustion Questionnaire was used to measure VE among study participants. It is a 21-item version that elicits feelings of fatigue, irritability, and demoralization (Gillings School of Public Health, 2016). The scores that were obtained range between 0 to 42, the higher the score the greater is the level of VE. The cut-off score between exhausted and non-exhausted subjects is 17. Studies done to measure the validity and reliability of this questionnaire were done on subjects who have been

hospitalized after an initial episode of myocardial infarction (Meesters & Appels, 1996). Based on the scores obtained in their research, the interview measures an internally consistent construct and high interrater agreement. Validity and reliability tests on this tool show a Cronbach's alpha of 0.83 (Appels, 1997; Appels & Schouten, 1991b; Kopp et al., 1998). The applicability of this questionnaire was helpful in determining the VE levels of the crew.

Only 31 "CORE" items from the long version COPSOQ III with 156 questions (Nűbling et al., 2018) were used to reduce response burden among busy crew members. Two (2) items regarding *work environment/safety* from the "beta" version of COPSOQ III (Occupational Health Clinics for Ontario Workers, 2018) and four (4) questions under conflicts and offensive behavior and four questions under *conflicts and offensive behavior* were added as well. Those additional items do not constitute any PH score or any of the five scales of COPSOQ III. Please see Appendix F for a detailed list of the said scales, number of questions per topic and Cronbach alpha scores for each subscale. Majority of the items listed in the questionnaire can be rated in a Likert scale with five response options (Always, Often, Sometimes, Rarely and Never/Almost Never). Each of the choices corresponds to an assigned value (0, 25, 50, 75 and 100, respectively). There was only one scale with four choices which is *work life conflict*. In this case, each option was scored 100, 66, 33 and 0 respectively. Each scale was calculated from the mean scores of the items that make up that same dimension and will be compared to the overall mean and SD gathered from 2561 respondents from COPSOQ study done in Germany (Nűebling, Hasselhorn and Hofmann, 2006). High scores correspond to high values on the respective scale. Thus, a high score on job

satisfaction means a high satisfaction rate while a low score on influence means a low level of influence at work.

In most cases high levels are “good” or “healthy”. The exceptions are quantitative demands, work pace, emotional demands, role conflicts, job insecurity and work-family conflict.

Table 1 was the interpretation key used to classify the average level of agreement for each statement derived from COPSOQ III to determine PH. A mean score obtained for every question for each of the five scales was compared to a rating scale to come up with a verbal description.

Table 1

Description of scale of the psychosocial health among offshore workers

Scale	Rating Scale	Verbal Description
100	80.1 to 100	Always/ To a very large extent
75	60.1 to 80.0	Often/ To a large extent
50	40.1 to 60.0	Sometimes/Somewhat
25	20.1 to 40.0	Seldom/ To a small extent
0	0 to 20.0	Never/Hardly ever/To a very small extent

In determining the association of VE and PH, the following table was used. The strength of association between two variables mentioned ranges between -1 (perfect negative correlation) to 1 (perfect positive correlation). Cohen (1992) has the following interpretation of the absolute value of the correlation (r):

Table 2

Description of scale in comparing vital exhaustion and psychosocial health among offshore workers

Correlation coefficient value	Association
-0.3 to 0.3	Weak
-0.5 to -0.3 & 0.3 to 0.5	Moderate
-0.9 to -0.5 & 0.5 to 0.9	Strong
-1.0 to -0.9 & 0.9 to 1.0	Very Strong

In addition to the questions measuring the variables, inquiries regarding awareness and effectiveness of prevention strategies implemented onboard to combat VE and poor PH were added. The frequencies gathered from these items were not added on the PH scores. Respondents also wrote their own remarks or comments at the end of the questionnaire.

Safety meetings were held every shift change. The study to be conducted was explained in brief along with the consent to participate. Questionnaires and forms were limited to five sheets making it easier for subjects to complete. Participants were provided 10 days to return the filled questionnaires. A small token was provided once a questionnaire was handed back.

Data Analysis

Descriptive statistics was used to collate demographic data. Mean and standard deviation scores from the VE and PH items were gathered as well. Descriptive correlational statistical methods such as Pearson r and Chi-square computations were used to measure the relationship between VE and PH scores.

Filled-out questionnaires were checked for completeness. Questions regarding items that are not clear were clarified to respondents either by email or by phone. A specific number or code was provided for all crew members and a spreadsheet was made to record all demographic, VE and PH responses. All analysis was performed using SPSS 21 (IBM Corp. Released 2012, IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.).

Ethical Considerations

Data was gathered with the written consent of the respondents. Participation in the study was voluntary and approval was sought from the client that oversees the operations of the platforms and shipping vessels.

Non-participation did not have any bearing on the subjects' job status. Any information provided from the questionnaires was held strictly confidential and will not be given to others. There were no significant risks from participating in this survey and when a respondent felt uncomfortable answering any of the questions in the form it was left blank. The respondents were given the option to leave the research study at any time. Hard copies of the filled-out questionnaires were kept in a secured locker and soft copies were stored in an encrypted folder in the proponent's personal computer. Information will be stored for a period of five (5) years only once the study has been completed. Paper copies will be shredded and disposed properly.

Participants were given a verbal explanation of the study that includes the research purpose and duration, required procedures and an explanation of the risks, burdens and potential benefits. This took place at the general safety meeting. A consent form was provided, and they were given enough time to review it before participating in the study.

They were reminded that a written consent is not a contract, and consent will never be coerced. Respondents can ask questions in the entire duration of the study.

Respondents did not receive any monetary benefit from the study other than a small token. The proponent likewise conducted this research as a requirement in the completion of his master's program and did not receive any funding from any institution or company.

CHAPTER IV

RESULTS AND DISCUSSIONS

The chapter presents the results of the data analysis in six sections. A brief discussion and findings with related studies follow. The first part describes the demographic profile of the fifty-five (55) participants working in the platform and vessels aggregated into one group. The second part discusses the vital exhaustion (VE) levels of the crew and responses to each of the question in Maastricht Vital Exhaustion Questionnaire (MVEQ). The third section presents the psychosocial health (PH) scores of the participants who took part in the survey. Since PH is multidimensional, the responses gathered per scale were also analyzed. The association of VE and PH is explained in the fourth section. Finally, the fifth and sixth parts show the relationships of VE and PH with the demographic factors of the offshore personnel, respectively.

4.1 Demographics

Table 3 shows the socio-demographic profile of the respondents who are working in the platform and cargo vessels. There was a single female respondent (1.8%) in this male-dominated industry (98.2%). The mean age of the group was 42.69 years old and more than half of them belonged in the 41-60 age bracket or late middle age stage (61.8%) while the remainder were personnel in the 20-40 age group or early adulthood to early middle age bracket (38.2%). In terms of education, majority of the crew have a bachelor's degree (69.1%) and the rest were undergraduates (30.9%). Roughly half of the respondents (49%) have been working offshore for the past 11-35 years; a third (34.6%) of the group have worked for 6-10 years while 16.1% have less than 5 years

offshore work experience. On average, the tenure of the offshore personnel was 11.69 years.

Most of the respondents are working under the maintenance and marine departments (30.4%) followed by those assigned on deck duties (28.6%). Only a few of the crew are working in the catering department (7.1%) and there was single 3rd party crew member (1.8%) in the survey. Deck and maintenance crew members are mainly involved in doing physical tasks (58.9%) followed by client and management personnel in charge of clerical and decision-making activities (30.4%). A few the respondents are assigned in both mental and physical tasks (8.9%).

Table 3

Socio-Demographic Profile (n = 55)

Characteristics	Frequency	Percentage
Sex		
Male	54	98.2
Female	1	1.8
Age Group		
20 – 40 years old	21	38.2
41 – 60 years old	34	61.8
Educational Attainment		
Undergraduate	17	30.9
Bachelors	38	69.1
Tenure		
Less than 5 years	9	16.4
6 to 10 years	19	34.6
11 to 35 years	27	49.0

Job Assignment		
Deck Crew	16	29.1
Maintenance	17	30.9
Marine Crew	17	30.9
Catering	4	7.3
Third Party	1	1.8
Work Type		
Physical	33	58.9
Mental	17	30.4
Both	5	8.9

Limited or no literature is available to compare the demographic profile of this group to oil and gas workers in the Philippines however a study done by Anchustegui (2011) regarding the working conditions of Filipino seafarers in the domestic shipping industry mirror the socio-demographic profile of this group. In that research, 1,248 crew members from various shipping vessels participated and majority were male (96%) and only a few were women (4%). More than half were assigned as deck and engine ratings (55%), deck and engine officers (35%) and others (4%). Most participants were young belonging to the age brackets 25-34 (27%) and 35-44 (20.83%). They also completed bachelor's degrees (80.69%) and high school (21%). No information about tenure is presented in this study since most crew members are working on a per project basis with limited contracts.

An investigation done among 1,026 seafarers from 24 flag states that dock in Australian ports resembles the demographics of the crew in this study. Participants were mostly male (97.9%) and were Filipino nationals (44%). Personnel were younger with a mean age of 34.7 years (SD=10.4 years) and overall tenure at sea was around

10 years (M=9.76, SD=8.78 years at sea). Majority of the personnel were assigned in container vessels (72%) followed by those working in bulk carriers and general cargo (34%). A quarter of the respondents were involved in deck operations (25.72%) and officers in the deck and engine room comprise a third of the study population (33.17%). No information was provided regarding the educational attainment of the personnel (Andrei, et al. 2018).

A study from the Yale Occupational and Environmental Medicine Program (Lefkowitz & Slade, 2019) among 1572 seafarers from various regions and vessel types also mirror the demographic make-up of this group. Respondents were primarily male (1389, 88%), middle-aged or 26-35 years old bracket (431, 27%) of Filipino (641, 40%) and Western European (415, 27%) nationalities. A third of the population were tenured workers with 11-20 years at sea (465, 30%) and majority of them assigned in deck (835, 53%) and engineering departments (412, 27%) departments. Rankings were comprised with ratings or junior workers (565, 35%) followed by other officers (681, 43%) and finally vessel captains (or masters; 171, 11%).

