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Strategies for Managing Work-Related Stress in the Petroleum Industry

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This is to certify that the doctoral study by

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Abstract

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

High work-related stress negatively impacts workers' health and productivity in the Nigerian petroleum industry. Supervisors in the Nigerian petroleum industry who lack strategies to reduce work-related stress significantly lose worker health and organizational productivity. Grounded in person-environment fit theory, the purpose of this qualitative multiple case study was to explore strategies Nigerian petroleum industry supervisors use to manage work-related stress. Participants were six supervisors who have successfully used strategies to reduce work-related stress in the Nigerian petroleum industry. Data were collected from semistructured interviews and internal company documents relevant to reducing work-related stress and analyzed using thematic analysis. Three major themes emerged: (a) impact of work-related stress, (b) strategies successfully used to manage work-related stress, and (c) challenges impacting effective work-related stress management. The key recommendations include training workers and supervisors on stress management, defining minimum conditions of service for workers, having an organizational policy on stress management, and collaboration among managers, employees, and clients on work-related stress management. The implications for positive social change include the potential to improve employee health and well-being and enrich families in communities.

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Dedication

This research work is dedicated to the sweet memory of my late mother, who, though illiterate and could barely afford three square meals a day, had the passion to ensure I received the best education.

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To my beloved family, thank you for the sacrifices you made while I used your valuable time for this educational program. The presence of My Love, Deborah, has made a world of difference in my life. She is exceptional as a wife. Clearly there is none like her. To the best of all children, Esangubong, Idiongoima, Uyoekom, and AmindiAbasi, I appreciate your love and encouragements. May you grow up and study to levels higher than mine and be sources of positive changes to the society. I particularly appreciate Esangubong and Idiongoima for helping out in some aspects of the work particularly in developing the journal tracker for the different citations.

To many countless others that supported in various ways, I say a big thank you.

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Section 1: Foundation of the Study

For decades, work-related stress has been a global menace impacting workers and organizations (Lecca et al., 2020; Lee et al., 2020; Osibanjo et al., 2016; Parkes, 2017; Rigó et al., 2021; Roach et al., 2017). Several studies exist on how work-related stress adversely impacts workers' health and organizational profitability. Research shows that the impact of work-related stress varies across workers and professions (Chaturvedi & Dubey, 2016; Osibanjo et al., 2016). Organizational leaders need to identify and address the different organizational and environmental factors that impact work-related stress (Abozaid et al., 2019; Asgari et al., 2017; Svedahl et al., 2016).

Each profession has its risk and buffer factors in relation to stress (Tsareva et al., 2019). Effective work-related stress management involves understanding the stressors in each organization and environment and developing strategies to manage them (Abozaid et al., 2019; Asgari et al., 2017). The Nigerian business environment is particularly stress-inducing due to its socioeconomic structure (Osibanjo et al., 2016). The purpose of this qualitative multiple case study was to explore the strategies that supervisors in the petroleum industry in the Nigerian Niger Delta region use to manage work-related stress. Though there are many studies on work-related stress, specific study on the petroleum industry of the Nigeria Niger Delta region is sparse. The role of the petroleum industry to the Nigerian economy is strategic (Akorede et al., 2017; Elum et al., 2016). Knowing and implementing appropriate strategies to effectively manage work-related stress is necessary to enhance workers' productivity, improve profitability in the industry, and boost the socioeconomic development of Nigeria.

Background of the Problem

Work-related stress is a major workplace challenge (Lecca et al., 2020; Lee et al., 2020; McNicholas et al., 2020; Muthusamy & De Silva, 2019; Oduaran, 2016; Osibanjo et al., 2016; Parkes, 2017; Rigó et al., 2021; Roach et al., 2017). Yearly, European Union states incur a loss of 185 to 269 billion Euros and 50% to 60% lost workdays due to work-related stress (Florea & Florea, 2016). Organizations globally incur more than 300 billion dollars' loss yearly due to work-related stress (Akanji, 2015). Work-related stress also adversely affects workers' health and productivity (Jennings et al., 2016; Oyelaran et al., 2017; Zagross & Jamileh, 2016). Organizational leaders face the challenge of eliminating work-related stress to enhance profitability (Akbari et al., 2017; Lecca et al., 2020; Lee et al., 2017; Paais, 2019; Wasserman & Trosten-Bloom, 2017).

The impacts of work-related stress vary across nations and professions (Chaturvedi & Dubey, 2016). Olukayode (2017) noted that 70% of Nigerian workers studied experience work-related stress. There are no specific studies on how organizational leaders in the petroleum industry in Nigeria manage work-related stress. Because the major source of revenue to the Nigerian government is petroleum, any reduction in worker productivity in the petroleum industry would adversely affect both organizational profitability and government revenue (Akorede et al., 2017; Nriagu et al., 2016). This study was necessary to identify strategies that supervisors effectively used for managing work-related stress in the petroleum industry and to bridge the research gap on work-related stress in the Nigerian petroleum industry.

Problem Statement

Work-related stress has a major effect on workers' health and productivity in Nigeria (Aderibigbe & Mjoli, 2019a; Agbonluae et al., 2017; Parkes, 2017; Roach et al., 2017). Seventy percent of Nigerian workers experience work-related stress and organizations globally incur losses as high as 300 billion dollars per year because of work-related stress (Olukayode, 2017). The general business problem is that work-related stress negatively affects worker productivity. The specific business problem is that some supervisors in the petroleum industry in the Nigerian Niger Delta region lack strategies to manage work-related stress.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that supervisors in the petroleum industry in the Nigerian Niger Delta region use to manage work-related stress. The target population was supervisors in three organizations in the petroleum industry in the Nigerian Niger Delta region who have used successful strategies to reduce work-related stress. The implications for social change include the potential to make organizational changes that would improve workers' dignity and well-being, reduce stress-related illnesses and the required community support, and promote work–life and work–family balance for a healthier and happier family and society.

Nature of the Study

There are three types of research methods: (a) qualitative, (b) quantitative, and (c) mixed (Venkatesh et al., 2016). The qualitative methodology is the appropriate methodology for studying how people experience and perceive situations (Yin, 2014).

The qualitative research methodology was suitable for this study. The quantitative method is appropriate when a study requires examining variable characteristics or relationships among variables (Saunders et al., 2015; Saunders & Rojon, 2014; Venkatesh et al., 2016; Yilmaz, 2013) by testing hypotheses (Saunders et al., 2015; Saunders & Rojon, 2014; Venkatesh et al., 2016; Yilmaz, 2013). The quantitative method was not appropriate as this study involved exploring different strategies rather than analyzing the relationship between variables. The mixed method is appropriate when the research question is addressing complex research phenomena using both the qualitative and quantitative methods (Saunders et al., 2015; Venkatesh et al., 2016). The mixed method was not selected as the quantitative research method was not suitable for the study's purpose.

Three qualitative research designs a researcher can use are (a) case study, (b) ethnography, and (c) phenomenology. The case study design provides a framework to deeply study people in a chosen setting (Reddy, 2015). The insights a researcher gains from a single-case study design depend on the uniqueness of the selected case (Lederer et al., 2017). The multiple case study design is appropriate for answering a research question using several cases (Lederer et al., 2017) and for exploring similarities and differences among the findings across the cases (Saunders et al., 2015; Yin, 2014). Because work-related stress affects people in different organizations, using a multiple case study design enables the collection and analysis of data that are rich in real-life experiences from multiple sources. The multiple case study design was appropriate for this study. The phenomenological design is appropriate when studying the personal

meanings of people's lived experiences with a phenomenon (Sohn et al., 2017; Yin, 2014), while the ethnographic design is appropriate for exploring the culture of a chosen population (Carter, 2018; Yin, 2014). Neither the phenomenological nor the ethnographic designs was appropriate for this study.

Research Question

What strategies do supervisors in the Nigeria Niger Delta petroleum industry use to manage work-related stress?

Interview Questions

The interview questions were:

1. What are your observations of how work-related stress affects your workers' and organization's performance?
2. What strategies do you use to manage work-related stress that affects your workers' productivity and organization's profitability?
3. How does your organization address the key challenges to implementing its successful strategies for managing work-related stress?
4. How does your organization assess the effectiveness of its strategies for reducing work-related stress?
5. Which of your strategies do you find to be most effective to reduce work-related stress for your employees?
6. For the strategy that you previously stated worked best in managing work-related stress, how have your workers responded to it?

7. What additional information would you like to share concerning the strategies for reducing work-related stress in your organization?

Conceptual Framework

The conceptual framework for the study was the person–environment (P–E) fit theory postulated by Caplan (1975; Osibanjo et al., 2016). When factors in the work environment do not match the needs of the worker, there is the potential for inducement of work-related stress (Osibanjo et al., 2016). Based on the P–E fit theory, the amount of stress a worker experiences is directly related to the degree of mismatch between the worker and the workplace factors (Jee-Seon & Kim, 2020; Osibanjo et al., 2016). The key concept from the theory for this study was worker–environment mismatch. The lack of fit between the worker and the work environment can be considered from different perspectives: person–organization fit, person–job fit (Jee-Seon & Kim, 2020; Osibanjo et al., 2016), person–pay fit (Adams, 1963), and person–person fit (Osibanjo et al., 2016). The implication is to eliminate work-related stress, there should be an appropriate match between the worker and organizational factors, job design and control, remuneration, and fellow workers (Dar & Rahman, 2020; Jee-Seon & Kim, 2020). When the workplace factors do not align with a worker's needs, there is the potential to induce stress that can affect the worker's health and productivity (Castner, 2020; Osibanjo et al., 2016). The strategies for eliminating work-related stress center on ensuring alignment between the workers and the factors that affect the workers in the work environment (Dar & Rahman, 2020; Osibanjo et al., 2016).

Operational Definitions

Eustress: Healthy, positive response to stressors resulting in improvement in workers' health and organizational productivity (Akanji, 2015).

Job demands: The physical, psychological, social, and organizational pressure a worker experiences at work that, if not controlled, can harm the worker physically, emotionally, and psychologically (Yeh, 2015). Typical examples include work pressure, poor workplace design, lack of work control, emotional demand, and role ambiguity (Castner, 2020; Isfianadewi & Noordyani, 2020; Muthusamy & De Silva, 2019; Yeh, 2015).

Presenteeism: The literal antonym of absenteeism and refers to the condition where a worker remains at work, even when sick, or overstate attendance because of job insecurity due to downsizing and restructuring forces (Yang et al., 2016).

Person–environment (P–E) fit theory: The theory that stress arises from a poor match between the characteristics of the worker and the demands of the job (Chen, Sparrow, et al., 2016).

Stressors: Workplace variables that cause or contribute to work-related stress (Effiong & Philip, 2018).

Work–family balance: An indication of the lack of conflict between a worker's attention to the family and the attention to work (Thakur, 2017).

Work–life balance: The alignment between the worker and the employer to promote harmony in the effort and time spent to meet work demand and the time and effort invested to meet other life demands (Omar & Asif, 2016). The essence is to

eliminate potential imbalance in resource allocation and ensure effective management of competing demands to ensure the worker's psychological well-being (Castner, 2020; Dele, 2019).

Work-related stress: Also referred to as *workplace stress* or *occupational stress*, the harmful physical and emotional responses that occur when the demands of a job do not match the capabilities, resources, or needs of the worker (Castner, 2020; Effiong & Philip, 2018; Jones & Daigle, 2018; Olukayode, 2017; Yang et al., 2016)

Work stress: Also referred to as *job stress*, the condition in which a worker feels unpleasant or unhealthy emotional experience toward a job, resulting in a diversion of interest from assigned responsibilities (Ayub et al., 2018; Mirzaei et al., 2019).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions refer to concepts, things, or conditions that a researcher accepts to be true without independent verification (Bernard, 2013). A researcher can hardly verify everything, hence the acceptance that some things are true in the context of a particular study (Bernard, 2013). In this study, the first assumption was that the respondents would be honest in their responses to the interview questions. The second assumption was that the interview questions would be appropriate to generate responses that would enhance new learning on strategies for managing work-related stress. The third assumption was that the interview questions were clear and that if respondents did not understand the questions, they would ask for clarification. The fourth assumption was that the sample size of six would be sufficient to achieve data saturation.

Limitations

Limitations are possible weaknesses of a study that a researcher cannot control. The limitation of this qualitative multiple case study was that, among the study population, I only interviewed the supervisors selected through purposive sampling. The views of the selected supervisors might not be an accurate representation of the conditions in the entire petroleum industry of the Nigerian Niger Delta region.

Delimitations

Delimitations refer to the characteristics a researcher defines as the boundaries of a study (Bernard, 2013). The boundary of the study was the petroleum industry in the Nigerian Niger Delta region. Supervisors in the Nigerian petroleum industry outside the Niger Delta region were not included in the study. The respondents in this study only included individuals functioning as supervisors at the time of the data collection process.

Significance of the Study

Contribution to Business Practice

Organizational leaders face the task of ensuring high workforce productivity to achieve organizational profitability (Akbari et al., 2017; Wasserman & Trosten-Bloom, 2017). Work-related stress causes increased absenteeism rates, negative emotions, worker withdrawal, psychological distress, counterproductive work behaviors, and job dissatisfaction (Anne-Laure et al., 2019; Chichra et al., 2019; Cortina et al., 2017; Govindaraju, 2019; Ji et al., 2020; Pekince & Aslan, 2020; Rezaei et al., 2020; Zhang et al., 2021). The petroleum industry of the Niger Delta region is the major source of revenue for the Nigerian government (Elum et al., 2016). Anything that affects the

revenue from the petroleum sector directly influences the Nigerian economy (Elum et al., 2016). The implication is that work-related stress may not only adversely affect worker productivity in the petroleum industry in Nigeria but also the revenue to the Nigerian government. Understanding and applying appropriate work-related stress management strategies may enhance not only the leadership skills of supervisors in the Nigerian petroleum industry but also organizational productivity and the Nigerian economy.

This study's findings included strategies supervisors in the petroleum industry of the Nigerian Niger Delta region effectively use to manage work-related stress to achieve organizational profitability. Effective work-related stress management is necessary to enhance worker productivity and organizational profitability.

Implications for Social Change

The negative impact of work-related stress on a worker's health adversely affects the worker's family and dependents (Chichra et al., 2019; Hadadian & Zarei, 2016; Jennings et al., 2016; Oyelaran et al., 2017; Stauder et al., 2018). The findings from this study may help organizational leaders improve strategies for the effective management of work-related stress to promote good health, work–family balance, and work–life balance (Malik et al., 2017; Thakur, 2017). Organizational leaders may also use the findings to reduce the adverse effects of stress on human health, reduce medical expenses due to stress-related illnesses and family support, and enhance the dignity of human beings in the petroleum-producing communities. Because work-related stress adversely affects workers' health, identifying the strategies for effective work-related stress management can be a means to address unhealthy work practices and enhance the efficient allocation

of time for work, family, community, social functions, and recreation. Identifying strategies for managing work-related stress could help create awareness about unfavorable work environments to improve employees' health and benefit families by reducing the need for family and community support for victims of work-related stress.