4.2 Vital exhaustion levels

Table 4 shows the vital exhaustion scores of the respondents. Each item was added together to obtain the total level of VE. The total score ranged from 0 to 42, the higher the mean score the greater is the level of VE. The mean and standard deviation of the individual VE questions were also computed to see where the offshore workers scored high or low in. The scores per question were 0 – No, 1 – Don't Know, and 2 – Yes except for questions 9 and 14 that were reverse coded: Yes= 0, No= 2 and Not Sure/Don't know=1

Table 4

Mean rating scores of MVEQ questions of offshore personnel

Item No.	Question	Mean	Standard Deviation
1	Do you often feel tired?	.364	.778
2	Do you often have trouble falling asleep?	.400	.807
3	Do you wake up repeatedly during the night?	.400	.807
4	Do you feel weak all over?	.182	.580
5	Do you have the feeling that you haven´t been accomplishing much lately?	.255	.673
6	Do you have the feeling that you can´t cope with everyday problems as you used to?	.127	.474
7	Do you believe that you have come to a “dead end”?	.236	.637
8	Do you feel most listless or lacking energy lately?	.182	.580
9	Do you enjoy sex as much as ever?	.527	.858
10	Have you experienced a feeling of hopelessness lately?	.109	.458
11	Does it take more time to grasp a difficult problem than it did a year ago?	.255	.673
12	Do little things irritate you more lately than it used to?	.145	.524
13	Do you feel you want to give up trying?	.109	.458
14	Do you feel fine?	.182	.580
15	Do you sometimes feel that your body is like a battery that is losing its power?	.545	.899
16	Would you want to be DEAD at times?	.055	.299
17	Do you have feeling these days that you just don’t have what it takes anymore?	.109	.458
18	Do you feel sad and depressed?	.109	.458

19	Do you feel like crying sometimes?	.400	.807
20	Do you ever wake up with a feeling of exhaustion or fatigue?	.255	.673
21	Do you have increasing difficulty in concentrating on a single subject for long?	.309	.717
	Overall Mean (ranges from 0-2)	.250	.317
	Mean Total Score (ranges from 0-42)	5.25	6.66

From the mean scores obtained per item in the MVEQ, most respondents answered YES in “Do you sometimes feel that your body is like a battery that is losing its power?” (M= 0.545, SD= 0.899) followed by “Do you enjoy sex as much as ever?” (M= 0.527, SD= 0.858), “Do you often have trouble falling asleep?”, Do you wake up repeatedly during the night?” and “Do you feel like crying sometimes?” (M = 0.400, SD= 0.807).

On the other hand, majority of the participants said NO in the following questions “Would you want to be DEAD at times?” (M= 0.055, SD= 0.299) trailed by “Have you experienced a feeling of hopelessness lately?”, “Do you feel you want to give up trying?”, “Do you have feeling these days that you just don’t have what it takes anymore?” and “Do you feel sad and depressed?” (M= 0.109, SD= 0.458).

The higher the mean score, the greater is the level of VE among offshore workers. The mean total score of 5.25 is way below the cutoff point of 17 set to mark VE. This indicates that offshore workers have exceptionally low feelings of fatigue, hopelessness, listlessness and irritability. The mean score of each individual question also suggests that workers have little to no symptoms of VE as evident in the majority of “YES” responses in the item “Do you feel fine?” (M= 0.182, SD= 0.580). The small standard deviation indicates a small variation of scores between offshore workers.

This outcome gives a good overall assessment of the mental health among crew members. Despite the stressful work environments offshore, the personnel manage to adapt to the stressors they face in their daily work engagements. The all-Filipino composition of the crew is a good contributor to low VE levels because all workers develop a strong bond with each other. Language barriers are less or non-existent and most of them share similar cultural references. Filipinos are generally cheerful and resilient group of workers. This was evident in the Safety4Sea crew wellness survey (2020) where Filipino seafarers ranked the most satisfied seafarer group by nationality serving onboard ships. This study was conducted in the last quarter of 2019 where 9,768 seafarers, serving 1,072 ships participated. Filipino seafarers were also the largest group serving cargo ships with several years of experience. The proponents assumed that there was a correlation between nationality and happiness onboard because significant difference was observed on the wellness levels of Filipino seafarers (87.4% score) with the other nationalities.

Similarly, in a national survey done by Porio & See (2017) where 1,200 households participated (50% male and 50% women) they found out that most Filipinos are happy and satisfied with their current life and have much higher levels of satisfaction with their family/married life, relationship with friends/neighbors and amount of time they have for hobbies.

The “bayanihan” or team-building spirit is also prevalent among this group of seafarers. Although a few workers expressed some issues with fatigue, sleeplessness, sadness, and hopelessness, most of the respondents adapt in facing such issues through dialogue, management support and participation in health-related activities. In

addition to this, feelings of isolation are lesser as compared to offshore workers assigned abroad. After a month-long rotation they can easily go back to their home provinces and be with their families as compared to Overseas Filipino Workers (OFWs) who must work 6 months to 2 years before they can come back home and reunite with their families. Monthly reunion with their partners will also address their need for sound sexual health which came second among the highest MVEQ mean scores recorded.

The results obtained from the offshore workers were lesser from the VE scores gathered in a survey done among Des Moines Police Department members (Ramey et al., 2011) using the shortened version of MVEQ (score range 9-27). Male officers registered a mean VE score of 15.6 (SD= 4.6) however most of their YES responses were on the same questions as this offshore group “Do you often feel tired?” (58%), “Do you repeatedly wake up during the night?” (55%). The difference in VE scores can be attributed to the tasks, hazards, and demands of working in the police force and as a maritime worker.

Preckel et al. (2005) conducted a study on the relation of overcommitment and VE between two European aircraft manufacturing plants. Overcommitment is a trait where an employee shows exaggerated efforts in his job to attain approval and appreciation. Their findings are almost similar to the outcome of this study where majority of participants show none or mild to moderate levels of VE. The nine-item MVEQ version was used and a total of 140 (21.8%) subjects were classified as not being exhausted (vital exhaustion scores between 0 and 2), 311 (52.3%) conveyed mild to moderate exhaustion (vital exhaustion scores between 3 and 10) and 191 (25.9%) subjects showed severe exhaustion (vital exhaustion scores ‡11). Their investigation also

showed that overcommitment (r=0.516; P<0.0001) was independently associated with VE.

As mentioned in Chapter 2, burnout and vital exhaustion are interrelated. Family or financially-related overload is termed as VE. There was a study done to find a connection between work-family conflict (WFC) and fatigue among 193 Danish seafarers working in ferry shipping companies. The outcomes are different from the responses of the Filipino offshore personnel. The proponents discovered that higher levels of perceived WFC is significantly related to higher levels of fatigue in terms of lack of energy (β = .35), physical discomfort (β = .21), lack of motivation (β = .29) and sleepiness (β = .25). They also concluded that supervisor support moderates the effect of WFC and physical subdimensions of fatigue.

Lefkowitz and Slade (2019) findings on the levels anxiety and depression among seafarers are parallel to the results of this study. Only 17% of the participants reported anxiety, 25% claimed depression and 13% had both depression and anxiety. Majority of their respondents had better mood on their first day at home and at end of their voyage. They experience bad moods at the start of their voyage and during extended days of work.

4.3 Psychosocial health levels

To obtain the PH level of the respondents, the mean and standard deviations of the five scales were computed. It must be noted that all the scales of the COPSOQ III are scored 0-100 points. The five response options are scored 100, 75, 50, 25, 0. In case of only four response options the scores are 100, 66.7, 33.3, 0.

Table 5 shows the mean and standard deviation of the individual COPSOQ questions to identify where the offshore workers scored high or low in. The average mean score is also presented per scale.

Table 5

Mean rating scores of CORE COPSOQ questions of offshore personnel with average score per scale.

Scales/ Dimension	Question	Mean	SD
Demands At Work			
Quantitative Work Demands	Do you get behind with your work?	38.64	19.14
	How often do you not have time to complete all your work tasks?	35.46	22.92
Tempo, work pace	Do you have to work very fast?	52.73	19.65
	Do you work at a high pace throughout the day?	46.36	23.77
Emotional demands	Do you have to deal with other people's personal problems as part of your work?	40.91	25.17
	Is your work emotionally demanding?	33.18	31.57
Work-Life Conflict	Do you feel that your work drains so much of your **ENERGY** that it has a negative effect on your private life?	41.65	24.84
	Do you feel that your work takes so much of your **TIME** that it has a negative effect on your private life?	40.66	26.00
Average		40.91	14.15
Influence and Development			
Influence at work	Do you have a large degree of influence on the decisions concerning your work?	62.96	26.48
Possibilities for development (skill discretion)	Do you have the possibility of learning new things through your work?	75.46	21.44
	Can you use your skills or expertise in	81.94	19.68

	your work?		
Meaningful work	Is your work meaningful?	84.26	21.33
Average		76.16	16.61
Interpersonal Relationships and Leadership			
Predictability (sufficient information)	At your place of work, are you informed well in advance concerning for example important decisions, changes, or plans for the future?	69.91	19.06
	Do you receive all the information you need in order to do your work well?	77.31	15.56
Recognition	Is your work recognized and appreciated by the management?	65.91	22.75
Role clarity	Does your work have clear objectives?	74.55	21.78
Role conflicts	Are contradictory demands placed on you at work?	38.64	27.14
	Do you sometimes have to do things which ought to have been done in a different way?	44.55	25.18
Quality of leadership	To what extent would you say that your immediate superior is good at work planning?	70.91	20.98
	To what extent would you say that your immediate superior is good at solving conflicts?	70.00	21.73
Social support from colleagues	How often could you get help and support from your colleagues, if needed?	74.55	20.69
Social support from supervisors	How often do you get help and support from your nearest superior?	73.64	21.74
Sense of community at work	Is there a good atmosphere between you and your colleagues?	82.27	15.72
Trust and Justice	Does the management trust the	72.27	16.44

	employees to do their work well?		
	Can the employees trust the information that comes from the management?	69.20	22.86
	Are conflicts resolved in a fair way?	69.55	19.66
	Is the work distributed fairly?	68.18	20.10
Average		68.08	11.60
Further Parameters			
Insecurity over employment	Are you worried about it being difficult for you to find another job if you became unemployed?	50.91	25.44
Insecurity over working conditions	Are you worried about being transferred to another job against your will?	43.64	28.55
Average		47.27	24.73
Outcome Scales			
Satisfaction with work - job satisfaction	Regarding your work in general. How pleased are you with your job as a whole, everything taken into consideration?	79.02	16.36
Overall Health	In general, would you say your health is	73.21	22.29
Average		75.68	17.58
Physical Work Environment			
OHCOW additional items	How well are environmental conditions managed (air quality, temperature, lighting, noise, workstation ergonomics)?	78.18	26.81
	How well are safety concerns managed (slip/trips/falls, toxic chemicals, infectious diseases, Wi-Fi radiation, working alone)?	82.72	26.30

Demands at Work

On the average, offshore workers get behind with their work (M= 38.64, SD= 19.14), have less time completing tasks (M= 35.46, SD= 22.92) and consider their job as emotionally demanding (M= 33.18, SD= 31.57) to a small extent. Similarly, personnel do not find their jobs interfering with their private lives in terms of energy (M= 41.65, SD= 24.4) and time (M= 40.66, SD= 26.00). The mean scores which is less than 50 may mean that the offshore workers have moderate demands in work. The physical and emotional demands of their jobs do not hamper their performance at work and private life.

Influence and development

Most participants regarded their work as meaningful (M= 84.26, SD= 21.33) and utilize their expertise in their tasks (M= 81.94, SD= 19.68) to a large extent. Workers also reported about good learning opportunities onboard (M= 75.46, SD= 21.44). All the elements in this PH scale translate to improving skills and learning capabilities of the crew. The over-all mean score is also recorded the highest mean score among four scales (M= 76.16, SD= 16.61) which indicate that the offshore workers have a large degree of freedom in the conduct of their daily activities.

Interpersonal Relationships and Leadership

Majority of the respondents also reported a good working atmosphere with the rest of the crew (M= 82.27, SD= 15.72). Participants also mentioned that they receive enough information (M= 77.31, SD= 15.56) and have clear objectives (M= 74.55, SD= 21.78) in their jobs. These results are congruent to their responses about not receiving contradictory work demands in their job sites (M= 38.64, SD= 27.14). Job-safety analysis and work permits are required before the start of every assignment. Workers

involved in the task are expected to review the steps involved in a job and have a competent supervisor to inspect the work site and assess if all procedures and safety systems are followed. These findings about role clarity and conflict are congruent with the results of a research done among construction project managers in the Chinese firms. Wu, Hu & Zheng (2019) concluded that role ambiguity is counterproductive and has a significant on job burnout and performance. They also added that role conflict has a negative effect on job burnout and burnout has a negative effect on job performance.

Social support from colleagues (M= 74.55, SD= 20.69) and supervisors (M= 73.64, SD= 21.74) are important in ensuring a smooth workflow. Safety is paramount in offshore work environments where numerous hazards and risks are present. Workers are always told not to proceed with the task if they are not sure about the procedures and processes involved in the job. Guidance and assistance from colleagues and supervisors help prevent accidents and improve the safety climate onboard.

Conflicts among employees are also resolved fairly (M= 69.55, SD= 19.66) and work is distributed equally among crew members (M= 68.18, SD= 20.10) often. A large extent of workers were also satisfied with the trust given by their management on their job performance (M= 72.27, SD= 16.44).

Further parameters

Offshore personnel are somewhat anxious about prospects of finding a new job if they get laid off (M= 50.91, SD= 25.44) and the possibility of being transferred to another task or department (M= 43.64, SD= 28.55). The total mean score in this scale, which is less than 50, mean that crew have seldom feelings of insecurity at the workplace. Eleven out of the 55 participants submitted their questionnaires July 2020

which is the height of the MECQ against COVID-19 spread where massive job losses are observed in various sectors of the Philippines. Their responses regarding security of tenure had little or no effect to the overall PH score in further parameters scale. Just recently, oil and gas exploration projects were re-opened by the Philippine government to foreign investors which could lead to more job prospects and projects to offshore personnel in the country (Gomez, 2020).

Outcome scales

A large extent of workers were satisfied with their jobs (M= 79.02, SD= 16.36) and overall state of health (M= 73.21, SD= 22.29). Results are congruent with the job satisfaction rates reported by offshore oil and gas platform employees in East Malaysia (n=214). Most respondents had moderate level of stress and job satisfaction (JS) and high organizational commitment (OC). The proponents also mentioned that JS was significantly associated with OC whereas job stress is negatively correlated with OC and JS (Harun et al. 2014). In another study by Ji et al. (2020) among merchant ship seafarers in the Yangshan Port, Shanghai, China (n = 337), JS was positively associated with seafarer performance ($\beta = 0.163$, $p < 0.01$) while job stress was found to be negatively correlated with job performance ($\beta = -0.063$, $p < 0.01$). Factors that influence JS include good financial situations, job-skill match and proper training. JS was also found to be relevant in job promotions and workplace commitment in the oil and gas sector (Dickey et al., 2009).

Andre and his team's (2018) study on various seafarers in Australian ports support the outcome scales of the Filipino offshore workers locally. Majority (90%) of their respondents reported positive levels of psychological wellbeing, positive levels of social

wellbeing (70%) and positive levels of hedonic wellbeing (80%). Poor psychosocial well-being and functioning was evident among those who experience fatigue and sleep problems. The proponents elucidated the well-being is correlated with high levels of trust in co-workers and in supervisors, crew stability, and safety leadership.

Yuen and his team (2018) developed a management model to improve job satisfaction and performance of seafarers. Each level of the hierarchy presents a particular issue faced by the 116 participants from 75 shipping companies in Singapore. The bottom of the pyramid describes the supportive environment of the workers followed by their compensation and performance evaluation, training and recruitment and finally the topmost level is the job design and feedback mechanism. The researchers recommended various strategies like team-building exercises in the supportive theme and career development in the second tier. Their findings align to the results obtained in this study. They mentioned that determinants of job satisfaction which include rewards, job stress, dispositional affect and job characteristics are directly correlated. They also pointed out that job satisfaction has a mediating effect on job performance and managers must apply effective strategies to improve the job satisfaction of their crew for better work performance and retention.

Similar results were also observed in the study conducted by Lefkowitz and Slade (2019) where majority of their participating seafarers reported high rankings of self-rated health. They also found out that seafarers who are not depressed (49%) were exercising twice or more in a week while those with depressive symptoms (43%) exercise less than once a month.

Physical Work Environment

Environmental (M= 78.18, SD= 26.61) and safety concerns (M= 82.72, SD= 26.30) are kept to a minimum with well-designed/controlled systems. All these factors point to good PH among offshore workers. Data from seafarers regularly visiting Australian ports mentioned previously reveal that majority (80%) were satisfied with the safety culture in their ships. A number of risks including high work demands and negative compliance behaviors affected their wellbeing and safety climate respectively. Workers also regarded good leadership as a good predictor of safety culture. Employees were more likely to adhere to safety policies if they perceive their organization is prioritizing their safety over cost and operational performance.

The outlook of Filipino seafarers on their physical work environment differ from the safety perceptions of Norwegian maritime company members (*n*= 200, mean age 47.3 yrs ±12.9; 175 males, 25 females), seafarers (*n*= 132) and onboard service staff (*n*= 68). Mallam et al. (2019) research revealed that most respondents had lower perception of safety across all seven dimensions of the NOSACQ-50 (mean scores < 3.00) within their organization in comparison to other occupations. Onboard service staff with less maritime education and training recorded higher safety perception as compared to certified seafarers. The proponents mentioned that the mean scores obtained from the two groups highlight organizational deficiencies in perception of safety however it should not be used to deliver a safety grade but it should serve as an instrument for dialogue and development.

Data collected from 443 Indian Merchant Naval Officers corroborates with safety perception of Filipino seafarers. Majority of the officers (86%) reported active

encouragement to shipboard safety, safety training prioritization (78%) and availability of essential personal protective equipment (PPE). The researchers were able to gather favorable responses on safety consciousness of co-workers (69%), freedom to seek guidance (88%) and reporting of unsafe acts or incidents (75%). Widespread dissemination and practice of safety culture must be applied in all departments since almost half of the respondents (42%) mentioned that they felt insignificant in their institution and a third of them viewed their organization compromising quality at the cost of safety and lack of resources to perform their jobs properly.

It is imperative that workplace safety is followed in all offshore installations to prevent accidents and maintain a good safety record. Offshore incident statistics (Bureau of Safety & Environmental Reinforcement, 2018) indicate a downward trend in fatalities and injuries from 2007 to 2018. There was steady decline in fatalities and injuries in the years mentioned. Lowest number of injuries was recorded in the 4th quarter of 2017 (37) and highest was in 2007 (395). There was a single fatality from 2014 to 2018 and highest number was documented in 2012 (12).

Considering the COPSOQ long version averages from Nűebling et al. study (2006) on 2561 respondents from various occupations in Germany (DE) it can be observed offshore workers in the Philippines (PH) fare better at the following scales: *Influence and development* (DE M=59.4, PH= 76.16), *Interpersonal Relationships and Leadership* (DE M=57.38, PH= 68.08), *Further parameters* (DE M=29, PH= 47.27) and *Outcome Scales* (DE M=62, PH= 75.68).

Filipino seafarers also had higher PH scores than Swedish (SE) flight baggage handlers (n= 501) in terms of certain subscales under *Influence and development* (SE

M=47.3, PH= 74.6) and *Interpersonal Relationships and Leadership* (SE M=53.37, PH= 68.7). Bergsten et al. (2015) also discovered positive ratings in *social community at work* while low ratings in *quality of leadership, work organization* and *job content.* In a cohort study done in Spain (*n* = 16,693), the proponents concluded that poor quality of psychosocial work environment increases the incidence of occupational injuries (OI). Results after a 1-year follow-up reveal significant association of OI incidents with low levels of social support and quality of leadership (RR = 1.87), psychological demands (RR = 2.20), and active work and possibilities for development (RR = 1.83) among women (Julia et al., 2016).

It must be noted that we cannot draw conclusions that Philippine offshore workers have better psychosocial health scores that the populations mentioned in various studies in Europe because there is a huge difference with the number of respondents, occupations of subjects and the COPSOQ version used in the surveys.

Conflicts and Offensive Behavior

No workplace is perfect, and conflicts arise over time. Table 6 shows the frequencies of the questions under conflicts and offensive behavior and are not part any scales or PH scores.

Table 6

Conflicts and Behavior Responses

	Frequency	**Percentage**
At your workplace during the last 12 months, have you been exposed to: ***Undesired Sexual Attention***		
No	45	84.9
Yes, a few times	5	9.4

Yes, monthly	3	5.7
At your workplace during the last 12 months, have you been exposed to: ***Threats of Violence***		
No	51	96.2
Yes, a few times	2	3.8
At your workplace during the last 12 months, have you been exposed to: ***Physical Violence***		
No	53	100.0
At your workplace during the last 12 months, have you been exposed to: ***Bullying***		
No	44	83.0
Yes, a few times	8	15.1
Yes, daily	1	1.9

Few of the participants reported some conflicts and offensive behavior in the past 12 months such as undesired sexual attention (8), threats of violence (2) and bullying (9). Although few, the management has an open-door policy and ethics helpline where employees can air their concerns and for issues to be addressed. Bullying and threats violence disrupts good working relations among crew members and must be dealt with seriously.

Bullying exists in offshore locations however it is not widely-discussed. In a study among 1,107 Norwegian offshore workers, risk perception (r =0.30; p <0.01), bullying (r =0.39; p <0.01), and self-esteem (r =-0.32; p <0.01) are correlated to levels of anxiety (Morten et al., 2013). Bullying is not a significant issue at the moment for Filipino seafarers in this study however its prevalence in other installations affects the mental health of workers and needs prompt intervention. This is also the case in research done

by Lefkowitz and Slade (2019) where the highest recorded rates of exposure to violence were reported by seafarers from the Philippines/ Pacific (11%), Eastern Europe (9%), and Asia/India (9%). On top of this, seafarers from the same group were four times as likely to report exposures to workplace violence compared to their counterparts from Western Europe.