A Review of the Professional and Academic Literature

Introduction

The purpose of this qualitative multiple case study was to explore the strategies that supervisors in the petroleum industry in the Nigerian Niger Delta region use to manage work-related stress. The impact of work-related stress varies across workers and professions (Chaturvedi & Dubey, 2016; Osibanjo et al., 2016). There have been no specific studies on work-related stress in the petroleum industry in the Nigerian Niger Delta region. This study added to the existing knowledge on work-related stress and bridged the knowledge gap on strategies for management of work-related stress in the petroleum industry.

The literature review consisted of professional and academic literature and government publications on work-related stress. The first section consists of an analysis of the conceptual framework for this study, related theories, and established stress models. The next section includes an analysis of the symptoms of work-related stress, causes of work-related stress, factors that influence work-related stress, and effects of work-related stress. Finally, there is an analysis of the stress management concepts and the different strategies that organizational leaders can adopt to eliminate work-related stress.

Literature Search Strategy

The keywords I used for the literature search included combinations of the following: *job design, worker support, worker-job fit, person-environment fit, worker-job mismatch, worker-organization mismatch, worker-environment mismatch, effort–reward imbalance theory, equity theory, job demand-control, job-demands-control–support, job demand-resources, effort-reward imbalance theory, cognitive-relational theory, inverted-U model. employee well-being, expectancy theory, flexible working, health and safety assessments, job satisfaction, job performance, leadership support, workplace stressors, occupational health and safety, occupational stress, occupational stress prevention and management, organizational change, organizational stress, work–life balance, work–life conflict, workplace stress, stress management*, and *workplace stress intervention*. I conducted the electronic literature search through Walden Library databases such as Business Sources Complete/Premier, ABI/INFORM Complete, Emerald Management Journals, ProQuest Central, and SAGE Premier. I also used Google Scholar. The study has 271 references, of which 238 (88%) are peer-reviewed articles and 235 (87%) references were published within the past 5 years.

Person–Environment Fit Theory

P–E fit theory is the conceptual framework for this study. The theory was postulated by Caplan in 1975 (Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Suleman et al., 2018). The theory is based on the principle that workers are concerned about fitting their needs and desires to the organizational environment and the ability to fulfill those needs (Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016;

Doruk & Mantler, 2018; Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Survival et al., 2019). A suitable work environment needs to meet the physical, psychological, and social conditions that enable the workers to meet job demands and also fulfill their personal needs and desires on the job (Priyadarshi & Premchandran, 2018; Zhang et al., 2021). Stress potentially results if those needs and desires are not fulfilled (Chaturvedi & Dubey, 2016; Chen, Peasey, et al., 2016; Doruk & Mantler, 2018; Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Survival et al., 2019; Tang et al., 2018).

The P–E fit theory describes the connection, link, similarities, or match between a worker and the organizational environment (Tang et al., 2018). Factors like intelligence, skills, knowledge, capabilities, and personal characteristics, such as ambition, expectations, interests, and value system, can influence the needs or desires of the worker (Tang et al., 2018). The environment refers to factors independent of the worker, which include job and the organizational characteristics (Osibanjo et al., 2016; Tang et al., 2018). Worker behavior can be affected by the interactions between the worker and the work environment (Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Survival et al., 2019; Tang et al., 2018). Research has shown different variations of the P–E fit model: (a) person–job fit, (b) person–organization fit, (c) person–person fit, and (d) person–pay fit (Adams, 1963; Bohndick et al., 2018; Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Osibanjo et al., 2016; Tang et al., 2018). Each variation of the P–E fit model deals with a particular aspect of match between the worker and a workplace factor.

The person–job fit deals with the extent that a worker's needs, abilities, and desires are compatible with the job the supervisor assigns to the worker (Tang et al., 2018). There are two dimensions of person–job fit: needs–supplies fit and demands–abilities fit (Bohndick et al., 2018; Tang et al., 2018). Needs–supplies fit refers to the compatibility between the worker's needs and the resources the organization supplies (Bohndick et al., 2018; Tang et al., 2018). The supplies may be in the form of training, technology, or financial compensation (Bohndick et al., 2018; Li et al., 2021). A variation of the needs–supplies fit is the task–technology fit, which is the extent of fit between the job requirements and the technology the worker relies on to perform the job (Tang et al., 2018).The demands–abilities fit is the level of match between the worker's knowledge, skills, and capabilities and the knowledge, skills, and effort the job requires (Bohndick et al., 2018). Some researchers view the person–job fit from the context of the extent the organization fulfills the goals and values of the worker and the level of alignment between the worker competency and the job demands and requirements (Suwanti et al., 2018). The implication is that to eliminate stress, there should be a fit between the worker's abilities, demands, or needs and the needs, demands, or characteristics of the job (Suwanti et al., 2018; Tang et al., 2018).

The person–organization fit refers to the compatibility between the worker and the organizational characteristics such as values, interest, and goals (Bohndick et al., 2018; Priyadarshi & Premchandran, 2018; Suwanti & Udin, 2020; Suwanti et al., 2018; Tang et al., 2018). Effective person–organization fit enables the formation of a strong bond between the worker and the organization, thereby enhancing the exchange of

resources to enhance productivity (Priyadarshi & Premchandran, 2018; Suwanti & Udin, 2020; Suwanti et al., 2018). In such a setting, the worker is passionate about the job, explores more career opportunities, and achieves more (Suwanti & Udin, 2020; Suwanti et al., 2018). There is reduced potential for stress if the worker and the organization share similar values and attributes (Bohndick et al., 2018; Suwanti & Udin, 2020; Suwanti et al., 2018; Tang et al., 2018). The implication is that organizational leaders can reduce work-related stress by reducing the level of mismatch between the worker's values, interests, and goals and the organizational values and attributes.

The person–person fit represents interpersonal fit. This variation of P–E fit is the level of match between a worker and another worker (Bohndick et al., 2018; Tang et al., 2018). The two dimensions of the person–person fit are person–group fit and person–supervisor fit (Tang et al., 2018). While the person–group fit is the extent that the worker's attributes align with those of their coworkers, the person–supervisor fit is the extent of disharmony between the worker's attributes and the supervisor's traits (Emilianaet al., 2020; Tang et al., 2018). Person–person fit relies on the similarity-attraction paradigm (Tang et al., 2018). The implication is that a worker would be attracted to another worker, coworkers, or supervisor with similar characteristics in the social environment (Bohndick et al., 2018; Tang et al., 2018). The less the disparity between the qualities of personnel working together, the more chances for innovation and the less stress each worker experiences (Bohndick et al., 2018; Emilianaet al., 2020; Tang et al., 2018). Person–organization fit can influence person–person fit (Suwanti et al., 2018). Positive person–organization fit enhances innovation and support for creative

thinking and results in a stronger bond among the workers (Emilianaet al., 2020; Priyadarshi & Premchandran, 2018; Suwanti et al., 2018; Suwanti & Udin, 2020).

Person–pay fit is the level of compatibility between the worker output and the organization's reward system. When a worker's output does not match the pay, the worker is prone to stress (Osibanjo et al., 2016). Person–job fit can affect person–pay fit. High person–job fit results in a stronger bond between the worker and the organization because the worker feels more confident in the organizational reward system (Emilianaet al., 2020; Suwanti & Udin, 2020; Suwanti et al., 2018). The implication is that ensuring the reward a worker receives aligns with the worker output is a means of reducing work-related stress.

The different variations of the P–E fit model depict the different ways the absence of alignment between a worker and organizational factors, job design and control, remuneration, and fellow workers can manifest in the form of work-related stress. The different variations are interdependent of each other. For instance, a high demand for training that impacts demands–abilities fit may influence the needs–supplies fit (Bohndick et al., 2018). A sustained mismatch between the worker's need and workplace factors creates the potential to induce stress that can affect the worker's health and productivity (Agbonluae et al., 2017; Akbari et al., 2017; Brunner et al., 2019; Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Doruk & Mantler, 2018; Osibanjo et al., 2016; Oyelaran et al., 2017; Survival et al., 2019). Organizational leaders and their workers need to establish common grounds in which the characteristics of the workers and the environmental or organizational characteristics match in a mutually

beneficial way for both the workers and the organization (Adams, 1963; Akanji, 2015; Osibanjo et al., 2016). Based on the P–E fit theory, to have a stress-free workplace, there should be minimal disruption between the worker and work environmental characteristics (Akanji, 2015; Chen, Sparrow, et al., 2016; Emilianaet al., 2020; Osibanjo et al., 2016).

Apart from the different variations of the P–E fit theory, researchers view the theory from the context of objectivity and subjectivity. In that context, researchers classify P–E fit into objective and subjective P–E fits. The objective P–E fit deals with the match between the worker's objective personal factors and the objective organizational environment. The subjective P–E fit refers to the match between the worker's subjective personal factors and the subjective organizational factors (Bohndick et al., 2018). Subjective fit influences positive outcomes more than objective fit because a worker's perceptions of a situation may influence the worker's response even if the situation is not real (Akanji, 2015; Bohndick et al., 2018). The implication is that achieving the desired match between the worker and the work environment or organization may involve addressing not only real issues but also perceived issues (Akanji, 2015; Bohndick et al., 2018).

A drawback of the P–E fit model is the limitation in considering individual differences and the subjective well-being factors that may change the personal or situational experiences that cause misfit (Akanji, 2015). A worker's commitment, sense of ownership, career prospects, and job satisfaction can have a positive influence on the worker's mental and physical well-being (Chaturvedi & Dubey, 2016; Pekince & Aslan, 2020). Though the influence is not the same for all workers, the proponents of the P–E fit

theory assume that different workers respond in similar ways to changes in organizational factors (Akanji, 2015; Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Osibanjo et al., 2016; Taris, 2017). P–E fit theory does not include consideration f situational experiences that may cause misfit among workers and the work environment or organization (Akanji, 2015). In applying the P–E fit theory, organizational leaders need to consider whether each factor that causes mismatch between the worker and the work environment or organization depends on the characteristics of each worker.

Additional Stress Models

In addition to the P–E fit theory, there are several established stress models (Akanji, 2015; Jugdev et al., 2018; Meriläinen et al., 2019; Steele et al., 2020; Survival et al., 2019). The different stress models show the diverse ways that work-related factors affect workers health and performance (Meriläinen et al., 2019). The models include (a) job demand–control (JDC), (b) job–demands–control–support (JDC-S), (c) job demand–resources (JD-R), (d) equity theory, (e) effort–reward imbalance (ERI) theory, (f) cognitive–relational theory, and (g) inverted-U model. Despite different approaches, the proponents of the different stress models used in explaining stress and the impact agree that work-related stressors result in adverse physical, psychological, or behavioral impact on the workers though the extent of the impact on each worker may vary (Steele et al., 2020; Zhang et al., 2021).

The JDC model was postulated by Karasek in 1979 (Akanji, 2015; Jugdev et al., 2018; Mauno et al., 2016). JDC offers empirical insights into structural factors at the workplace that induce work-related stress (Akanji, 2015; Allisey et al., 2016; Castner,

2020). JDC focuses on how job control impacts work demands (Akanji, 2015; Allisey et al., 2016; Bolin & Olofsdotter, 2019; Castner, 2020; Mauno et al., 2016; Roster & Ferrari, 2020; Steele et al., 2020). Job demands refer to the aspects of the job involving physical and psychological effort with the potential for psychological effects (Allisey et al., 2016; Anne-Laure et al., 2019; Castner, 2020; De Cieri et al., 2019; Gu & Wang, 2019; Xia & Collie, 2020). While job demands are related to the pace and volume of work a worker experiences, job control is a measure of the level of control the worker has over the work environment (Roster & Ferrari, 2020). Based on the JDC model, a worker has a higher potential to experience poor health when exposed to high levels of work demands without proportionate levels of autonomy over the work (Akanji, 2015; Brunner et al., 2019; Díaz-Silveira et al., 2020; Mauno et al., 2016; Roster & Ferrari, 2020). The implication is that "increased control over work resources mitigates or 'buffers' the positive association between job stressors and strainers" (Roster & Ferrari, 2020, p.1). There have been several studies on business risk but limited evidence on the ways to effectively manage the risk through the control of work resources (Bolin & Olofsdotter, 2019; Roster & Ferrari, 2020; Severgnini et al., 2019).

Variations of the JDC theory are JDC-S postulated by Johnson and Hall in 1988 and JD-R from Bakker and Demerouti in 2007 (Bolin & Olofsdotter, 2019; De Cieri et al., 2019). Based on the JDC-S theory, the psychosocial job factors most relevant in determining the impact of stress on a worker's health are psychological demands or job demands, decision latitude or job control, and social support (Akbari et al., 2017; Xia & Collie, 2020). The JD-R theory categorizes the factors that contribute to stress in each

profession as job requirements and work resources (Tsareva et al., 2019). Job resources include the physical, social, or organizational requirements for achieving set goals (Allisey et al., 2016; Castner, 2020; De Cieri et al., 2019; Jugdev et al., 2018; Thomas et al., 2020). The proponents of JD-R distinguish between job demands and resources from workers' personal situations and demands and resources from organizational factors (Bjaalid et al., 2019; De Cieri et al., 2019; Gu & Wang, 2019; Tsareva et al., 2019). The implication is that a worker experiences stress if the resources provided by the organization are inadequate for the worker to achieve the desired work goals (Brunner et al., 2019). Although the JD-R model notes more clearly the importance of organizational factors for stress management, the JDC model is a better tool for analyzing the distinction between organization and individual factors, thus making the JD-R model challenging for developing strategies for managing workplace health and safety (Bolin & Olofsdotter, 2019). The key focus should be to balance job demands and job resources because too much job demand results in stress while abundance of job resources may result in high workforce motivation (Thomas et al., 2020).

When the source of stress is due to the worker not having adequate time or control over the time and procedure for the assigned task, the worker puts in more effort to complete the task (Bjaalid et al., 2019; De Cieri et al., 2019; Gu & Wang, 2019). Over time, the worker experiences exhaustion which may result in other negative consequences of work-related stress (Chichra et al., 2019; MacKay et al. as cited in De Cieri et al., 2019; Gu & Wang, 2019; Ji et al., 2020). Gu and Wang (2019) specifically noted that job demand is interrelated with work-family conflict. With increasing job demand, the

worker ability to meet family demands weakens (Jae-Geum et al., 2020). If there is a balance between job-related demands and job-related resources, the worker copes better with demanding work conditions thereby eliminating potential work-family conflict (Bjaalid et al., 2019; De Cieri et al., 2019; Dele, 2019; Gu & Wang, 2019).