In 2017, a total of 128 abuse cases, bullying, harassment, and discrimination, involving a total of 420 seafarers were brought to the attention of ISWAN's SeafarerHelp team. An addition of 80 cases was also filed between January to July 2018 involving 283 seafarers (Blake, 2018). A report released by Nautilus International reveals that almost 50% of seafarers have personal experiences of bullying, discrimination and harassment at sea. The emotional impact of harassment and bullying that ranges from verbal aggression, ill-treatment, cyber-bullying or sexual discrimination is mostly denied or not raised by personnel for fear of not being taken seriously by their management (Martek Marine, 2017).

Health programs

Table 7 shows the awareness of the crew members about various health programs implemented to address VE and PH matters onboard. It also shows if the personnel find them effective in managing their physical or mental health issues if any.

Table 7

Health programs awareness and effectiveness

	Frequency	***Percentage***
PREVENTION: Are you aware of various health programs implemented onsite to prevent the development of vital exhaustion and poor psychosocial health?		

Yes	49	90.7
No	4	7.4
Somewhat	1	1.9
EFFECTIVITY: How effective are the said programs in addressing physical and mental health issues onboard?		
To a very large extent	15	27.8
To a large extent	2	50.0
Somewhat	9	16.7
To a very small extent	3	5.6

Most of the workers (90.7%) are aware of the health campaigns implemented by their respective managements and find them effective (77.8%) in addressing their mental and physical health onboard. The main contractor of these offshore workers developed a health resilience program to promote the welfare of on- and offshore workers. The voluntary resilience intervention program is composed of twelve (12) modules on cognitive behavioral therapy, positive psychology, research on leadership, and neuro-linguistic programming (Sharp Minds Content, 2019).

Other offshore installations do not have a medic or doctor onboard thereby limiting access to healthcare to seafarers. According to the Maritime Labour Convention Regulations released in 2013, a vessel is not required to carry a medical doctor if qualified medical care and medical facilities are accessible within 8 hours. A designated first-aider onboard will suffice. An occupational health nurse or doctor can offer better psychological counselling and quality healthcare over a first aider with a non-medical degree and less training mental health service. The installations in this study have an onsite medic available 24/7.

Comments and suggestions from the respondents were also considered. One crew member requested improvement with Wi-Fi speeds and while another staff member called out for improvement of housekeeping procedures. Widespread implementation of mental health programs is also suggested by one of the respondents.

According to a report by Seafarer's Trust, a large number (77%) of seafarers worldwide have limited or no internet access while working offshore which can lead to feelings of isolation and loneliness (Martek Marine, 2017)

4.4. Vital exhaustion and psychosocial health

Due to the small sample size, a test for normality (Shapiro-Wilk) was conducted before measuring the association of study variables. Results showed that the sample was non-normal. Hence, Spearman's rho correlation was used to test the relationship between the vital exhaustion (VE) and psychosocial health (PH) among offshore workers. Table 8 shows the statistic and p-values of VE and the five dimensions of PH.

Table 8

Coefficients (p-values) of the Shapiro-Wilk correlation between vital exhaustion and psychosocial health among offshore personnel

Variables	Shapiro-Wilk	
	Statistic	p-value
Vital Exhaustion	.728	**<.001**
Demands at Work	.986	.787
Influence and Development	.941	**.010**
Interpersonal relations and leadership	.972	.233
Further Parameters	.965	.117
Outcome Scales	.836	**<.001**

(Since the p-value is < 0.05, there is sufficient evidence to conclude that the sample(s) does not come from a normal distribution.)

The Spearman's rho is a nonparametric measure of the strength (from 0 as none to 1 as perfect correlation) and direction (positive meaning direct correlation; or negative meaning inverse correlation) of association that exists between two variables measured on at least an ordinal scale. It is the nonparametric counterpart of Pearson's r correlation. Thus, this was used to determine the association between the vital exhaustion and psychosocial health among offshore workers as depicted in Table 9.

Table 9

Coefficients (p-values) of the Spearman's rho correlation between vital exhaustion and psychosocial health among offshore personnel

Psychosocial Health Dimensions	Vital Exhaustion	
	ρ	p-value
Demands at Work	**.640**	**<.001**
Influence and Development	.296	.080
Interpersonal relations and leadership	**.409**	**.001**
Further Parameters	**.429**	**.001**
Outcome Scales	**-.482**	**<.001**

**p-values less than .05 are considered significant*

At 5% level of significance there is sufficient evidence to conclude that there is a significant relationship between the **4** Psychosocial Health Dimensions, *Demands at Work*, *Interpersonal relations and leadership, Further Parameters*, *Outcome Scales* and the level of Vital Exhaustion of offshore workers. The Spearman correlation *(ρ = .640)* shows a strong uphill (positive) linear relationship between the perceived level of vital exhaustion and the work demands of the offshore workers. Increases in perceived level of vital exhaustion are correlated with increases in work demands. The Spearman correlation *(ρ = .409)* shows a moderate uphill (positive) linear relationship between the

perceived level of vital exhaustion and the interpersonal relations and leadership of the offshore workers. Respondents registered higher VE levels when looking for opportunities for growth in the workplace. The Spearman correlation for the Further Parameters and the vital exhaustion (ρ = .429) shows a moderate uphill (positive) linear relationship which indicates that the increases of the level of insecurity felt by workers in their tenure at work are correlated with their level of vital exhaustion. Lastly, the Spearman correlation *(ρ = -.482*) also shows a moderate uphill (negative) linear relationship between the perceived level of vital exhaustion and the outcome scales of the offshore works. Increases in perceived level of vital exhaustion are correlated with decreases in overall perception of one employee on how happy he is at the workplace and his current state of health.

The findings support the relationship of VE on PH in terms of work demands, job insecurity and outcome scales. Lower VE levels reported are associated with the low work demands and feelings of insecurity felt by the crew and vice versa. The findings of Schoch et al. (2018) ruled out that VE was positively associated with work-related stress, specifically work overload, excessive demands at work, and work discontent. Also, middle-aged men who reported chronic anxiety also felt more VE symptoms.

Hystad and his team's (2013) findings were coherent with the results of this group. They collected data among offshore workers assigned in the North Sea and Southeastern Asia. They confirmed that seafarers with high psychological demands and who conceived organization climate negatively, reported more physical fatigue (B = 0.06, $p < 0.05$), mental fatigue (B = 11, $p < 0.001$), and lack of energy (B = 0.09, $p < 0.01$). Interestingly, their results on employment status yielded similar associations with

the responses from the respondents' job insecurities in this study. They discovered that employment status significantly predicted fatigue in all 3 dimensions: physical fatigue (B = 0.10, $p < 0.001$, β- 0.24), mental fatigue (B = 0.08, $p < 0.01$, β- 0.18), and lack of energy (B = 0.08, $p < 0.01$, β- 0.17). Compared with seafarers with permanent employment, those employed on a temporary basis, or those employed as apprentices, reported significantly more physical and mental fatigue, as well as lower levels of energy. Personnel working on a temporary contract or are less experienced are more likely to be physically and mentally fatigue or they could be working much harder to prove their worth and get hired permanently.

Feelings of job insecurity are a major stressor to temporary crew members. A study among seafarers making port calls in Australia have proven that participants have a higher likelihood of having sleep problems when they experience job insecurity and exposed to long working hours. Also, poor sleep, lack of job resources and increased work pressures contribute to development of chronic fatigue as reported by 20% of respondents (Andre et al., 2018).

A study of Schnorpfeil et al. (2002) regarding 537 generally healthy men (86%) and women (14%) working in a Swiss airplane manufacturing mirror the association of VE and PH when it comes to demands at work. Workers tend to have higher VE levels (score >10) using the nine-item MVEQ when exposed to heavier workload or qualitative demands (scoring in the highest quartile; OR_{adj} 7.5; 95% CI 2.4–23). The team also found out that employees that have high social support from their coworkers were three times less likely to have elevated VE scores as compared to those with poor social support. This finding is congruent with the results obtained from Men Stress 40+ study

sample (N=121) ages 40 to 75 years. Men with severe VE reported the lowest levels of social support whereas those with support-seeking behavior and perceived social support has lower levels of VE. In addition, the lack of social recognition and social contact were positively related to VE. Other notable findings of this research include the positive association of implicit affiliation motivation with VE through increased perceived chronic stress and the negative effect of the affiliation motive on VE through support seeking and perceived social support (Noser et al., 2018).

Results of this study are coherent with the research done by Husain et al (2019) to determine daily emotional demands on traffic among Malaysian taxi drivers. They have proven that individual emotional demands were related to daily acute fatigue ($\gamma = 0.53$, $SE = 0.09$, $p < .001$) and to daily chronic fatigue ($\gamma = 0.57$, $SE = 0.16$, $p < .001$). Similarly, construction workers in China who reported higher fatigue levels also had difficulty with physical and cognitive function as compared to those who did not feel tired (Zhang et al., 2015).

Vital exhaustion is strongly correlated with depression. Nistor et al. (2015) conducted a cross-sectional study among Hungarian workers (n = 1058, 27.5% men, 72.5% women, age 37.2 years, SD = 11 years) to determine the association of psychosocial risk factors with depressive symptoms. Their findings disagree with the association of VE and PH among offshore workers. A quarter of their participants conveyed moderate or severe symptoms of depression (BDI≥19). Their findings also reveal a significant relationship between depressive symptoms and factors such as work-family conflict (OR = 2.21, CI: 1.82–2.68), possibilities for development (OR = 0.76, CI: 0.59–0.97),

meaning of work (OR = 0.69, CI: 0.59–0.89) and commitment (OR = 0.60, CI: 0.47–0.78).

Zhang and his team (2017) proved that burnout is associated with quality of life (QWL). Filipino offshore workers fared better in *Outcome Scales* as compared to the QWL scores of Chinese crew members in oil platforms. Majority of their respondents had mild job burnout (87.2%) with moderate QWL score of 116.01 ± 16.73. Poor QWL was observed when workers were exposed to heavier workloads, vaguer task, and increasing mental and physical stress ($P<0.05$). Their findings also suggest that QWL is highly-influenced by stress reaction and social support. Parallel results were also observed among male physiotherapists who reported low burnout levels and were satisfied with work and interpersonal affairs (Śliwiński, et al., 2014). The opposite was seen among healthcare workers in a survey conducted by Asante et al. (2019) in Guangdong province, China. Majority (74.6%) of the respondents reported poor QWL which was significantly associated among participants with higher burnout levels ($\beta= 0.331$, $p < 0.001$). In addition, poor psychological health was evident among those with high burnout, poor sense of community and with lower educational levels.

Outcomes of a study on employees working in a heavy-metal industry reveal that poor mental health scores are correlated with an increase in job stressors and burnout levels. The proponents also derived the following mean scores on mental health (47.97 ± 10.8), job stress (147.54 ± 17.8) and burnout (54.69 ± 13.94) which are higher compared to the group of Filipino offshore personnel. The group stressed the importance of finding the sources of burnout and job stress and the application of health programs to maintain the general health of the workforce (Hosseini et al., 2016).

4.5 Vital exhaustion and demographic profile

Table 10 presents the coefficients (p-values) of the Chi-square to determine whether there is a significant association between VE and demographic profile at 5% level of significance.

Table 10

Coefficients (p-values) of the Chi-square tests between vital exhaustion and socio-demographic profile of offshore personnel

Mean Total Score of Vital Exhaustion * Demographic Profile	Chi-square Test	
	Value	p-value
Age	17.09	.195
Educational Level	14.02	.448
Job Assignment	96.43	.020
Work Type	72.94	.002
Tenure	32.83	.242

**p-values less than .05 are considered significant*

At 5% level of significance, we do not reject the null hypothesis for the age, educational level of offshore workers and tenure with their vital exhaustion score. There is insufficient evidence to conclude that the age group, educational level of offshore workers, and tenure have a significant relationship with their level of vital exhaustion. This may mean that the age, educational level and tenure of offshore workers has no significant effect on how exhausted they are.

However, since the p-value of for the chi-square result for job assignment, and work type of offshore workers when correlating to their vital exhaustion score is less than .05, we reject the null hypothesis. Therefore, there is sufficient evidence to conclude that that job assignment and work type of offshore workers and their vital exhaustion have a

significant relationship. This may mean that those profiles of offshore workers have a significant effect on the increase/decrease of their level of vital exhaustion.

An offshore worker's job assignment translates to the type of work he does onboard. It can be observed that personnel assigned in deck and maintenance jobs doing mainly physical tasks reported higher levels of VE than those designated in the marine department assigned for mental tasks. Manual or physical labor is associated with repetitive movements, awkward postures, heavy lifting at times that causes musculoskeletal strains in different parts of the body and fatigue over time. A study of 767 crew members in a US Navy aircraft carrier supports this statement. Shattuck et al. (2016) found out that subjects manifesting musculoskeletal (MSK) symptoms showed increased levels of fatigue and report shorter duration of nighttime sleep as compared to crewmembers with no MSK symptoms. They also mentioned that there is a significant association among MSK symptoms with elevated fatigue, shorter nighttime sleep duration, and elevated daytime sleepiness.

Researchers establishing the presence of burnout syndrome among 251 seafarers when facing different psychosocial stressors discovered a 10.8% increase in emotional exhaustion (EE) levels (Oldenburg et al., 2013). With respect to ranks or job assignment, elevated EE scores recorded in 10.7 % of officers, in 4.5 % of lower crew ranks and in 25.0 % of the galley staff ($p = 0.05$). Longer the work duration was also associated with higher EE score [OR 3.83 (CI 1.46–10.03)]. The proponents suggested longer sleeping privileges, reduced working hours, improvement in supervision and leadership to lessen the stress load of superiors.

The study among healthy airplane manufacturing industry workers explained in the previous section discovered a significant association with VE and age but not with gender, socio-economic status, wage and salary. Similarly, the research conducted by Koertgeet al (2003) among 300 healthy women, found no significant associations were found between VE levels and age and other lifestyle behaviors such exercise capacity, BMI and alcohol consumption.

Results from the Amsterdam Growth and Health Longitudinal Study (AGHLS) yielded a different association for age and VE. Proponents were trying to find a correlation between personality and VE. Participants who were younger or those that belong 36-year old group showed higher VE scores (25%) than those in the 42-year old group (19%). Nineteen percent (19%) of the subjects in the latter group had MVEQ scores above 13 compared with 63% in a patient population. They also concluded that neuroticism, self-esteem and an emotion-oriented coping style are longitudinally associated with VE (van Zijderveld et al., 2013).

In terms of rank and age, studies have shown that risks related to fatigue were significantly higher in non-officers than in officers, and in younger seafarers compared with the older mariners who are older than 35 years (Allen, P., Wadsworth, EJ. & Smith A., 2007; Bridger, R., Kilminster, S. & Slaven, G., 2007 as cited in Carotenuto et al., 2012).

Occupational burnout levels were higher among 6,120 factory workers and miners Wulumuqi, China as compared to Filipino seafarers**.** Majority of the respondents reported burnout (85.98%) and psychological health problems (38.27%). Proponents also mentioned that there was a significant difference with the burnout levels among

factory workers in terms of educational level, labor contracts, tenure, work schedule, salaries and exposure to various chemicals/mineral in the worksite (Lu et al., 2020).

4.6 Psychosocial health and demographic profile

Table 11 presents the coefficients (p-values) of the Chi-square tests used to determine whether there is a significant association between PH and demographic profile at 5% level of significance.

Table 11

Coefficients (p-values) of the Chi-square tests between psychosocial health and socio-demographic profile of offshore personnel.

Mean Dimension Score	Age	Educational Level	Job Assignment	Work Type	Tenure
Demands at Work	37.68 (.158)	36.40 (.232)	152.06 (.552)	69.50 (.967)	62.39 (.462)
Influence and Development	12.93 (.227)	8.24 (.605)	58.66 (.188)	36.20 (.202)	26.32 (.156)
Interpersonal relations and leadership	29.01 (.220)	30.18 (.218)	100.09 (.951)	68.76 (.681)	59.10 (.177)
Further Parameters	9.25 (.322)	6.81 (.557)	34.28 (.725)	13.23 (.962)	20.99 (.179)
Outcome Scales	5.82 (.561)	4.61 (.547)	22.00 (.957)	17.24 (.697)	16.29 (.296)

**p-values less than .05 are considered significant*

At 5% level of significance, we do not reject the null hypothesis for all demographic profiles and the dimensions of psychosocial health of offshore workers. There is insufficient evidence to conclude that the age, educational level, job type, years working offshore, and work assignment of offshore workers have a significant relationship with

any of the dimensions of psychosocial health. This may mean that their profiles have no significant effect on their psychosocial health.

Offshore workers generally find work satisfying if their worth is recognized and they receive enough support from colleagues and management. They tend to stay longer in that company and aspire for professional growth in the process. Offshore workers who perform well in the job work in the offshore setting if projects are available, their health status warrants, and their skill set still needed. Some even work until retirement in this industry. As workers age, they achieve a certain level of maturity and dexterity. This is complemented with the good interpersonal relationships and leadership they experience in the workplace.

These findings reflect the outcome of a comparative study between medical research employees and government logistic workers in Australia (Tucker et al., 2020). They would like to find out if emotional recognition plays a role in buffering or exacerbating work demands. They concluded that when employee emotion recognition is high and well-received from supervisors then they are shielded from emotional demands. Those that obtain less recognition from supervisors experienced exacerbating effects of stress at work.

The findings of a study among various labor market participants in the Canadian workforce (Ramkissoon, Smith & Oudyk, 2019) support the results of this research. They discovered that quality of leadership and social support from supervisors, and vertical trust and organizational justice were always relevant among the respondents regardless of sex, gender role, or age. Other subscales in *Interpersonal relations and leadership* like predictability and rewards, meaningful work and commitment to the

workplace were highly associated with psychological health and safety across demographic subgroups.

A local study on cruise seafarers in three major fleets in Manila also align with the findings of this study. Majority of the participants who were in the 30-40 year old age bracket with tenure of more than five years find security, belongingness and flexibility in their jobs. Good compensation and benefits strengthen their loyalty to their companies (Catindig et al., 2019).

Tavacıoğlu et al. (2019) study among Turkish seafarers yielded opposite results when it comes to age of the crew. They claim that as workers age, their intention to leave decreases, job satisfaction increases, and burnout decreases. They also mentioned that as the working conditions of offshore workers get rough, intention to leave occurs. The department where a worker is assigned has a major impact in his job satisfaction and burnout.

The findings of Lefkowitz and Slade (2019) are also different from the outcome of this study because younger participants, those who possess greater abilities to influence work decisions and have internet capabilities were more likely to stay in the job as compared to others. In addition, the presence of mental health conditions like depression, anxiety, and suicidal ideation were correlated to seafarer attrition within the next 6 months.

Chapter V

CONCLUSION AND RECOMMENDATION

Summary

The study was conducted to determine the vital exhaustion level and psychosocial health of offshore workers in the Philippines. It also sought the association between the two variables and their relationship with demographic profile of the personnel. Approval requirements were met before carrying out the research with a total of 55 valid survey responses.

Quantitative non-experimental descriptive correlational design was used to assess the relationship that between the vital exhaustion level and psychosocial health scores of offshore workers assigned in the platform and shipping vessels. The relevant findings of the study were as follows:

1. Majority of the participants are male (98.2%), belonging to late middle adult age bracket (41-60 years old) (61.8%), finished a bachelor's degree (69.1%). Roughly half of them have a tenure of 11 to 35 years offshore (49.5%) and a third of them are assigned in the maintenance and marine departments (30.9%). Most of them are involved in doing physical tasks onboard (58.9%).
2. Offshore workers have low vital exhaustion levels (M= 5.25, *SD= 6.66*) and good psychosocial health scores. Highest recorded scores fall under *Influence and Development (*M= 76.16, *SD= 16.61*), *Outcome Scales (*M= 75.68, *SD= 17.58*) and *Interpersonal relations and leadership* (M= 68.08, *SD= 11.60*). Lower mean scores in the *Demands at Work* and *Further Parameters* also translate to favorable psychosocial health.

3. There was a significant relationship among four (4) psychosocial health scales (p-value at .05), *Demands at Work* (< .001), *Interpersonal relations and leadership* (.001), *Further Parameters* (.001) and *Outcome Scales* (< .001), and the level of VE of offshore workers.
4. There was significant relationship between vital exhaustion (p-value at .05) and the demographic profile of offshore workers in terms of job assignment (.020) and work type (.002).
5. There was no significant relationship between psychosocial health (p-value at .05) with all demographic variables considered in the study.
6. Majority of the respondents also claimed that environmental conditions were well-designed *(SD= 26.81*) and safety concerns *(SD= 26.3*) were managed appropriately in the workplace.

Conclusion

The responses from Filipino offshore personnel provide a clear picture of their overall health in terms of their vital exhaustion levels and psychosocial health scores.

Only a few workers reported issues regarding fatigue and sleep disturbances which were addressed with effective health programs facilitated by health and safety departments. Favourable responses in meaningful work, role clarity, influence at work, skill discretion, leadership and social support coupled with moderate work demands and lower job insecurity contribute to the positive psychosocial health of the crew. The resilience and camaraderie among the all-Filipino crew played major roles in keeping their vital exhaustion levels low and promoting good psychosocial health scores.

Recommendations

This is an initial study of the VE and PH of offshore workers in the Philippines. Because of limited time and participants, further studies involving more subjects are suggested to make findings generalizable. Also, only Filipino workers participated, and outcomes may vary if more nationalities are involved. Maritime work setting normally involves personnel from different countries and the role of culture, training, safety climate, and other biases may reveal a better idea of how vital exhaustion affects the psychosocial health of their workers. It is challenging to obtain permission from offshore settings outside the Philippines due to legal and ethical reasons. Nurses and other healthcare professionals assigned in petrochemical industries, cargo/fishing/passenger vessels and cruise ships are encouraged to do more research regarding VE and PH to improve health and safety practices of their clients.