Based on the JDC and the JDC-S theories, changing the decision latitude or social support in a job can result in a change in the impact of stress on the worker (Akbari et al., 2017; Bjaalid et al., 2019; Dixon et al., 2019; Meriläinen et al., 2019). The implication is that workers involved in jobs with high job demands but low job control or support would experience high levels of strain (Akbari et al., 2017; Bjaalid et al., 2019). In an environment with jobs with the potential to cause stress, the potential is there for negative outcomes such as job dissatisfaction and psychological imbalance (Akbari et al., 2017; Dele, 2019; Díaz-Silveira et al., 2020; Govindaraju, 2019; Ji et al., 2020; Omar et al., 2020; Pekince & Aslan, 2020; Rezaei et al., 2020; Stauder et al., 2018; Wolniak & Szromek, 2020). While the proponents of the JD-R model recognize that each profession has its risk and buffer factors, the limitation of the JDC and JDC-S theories is that the proponents of the theories did not consider individual differences in being susceptible to workplace stressors (Mark & Smith as cited in Akanji, 2015; Bjaalid et al., 2019; Dixon et al., 2019; Tsareva et al., 2019). Researchers cannot use the JDC and the JDC-S theories to explain the variation in the health outcome of two workers exposed to the same level of job demand and control (Mark & Smith as cited in Akanji, 2015).

The third model of stress that is relevant to my study is from the equity theory. Adams postulated this theory in 1963 (Abozaid et al., 2019; Abun et al., 2020; Adams,

1963). The equity theory is about fairness and justice in the pay received by a worker (Adams, 1963; Elmadağ & Ellinger, 2018). Workers expect fairness on decisions made concerning the distribution of resources, obligations, and rewards (Abun et al., 2020; Elmadağ & Ellinger, 2018; Virtanen & Elovainio, 2018). Based on the equity theory, a worker who perceives over- or under-payment would experience distress and this distress would lead to efforts to bring back equity (Adams, 1963; Allisey et al., 2016; Elmadağ & Ellinger, 2018). When the worker perceives being unfairly rewarded compared to others, the perception may result in stress (Abozaid et al., 2019; Abun et al., 2020; Adams, 1963; Allisey et al., 2016; Elmadağ & Ellinger, 2018; Meier et al., 2020; Virtanen & Elovainio, 2018). Contemporary worker faces constant change, reorganizations, and drive for efficiency (Virtanen & Elovainio, 2018).

A fourth model of stress is the effort-reward imbalance (ERI) theory proposed by Siegrist in 1996 (Akanji, 2015; Jugdev et al., 2018; Taris, 2017). When a worker perceives that the reward or compensation is less than the effort, there is the potential for stress (Airagnes et al., 2019; Allisey et al., 2016; Chen, Peasey, et al., 2016; Devonish, 2018). The theory focuses on the extrinsic effort workers put in to address high work demands and how the rewards match the efforts (Alonso et al., 2020; Mirzaei et al., 2019; Weiß & Süß, 2016). The job demand may be in the form of overtime work, additional work pressure, job interruptions, and changing job demands (Alonso et al., 2020; Devonish, 2018; Mirzaei et al., 2019; Muthusamy & De Silva, 2019; Weiß & Süß, 2016). When a worker puts in extra effort, the worker expects the organization to reciprocate the gesture through rewards or recognition in the form of compensation, esteem,

appreciation, commendation, improved rating, promotion, or job security (Airagnes et al., 2019; Mirzaei et al., 2019). If the expected reward or recognition is not forthcoming, there would be imbalance of high effort and low reward (Airagnes et al., 2019; Akanji, 2015; Alonso et al., 2020; Devonish, 2018; Jugdev et al., 2018; Taris, 2017; Weiß & Süß, 2016). When imbalance occurs, the worker experiences recurring negative emotions resulting in increased job stress reactions (Akanji, 2015; Devonish, 2018; Ji et al., 2020; Jugdev et al., 2018; Taris, 2017; Weiß & Süß, 2016). Effort-reward imbalance results in increased risk of adverse health to the worker (Airagnes et al., 2019; Devonish, 2018; Weiß & Süß, 2016). The negative health impact may manifest in the form of hypertension, heart attack, or depression, sleep disturbances, and burnout (Choi & Kim, 2019; Devonish, 2018; Kobayashi et al., 2020; Kocalevent et al., 2020; Letona-Ibañez et al., 2019; McNicholas et al., 2020; Pellerone et al., 2020; Rugulies & Aust, 2019; Stauder et al., 2018; Survival et al., 2019; Bakker et al. as cited in Weiß & Süß, 2016). The adverse health effect is more on overcommitted workers who experience an effort-reward imbalance (Rugulies & Aust, 2019; Weiß & Süß, 2016).

The ERI theory is similar to the equity theory (Allisey et al., 2016). Unlike the equity theory, the ERI theory focuses only on the conditions of high effort and low reward (Allisey et al., 2016; Chen, Peasey, et al., 2016; Jugdev et al., 2018). Additionally, based on the ERI theory, where the workers lack control, there is the potential for a significant influence on the worker's reactions to an inequitable condition (Allisey et al., 2016; Jugdev et al., 2018). Unlike the JDC theory, the proponents of the ERI theory considered the impact of individual differences on work-related stress (Akanji, 2015).

Based on the ERI theory, there is variation in how workers perceive work outputs and the expected reward (Akanji, 2015; Allisey et al., 2016). Because work-related stress results where there is imbalance between the compensation or reward and the perceived intrinsic and extrinsic efforts such as motivation and commitment to work, addressing work-related stress as a result of ERI theory may involve addressing the cause of the imbalance (Siegrist as cited in Akanji, 2015; Allisey et al., 2016; Chen, Peasey, et al., 2016; Devonish, 2018). The higher a worker's subjective well-being, the lower the effort-reward imbalance (Weiß & Süß, 2016). The implication is that increasing the worker's subjective well-being results in reduction in the impact of ERI. The limitation of the ERI theory is that the proponents of the theory considered only limited components of effort and reward factors whereas many factors can affect stress (Akanji, 2015).

A fifth model of stress is the cognitive-relational (CR) theory postulated by Richard Lazarus and Susan Folkman in 1980 (Akanji, 2015; Jugdev et al., 2018; Senol-durak & Durak, 2017). The theory is based on the analytical processes of stress appraisals and how the worker copes with stress in response (Akanji, 2015; Jugdev et al., 2018; Lee et al., 2017; Senol-durak & Durak, 2017). The coping strategy a worker adopts in response to a stressful condition depends on the workers' assessment of the potential risk associated with the condition (Lazarus & Folkman as cited in Akanji, 2015; Lee et al., 2017; Senol-durak & Durak, 2017). The coping strategy to work-related stress varies among workers depending on the result of the assessment of stress by each worker (Akanji, 2015; Florea & Florea, 2016; Lee et al., 2017; Pellerone et al., 2020). The result of the assessment can be affected by factors such as (a) gender, (b) age, (c) personality,

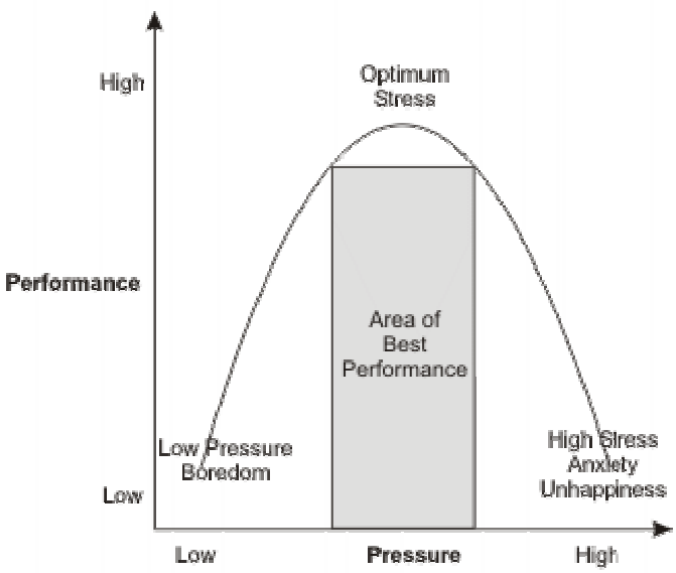
(d) education, (e) life and professional experience, (f) value system and goals, (g) personal beliefs, (h) self-confidence and image, and (i) family situation (Florea & Florea, 2016; Pellerone et al., 2020). The individual characteristics of the workers may also interact with workplace stressors thereby influencing the result of the assessment and by extension the impact on work-related stress (Florea & Florea, 2016; Jugdev et al., 2018; Lee et al., 2017; Pellerone et al., 2020). Like the ERI theory, the CR theory incorporates individual differences (Akanji, 2015). While the P–E fit theory and the JDC theory show the factors that a worker should focus on while developing the strategy for stress management, the CR theory does not show the specific factors the worker should consider when considering the strategy for coping with work-related stress (Hart & Cooper as cited in Akanji, 2015). With varying responses to workplace factors based on the result of each worker's assessment, defining a work-related stress management strategy that would meet the needs of all workers might be challenging (Akanji, 2015; Florea & Florea, 2016; Lee et al., 2017).

The sixth model of stress is the inverted-U model. The inverted-U model aligns with the perspective of the researchers that consider stress as a motivator (Adaramola, 2012; Chia-Hao & Ting-Ya, 2018; Shih & Lin, 2017; Stauder et al., 2018). The model also aligns with the perspective of the researchers that consider stress as negatively affecting job performance (Adaramola, 2012; Chia-Hao & Ting-Ya, 2018; Shih & Lin, 2017; Stauder et al., 2018). Based on the inverted-U model and as shown in Figure 1, an increase in stress level is initially directly proportional to job performance until an optimum level of stress is attained (Adaramola, 2012; Chia-Hao & Ting-Ya, 2018; Ryu

& De Marco, 2017; Shih & Lin, 2017). In line with the observation of Adaramola (2012), when there is very small amount of stress to carry out a task, the worker experiences boredom and little incentive to put in energy to complete the task especially when there are other pressing and competing tasks. As depicted in Figure 1, as the stress the worker experiences increases, the worker's performance also increases until the worker gets to the optimum level shown in the figure as the area of best performance (Adaramola, 2012; Ryu & De Marco, 2017; Shih & Lin, 2017). The implication is that appropriate level of stress is helpful to the worker in achieving success in a task (Zhang et al., 2021). After attaining the optimum level, a further increase in stress results in declining job performance until it gets to the level that the worker experiences anxiety and a feeling of unhappiness (Adaramola, 2012; Chia-Hao & Ting-Ya, 2018; Shih & Lin, 2017). A challenging aspect of the inverted-U theory is that the response to stress varies among workers. The implication is that the level of stress that would cause optimum performance varies from one worker to another (Amarnath & Himabindu, 2016; Roster & Ferrari, 2020).

Figure 1

Relationship Between Work-Related Stress and Job Performance.



Note. From "Job Stress and Productivity Increase," by S. S. Adaramola, 2012, *Work, 41*, p. 2956 (https://doi.org/10.3233/wor-2012-0547-2955). Copyright 2012 by *Work*. Reprinted with permission.

Of the different stress models discussed, the P–E fit theory formed the conceptual framework for the study. Other stress models attribute stress to some form of misalignment between the worker and the job, prevailing condition, or the worker's expectation. The P–E fit theory contains relevant guides to enhance work-related stress management by adopting strategies to ensure that the prevailing conditions of the job, social and physical environment, organization, and remuneration align with the worker's need and expectation.

Work-Related Stress

Stress is a global phenomenon and a common societal problem (Aderibigbe & Mjoli, 2019a); Alcides et al., 2020; Lecca et al., 2020; Muthusamy & De Silva, 2019; Oduaran, 2016; Parkes, 2017; Roach et al., 2017). The definition of stress varies among researchers (Amarnath & Himabindu, 2016; Osibanjo et al., 2016). The origin of the word *stress* is the Latin word *stringi* which means to be drawn tight (Amarnath & Himabindu, 2016). When an individual experiences a pressure or strain higher than what is normal, that the individual is under stress (Amarnath & Himabindu, 2016; Muthusamy & De Silva, 2019). In medical terms, stress is defined as "a physical or psychological stimulus that can produce mental tension or physiological reactions that may lead to illness" (Amarnath & Himabindu, 2016, p. 48). Lazarus (as cited in Amarnath & Himabindu, 2016, p. 48) described stress as the feeling a worker experiences when the worker thinks that "the demands exceed the personal and social resources the individual is able to mobilize."

Some researchers view stress from the perspective of stimulus or a response (Isfianadewi & Noordyani, 2020; Mulugeta et al., 2021). Job stress is a stimulus when the stress the worker experiences is due to role, work overload, or the perception that the job is risky (Isfianadewi & Noordyani, 2020). If the stress a worker experiences is due to work-related tension, fear, anxiety, feeling of frustration, emotional exhaustion, and or burnout, the stress is a form of response (Höglund et al., 2020; Isfianadewi & Noordyani, 2020; Letona-Ibañez et al., 2019). If the stimulus or response is due to workplace factors, the worker is said to experience work-related stress, occupational stress, or workplace

stress (Akbari et al., 2017; Osibanjo et al., 2016). The World Health Organization (WHO) defined work-related stress as the response people have when presented with pressures that do not match their knowledge and abilities, and that adversely impact their ability to cope (WHO, 2017). The response often gets worse when the workers perceive the lack of control over their work processes or inadequate support from their co-workers and supervisors (Akanji, 2015; Akbari et al., 2017; Castner, 2020; Gu & Wang, 2019; Isfianadewi & Noordyani, 2020; Langille, 2017; Mauno et al., 2016; Meriläinen et al., 2019; Oyelaran et al., 2017).

Symptoms of Work-Related Stress

Work-related stress manifests in various forms among workers (Adaramola, 2012; Amarnath & Himabindu, 2016; Omar et al., 2020). Researchers have identified different symptoms associated with workers who are under stress (Adaramola, 2012; Amarnath & Himabindu, 2016; Havermans et al., 2018). The symptoms are (a) physical, (b) psychological, (c) medical, and (d) social (Adaramola, 2012; Akanji, 2015; Alonso et al., 2020; Amarnath & Himabindu, 2016; Fujishiro & Heaney, 2017; Havermans et al., 2018; Jae-Geum et al., 2020; Khamisa et al., 2016; Žutautienė et al., 2020).