Occupational health nurses (OHNs) act as bridges between workers and management since they have direct contact among personnel who rely on them for support and guidance. In the Philippines, OHNs play a major role in the implementation of Executive Order No. 307 or The Occupational Safety and Health (OSHC) which was signed by the late President Corazon C. Aquino, on November 4, 1987 and further promoted by the release of Republic Act No. 11058 in July 24, 2017 strengthening the compliance with occupational safety and health standards in various work settings nationwide. An OHN is an invaluable member in offshore environments because they can contribute in the creation, review and update of policies on stress reduction. They are well-aware of the job characteristics and psychosocial hazards of workers and by listening, counselling and assessing the readiness of employees to return to work they

can help companies design and execute stress management programs. Maintaining the confidentiality of patient information and keeping their trust are key points in establishing a good relationship between OHNs and workers. Evidences gathered from surveys or consults must be translated into practice to improve nursing care (O'Keefe et al., 2014).

The advent of the COVID-19 pandemic has made a compounded impact in the ongoing layoffs of offshore workers worldwide due to contract suspensions and flight restrictions limiting movement of crew members from their origin countries to work destinations. Some personnel need to work longer for extended periods. The vital exhaustion levels and psychosocial health of their workers might be affected with these changes. It is imperative that healthcare professionals and offshore management monitor the physical and mental health of their respective crews through the conduct of individual interviews, group discussions, formal surveys and review of objective measures of stress which include absenteeism, illness, and turnover rates.

Most offshore employees spend more time at work than with their families. Overcoming stressors posed by numerous work demands, shift work, organizational changes, shortage in staffing and workplace violence can only be achieved through effective implementation of stress prevention programs and cooperation among management, workers and OHNs.

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APPENDICES

Appendix A. Approval to use MVEQ (Appels & Meesters, 1987) and COPSOQ III (Nűbling et al., 2018)

Michael Lagarde <michael.lagarde@upou.edu.ph> Thu, Sep 27, 2018 at 3:01 PM
To: study-fhml@maastrichtuniversity.nl, c.meesters@maastrichtuniversity.nl

[Quoted text hidden]

Meesters, C (PSYCHOLOGY) <c.meesters@maastrichtuniversity.nl> Thu, Sep 27, 2018 at 5:52 PM
To: Michael Lagarde <michael.lagarde@upou.edu.ph>

Dear Mr. Lagarde,

Please feel free to use the MIVE. To my knowledge, the interview is available in Dutch and English (see the attached articles). I don't know whether it has been translated to other languages.

Kind regards,

Cor Meesters

Met vriendelijke groeten,

Cor Meesters

Cor Meesters, Ph.D.
Associate Professor
Department of Clinical Psychological Science
Faculty of Psychology and Neuroscience

University of the Philippines Open University

Michael Lagarde <michael.lagarde@upou.edu.ph>

Re: Mail from the Website copsoq-network.org
26 messages

Inga Nolle <nolle@ffaw.de> Tue, Sep 25, 2018 at 7:07 PM
To: michael.lagarde@upou.edu.ph
Cc: Hans-Joachim Lincke <lincke@ffaw.de>, Matthias Nübling <nuebling@ffaw.de>

Dear Michael Lagarde,

thank you for your message. COPSOQ is a free instrument and when you provide information on the source where you got it from you can use it for your thesis.

I actually don't know, if there is a hindi version of COPSOQ. I attached you two publications that I can think of now, where the COPSOQ was used in India. Maybe the autors know more?

Following I also send you the contact of our indian COPSOQ-Network member. Maybe he knows more?

E. Balamurugan
Government General Hospital, Karaikal and National Consortium for PhD in Nursing, Indian Nursing Council, New Delhi
N0, 10, II Main Road Navasakthi
Puducherry-0605009 - India
+91 8695187560
bmbalanursing@gmail.com

Good luck for your thesis and in case of questions, feel free to contact us again.
Best regards
Inga Nolle, on behalf of the COPSOQ-International-Network

Am 23.09.2018 um 05:29 schrieb info@copsoq-network.org:

Name*:
Michael Lagarde, RN

E-Mail*:
michael.lagarde@upou.edu.ph

Message*:
Dear COPSOQ,

I would like to request your permission in using the COPSOQ questionnaire in the conduct of my Masters thesis. I would like to measure some

Appendix B. Research Ethics Board Approval

UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM **Appendix C**

Research/Project Title:	Vital Exhaustion and Psychosocial Health among Personnel Working in an Oil Rig in UAE
Faculty of Studies/Office:	Faculty of Management and Development Studies
Researcher/Proponent:	Michael Lagarde, RN

Checklist of Required Documents	**Compliance**	
	Yes	**No**
Application for Ethical Review (Appendix A)	✓	
Research proposal/protocol	✓	
Research investigator/proponent's curriculum vitae	✓	
Official Letter of Endorsement		

Evaluation Criteria	**Compliance**		**Remarks**
	Yes	**No**	
Compliance with protocol	✓		
Informed consent	✓		
Openness and integrity	✓		

Compliance with protocol			I suggest that you make use of the adjective "determine the association" instead of "measure " in your objectives The general objective of this study is to determine the association of vital exhaustion and psychosocial health (with what?) among offshore petrochemical workers in Dubai, UAE. (the statement is vague…where do you associate the two variables? Or do you intend to determine the relationship or association between the two variables? If so, your title can be rephrased to reflect your objective. This is also what is written in your conceptual framework. Improve the significance of your study In the review of literature, your first statement need to be modified. This is a technical paper so that first sentence seemed not appropriate This is a proposal and should be written in future tense. If this will follow complete enumeration, you should have included the total number of employees and then you can apply your inclusion criteria so you can come up with the number of participants. Scope and limitation must be modified and not just highlight on the anticipation of problems on recruitment. Conceptual framework need to improved to show details of constructs and variables included in the study Suggestion to improve write up on ethical consideration section of the protocol. There was no mention of benefits both individual and societal, vulnerability , post study access, including recruitment and informed consent process.

Informed consent			In the inform consent, write that that objective of your study is to determine vital exhaustion and but not necessarily to prevent it (there is no provision in your protocol that you can prevent the occurrence of vital exhaustion).See to it that what is written in the proposal is consistent with what is in your informed consent.
Openness and integrity			A statement on personal benefit whether direct or indirect is lacking.
Protection from harm			Include a statement in the inform consent a provision in case the participant felt uncomfortable to answer the questions that they may leave it blank.
Confidentiality			Data management plan must include statements on storage , duration of storage and disposal of the data gathered.
Professional codes of practice and ethics			It should have been better if both copies of questionnaires were included in the submission . Since this study will be conducted in Dubai, UAE it is suggested that ethical clearance from the institution is also needed

UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Kindly check your decision on the proposal:

- [■] Approval: Passed the ethical review and can proceed with his/her research but have to revise according to the comments made by the reviewer.
- [ ] Approval without revision.
- [ ] Disapproval: Disapprove comply first with the suggestions given. Ethical Considerations should be part of the protocol.

Reviewer:

JOSEPHINE D. AGAPITO — February 5, 2019

Print Name & Signature — Date

UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Protection from harm	✓		
Confidentiality	✓		
Professional codes of practice and ethics	✓		

Kindly check your decision on the proposal

- [ ] Approval: Passed the ethical review and can proceed with his/her research but have to revise according to the comments made by the reviewer
- [☑] Approval without revision.
- [ ] Disapproval: Disapprove comply first with the suggestions given. Ethical Considerations should be part of the protocol.

Reviewer:

MARIA CECILIA PUNZALN — 3/ 25/2019

Print Name & Signature — Date

Appendix C. Institutional request letter for thesis conduction and approval

[Quoted text hidden]
[Quoted text hidden]

Informed consent form FINAL 21.11.2019.pdf
117K

Michael Lagarde <michael.lagarde@upou.edu.ph> Wed, Nov 27, 2019 at 4:27 AM
To: "Colyn.Gerale@shell.com" <Colyn.Gerale@shell.com>

Good morning Colyn,

Have you received any feedback from the legal team?
[Quoted text hidden]
[Quoted text hidden]

Colyn.Gerale@shell.com <Colyn.Gerale@shell.com> Mon, Dec 2, 2019 at 6:37 AM
To: michael.lagarde@upou.edu.ph

HI Michael,

Wish to inform you that I have received all approvals for this study. I will need to discuss the study to the Offshore installation Manager within the week. Thanks.

Sincerely,

COLYN L. GERALE
Commercial Advisor

Shell Philippines Exploration B.V.
19/F Asian Star Building, ASEAN Drive

University of the Philippines Open University

Michael Lagarde <michael.lagarde@upou.edu.ph>

Permission to Conduct Research
15 messages

Michael Lagarde <michael.lagarde@upou.edu.ph> Mon, May 6, 2019 at 7:58 AM
To: sec.alfonsocusi@gmail.com

Dear Sec. Alfonso Cusi,

I am Michael Lagarde, a site medic, working for an oil rig here in Dubai, UAE. I am currently completing my masteral thesis in Nursing at the UP Open University and I am doing a research entitled "*Vital exhaustion and psychosocial health among personnel in an oil rig in UAE*". I have submitted my research proposal and obtained Ethics review for the said study but unfortunately, I was not allowed by the legal department of the oil rig where I am assigned to collect data. It is disappointing because I am almost done with my research and now I am left with no study setting. I have tried consulting other UAE petroleum sites but they also declined my request.

I was hoping you can assist or allow me conducting the study in Malampaya. I attach herewith the research presentation, survey and consent forms that I will be using. I can have them translated in the Tagalog if needed by the respondents. ***This endeavor is purely academic and information regarding the study setting and participants will be kept confidential.***

I will be looking forward for your reply. Have a great day, thanks!

Regards,

Michael Lagarde, RN
Masters Student, UP Open University
MAN (Major in Adult Health Nursing)
Clinic: +971 4 567-3492
Mobile: +971 50 441-4926 | +63 945 469-9304
michael.lagarde@upou.edu.ph

3 attachments

Informed consent form .pdf
90K

Study Questionnaire.pdf

Appendix D. Informed Consent Form

Informed Consent

University of the Philippines Open University

This informed consent form is intended for offshore personnel and shipping/cargo vessels crew members whom I am inviting to participate in my research entitled **"Vital exhaustion and psychosocial health among offshore personnel working in the Philippines"**

Name of Principle Investigator: Michael Lagarde, RN
Name of Organization: University of the Philippines Open University
Name of Project: Thesis N300

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you choose to participate)

Part I: Information Sheet

Introduction

I am Michael Lagarde, a site medic and a student taking a degree in Master of Arts in Nursing at UPOU. I am doing a research to find out the levels of vital exhaustion and psychosocial health among offshore personnel working in this country. A brief information about this study will be provided by one of your company representatives in your general safety meeting. I would like to invite you to be a part of my research. Before you decide, you can talk to anyone you feel comfortable with about the study. This consent form may contain words that you do not understand. If you have other questions regarding the study, you may direct them to my email at michael.lagarde@upou.edu.ph. You may also give me a call at +63 945 469-9304.

Vital exhaustion is defined as a condition where patients experience fatigue, hopelessness, listlessness, loss of libido, increased irritability and sleep problems. Psychosocial factors on the other hand gauge how workers respond to various work stressors and demands.

Purpose of the research

This research aims to determine or assess the current levels of vital exhaustion and psychosocial health of the crew. I would like to check if there is an association between those variables. The findings will be forwarded to crew management/ HSE so that they can incorporate measures or interventions if certain health issues are observed in the study. It will help improve health and safety practices onboard.

Type of research intervention

This study will involve your participation in answering a questionnaire to assess levels of vital exhaustion and psychosocial health. It is an easy-to-read survey form that you can just tick. There are no correct or wrong answers. Feel free to answer every item according to your opinion or liking.

Participant selection

You are being invited to take part of this research because you are qualified crew member based on the inclusion and exclusion criteria of this study who can contribute much to our understanding and knowledge about vital exhaustion and psychosocial health.

Voluntary participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate, it will have no bearing on your work performance, and you will not be reprimanded by the management.

Procedures

Questionnaires will be handed out to each participant and will be collected 10 days after it has been provided. A follow-up will be made if the form is not yet returned within the prescribed filling period.

Duration

It is a questionnaire with less than 50 items and can be answered within 10-15 minutes.

Benefits

This study can provide good information about the vital exhaustion and psychosocial health levels of the crew onboard. It can help improve health and safety policies implemented in the organization. You will not receive any monetary benefit from the study other than a small token. I am only conducting this research as a requirement in the completion of my masters program and I have not received any funding from any institution or company.

Confidentiality

All the information collected from the questionnaire will be kept private. Any information about you will have a number on it instead of your name. Only the researcher will know what your number is and will seal that information. It will not be shared with or given to anyone. Only the researcher will have access to the information. Information will be stored for a period of five (5) years only once the study has been completed. Paper copies will be shredded and disposed properly.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so and choosing to participate will not affect your employment or performance metrics. You may wish to withdraw your participation in the study at any time. If you feel uncomfortable answering any of the items in the questionnaire, you may leave it blank.

Part II: Certificate of Consent

I have been invited to participate in research about vital exhaustion and psychosocial health among offshore and shipping/cargo vessel personnel working in the Philippines. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it by sending an email or calling the proponent via phone. I consent voluntarily to be a participant in this study.

Print Name of Participant: _____

Signature of Participant: _____

Date: _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

1. Participation in filling out questionnaires on vital exhaustion and psychosocial health

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability thru e-mail or phone correspondence. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent: _____
Date: _____

Appendix E. Research Instrument Tool

1	How old are you?	☐ 20-30	☐ 31-40	☐ 41-50	☐ 51-65			
2	Your gender	☐ Male	☐ Female	3	Workplace	☐ Platform	☐ Vessel	☐ Other offshore location
4	Your educational attainment	☐ Elementary	☐ High School	☐ Diploma	☐ Bachelors	☐ Masters	☐ Vocational	
5	Where is your job assignment?	☐ Deck Crew	☐ Drill Crew	☐ Maintenance	☐ Marine Crew	☐ Catering	☐ Client	☐ 3rd Party/ Visitors
6	Nationality	☐ Filipino	☐ UK/European	☐ North/ Latin American	☐ Arab/Middle East	☐ Southeast Asian	☐ Indian/South Asian	☐ African
7	Years working offshore	☐ less than 5	☐ 6 to 10 years	☐ 11 to 20 years	☐ 21-35 years			

Maastricht Vital Exhaustion Questionnaire

INSTRUCTIONS: For the next series of questions, please answer **Yes** or **No**, whichever best describes you. If you cannot decide or don´t know, please indicate "**Don´t Know**"

(CHECK ONLY ONE CHOICE)

#		YES	NO	DON´T KNOW
1	Do you often feel tired?			
2	Do you often have trouble falling asleep?			
3	Do you wake up repeatedly during the night?			
4	Do you feel weak all over?			
5	Do you have the feeling that you haven´t been accomplishing much lately?			
6	Do you have the feeling that you can´t cope with everyday problems as you used to?			

(CHECK ONLY ONE CHOICE)

#		YES	NO	DON´T KNOW
7	Do you believe that you have come to a "dead end"?			
8	Do you feel most listless or lacking energy lately?			
9	Do you enjoy sex as much as ever?			
10	Have you experienced a feeling of hopelessness lately?			
11	Does it take more time to grasp a difficult problem than it did a year ago?			
12	Do little things irritate you more lately than it used to?			
13	Do you feel you want to give up trying?			
14	Do you feel fine?			
15	Do you sometimes feel that your body is like a battery that is losing its power?			
16	Would you want to be DEAD at times?			
17	Do you have feeling these days that you just don't have what it takes anymore?			
18	Do you feel sad and depressed?			
19	Do you feel like crying sometimes?			
20	Do you ever wake up with a feeling of exhaustion or fatigue?			
21	Do you have increasing difficulty in concentrating on a single subject for long?			

Please flip the page for psychosocial health questions

The answer categories of each item are *Yes*, ?, or *No*. Each confirmation of a complaint is coded as 2, all question marks are coded as 1, and a negative answer is coded as 0. Therefore, the range of the scores is 0 – 42. In the RCSS, the mean score of form B was found to be 8.82. The Standard Deviation was 8.67. These statistics might be used to compute a cutting-point to divide subjects into "exhausted" and "non-exhausted" subgroups. Such a cutting-point might be formed by a score which is equal to or higher than one standard deviation above the mean score. This corresponds to a score of 17 or higher.

	Quantitative work demands:	always	often	sometimes	seldom	never/hardly ever
1a	Do you get behind with your work?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
1b	How often do you not have time to complete all your work tasks?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Tempo, work pace:	always	often	sometimes	seldom	never/hardly ever
2a	Do you have to work very fast?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
		to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
2b	Do you work at a high pace throughout the day?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Emotional demands:	always	often	sometimes	seldom	never/hardly ever
3a	Do you have to deal with other people's personal problems as part of your work?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
		to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
3b	Is your work emotionally demanding?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Influence at work:	always	often	sometimes	seldom	never/hardly ever
4a	Do you have a large degree of influence on the decisions concerning your work?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Possibilities for development (skill discretion):	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
5a	Do you have the possibility of learning new things through your work?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
5b	Can you use your skills or expertise in your work?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Meaningful work:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
6a	Is your work meaningful?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Predictability (sufficient information):	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
7a	At your place of work, are you informed well in advance concerning for example important decisions, changes, or plans for the future?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
7b	Do you receive all the information you need in order to do your work well?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Recognition:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
8a	Is your work recognised and appreciated by the management?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Role clarity:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
9a	Does your work have clear objectives?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Role conflicts:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
10a	Are contradictory demands placed on you at work?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
10b	Do you sometimes have to do things which ought to have been done in a different way?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Quality of leadership:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
11a	To what extent would you say that your immediate superior is good at work planning?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
11b	To what extent would you say that your immediate superior is good at solving conflicts?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Social support from colleagues:	always	often	sometimes	seldom	never/hardly ever
12a	How often could you get help and support from your colleagues, if needed?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Social support from supervisors:	always	often	sometimes	seldom	never/hardly ever
13b	How often do you get help and support from your nearest superior?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Sense of community at work:	always	often	sometimes	seldom	never/hardly ever
14a	Is there a good atmosphere between you and your colleagues?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Insecurity over employment:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
15b	Are you worried about it being difficult for you to find another job if you became unemployed?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Insecurity over working conditions:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
16a	Are you worried about being transferred to another job against your will?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Vertical trust:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
17a	Does the management trust the employees to do their work well?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

17b	Can the employees trust the information that comes from the management?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Organizational justice:	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
18a	Are conflicts resolved in a fair way?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
18b	Is the work distributed fairly?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Physical work environment concerns:	not applicable	well-designed/ controlled	present but not usually an issue/ concern	exposures cause concern	exposures cause annoyance	exposures interfere with ability to get job done
19	How well are **environmental conditions** managed (air quality, temperature, lighting, noise, workstation ergonomics)?	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
20	How well are **safety concerns** managed (slip/trips/falls, toxic chemicals, infectious diseases, Wi-Fi radiation, working alone)?	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	Satisfaction with work - job satisfaction:	very satisfied	satisfied	neither/nor	unsatisfied	very unsatisfied
21	Regarding your work in general. How pleased are you with your job as a whole, everything taken into consideration?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

	Work-Life conflict:	yes, certainly	yes, to a certain degree	yes, but only very little	no, not at all
22a	Do you feel that your work drains so much of your **ENERGY** that it has a negative effect on your private life?	☐ 3	☐ 2	☐ 1	☐ 0
22b	Do you feel that your work takes so much of your **TIME** that it has a negative effect on your private life?	☐ 3	☐ 2	☐ 1	☐ 0

	Overall Health:	excellent	very good	good	fair	poor
23	In general, would you say your health is:	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

Conflicts and offensive behaviour:

At your workplace during the last 12 months, have you been exposed to:

		no	yes, a few times	yes, monthly	yes, weekly	yes, daily
26	Undesired sexual attention	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
27	threats of violence	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
28	physical violence	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
29	bullying?	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4

(*__bullying__ means that a person repeatedly is exposed to unpleasant or degrading treatment, and that the person finds it difficult to defend him/herself against it.)