The physical and mental symptoms of work-related stress include (a) increased absenteeism, (b) increased sick days, (c) exhaustion, (d) sleep disorders, (e) panic or fear of uncertainty, (f) higher employee turnover, (g) Cardio-vascular disease, and (g) increased musculoskeletal injuries (Angehrn et al., 2020; Brehl et al., 2020; Cordioli et al., 2019; Cortina et al., 2017; Dixon et al., 2019; Garbarino & Magnavita, 2019; Good et al., 2020; Hämmig, 2020; Hamzekolaei et al., 2020; Kachi et al., 2020; Leach et al.,

2020; Makara-Studzińska et al., 2020; Mulugeta et al., 2021; Tan et al., 2021; Ping-Yi et al., 2020; Sannie et al., 2019; Sreekumar et al., 2019; Sumner et al., 2020; Wenning et al., 2020; Yukongdi & Shrestha, 2020; Zhao et al., 2020; Zhu et al., 2020). Among the psychological symptoms are (a) a sense of being overwhelmed; (b) a feeling of unrest, nervousness, depression, exhaustion, panic, or insecurity; (c) overall irritability; (d) job dissatisfaction; (d) presenteeism, and (d) counterproductive work behaviors (Adaramola, 2012; Amarnath & Himabindu, 2016; Brehl et al., 2020; Cortina et al., 2017; Govindaraju, 2019; Hamzekolaei et al., 2020; Havermans et al., 2018; Makara-Studzińska et al., 2020; Rugulies & Aust, 2019; Wolniak & Szromek, 2020; Yang et al., 2016; Žutautienė et al., 2020). The social factors include worker's withdrawal and social distancing (Adaramola, 2012; Amarnath & Himabindu, 2016; Cullinan et al., 2019; Havermans et al., 2018). The medical symptoms may manifest in the form of (a) loss of appetite, (b) low or high blood pressure, (c) skin eruptions or rashes, (d) insomnia, (e) migraine, (f) gastrointestinal difficulties, (g) sexual dysfunction, and (h) menstrual symptoms in women (Adaramola, 2012; Amarnath & Himabindu, 2016; Havermans et al., 2018; Makara-Studzińska et al., 2020). The identification of a worker exposed to work-related stress would involve consideration of the different symptoms.

Causes of Work-Related Stress

There is no consistency among research on the causes of work-related stress (Amarnath & Himabindu, 2016; Osibanjo et al., 2016). According to Adaramola (2012), work-related stress is caused by emotional, physical, or economic challenges. Osibanjo et al. (2016) attributed the cause of work-related stress to the modernization associated with

the ever-changing society and the body's internal response to external stimulation. Some researchers consider stress as the physiological and psychological reaction of the worker to external demands (Isfianadewi & Noordyani, 2020; Omar et al., 2020).

Osibanjo et al. (2016) specifically identified the Nigerian business environment as stress-inducing due to its social-economic structure. Organizational leaders' attitude towards the workers is a key source of stress (Oyelaran et al., 2017). Other causes of work-related stress include (a) hostile work environment, (b) negative workload, (c) work schedule, (d) role conflict, (e) lack of control over work, (f) limitations on career growth, and (g) unfavorable organizational climate (Lissah et al., 2020; Oyelaran et al., 2017). A hostile, tense, or unfriendly work environment induces work-related stress (Cortina et al., 2017). Examples of such work environment include workplaces where the workers experience rude, condescending, and ostracizing acts that violate workplace norms of respect or ethics (Cortina et al., 2017; Yamawaki et al., 2016). Similarly, when the workload is more than what the worker can bear or the worker faces limited prospects for career growth, the satisfaction on the job is impacted and so also is work-related stress (Chaturvedi & Dubey, 2016; Pekince & Aslan, 2020; Wolniak & Szromek, 2020). When a worker experiences conflicting job demands, inflexible job role, or organizational work atmosphere that does not align with the worker's personality, there is a likelihood to experience work-related stress (Akanji, 2015; Chaturvedi & Dubey, 2016; Osibanjo et al., 2016; Zhu et al., 2020). The perspective of Amarnath and Himabindu (2016) is similar to that of Oyelaran et al. on the causes of work-related stress. Unlike Amarnath and

Himabindu (2016), Oyelaran et al. included unsatisfactory nature of work as one of the potential causes of work-related stress.

The causes of work-related stress can be internal or external (Asgari et al., 2017). Internal stress depends on the biology and personality of the workers while external stress is from organizational and environmental factors (Asgari et al., 2017). Examples of factors that cause internal stress are skill, competencies, physical ability, and personality (Akanji, 2015; Doruk & Mantler, 2018; Kunasegaran et al., 2016). The organizational factors include (a) poor work organization, (b) poor work design, (c) lack of control over work processes, (d) poor management, (e) unsatisfactory working conditions, and (f) lack of support from colleagues and supervisors (Kachi et al., 2020; Lecca et al., 2020; WHO, 2017; Worringer et al., 2020). Poor work design may be in the form of role overload, role ambiguity, conflicting job role, or unexpected pressure from organizational leaders and co-workers (Amarnath & Himabindu, 2016; Cordioli et al., 2019; Isfianadewi & Noordyani, 2020; Meriläinen et al., 2019; Muthusamy & De Silva, 2019; Oyelaran et al., 2017; Wolniak & Szromek, 2020). In line with the ERI theory, when the workers lack control over their work, the workers may react adversely to the condition (Allisey et al., 2016; Jugdev et al., 2018). Workers that are involved in a highly demanding job but have no control over the job face the potential to experience increased work-related stress (Akbari et al., 2017; Conway-Phillips et al., 2020; Zhu et al., 2020). Unsatisfactory working condition may be due to inadequate supervisor's support and may result in low job satisfaction (Charoensukmongkol et al., 2016; Collins, 2016; Cordioli et al., 2019; Isfianadewi & Noordyani, 2020; Kachi et al., 2020; Lecca et al., 2020; Meriläinen et al.,

2019; Oyelaran et al., 2017; Worringer et al., 2020). The implication is that in addition to adjusting leadership styles to match the workers' need, organizational leaders need to identify and deal with the different organizational and environmental factors that impact work-related stress (Abozaid et al., 2019; Asgari et al., 2017; Svedahl et al., 2016). As noted by Lewin (as cited in Doruk & Mantler, 2018), human behaviors change based on environmental factors. Using the P–E fit theory as a guide, organizational leaders need to establish common grounds where the characteristics of each worker and the environmental characteristics match each other in a way that is mutually beneficial to both the workers and the organization (Akanji, 2015; Doruk & Mantler, 2018; Kunasegaran et al., 2016). The characteristics of the worker include skill, competencies, physical ability, and personality (Akanji, 2015; Doruk & Mantler, 2018; Kunasegaran et al., 2016). The environmental characteristics may be in the form of job design, job control, and role flexibility (Akanji, 2015; Doruk & Mantler, 2018; Kunasegaran et al., 2016). The leaders should also focus on achieving minimal disruption between the worker's and environmental characteristics to enhance a stress-free workplace (Akanji, 2015; Doruk & Mantler, 2018). The workers and organizational leaders can also enhance compatibility between the workers and the organizations by providing what the other needs (Kristof as cited by Doruk & Mantler, 2018). The more compatible the work environment is with the worker's need, the more stress-free the environment (Doruk & Mantler, 2018; Lissah et al., 2020).

Many researchers attribute the causes of stress to environmental factors but differ on what constitutes the environment (Asgari et al., 2017; Svedahl et al., 2016). For

instance, some researchers referred to the worker-worker and worker-supervisor relationship as the social environment with potential to contribute to work-related stress, while others focused on the external environmental factors such as heat, noise exposure, protective equipment, sweat loss, and water intake (Holm et al., 2019; Svedahl et al., 2016). In the context of the P–E fit theory, environmental factors include organizational factors, job factors, and factors affecting worker-supervisor and worker-coworker relationship (Osibanjo et al., 2016; Oyelaran et al., 2017). Considering the argument of the various researchers, the environmental factor to the worker may refer to any condition the worker is exposed to, which has the potential to contribute to misfit between the worker and the workplace (Osibanjo et al., 2016; Oyelaran et al., 2017).

Factors That Influence Work-Related Stress

Researchers differ on what contributes to work-related stress (Amarnath & Himabindu, 2016; Lecca et al., 2020; Osibanjo et al., 2016). Work-related stress can be influenced by a mismatch between the demands of a job and the worker's capability or needs (Adaramola, 2012; Lissah et al., 2020; Osibanjo et al., 2016; Survival et al., 2019; Tsareva et al., 2019; Zhu et al., 2020). The more the organizational factors do not align with the worker's preferences, aspirations, motives, interest, and goals, the more work-related stress the worker experiences (Edwards as cited in Chaturvedi & Dubey, 2016; Tsareva et al., 2019). The worker's preferences can be in the form of expectations from the job while the misalignment may be from the incompatibility between the worker expectation and the job design. The misalignment was apparent in different studies conducted by Akbari et al. (2017) and Kong et al. (2020). In the different studies, the

researchers noted that work-related stress increased when the workers experienced high job demand but low job control. Low job control can result in a working condition in which the worker feels tense resulting in increased work-related stress (Akbari et al., 2017; Oyelaran et al., 2017). The implication is that the more a worker on a particular post experiences increased job demands or overloading but less amount of control over decision-making, the more stress the working condition induces (Akbari et al., 2017; Cordioli et al., 2019; Kong et al., 2020; Langille, 2017; Oyelaran et al., 2017; Roozeboom et al., 2020; Tsareva et al., 2019).

The degree of incompatibility between the worker and the work environment can also influence work-related stress (Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Lecca et al., 2020; Lissah et al., 2020; Osibanjo et al., 2016; Tsareva et al., 2019). The environmental characteristics in organizations include job design, job control, and role flexibility (Akanji, 2015; Chaturvedi & Dubey, 2016; Osibanjo et al., 2016). The workers possess characteristics such as skill, competence, physical ability, and personality (Akanji, 2015). The amount of work-related stress a worker experiences depends on the extent that the worker's characteristics such as skill, competence, physical ability, and personality match the organizational factors such as job design, job control, and role flexibility (Akanji, 2015; Osibanjo et al., 2016; Tsareva et al., 2019). The implication is that the more the mismatch between the workers' personal factors and the environmental factors, the higher the amount of work-related stress the worker experiences.

Individual preferences can also influence work-related stress (Chaturvedi & Dubey, 2016; Osibanjo et al., 2016). Typically, individuals tend to choose careers that are compatible with their interests (Osibanjo et al., 2016). The choice of vocation is an extension or expression of the personality based on Holland's model of vocational choice and Holland's person-environment model (Osibanjo et al., 2016). In the Nigerian environment, most people do jobs that are not compatible with their interest due to limited employment opportunities (Osibanjo et al., 2016). Though there should be alignment between the worker and the job the worker does, the limited job opportunities and the drive to meet the basic necessities of life can make individuals get involved in jobs that are not aligned with their career aspirations thereby increasing the potential for work-related stress (Akanji, 2015; Mauno et al., 2016; Osibanjo et al., 2016; Oyelaran et al., 2017; Tsareva et al., 2019).

Effects of Work-Related Stress

Researchers differ on the potential impacts of work-related stress (Adaramola, 2012; Akanji, 2015; Langille, 2017). While some researchers consider work-related stress as a motivator, others view stress as negatively affecting job performance (Adaramola, 2012; Chichra et al., 2019; Ji et al., 2020; Shih & Lin, 2017). Many researchers agree that the actual effect of work-related stress depends on the amount of stress the worker experiences (Adaramola, 2012; Shih & Lin, 2017).

A small amount of work-related stress - called positive stress - is a motivator to perform tasks well for increased productivity (Adaramola, 2012; Akanji, 2015; Langille, 2017). Under such condition, the worker experiences eustress and so responds positively

to stressors resulting in improvement in the worker's health and organizational productivity (Akanji, 2015). The observation aligns with the inverted-U model that an increase in stress level is initially directly proportional to the worker productivity until the worker attains an optimum level of stress (Adaramola, 2012; Shih & Lin, 2017). Beyond the optimum level, a further increase in work-related stress does not result in further increase in job performance. Since the response to work-related stress is individualized, the optimum stress level varies among workers (Amarnath & Himabindu, 2016; Pellerone et al., 2020).

Many researchers agree that a large amount of work-related stress is detrimental to the organization and the physical and psychological well-being of the workers (Adaramola, 2012; Akanji, 2015; Alonso et al., 2020; Anne-Laure et al., 2019; Bouckenooghe et al., 2016; Chichra et al., 2019; Fujishiro & Heaney, 2017; Jae-Geum et al., 2020; Khamisa et al., 2016; Langille, 2017; Omar et al., 2020). A large amount of work-related stress can lead to (a) mental or physical disorder in the worker, (b) low productivity (c) increased worker compensation, absenteeism (d) high turnover), (e) heart problems, and (f) higher workplace accident rates (Adaramola, 2012; Akanji, 2015; Alcides et al., 2020; Amarnath & Himabindu, 2016; Bouckenooghe et al., 2016; Brunner et al., 2019; Carlson et al., 2017; Fujishiro & Heaney, 2017; Giorgi et al., 2020; Kachi et al., 2020; Khamisa et al., 2016; Osibanjo et al., 2016; Steele et al., 2020; Survival et al., 2019; Yukongdi & Shrestha, 2020). Work-related stress can also result in poor skill utilization and diminished worker self-esteem (Fujishiro & Heaney, 2017; Khamisa et al., 2016). In a study of construction workers, Yuan et al. (2018) observed that work-related

stress posed the risk of low productivity and social problems due to the high likelihood of accident, injuries, and occupational illnesses. The findings of Muthusamy and De Silva (2019) in a study of the food industry reinforced the findings of Yuan et al. (2018). The implication is that there are many adverse effects of work-related stress.

There are also legal consequences of work-related stress (Duncan, 2018; Lockwood et al., 2017). Some countries have laws with penalties for organizations whose workers experience adverse health impact due to work-related stress (Duncan, 2018; Lockwood et al., 2017). In New Zealand, for instance, the legal framework for depression and cardiovascular disease due to work-related stress is contained in the Accident Compensation Act 2001, the Health and Safety at Work Act 2015, the Holidays Act 2003, and the Employment Relations Act 2000 (Duncan, 2018). There are also cases that the employers are guilty of inadequate care that exposed workers to work-related stress (Duncan, 2018; Lockwood et al., 2017). For instance, in a review of 75 cases related to workplace stress between 1992 and 2014 in the United Kingdom, Lockwood et al. (2017) noted that having effective work-related stress management policies was a key strategy in avoiding legal action and reducing workers detrimental experiences. In the cases studied, 6% were resolved in favor of the workers and resulted in payment of legal claims to the affected workers by the responsible organizations (Lockwood et al., 2017). In many countries such as New Zealand and the United Kingdom, depression and cardiovascular diseases due to work-related stress attract compensation under the relevant workers' compensation regimes (Duncan, 2018). Organizational leaders should have effective

stress management program in place to eliminate the potential legal consequences of adverse impact of work-related stress on the workers (Lockwood et al., 2017).

Work intensity has negative impacts on the quality of work, life, and health (Amarnath & Himabindu, 2016; Kong et al., 2020; Raíla de et al., 2020; Wolniak & Szromek, 2020; Zajc & Kohont, 2017). Workers with a higher level of work intensity face deteriorated health and have limited time for their healthcare due to work pressure (Alexander-Stamatios et al., 2016; Zajc & Kohont, 2017). The experience of such workers aligns with the theory of worker-job mismatch and the observation that such workers face the challenges of maintaining work-family balance and work-life balance (Amarnath & Himabindu, 2016; Chang et al., 2017; Dixon et al., 2019; Kocalevent et al., 2020; Omar & Asif, 2016; Paais, 2019). Work-family balance refers to the degree that a worker experiences equal engagement and equal satisfaction in both the work and domestic spheres with respect to the worker's job roles (Ji et al., 2020; Thakur, 2017). Work-family balance is an indication of the lack of conflict between a worker's attention to the family and the attention to work (Dixon et al., 2019; Thakur, 2017). Effective work-life balance is an indication of alignment with the Moen's theory of time - the critical need to ensure allocation of enough time for personal and family issues (Dixon et al., 2019). Workers who lack work-family balance face the challenge of meeting the expectations and requirements of their family members (Amarnath & Himabindu, 2016; Chang et al., 2017; Jennings et al., 2016).