Vital Exhaustion and poor psychosocial prevention strategies:	yes	no	somewhat
Are you aware of various health programs implemented onsite to prevent the development of vital exhaustion and poor psychosocial health?	☐ 3	☐ 2	☐ 1

	to a very large extent	to a large extent	somewhat	to a small extent	to a very small extent
How effective are the said programs in addressing physical and mental health issues onboard?	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0

Any remarks/comments please write below:

Appendix F. Reliability of the COPSOQ scales on psychosocial factors at work, overall means and SD (Nübling et al., 2006)

Table 1: Reliability of the COPSOQ scales on psychosocial factors at work, overall means and SD

Scale	COPSOQ DK		COPSOQ D				
Demands	Long version: N items (alpha)	Shortened version: N items (alpha)	Long version: N items (alpha)	Shortened version: N items (alpha)	Long version: ICC	Shortened version: ICC	Long version overall means (SD)
Quantitative demands	7 (0.80)	4 (0.65)	7 (0.82)	4 (0.69)	0.39	0.36	54 (17)
Cognitive demands	8 (0.86)	4 (0.78)	8 (0.83)	4 (0.71)	0.38	0.39	72 (15)
Emotional demands (*)	3 (0.87)	3 (0.87)	3 (0.82)	3 (0.82)	0.60	0.60	63 (21)
Demands for hiding emotions (*)	2 (0.59)	2 (0.59)	2 (0.65)	2 (0.65)	0.48	0.48	52 (21)
Sensorial demands	5 (0.70)	4 (0.66)	5 (0.74)	4 (0.72)	0.37	0.37	82 (17)
Influence and development							
Influence at work	10 (0.83)	4 (0.73)	10 (0.76)	4 (0.64)	0.24	0.30	53 (15)
Degree of freedom at work (*)	4 (0.68)	4 (0.68)	4 (0.78)	4 (0.78)	0.47	0.47	46 (25)
Possibilities for development	7 (0.82)	4 (0.75)	7 (0.80)	4 (0.73)	0.36	0.40	67 (15)
Meaning of work (*)	3 (0.77)	3 (0.77)	3 (0.82)	3 (0.82)	0.60	0.60	77 (19)
Workplace commitment (*)	4 (0.74)	4 (0.74)	4 (0.72)	4 (0.72)	0.39	0.39	54 (19)
Interpersonal relations and leadership							
Predictability (*)	2 (0.78)	2 (0.78)	2 (0.75)	2 (0.75)	0.60	0.60	52 (21)
Role clarity (*)	4 (0.77)	4 (0.77)	4 (0.83)	4 (0.83)	0.59	0.59	77 (16)
Role conflicts (*)	4 (0.72)	4 (0.72)	4 (0.79)	4 (0.79)	0.49	0.49	47 (20)
Quality of leadership	8 (0.93)	4 (0.87)	8 (0.94)	4 (0.89)	0.66	0.68	53 (23)
Social support (*)	4 (0.74)	4 (0.74)	4 (0.80)	4 (0.80)	0.50	0.50	65 (20)
Feedback (*)	2 (0.64)	2 (0.64)	2 (0.58)	2 (0.58)	0.40	0.40	40 (21)
Social relations (*)	2 (0.65)	2 (0.65)	2 (0.68)	2 (0.68)	0.51	0.51	49 (30)
Sense of community (*)	3 (0.80)	3 (0.80)	3 (0.79)	3 (0.79)	0.56	0.56	76 (17)
Additional scales							
Job insecurity (*)	4 (0.61)	4 (0.61)	4 (0.67)	4 (0.67)	0.33	0.33	29 (21)
Strain (effects, outcomes)							
Job satisfaction	7 (0.84)	4 (0.75)	7 (0.79)	4 (0.69)	0.35	0.36	62 (14)
Behavioral stress symptoms	8 (0.79)	4 (0.65)	8 (0.90)	4 (0.85)	0.53	0.58	28 (20)
Cognitive stress symptoms (*)	4 (0.85)	4 (0.85)	4 (0.87)	4 (0.87)	0.63	0.63	29 (19)

(*) scale unchanged in shortened version

Appendix G. CURRICULUM VITAE

Michael Lagarde
UAE Address: P.O. Box 2621, Abu Dhabi
Philippine Address: # 26-A Malabanias Rd., Plaridel IA,
Angeles City, Pampanga, Philippines 2009
Contact Number:
E-mail: *michael_lagarde2015@yahoo.com*

Objective: To secure a responsible position as a Site Medic/Nurse, in which my education, training and skills may be effectively utilized towards advancement.

Clinical Experience:

Site Medic,
International SOS Gulf-Abu Dhabi

Site	Location	Inclusive Dates
Shelf Drilling Mentor	Rashid Oilfield, Dubai, UAE	March 2020 to present
Shelf Drilling Tenacious	Rashid Oilfield, Dubai, UAE	September 2017- March 2020
ENSCO-110	Doha, Qatar	July 2017- August 2017
Seadrill West Orion	Walvis Bay, Namibia	October 2016- June 2017
Paragon M1162	Zakum Oilfields, Abu Dhabi, UAE	November 2013- October 2016

- Undertaken clinical consultations and provide a high standard of service and care to patients attending the clinic.
- Treated all clinical presentations to the minimal effective level of care to reduce client LTI exposure without compromising patient wellbeing or recovery times.
- Developed and ensure continuity of patient care and appropriate follow-up and referral.
- Assisted with the implementation of preventative medical care strategies, including structuring and performing medical screening services if requested.
- Managed the delivery of competent and professional health services according to the International SOS standards.
- Assisted with ensuring appropriate patient triage and flow within the clinic.
- Provided 12-hour non-emergency and emergency medical response and services to employees on site, with the remaining 12 hours on call for emergency response only.
- Coordinated with the International SOS Alarm Centres and Coordinating Doctors the procedures required and preparation of patients to facilitate evacuation if required.
- Conducted weekly water testing, eye wash station maintenance and galley hygiene inspections.

Camp Nurse *3 July 2012 to 15 August 2013*
Al Mariah Catering & Camp Services
Al Ruwais Site, Abu Dhabi, UAE

▪ Administered first aid treatments and provided medications for employees and camp residents.
▪ Responded to emergency and provided treatment and care to all employees.
▪ Helped in transporting ill and injured employees to hospital and home.
▪ Interpreted and evaluated diagnostic tests based on the verification of medical certificates.
▪ Provided nursing care and treatment by rendering home visit.
▪ Administered prescribed medicine and treatment to patient.
▪ Documented information about cases treated and medicine issued in the record book.
▪ Monitor hygiene of food handlers and ensure that basic food safety rules are implemented.

Staff Nurse, Medical-Surgical Ward *1 June 2010 to 9 September 2011*
Rafael Lazatin Memorial Medical Center
(Ospital ning Angeles)
Visitacion St., Pampang, Angeles City

▪ Assessed patients for changes in condition, including but not limited to abnormal labs, x-rays, scans, drug reactions and initiates appropriate action.
▪ Reported patient care/condition/progress to patient's physician on a continuous basis.
▪ Administered on-going care and case management for each patient, providing necessary follow-up.
▪ Facilitated prompt disposition of physician orders including lab results, treatments, reports, diagnostic tests and administration of medications.
▪ Assured pre-authorization and appropriate consent forms were obtained prior to administration of therapies.
▪ Instructed patients and their families in treatment procedures.

Staff Nurse, Operating Room *4 January 2010 to 31 May 2010*
Rafael Lazatin Memorial Medical Center

▪ Provide perioperative and intraoperative nursing care for patients undergoing surgery.
▪ Establish a checklist to monitor physical plan of the OR and equipment for conformity to all national standards to ensure patient and personnel safety.
▪ Assist the surgeon by acting as a scrub or circulating nurse during minor and major operations.
▪ Monitor patient condition in the recovery room (RR).
▪ Communicate with patients and prepare reports of client's progress post-surgery.

Staff Nurse, Emergency Room *7 September to 31 December 2009*
Rafael Lazatin Memorial Medical Center

- Provide emergency medical care to an average of 10 critically-ill patients per shift within a 10-bed Emergency Services Department.
- Evaluate and assess patient condition in trauma situations including motor and vehicular accidents and gunshot/stab wounds.
- Carry out prescribed medical treatments/procedures, initiate catheters/IV's, and work closely with the physicians and other healthcare staff to ensure optimal patient care.
- Monitor and chart patient's condition/vital signs, administer IV fluids and medications, and transport patients to Radiology department, Operating Room or ICU.

Other Work Experience:

Customer Service Representative, *24 June 2006 to 06 July 2007*
Teletech-Roxas CMC Site, Bay Blvd.,
SM Corp. Offices, Pasay City

Service Assistant, *14 June 2005 to 31 March 2006*
Bank of the Philippine Islands-Angeles Nepo Branch

Education:

UP Open University
Master of Arts in Nursing, *Major in Adult Health Nursing*
August 2014- January 2021

University of Makati, Makati City
Bachelor of Science in Nursing, March 2009, Amity Awardee

Saint Louis University, Baguio City
Bachelor of Science in Biology, March 2005, Research Awardee

Licensure:

HAAD License No. GN17984, Issue Date: 29 August 2013, Expiry Date: 29 Aug 2021
Board Passer, June 2009 NLE by the Philippine Professional Regulation Commission (License No.: 0567971), Issue Date: 29 August 2009, Expiry Date: April 2022
Seaman's Book: Government of Belize (MT No. 54864), Capacity/Profession: Marine Technician, Issue Date: 09/11/2016, Expiry Date: 08/11/20

Organizations and Positions Held:

- Volunteer/Blood Donor, Philippine Red Cross 2007- present
- Volunteer, Blood Pressure Monitoring Drive, Angeles City 2007-present
- Clinical Graduation Committee Head, Univ. of Makati-CON 2008-2009
- Member, Philippine Nurses Association (PNA No. 89598) 2009-present

Trainings and Seminars:

- ASHI Advanced Cardiac Life Support Life Support Renewal, IHTSC, Dubai, UAE, January 2021
- ASHI Basic Life Support Renewal, IHTSC, Dubai, UAE January 2021
- Prehospital Trauma Life Support (PHTLS) Advanced Provider Course, Aspen Medical Group, Abu Dhabi, UAE, March 2020
- International Trauma Life Support (ITLS) Advanced Provider Course, Good Responder Training Institute, Las Piñas, Manila, Philippines May 25-27, 2019
- Pain Management, Nightingale Nursing Training, Abu Dhabi, UAE January 2018
- Pharmacological Management of Emergency Drugs, Abu Dhabi, UAE January 2018
- Advances in Patient Safety: New Directions and Alternative Approaches, Superior Healthcare & Ambulance Management, Abu Dhabi, UAE July 2018
- Managerial Skills in Healthcare, Nightingale Nursing Training, Abu Dhabi, UAE July 2018
- 2nd Abu Dhabi Ambulatory Healthcare International Conference 2016, Abu Dhabi National Exhibition Center, 13 – 15 October 2016
- Fast Track Management of Acute Chest Pain, Eduscope, Abu Dhabi, UAE, 27 November 2016
- Advanced Infection Control, Uniteam Medical Assistance, Abu Dhabi, UAE, 27 May 2015
- Vascular Access: Venipuncture and IV Cannulation, Uniteam Medical Assistance, Abu Dhabi, UAE, 09 April 2015
- Basic Offshore Safety Induction Emergency Training (BOSIET), ETSDC, Abu Dhabi, UAE, Expiry: 03 December 2021 (Certificate No.: 00585585031217134588)
- H_2S Awareness, Dubai, UAE January 2020
- Food Safety Essentials, Abu Dhabi Food Authority, July 2012

Special Skills:

Computer languages: Word, Excel, Access, PowerPoint, Photoshop; photography, dancing, reading knowledge in Latin, counterfeit detection, signature verification

References:

Name	Organization/Location	Contact Numbers
Eureka Cabatbat	Site Liaison Officer, International SOS- Dubai	+971 4 253 6051
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Prof. Rita Ramos	Secretary, FMDS UP Open University	+63 49 536-6010