Despite the need for work-life balance, achieving work-life balance seems practically out of reach in today's world (Langille, 2017). The challenge of work-life

balance is due to the high volume of work, long working hours, and unsatisfactory nature of work most workers experience (Amarnath & Himabindu, 2016; Langille, 2017; Paais, 2019). Zajc and Kohont (2017) emphasized the need for organizational leaders to pay attention to workers' health while assigning tasks. Similarly, organizations should promote a culture of safety and well-being at work (Calogiuri et al., 2016). Such a culture would enhance work-life balance and work-family balance and prevent burnout due to too much stress (Chang et al., 2017; Choi & Kim, 2019; Dixon et al., 2019; Kobayashi et al., 2020; Langille, 2017; McNicholas et al., 2020; Omar & Asif, 2016; Paais, 2019; Pellerone et al., 2020; Yukongdi & Shrestha, 2020; Žutautienė et al., 2020).

Perceived work-family balance practices may reduce work-family conflict while challenge and hindrance work stresses positively affect work-family conflict (Chang et al., 2017). High challenge stress reduces work-family balance practices while high hindrance stress reduces the impact of work-family balance practices on work-family conflict (Chang et al., 2017). Work-life balance is necessary in today's technological world as work-life balance and conflict would worsen due to the reduction in the boundaries between work and family life (Muthusamy & De Silva, 2019; Omar & Asif, 2016; Paais, 2019).

Stress Management

Every worker experiences stressful conditions at work (Alcides et al., 2020; Rigó et al., 2021). Though some researchers conclude that stress adversely affects productivity, the complete absence of stress does not enhance organizational profitability (Adaramola, 2012; Akanji, 2015; Langille, 2017; Rigó et al., 2021; Shih & Lin, 2017). In line with the

inverted-U model, workers require some amount of stress to enhance their productivity even though stress above certain limits is a source of demotivation and can inhibit worker productivity (Adaramola, 2012). Organizational leaders require effective stress management strategies to ensure that the stress a worker experiences is adequate to motivate worker productivity but not too high to adversely impact worker health and organizational productivity (Adaramola, 2012; Choi & Kim, 2019; Jae-Geum et al., 2020; Kong et al., 2020; Raíla de et al., 2020; Roozeboom et al., 2020; Tatum et al., 2019; Wolniak & Szromek, 2020).

While work-related stress required urgent attention, the issue does not receive the needed focus (Osibanjo et al., 2016). Some leaders through unfriendly leadership style actually contributed to work-related stress (Zagross & Jamileh, 2016). Since there is a relationship between leadership style and work-related stress, there is the need to foster a work culture where the organizational leadership style is compatible with the worker needs (Oyelaran et al., 2017).

Work-related stress can affect the workers, organizations' managers, and supervisors (Jae-Geum et al., 2020; Wijnen Ben et al., 2020). The management of work-related stress should involve the workers, supervisors, and other stakeholders (Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019; Worringer et al., 2020). In a study by Charoensukmongkol et al. (2016), workers that experienced co-workers support felt less emotional exhaustion but more personal accomplishment. There is the need for increased education and awareness on how the supervisors' and co-workers' behaviors

contribute to work-related stress (Charoensukmongkol et al., 2016; Choi & Kim, 2019; Havermans et al., 2018; Javaid et al., 2016; Kang et al., 2017; Kleis & Kellogg, 2020).

The supervisor behavior or the support a worker receives from the supervisor can affect the emotional or psychological response from the worker (Gu & Wang, 2019; Kang et al., 2017; Lecca et al., 2020; Worringer et al., 2020). Supervisor support has impact on job satisfaction and three aspects of burnout - emotional exhaustion, depersonalization, and the perceived lack of personal accomplishment (Charoensukmongkol et al., 2016; Gu & Wang, 2019). Organizational leaders need to create a work environment where the workers experience sufficient supervisor support to prevent burnout and promote job satisfaction (Charoensukmongkol et al., 2016; Collins, 2016; Govindaraju, 2019; Gu & Wang, 2019; Isfianadewi & Noordyani, 2020; Kachi et al., 2020; Lecca et al., 2020; Oyelaran et al., 2017; Worringer et al., 2020). Such support would mitigate work-related stress due to social environmental factors such as worker-supervisor mismatch and may eliminate accidents and other adverse consequences of work-related stress (Lecca et al., 2020; Lissah et al., 2020; Oyelaran et al., 2017; Worringer et al., 2020; Yukongdi & Shrestha, 2020).

About 60-80% of work-related accidents are due to stress (Adaramola, 2012). The response to stress depends on the consciousness of the worker to the impact of stress. A high level of consciousness of work-related stress as a source of motivation positively affects workers' performance while the consciousness of stress as a hindrance increases the psychological strain on the workers (Jae-Geum et al., 2020; Olowodunoye et al., 2017). The implication is that organizational leaders can mitigate the impact of stress by

clarifying the worker job role and creating a harmonious relationship with the worker (Oyelaran et al., 2017).

Strategies for Eliminating or Mitigating Work-Related Stress

There are some strategies that a worker, manager, or supervisor can adopt to manage stress (Isfianadewi & Noordyani, 2020; Wijnen Ben et al., 2020). One of the strategies is the action-oriented approach. The strategy involves changing the conditions or work environment that induces stress to achieve a condition that aligns with the P–E fit theory (Adaramola, 2012; Isfianadewi & Noordyani, 2020; Lissah et al., 2020; Thakur, 2017; Zajc & Kohont, 2017). The strategy may involve training the worker to develop new skills in relating with the supervisor or co-workers, managing work demands, handling performance issues, or eliminating the stressful conditions (Adaramola, 2012; Roozeboom et al., 2020). Another strategy could involve designing the job to reduce role overload, role ambiguity, job conflict, or group and political pressure (Amarnath & Himabindu, 2016; Isfianadewi & Noordyani, 2020; Muthusamy & De Silva, 2019; Oyelaran et al., 2017). Another approach may entail balancing the time at work and the time off work since the time a worker spends in activities outside the workplace positively enhances the restoration of any energy lost at work (Gu & Wang, 2019; Jae-Geum et al., 2020).

Despite the impact that improved job design can have on work-related stress (Amarnath & Himabindu, 2016; Oyelaran et al., 2017), Konze et al. (2017) observed conflicting evidence of job control as a buffering moderator of the adverse effect of job demands on psychological well-being. The researchers proposed that job control can

facilitate coping with work-related demands if there is worker self-control. Job control enhances reduction in the adverse effects of increased workload while increasing the adverse effects of emotional dissonance that also necessitates self-control (Kong et al., 2020; Konze et al., 2017; Reís et al., 2020). The implication is that unlike the findings of some researchers, the effect of job control is not fixed, hence the need to consider other workplace factors while adopting job control as the strategy for work-related stress management (Akanji, 2015; Akbari et al., 2017; Langille, 2017; Lee et al., 2017; Mauno et al., 2016; Oyelaran et al., 2017).

Another strategy is the emotionally oriented approach, applicable where organizational leaders cannot change external or working conditions and so involves an adjustment in the perception and interpretation of the situation or developing skills to interpret the stressful situation to one's advantage (Adaramola, 2012). Unlike the expectation that the worker who perceives that he is being overpaid or underpaid would experience distress based on the equity theory, when emotionally-oriented approach is applicable, workers interpret whatever situation that occurs in the organization to their advantage and so eliminate any potential condition of distress (Adams, 1963; Adaramola, 2012; Elmadağ & Ellinger, 2018; Osibanjo et al., 2016; Virtanen & Elovainio, 2018).

A different strategy is the acceptance-oriented approach. This strategy is relevant where the worker cannot change the stress-inducing conditions, and there is no satisfactory emotional response to the situation (Adaramola, 2012). The worker accepts the situation as normal and does not complain or expend any energy to change the condition (Adaramola, 2012).

Another strategy that some organizations have used to mitigate the negative impact of work-related stress is job rotation (Amarnath & Himabindu, 2016; Comper et al., 2017; Dewi et al., 2017). Job rotation involves conscious movement of workers from one job to another to experience varied activities and reduce boredom (Giachetti as cited in Dewi et al., 2017). Organizational leaders can use job rotation as a means of redesigning the workplace to enrich jobs to enhance varied skills and job control while reducing work-related stress (Dewi et al., 2017; Kong et al., 2020). In line with the P–E fit theory, job rotation can be a means of improving worker-job fit to eliminate work-related stress.

Organizational leaders can also mitigate stress using the inter-disciplinary approach (Perez et al., 2018). Some researchers noted an increase in work-related stress due to mental health problems with the associated exposure to serious mental health issues, physical and psychosomatic complaints, and adverse impact on worker health and safety (Alcides et al., 2020; Amarnath & Himabindu, 2016; Díaz-Silveira et al., 2020; Fujishiro & Heaney, 2017; Khamisa et al., 2016; Perez et al., 2018; Wolniak & Szromek, 2020). To corroborate the finding, Perez et al. (2018) studied how to enhance worker well-being through the possible link between the worker health, work-related stress, and occupational disease management. The researchers concluded that in dealing with workers health and well-being, organizational leaders should consider the relationship between job, organizations, and occupation. Such consideration would enhance worker-organization fit, worker-vocation fit, and worker-job fit thereby reducing or eliminating work-related stress in line with the PE-fit theory. Corroborating the finding of Perez et

al., De Sio et al. (2018) added that job insecurity increased the perception of psychosocial stress. The implication is that organizational leaders should consider possible ways of enhancing more job control to mitigate psychosocial demand on the worker (Akanji, 2015; Allisey et al., 2016; Kong et al., 2020; Mauno et al., 2016; Roozeboom et al., 2020). By increasing job control, the organizational leader would enhance worker-job fit thereby enhancing work-related stress management.

Providing the desired support to workers is another strategy for managing work-related stress (Brunner et al., 2019; Cordioli et al., 2019; Lecca et al., 2020; Ljungholm & Olah, 2020; Olowodunoye et al., 2017; Roozeboom et al., 2020; Yuan et al., 2018). In a study of construction workers, Yuan et al. (2018) noted that the social support from a social network was effective in enhancing worker physical and mental health, efficiency, and productivity. Organizational leaders can explore means of social support as a work-related stress mitigation strategy (Cordioli et al., 2019; Ljungholm & Olah, 2020). The leaders should not leave stress management at the discretion of the workers to prevent work-related stress from getting worse (Jordan et al., 2016). The stress management strategy should involve effective collaboration between the workers and the organizational leaders (Amarnath & Himabindu, 2016; Collins, 2016; Kang et al., 2017). By enhancing social support, the organizational leaders would not only promote worker-worker fit, but also enhance worker-environment fit thereby reducing or eliminating work-related stress in line with the P–E fit theory (Chichra et al., 2019; Holm et al., 2019; Lecca et al., 2020; Ljungholm & Olah, 2020).

Addressing the environmental factors that cause work-related stress is another way to mitigate stress in line with the P–E fit theory. Recognizing that a mismatch between the worker and the environmental factors at the workplace is a potential source of work-related stress, organizational leaders should explore ways of ensuring alignment between the worker and the environmental factors (Doruk & Mantler, 2018; Jugdev et al., 2018; Kunasegaran et al., 2016; Lissah et al., 2020; Osibanjo et al., 2016). Such alignment may be through regulation of the work environment to meet the worker need or managing the workers' behaviors during changes at the workplace to mitigate potential negative perception (Brunner et al., 2019; Diermen & Beltman, 2016; Svedahl et al., 2016). The focus of the strategy is to maintain worker-environment fit in line with the P–E theory to reduce or eliminate work-related stress (Brunner et al., 2019; Svedahl et al., 2016).

A combination of effective leadership and an occupational health approach is another strategy for stress management (Kinnunen-Amoroso & Liira, 2016). Where organizations rendered occupational health services, there was a strong collaboration with the organization's leaders on work-related stress issues (Kinnunen-Amoroso & Liira, 2016). The collaboration between occupational health services providers and organizations was weak where the occupation health services providers were not part of the organization (Kinnunen-Amoroso & Liira, 2016). The presence of occupational health services may enhance increased physical activities which Calogiuri et al. (2016) identified as a widely used strategy for stress-management intervention for workers. Such strategy also aligns with the recommendation to include stress management in workplace

well-being program (Richardson, 2017). The implication is that effective stress management needs a strong collaboration between occupational health services providers and organization's leaders (Kinnunen-Amoroso & Liira, 2016; Magnavita, 2018). Organizational policies and effective psychological interventions could produce effective strategies to manage stress and eliminate stress due to work-family conflict (Malik et al., 2017; Thakur, 2017). The focus would be to promote worker-organization fit to reduce or eliminate work-related stress in line with the P–E fit theory.

While some stress management strategies may involve financial commitments, there are some low or no cost strategies. The strategies include (a) awareness on value of meditation; (b) effective time management; (c) avoidance of negative habits like smoking, alcoholism, and use of sleeping pills; (d) policy consistency, (e) perception of stress as a challenge instead of an obstacle; and (f) open communication policy within an organization (Amarnath & Himabindu, 2016; Giorgi et al., 2020; Kleis & Kellogg, 2020). The advantage of these stress management strategies is that the strategies do not only contribute to the reduction in work-related stress, but also enhance the general health and well-being of the worker (Amarnath & Himabindu, 2016; Díaz-Silveira et al., 2020; Kleis & Kellogg, 2020). Additionally, organizations can implement these strategies without incurring huge financial cost (Amarnath & Himabindu, 2016). Amarnath and Himabindu also recommended (a) provision of healthy and conducive working conditions, (b) elimination of role ambiguity, (c) flexible working conditions, (d) reward and recognition (e) job enrichment and rotation, (f) periodic individual and group counseling sessions, (g) training on stress management, (h) workers counselling, and (i) recreational activities.

Implementing these recommendations would not only enhance a stress-free work atmosphere but also enhance a cordial work environment between the workers and the organizational leaders (Amarnath & Himabindu, 2016; Doruk & Mantler, 2018; Feddeh & Darawad, 2020; Gu & Wang, 2019; Kleis & Kellogg, 2020; Lissah et al., 2020). The implication is that both the workers and organizational leaders have roles to play in effective stress management by exploring means to enhance worker-job fit, worker-organization fit, worker-environment fit, worker-vocation fit, worker-worker fit, and worker-supervisor fit in line with the P–E fit theory.

Since stress-coping abilities by workers are not the same, the organization needs to design the strategies that align with the ability of each worker (Jae-Geum et al., 2020; Olowodunoye et al., 2017; Omar et al., 2020; Reís et al., 2020). Organizational leaders should model work-related stress management strategy to positively influence perceived proactive coping ability and organizational support (Lecca et al., 2020; Ljungholm & Olah, 2020; Olowodunoye et al., 2017; Sreekumar et al., 2019). The goal is to make workers feel less stress through perception of the presence of organizations support and the ability to proactively cope with work demand (Lecca et al., 2020; Olowodunoye et al., 2017). Another strategy for stress management involves training of workers to enhance the development of proactive coping ability to boost positive work outcomes (Feddeh & Darawad, 2020; Olowodunoye et al., 2017; Sreekumar et al., 2019; Tsareva et al., 2019). In addition, organizational leaders should develop policies that encourage high level of organizational support and orientate the workers to improve proactive coping abilities

(Curry et al., 2020; Olowodunoye et al., 2017). Such approach would enhance worker-organization fit thereby reducing or eliminating work-related stress due to P–E misfit.

Transition

In Section 1, I described the research method and design for the study, shared the conceptual framework for the study, and presented the literature review. Based on the literature reviewed, addressing work-related stress involves eliminating or reducing the mismatch between the worker's needs and the factors at the workplace. In Section 2, I included a detailed description of the research methodology, population, sample, data collection tools, and the techniques for the data analysis. In Section 3, I presented the research findings and analysis. I also discussed how organizational leaders can apply the results of this study to solve business problems and enhance positive social change, make recommendations for future study, and shared my experience as a researcher. Finally, I closed with a take-home message.

Section 2: The Project

Introduction

In this section, I restate the purpose of the study and describe (a) the researcher's role, (b) study participants, (c) research method and design, (d) population and sampling, (e) ethical research, and (f) data collection, organization, and analysis techniques. The ways of ensuring the validity and reliability of the research findings to enhance the quality of research conclusions are also discussed.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that supervisors in the petroleum industry in the Nigerian Niger Delta region use to manage work-related stress. The target population was supervisors in three organizations in the petroleum industry in the Nigerian Niger Delta region who have successfully applied strategies to reduce work-related stress. Possible implications for positive social change include the potential to make organizational changes that would improve workers' dignity and well-being, reduce stress-related illnesses and the required community support, and promote work–life and work–family balance for healthier and happier families and society.

Role of the Researcher

Ensuring the integrity of research data is key for a successful study (Kidney & McDonald, 2014). I served as the primary research instrument. In qualitative research, the researcher is the primary data collection instrument as they hear, see, and interpret the data (Marshall & Rossman, 2016; Yin, 2014). As the primary research instrument, I

ensured the integrity of the study and guarded against misconduct and impropriety during the data collection process. Research quality includes the means a researcher uses to ensure the research findings are reliable, dependable, credible, and valid (Elo et al., 2014; Heale & Twycross, 2015; Morse, 2015; Saunders et al., 2015). I evaluated the research instrument for validity and reliability and provided evidence to ensure the quality of the study.

During data collection, I served as the interviewer and collected in-depth data for analysis. I was responsible for transcribing the interviews and sharing transcripts with participants for validation to enhance data quality and for analyzing, describing, and interpreting the data. A researcher should be consistent in approaches during interviews (Miracle, 2016). An interview protocol (see Appendix A) was used to ensure consistency during interviews, mitigate the potential for bias, and enhance the repeatability of the data collection process.

I work in the petroleum industry and have experienced work-related stress like many other workers. There was potential for supervisors to know me and feel coerced to participate in the study or have the fear of reprimand from their organizations due to their responses. To avoid such a situation, I did not include supervisors I had personally worked with as participants. Researchers must ensure respect for research participants (Miracle, 2016). In a study similar to mine, researchers ensured voluntary participation and kept the identity of the research participants anonymous (Curry et al., 2020). I kept the identity of the research participants anonymous and communicated to them that participation in the study was voluntary.

Ethical considerations are applicable to every person and profession (Pasztor, 2015). The Belmont Report contains guidelines to ensure ethical considerations in a study (Miracle, 2016). I abided by the guidelines in the Belmont Report to ensure respect for research participants, justice, and beneficence during data collection, which are the three ethical concerns based on the Belmont report (Miracle, 2016).

A researcher enhances the quality of a study by eliminating bias and subjectivity (Elo et al., 2014; Heale & Twycross, 2015; Morse, 2015; White, 2016). I ensured that my previous assumptions or observations due to working in the petroleum industry were not considered during data collection and analysis. I adhered to the interview questions (see Appendix B) to avoid asking questions that might have influenced the participants to respond in favor of any assumption I may have had. All the data obtained were analyzed with no preference. The conclusions were based on the data collected during the study. A researcher can use member checking to validate the accuracy of the interpretation of the responses of participants during interviews (Houghton et al., 2013; Kidney & McDonald, 2014; Tilley, 2015). By sharing the interpretations of the interview responses with the respondents, I confirmed that I had not introduced bias into the interpretation of the collected data due to my knowledge as a worker in the petroleum industry.

A researcher needs to maintain connection with the respondents to build trust to collect reliable data (Brennan et al., 2020; Saunders et al., 2015). While maintaining the connection, a researcher needs to avoid bias by maintaining rhetorical neutrality and using emotional intelligence skills to avoid bias while collecting data (Collins & Cooper, 2014; Onwuegbuzie & Leech, 2005). During the interview process, I built trust with the

research participation by discussing the rationale for the study and how the study would contribute to positive social change.

Participants

Researchers select participants for a study who are relevant to the phenomenon of study and fulfill a specific purpose in answering the research question (Peticca-Harris et al., 2016; Yin, 2014). Supervisors are part of the social environment that affects work-related stress (Osibanjo et al., 2016; Oyelaran et al., 2017; Svedahl et al., 2016). Supervisors have oversight, coaching, mentoring, coordinating, or supervisory roles over other workers and can directly influence the organizational factors that contribute to work-related stress (Kristman et al., 2017; Wong et al., 2017). The eligibility criteria for the participants in this study was supervisors who had successfully applied strategies to reduce work-related stress in the petroleum industry in the Nigeria Niger Delta region.

Collecting data for the study required access to the research participants. The strategy I used to access the participants was through a written request to the human resources manager or the officer in charge of research in the petroleum companies in Akwa Ibom and Rivers States of Nigeria. The eligibility criteria, the technique for selecting the research participants, and my flexibility to access the participants at any time that was favorable to the organization and the research participants were included in the request. Part of the request was for the human resources managers or responsible officers to provide me with contact information for supervisors who have self-reported successful application of stress-reduction strategies. To build rapport and gain participants' confidence, I explained the rationale for the study and the implications for

social change and informed them that they would remain anonymous, have an opportunity to ask questions, and could obtain a copy of the results of the study. While there is no perfect place to conduct an interview, the job of the researcher is to consider the positive and negative aspects of the selected interview location (Porter, 2015). I discussed with potential participants a suitable location that was private and would enhance open communication and respectful interaction. In instances where the participants agreed to be interviewed while off duty, the interview sessions were scheduled with the participants on an agreed date and location.

Research Method and Design

Explaining the rationale for the research method and design a researcher uses is an important aspect of the research report because method and design can affect the validity of a study (Saunders & Rojon, 2014). The research method and design are significant in determining the validity and reliability of the research findings and conclusions (Saunders & Rojon, 2014). The research question is important in the selection of the appropriate method and design (Yin, 2014).

Research Method

There are three research methods a researcher can choose from: (a) qualitative, (b) quantitative, and (c) mixed (Venkatesh et al., 2016). The research method a researcher chooses depends on the research phenomenon under study (Saunders et al., 2015). Using a qualitative research method, a researcher can potentially generate an in-depth interpretation and understanding of people's personal experiences, social and material circumstances, and perspectives (McDermott & Jackson, 2020; Roller, 2019). Through

qualitative research, a researcher can identify and explore participants' views and experiences on a study phenomenon and social world (McDermott & Jackson, 2020; Nigar, 2020; Saunders et al., 2015; Yin, 2014). Researchers who use the qualitative method are interpretative, exploratory, or explanatory in approach and the study may result in the emergence of concepts (Miles et al., 2014; Morgan, 2015; Saunders et al., 2015). The qualitative method is suitable for rich descriptive data (Saunders et al., 2015; Yin, 2014). My study involved human behavior. The data generated from the study were descriptive rather than discrete and statistical, hence more suitable for the qualitative research method.

The quantitative method is suitable for scientific studies, experimental and quasi-experimental studies, and studies involving relationships between variables (Saunders et al., 2015; Saunders & Rojon, 2014; Venkatesh et al., 2016). The quantitative method is also appropriate for a study that involves proving or disproving hypotheses or theories (Saunders et al., 2015; Saunders & Rojon, 2014; Venkatesh et al., 2016). As noted by Nigar (2020), many social and complex phenomena in society, such as work-related stress, cannot be quantified and so are not suitable for quantitative research. Researchers who use the quantitative method prove or disprove already formulated hypotheses (Saunders et al., 2015). The quantitative method was not appropriate for the study because my research did not involve proving or disproving any existing theory.

The mixed method is a methodological approach in which a researcher uses both the qualitative and quantitative methods for data collection, analysis, and interpretation techniques to answer research questions (Saunders et al., 2015; Venkatesh et al., 2016).

For the mixed method to be applicable, the research phenomenon must be such that both qualitative and quantitative methodologies are appropriate (Fofana et al., 2020). The implication is that the mixed method is appropriate when the research data includes descriptive, discrete, and statistical data (Fofana et al., 2020; Saunders et al., 2015). The use of mixed method was not appropriate for this study as I was not testing a hypothesis or analyzing a relationship between variables or using statistical analysis. Because mixed methods include a quantitative component, it was not appropriate for this study.

Research Design

There are several types of qualitative research designs and each design is unique in applicability to the inquiry (Saunders et al., 2015; Yin, 2014). The designs available include ethnography, phenomenology, and case study among others (Saunders et al., 2015; Yin, 2014). The appropriate research design for a study depends on the research question (Yin, 2014). When a researcher intends to explore the values, cultures, and beliefs of a group of people, ethnographic design is appropriate (Barwood, 2019; Saunders et al., 2015; Yin, 2014). Using ethnographic design, a researcher studies social phenomena through everyday observation of participants (Saunders et al., 2015; Yin, 2014). Research using ethnographic design takes more time to gather sufficient data than other qualitative designs (Cronin, 2014). Because I did not have the required means and resources to live among the research participants to gather data through direct observation, ethnographic design was not appropriate for this study.

Researchers use phenomenological design to explore the lived experiences of a significant phenomenon by participants (Mayoh & Onwuegbuzie, 2014). The design

enhances the development of a greater understanding of individuals' experiences through the consciousness of the researcher (Mayoh & Onwuegbuzie, 2014). Phenomenological design does not address the social context of lived experiences (Langridge & Ahern, as cited in Mayoh & Onwuegbuzie, 2014). A disadvantage of phenomenological research is that it can produce data about lived experiences that are not suitable for generalization (Mayoh & Onwuegbuzie, 2014). The design is suitable for exploration of a specific experience but is not appropriate for identifying the lived experience that is most relevant to the population of study (Mayoh & Onwuegbuzie, 2014). Because the study did not deal with the lived experiences of the research participants, phenomenological design was not suitable.

The case study design is suitable for a researcher to use in conducting in-depth study of people in a chosen context (Reddy, 2015). Case study is the most common research design used in academic articles (Wang & Wang, 2017). Case study design can be single-case or a multiple case; a researcher can use a single-case study design to study a unique selected case (Lederer et al., 2017). The multiple case study design is appropriate when a researcher is answering a research question using several cases and when exploring the similarities and differences between two or more cases (Lederer et al., 2017; Saunders et al., 2015; Yin, 2014). The research design for the study was a multiple case study design. A multiple case study is the appropriate form of case study design when gathering data from multiple organizations and contexts and for analysis of health and working conditions in organizations (Bolin & Olofsdotter, 2019; Naidoo, 2019; Vaismoradi & Snelgrove, 2019; Yin, 2014).

A researcher who adopts a multiple case study design relies on multiple sources of data to enhance triangulation (Yin, 2014). A multiple case study design has a strong philosophical basis for exploratory study of real-life issues (Saunders et al., 2015; Yin, 2014). The design is appropriate in studying health and safety at workplaces (Bolin & Olofsdotter, 2019). The goal of a multiple case study design includes enhancing the acceptability of the forms of data, the validity of data analysis, the quality of the findings, and the easiness of reporting the research conclusions (Harland, 2014). Another reason I used multiple case study design was that the design is appropriate for collecting sufficient data to describe or understand a concept. The data researchers gather through case study designs are not abstract but are rich in real-life experiences (Saunders et al., 2015). A researcher uses multiple data sources to appreciate the different perspectives on the issue being studied, thereby enhancing a holistic understanding of the concept (Bolin & Olofsdotter, 2019). A sound rationale for the choice of a multiple case study design is cost and time (Cronin, 2014). Researchers should consider timeliness, effectiveness, and efficiency in the selection of the participants in a study to avoid unnecessary and costly delays in completing a study (Lamb et al., 2016). With rigor, a researcher using a multiple case study design produces a credible, dependable, confirmable, and transferable study (Houghton et al., 2013). Consequently, the multiple case study design was the best choice for answering the research question of this study, which involved gathering data from multiple organizations in the petroleum industry.

Population and Sampling

The population under study was supervisors in petroleum companies in the Nigeria Niger Delta region who have successfully applied strategies to reduce work-related stress. Sampling is a central practice in qualitative research (Robinson, 2014; Sharma et al., 2020; Yin, 2014). Using the right sample size ensures good representation of the population under study and validity and generalization of the research findings and conclusions (Fusch & Ness, 2015; Saunders et al., 2015; Schloemer & Schröder-Bäck, 2018; Sharma et al., 2020). If the sample size is too small, the data collected may not be enough to achieve informational redundancy or theoretical saturation (Fusch & Ness, 2015). In addition, if the sample size is too large, the data collected may hamper deep, case-oriented analysis a researcher needs for a successful study (Boddy, 2016; Kindsiko & Poltimäe, 2019). In a single case study, a researcher needs a large sample size to achieve external validity unlike a multiple case study design that the external validity increases irrespective of the sample size (Yin, 2014).

A researcher determines the sample size based on context and the study population (Riley et al., 2020). A researcher normally determines the sample size required to achieve data saturation (Jensen et al. as cited in Bell, 2017; Guest et al., 2020). For a multiple case study design, a sample size of six to 10 participants with diverse experiences may be adequate to achieve data saturation (Malterud et al., 2016). For my study, I targeted a sample size of six supervisors. Consequently, the sample size of six from three companies was adequate to explore the depth of my research phenomenon.

I used purposive sampling technique to select participants for the study. As noted by Benoot et al. (2016) and Palinkas et al. (2015), researchers widely use purposive sampling technique in qualitative research to identify individuals or groups of individuals that are especially knowledgeable about or experienced with a research phenomenon. Purposive sampling increases the likelihood of accessing rich information and increases the efficiency in the sampling process by using the most informative candidates to enhance the value of the collected data (Griffith et al., 2016; Palinkas et al., 2015). A researcher should select participants that are knowledgeable in the research phenomenon (Bell, 2017; Palinkas et al., 2015). In selecting participants, I only included supervisors that had successfully applied strategies to reduce work-related stress work-related stress. When establishing the sample population, it is important to specify the inclusion or exclusion criteria (Robinson, 2014). I contacted each organization's officer in-charge of research to identify the supervisors who had self-reported as experienced in work-related stress and had been recognized or rewarded by their organization for successfully implementing strategies to reduce work-related stress.

Focusing on information-rich samples yields more insights and in-depth understanding than empirical generalizations of samples (Patton as cited in Benoot et al., 2016). Qualitative researchers mainly aim to find sufficient cases to explore patterns and so do not necessarily focus on exhaustive search for data (Booth as cited in Benoot et al., 2016).

Purposive sampling is a pragmatic solution to the constraints of time, resources, access to information, and expertise (Benoot et al., 2016). I selected participants that had

been recognized or rewarded for successful application of stress-reduction strategies to address the need for information-rich samples and overcome the constraint of time in searching for relevant data.

Interviewing of the participants continued until responses did not generate new information. The point where the interview does not generate new information is the point of data saturation (Bell, 2017; Kindsiko & Poltimäe, 2019). A researcher can stop further gathering of data after attaining saturation (Fofana et al., 2020; Harris et al., 2019; Kindsiko & Poltimäe, 2019). Where the researcher exhausts the target sample size without achieving data saturation, Emerson (2015) recommended recruitment of additional samples. My plan was that if I did not achieve data saturation after interviewing six participants, I would recruit additional participants for the study. Snowball sampling is a popular sampling method for generating data from individuals with information about the subject on the recommendation of other participants (Guro & Malin as cited in Bell, 2017; Benoot et al., 2016). Snowball sampling is highly effective in reaching out to the hidden population (Waters, 2015). Researchers might use snowball sampling to locate additional participants with relevant information about the issue (Griffith et al., 2016). Because the study did not involve a hidden population, snowball sampling was unnecessary. My plan was to continue with purposive sampling if I needed additional respondents to achieve data saturation but there was no need to recruit additional samples as the sample size of six was adequate to achieve data saturation.

Ethical Research

The researcher must ensure ethical protection of research participants. Ethical protection of research participants involves discussion of the informed consent and the measures to ensure confidentiality of the research participants (Curry et al., 2020; Kidney & McDonald, 2014; Tilley, 2015). The researcher is required to provide study participants with information about the goal of the study and voluntary participation (Robinson, 2014; Yin, 2014). The research participants have the right to withdraw from a study at any time (Kidney & McDonald, 2014; Yin, 2014). Having a written notification of withdrawal from a study may be helpful during audit verification or peer review (Chatfield, 2020). I informed the participants of their right to abstain from the study at any time without being forced to provide justification or being questioned on the rationale for their decision. I sought the participants' agreement for audio recording of the interview session and discuss their right to review the transcript of the audio record. No incentives were offered to encourage participation in the study.

A researcher needs to protect the research participants from harm while participating in a study (Kidney & McDonald, 2014; Yin, 2014). I ensured that the participants were not exposed to any form of harm through their participation in the study. To maintain the confidentiality of the research participants and their organizations, I used pseudonyms to represent the participants and the organizations. I also secured the data I collected on the media in a locked cabinet in my residence accessible only by me and destroy the data after five years by breaking the media and disposing it in line with the waste management requirements of Akwa Ibom State of Nigeria.

A researcher should be sensitive to the needs of research participants while notifying the participants of the purpose of the study, what their participation would entail, the voluntary nature of the participations in the study, and the confidentiality issues with the study (Robinson, 2014). Before commencing the study, I got Walden University IRB approval (#02-19-21-0723263) and complied with the IRB's guidance and the direction established in the Belmont Report to ensure ethical protection of research participants.

Instrumentation

There are various instruments for data collection in a qualitative study (Saunders et al., 2015; Udtha et al., 2015; Yin, 2014). Using the appropriate data collection instrument is fundamental in any empirical research and is a key factor in determining the cost and success of a study (Udtha et al., 2015). In the study, I was the primary data collection instrument. As noted by Marshall and Rossman (2016), in a qualitative research, the researcher is the primary data collection instrument since the researcher can hear, see, and interpret the data. I used semistructured interviews to collect the data for the study. During interviews the researcher should be an active listener and a collaborating participant (Talmage as cited in Subramaniam, 2017).

As the primary data collection instrument, I guarded against research bias and adopted the technique that enhanced the collection of rich data. In a semistructured interview, the researcher has the flexibility to use the interview process to gather the required data to create the desired knowledge (Brinkmann as cited in Subramaniam, 2017). I asked seven semistructured questions (see Appendix B) during the interview.

Member checking is an effective means to ensure the accuracy of the data a researcher collects during semistructured interviews (Houghton et al., 2013; Kidney & McDonald, 2014). I summarized the responses to the interview questions and shared with the applicable research participant to validate that the interpretations aligned with the participant's views. Where the research participant disagreed with the summary of the responses, I conducted a follow-up interview to clarify any ambiguity.

Using multiple data sources is a strategy a researcher can use to enhance the validity of a study (Saunders et al., 2015; Yin, 2014). There are six commonly used data sources to enable triangulation (Yin, 2014). The data sources are interviews, direct observations, documentation review, archival records, participant-observation, and physical artifacts (Yin, 2014). I collected other data in addition to the interview participants to enhance triangulation. The documents I reviewed included safety bulletins, information pasted on the general notice boards, employee handbook, and company procedures related to management of work-related stress. Combining different data collection instruments is a means to enhance objectivity and provide confirmatory evidence (Owen, 2014; Yin, 2014). Consistency in the data I collected at different times and contexts was the means to verify dependability.

Data Collection

Data collection is a critical process in social research (Rimando et al., 2015; Saunders et al., 2015). The use of appropriate data collection technique is necessary in enhancing the quality of a study (Heale & Twycross, 2015; Leung, 2015; Rimando et al.,

2015). In the study, I used different techniques of data collection to complement each other and enhance data validity.

I gathered data through face-to-face interviews. As required by the Nigerian government, the COVID-19 guideline of use of face mask and maintaining social distance of at least two meters was observed during the interview. Face-to-face interviews are effective in providing the opportunity for compelling interaction, nonverbal communication, empathy, and connectivity with the research participants (Hilgert et al., 2016). Additionally, the technique is helpful in gaining the confidence and support of the research participants (Hilgert et al., 2016). With face-to-face interaction, the researcher is not merely a passive receiver of information but an active listener and so can validate the data gathered through non-verbal cues (Talmage as cited in Subramaniam, 2017). A disadvantage of face-to-face interaction is that the researcher may misinterpret the varying non-verbal cues from the different research participants (Hilgert et al., 2016). I overcame this drawback through member checking. The member checking process involved sharing the summary of the responses to the interview questions with the applicable research participant to confirm the interpretations align with the participants' views.

Data Organization

It is important for the researcher to track and maintain accurate and comprehensive record of the different activities involved in the data collection and analysis process (Yin, 2014). The method a researcher uses for data organization should be such that the researcher can easily access the data for use (Patel, 2016; Tripathi et al.,

2017). There are various techniques a researcher can use to organize the data collected (Saunders et al., 2015). The techniques may include research logs, reflective journals, and cataloging or labeling systems (Saunders et al., 2015).

The use of database is an effective means of organizing research data (Glaser & Laudel as cited in Davidson, 2018). For the study, I used a computer to create a Microsoft Excel database to enhance data labelling, organization, filtering, and sorting. A researcher should use the technique that enhances organization of research data to generate themes, patterns, and concepts to facilitate coding (Merriam as cited in Davidson, 2018). I created separate columns in the spreadsheet to capture data labels and emerging understanding, themes, and patterns from the interview transcripts and document reviews. I also added columns for the relevant concepts from the literature to enable establishing a connection between the emerging themes from the study and concepts from the literature. The use of database is advantageous in organizing, accessing, and simplifying research data (Saunders et al., 2015; Yin, 2014). A database also enhances data coding and extraction of appropriate themes (Saunders et al., 2015; Yin, 2014). The use of database makes it easier to establish connection between related data, organize, categorize, query, and locate the collected data (Yin, 2014).

A researcher can use the database as a central storage for the data collected thereby simplifying the process of retrieving the relevant data to address any area of research interest (Yin, 2014). I organized the data from the different sources in this electronic format using a computer with password protection to ensure privacy. Using a computer to organize data enhanced orderliness and easier and simpler access to the data.

I used a locked cabinet to store the hardcopy materials that I collected during the study. The cabinet was only accessible by me. In accordance with IRB requirement, I will maintain all records for five years and destroy thereafter. I will destroy the hard copy records by shredding and delete the electronic records from the storage media.

Data Analysis

Qualitative data analysis is a process and consists of many actions and phases with differing purposes and results (Evers, 2016). The process is fluid, non-linear, and sometimes chaotic (Evers, 2016; Ventresca et al., 2020). Qualitative data analysis involves (a) compilation of the collected data, (b) dissecting the data collected into smaller units, (c) regrouping the units in relation to one another, the context, or conceptual framework to enable exhaustive description, identification of relationships between analytic units, or testing of certain concepts, and (d) interpretation of the themes in the context of the study (Evers, 2016; McDermott & Jackson, 2020; Miles et al., 2014; Morse, 2015; Rudisill et al., 2019; Vaismoradi & Snelgrove, 2019; Yin, 2014). A researcher needs to identify the appropriate data analysis technique to use in a study based on the information the researcher needs to retrieve from the dataset (Evers, 2016; Saunders et al., 2015; Vaismoradi & Snelgrove, 2019; Walden Writing Center, 2016; Yin, 2014). Such an approach would enable the researcher to present and analyze the data in a logical manner and bring order into the collected data (Neale, 2016; Walden Writing Center, 2016; Yin, 2014).

Researchers use different techniques to structure the collected data to enhance analysis (Saunders et al., 2015). The compiling process involved organizing the collected

data into a database. After collecting the data for the study, I organized the data into a form that enhanced order for creation of a database. The database was in Microsoft Excel format. Microsoft Excel is effective for data organization and visualization (LaPolla, 2020).

During disassembling phase, I sorted the complied data using different labels. The disassembling process involves coding of the collected data (Evers, 2016). Coding is the process of separating the data collected into smaller units at different levels using a specific technique of data analysis (Evers, 2016; Miles et al., 2014; Vaismoradi & Snelgrove, 2019). A code represents a data segment with one or several key words to make it easier to search, manage, interpret, and manipulate the dataset (Evers, 2016; Vaismoradi & Snelgrove, 2019). I used the disassembling process to identify the different types of data to enhance the identification of themes.

The analysis of qualitative data involves the coding of the collected data (Evers, 2016). During the reassembling phase, I grouped the different labels for analysis. The essence of reassembling is to enable identification of themes based on similarities among the data labels or codes to enhance data interpretation (Rudisill et al., 2019; Tseung et al., 2020; Vaismoradi & Snelgrove, 2019).

In the interpretation phase, I checked for connection between the different themes and the conceptual framework for the study. The essence of the interpretation phase was to make sense out of the data to enable deductions, inferences and conclusions from the research data. I adopted an inductive approach to identify new knowledge and evaluate

possible connections between the emerging themes and the conceptual framework for the study.

Initial coding was based on the key words from the participants' responses. I grouped the identified patterns into themes that aligned with existing theories, concepts, and learning from the literature review and then presented the results in a graphical format. I used methodological triangulation to validate the results of the data from the different sources. I compared the data I gather through document review to the findings from the analysis of the interview data to enhance the research quality and mitigate potential bias. Data analysis and writing of the research findings are critical aspects of a research (Lensges et al., 2016; Morse, 2015). In the research report, I discussed the findings of the study based on the themes identified from the data analysis.

Thematic analysis is an effective technique to identify patterns in a dataset (Evers, 2016; Saunders et al., 2015; Yin, 2014). The technique was appropriate to identify the different themes that contribute to mismatch between the workers and organizational factors. The method is a means for logical analysis of data through the identification of order, insights, patterns, pointers, concepts, and recurring ideas while reviewing and comparing the data from different sources (Saunders et al., 2015; Yin, 2014). Thematic analysis is appropriate for testing the impacts of the different organizational and environmental factors that cause mismatch with the worker. The deductive approach, a feature of thematic analysis, aligns with the conceptual framework for the study.

Reliability and Validity

A researcher must evaluate a study to confirm the integrity of the research conclusions by reviewing the research data for reliability and validity at every stage of the data collection process (Elo et al., 2014; Saunders et al., 2015). A researcher can use different criteria to assess the reliability and validity of a qualitative study (Marshall & Rossman, 2016; Saunders et al., 2015). Morse (2015) recommended four criteria for assessing a qualitative study: credibility, dependability, confirmability, and transferability.

For a multiple case study, achieving reliability and validity requires availability of the right research data, triangulation, peer debriefing, member checking, audit trail, and reflexivity (Cypress, 2017; Elo et al., 2014; Houghton et al., 2013; Marshall & Rossman, 2016). Triangulation involves the combination of two or more methodological approaches, theoretical perspectives, data sources, investigators, or data analysis methods to study the same phenomenon (Marshall & Rossman, 2016; Saunders et al., 2015). Triangulation is a technique to enhance a wider and deeper understanding of a research phenomenon (Marshall & Rossman, 2016; Saunders et al., 2015).

Reliability

Reliability refers to the extent to which a study is replicable and how the researcher demonstrates consistency and repeatability with the analytical procedures used during a study to produce comparable findings (Elo et al., 2014; Leung, 2015; Yin, 2014). A margin of variability for research findings may be acceptable if the data a researcher collects through similar contexts are similar ontologically even if the data

differ in richness and ambience when the researcher applies similar methodology (Leung, 2015).

In a qualitative study, reliability is a measure of dependability (Walden Writing Center, 2016). Dependability refers to the consistency of the data collected at different times and conditions (Elo et al., 2014). A researcher should explore ways to improve the dependability of a study (Letafatnejad et al., 2020). I improved the dependability through member checking. A researcher can use member checking to reduce subjective interpretation of interview responses (Houghton et al., 2013; Kidney & McDonald, 2014; Tilley, 2015). After each interview, the member checking process involved reviewing the summary of the responses with the respondent to confirm the interpretation was in line with the participant's viewpoint. Where the participant disagreed with the summary, I sought clarification. Roberts et al. (2006) identified technical accuracy in recording and transcribing as another way of improving dependability. After each interview, I restated the summary for the respondent to confirm accuracy. The convergence of the data from different research instruments is a way to achieve the dependability of research (Heale & Twycross, 2015). I relied on the convergence of the data from the interview respondents and document review to improve dependability of the study. As noted by Yin (2014), the use of multiple data sources is necessary in improving reliability as no single data source can provide a complete advantage over other data sources. When a researcher uses multiple data sources, the different data sources complement each other and enhance the dependability of the research findings (Saunders et al., 2015; Yin, 2014). I improved

reliability through the convergence of the data gathered from the interviews and document reviews.

Validity

Validity refers to the extent that a research instrument measures what the researcher intended to measure (Heale & Twycross, 2015; Leung, 2015; Saunders, Lewis, & Thornhill, 2015). Researchers use validity to determine how truthful the research results are (Saunders et al., 2015). Measuring validity involves the homogeneity and convergence of the research instrument and the theoretical evidence (Heale & Twycross, 2015). The evidence is helpful in assessing the study to decide whether to apply the research findings (Heale & Twycross, 2015). In a qualitative study, a researcher determines the validity by credibility, transferability, and confirmability (Letafatnejad et al., 2020; Walden Writing Center, 2016).

Credibility refers to the degree that the researcher accurately identifies and describes the research participants (Houghton et al., 2013). To ensure credibility, a researcher needs to show confirmatory evidence that the research instrument was appropriate. During data collection, I shared the summary of the interview responses for the respondents to validate the accuracy. Also, I used document review to verify the authenticity of the data from the interviews. I used data from multiple sources to enhance credibility through triangulation.

A researcher determines conformability based on how accurately the data collected represents the views of the research participants and eliminates the researcher's bias (Elo et al., 2014). In the study, the interview protocol was used as a guide in the

interview process to reduce the potential for bias and to enhance the repeatability of the data collection process. I used member checking to validate the collected data to ensure the data reflect the respondents' views. Finally, I used some exact words that reflect recurring themes from the interviews to eliminate my bias from the study.

Transferability is the extent a researcher can generalize the results of a study to cover the population outside the one the researcher studied (Saunders et al., 2015). Because researchers cannot conduct research to cover all contexts and situations, it is necessary for the research findings to be transferable from the primary context of the study to other contexts for application of the findings and conclusions (Jensen et al., 2016; Schloemer & Schröder-Bäck, 2018). To enable transferability by readers and future researchers, I ensured that I clearly described the context of my study, the applicable population, sampling method, research instrument, and the research methodology. It is necessary to assess whether the findings and conclusions established by a researcher in a typical context are transferable to a decision-maker's own specific context (Schloemer & Schröder-Bäck, 2018) and whether other researchers can apply the findings in other contexts (Walden Writing Center, 2016). The transferability of a qualitative study is not determined by the researcher but by the readers (Walden Writing Center, 2016). Through a multiple case study, I collected the research data from multiple sources in different contexts to enable the reader to determine the transferability. The analysis of the data involved the consideration of the different perspectives on the research phenomenon to enhance a holistic understanding of the concept.

To transfer the findings and conclusions of a study to another population, the researcher should ensure that the context of the two studies is similar (Saunders et al., 2015). Achieving transferability involves using the appropriate research methodology for answering the research question, using the research design that is valid for the methodology, selecting the right sample size and method, and applying the appropriate method of data analysis (Leung, 2015; Morse, 2015).

Using the appropriate sampling size is necessary in enabling the reader to determine the transferability of the research findings (Boddy, 2016; Fusch & Ness, 2015; Leung, 2015; Morse, 2015). A researcher should select the appropriate sample size to achieve data saturation and enhance transferability (Jensen et al. as cited in Bell, 2017; Boddy, 2016; Fusch & Ness, 2015). For a multiple case study design, a sample size of six to 10 participants with diverse experiences may be adequate to achieve data saturation (Malterud et al., 2016). For the study, the maximum sample size was six. In a study of work-related stress on the health sector, the sample size of three was adequate to attain data saturation. I expected that the sample size of six was enough to achieve data saturation in the study.

The point where a researcher obtains no new data during the data collection process is the point of data saturation (Bell, 2017; Kindsiko & Poltimäe, 2019). Fusch and Ness (2015) noted that a researcher should continue data collection until there is enough information to replicate a study and the data collection process does not generate any new data or themes. A researcher should stop further data collection after achieving data saturation (Fofana et al., 2020; Harris et al., 2019; Kindsiko & Poltimäe, 2019). If a

researcher does not achieve data saturation after exhausting the target sample size, the researcher should recruit additional samples (Emerson, 2015). Before I exhausted the target sample size of six. I had achieved data saturation and so there was no need to recruit more samples.

Transition and Summary

In Section 2, I restated the purpose statement and described the researcher's role, study participants, research method and design, population and sampling, ethical research, and data collection, organization, and analysis techniques. I also discussed the ways of ensuring the validity and reliability of the research findings to enhance the quality of research conclusions.

In Section 3, I share, analyze, and discuss the research findings. I also show how organizational leaders in the petroleum industry can apply the results of this study to solve business problems and enhance positive social change. The recommendations for future research and a reflection on my experience as a researcher are also included in the section. Finally, I close with a concluding statement.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore the strategies that supervisors in the petroleum industry in the Nigerian Niger Delta region use to manage work-related stress. In this section, I present the findings from the study, describe how the findings are applicable to professional practice, discuss possible implications for positive social change, and highlight the recommendations for further study. I conclude this section with reflections on the research experience and process.

The data for the study were collected from semistructured interviews with six supervisors and internal documents from three organizations in the oil and gas industry of the Nigerian Niger Delta region. To maintain participants' confidentiality, the supervisors were denoted as P1, P2, P3, P4, P5, and P6 while the partner organizations were denoted as C1, C2, and C3. The findings consisted of strategies from supervisors who have successfully managed work-related stress.

The documents reviewed only showed generic references to stress management and did not show documented details of how stress management strategies participants discussed were applicable in each organization. The summary of the findings from the analysis was that: (a) work-related stress has an adverse impact on workers, (b) some strategies for managing work-related stress are successful, and (c) there are challenges impacting effective work-related stress management.

Presentation of the Findings

The overarching research question for this multiple case study was: What strategies do supervisors in the Nigerian Niger Delta petroleum industry use to manage work-related stress? Based on analysis of the data collected through interviews, multiple themes emerged: (a) impact of work-related stress, (b) strategies successfully used to manage work-related stress, and (c) challenges impacting effective work-related stress management. These themes from the data will be analyzed in the context of the P–E fit theory.

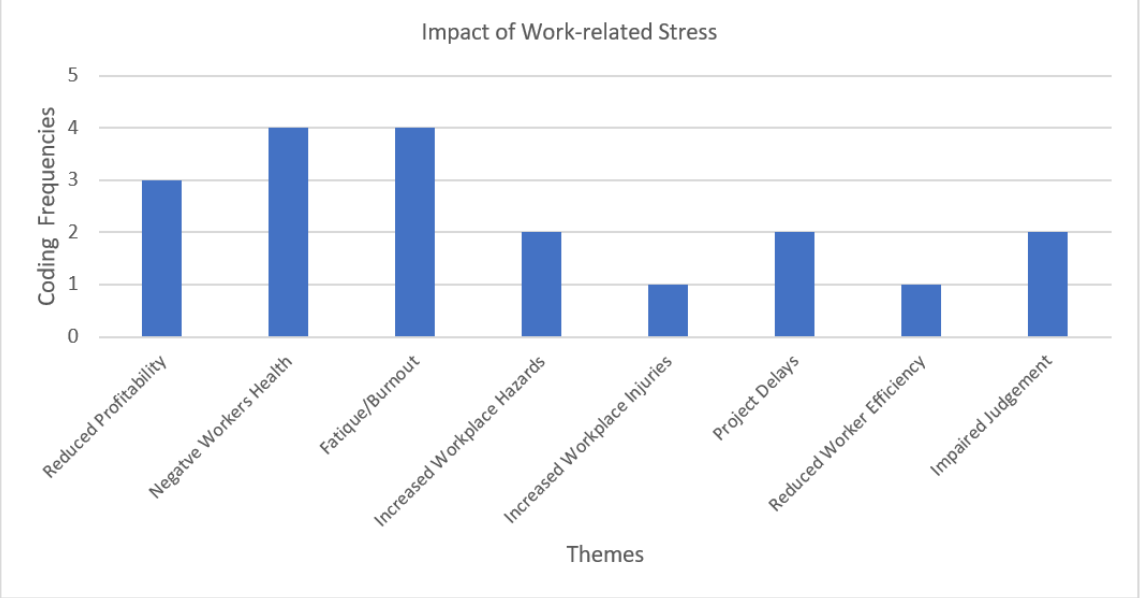
Theme 1: Impact of Work-Related Stress

The respondents identified different ways work-related stress adversely affects organizations and workers. The responses of the research participants to the interview questions demonstrated a strong awareness of the negative impact of work-related stress. Similar to the observations of Adaramola (2012), Akanji (2015), and Langille (2017) that the impact of work-related stress varies among workers, the respondents differed on the specific impact of work-related stress they identified, but they agreed that work-related stress is a contributor to reduced organizational profitability and lower worker productivity. P1 stated, “Work-related stress creates room for hazard and makes workers prone to injury.” P2 noted “Work-related stress causes fatigue, reduced efficiency, obscured judgment, irrational decision, unconscious tendency to take shortcut, and is a form of deferred accident.” P4 alluded that work-related stress causes “low output and stress-related illnesses.” P5 observed that a mismatch between workers’ needs and organizational factors adversely impacts workers’ health. The mismatch, according to P5,

can be in the form of “the worker receiving limited support from the organization.” Similar to the observation of P4, P6 noted that work-related stress causes “reduced productivity.” The respondents’ observations aligned with prior findings that work-related stress is a major workplace challenge that organizational leaders need to eliminate, hence the need to focus on the strategies for managing the phenomenon (Aderibigbe & Mjoli, 2019a; Lecca et al., 2020; Lee et al., 2020; McNicholas et al., 2020; Muthusamy & De Silva, 2019; Oduaran, 2016; Osibanjo et al., 2016; Parkes, 2017; Rigó et al., 2021; Roach et al., 2017). Figure 2 shows a summary of major themes based on research participants’ perceptions of the impact of work-related stress on the organizations and workers.

Figure 2

Impact of Work-Related Stress



Previous researchers have noted how the response to stress changes among workers (Adaramola, 2012; Akanji, 2015; Langille, 2017; Tan et al., 2021). Similarly, the respondents in this study differed on the stated impacts of work-related stress. Despite the differences, Figure 2 indicates that work-related stress impacts both the organization and the workers. The direct impacts on the workers include fatigue or burnout, ill-health, impaired judgment, reduced efficiency, and increased workplace injuries. As noted by some researchers, when there is mismatch between a worker's desires and the organizational needs, the worker experiences recurring negative emotions that may manifest in the form of fatigue, burnout, ill-health, impaired judgment, or reduced efficiency (Akanji, 2015; Devonish, 2018; Ji et al., 2020; Jugdev et al., 2018; Taris, 2017; Weiß & Süß, 2016). Such condition can adversely impact the psychological well-being of a worker (Brehl et al., 2020; Cortina et al., 2017; Govindaraju, 2019; Hamzekolaei et al., 2020; Havermans et al., 2018; Makara-Studzińska et al., 2020; Rugulies & Aust, 2019; Wolniak & Szromek, 2020; Žutautienė et al., 2020). To promote the psychological well-being of workers, organizational leaders need to encourage the culture of matching the conditions at the workplace with the workers' needs to enhance work–life balance and work–family balance (Calogiuri et al., 2016; Chang et al., 2017; Choi & Kim, 2019; Dixon et al., 2019; Kobayashi et al., 2020; Langille, 2017; McNicholas et al., 2020; Omar & Asif, 2016; Paais, 2019; Pellerone et al., 2020; Yukongdi & Shrestha, 2020; Žutautienė et al., 2020).

Based on the P–E fit theory, a poor match between the characteristics of a worker and the demands of the job is a source of stress (Chen, Sparrow, et al., 2016; Dar &

Rahman, 2020; Jee-Seon & Kim, 2020; Osibanjo et al., 2016). The factors at the workplace that cause or contribute to the mismatch are workplace hazards (Castner, 2020; Effiong & Philip, 2018). Such a hazard, as noted by P1, “makes workers prone to injury.” Workplace injuries directly impact the worker but may also be a contributory factor to project delays due to difficulty in hiring competent replacements for injured workers (Cao & Li, 2020; Mapa et al., 2019).

Some respondents identified reduced worker efficiency as a consequence of work-related stress. This observation aligns with the inverted-U model that a worker requires some amount of stress to enhance productivity, but when the stress rises above a certain threshold, workers are demotivated and become less productive (Adaramola, 2012). Many researchers have also noted that a large amount of work-related stress is detrimental to the physical and psychological well-being of workers and impacts worker productivity (Adaramola, 2012; Akanji, 2015; Alonso et al., 2020; Anne-Laure et al., 2019; Bouckenooghe et al., 2016; Chichra et al., 2019; Fujishiro & Heaney, 2017; Jae-Geum et al., 2020; Khamisa et al., 2016; Langille, 2017; Omar et al., 2020). Respondents identified reduction in efficiency of workers as an impact of work-related stress, and reduction in worker efficiency is directly related to reduction in organizational profitability (Adaramola, 2012; Choi & Kim, 2019; Jae-Geum et al., 2020; Kong et al., 2020; Raíla de et al., 2020; Roozeboom et al., 2020; Tatum et al., 2019; Wolniak & Szromek, 2020).

The respondents also identified project delays and reduced organizational profitability as organizational consequences of work-related stress. The respondents’

observations align with the conclusion of some researchers that project delays and the negative publicity due to workplace injuries may lead to decreased patronage, shareholder apathy, reduced customer trust to deliver on commitments, and high worker turnover, thereby adversely impacting organizational profitability (Aderibigbe & Mjoli, 2019a; 2019b; Cao & Li, 2020; Mapa et al., 2019). The observations by the respondents on the impact of work-related stress align with the conclusions of many researchers that a large amount of work-related stress is detrimental to workers and the organization (Adaramola, 2012; Akanji, 2015; Alonso et al., 2020; Anne-Laure et al., 2019; Bouckenooghe et al., 2016; Chichra et al., 2019; Fujishiro & Heaney, 2017; Jae-Geum et al., 2020; Khamisa et al., 2016; Langille, 2017; Mulugeta et al., 2021; Omar et al., 2020). Considering the impacts of work-related stress, there is the need for both workers and organizational leaders to explore strategies to enhance a match between workers and organizational factors in line with the P–E fit theory (Adaramola, 2012; Isfianadewi & Noordyani, 2020; Lissah et al., 2020; Thakur, 2017; Zajc & Kohont, 2017).

Theme 2: Strategies Successfully Used to Manage Work-Related Stress

The management of work-related stress is a collective responsibility and requires the involvement of the different stakeholders in an organization (Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019; Worringer et al., 2020). As noted by P1, “Managing work-related stress involved team effort.” Both P1 and P2 identified the supervisors and leads, workers, clients and customers, and organizational leaders as playing essential roles in work-related stress management. P2 specifically noted that the

"customer feedback form was helpful in determining work team effectiveness after each major project." The customer feedback, according to P2, helps the supervisor "define the maximum time each worker can work in the field and the training required to match the job needs with the worker's capacity to avoid work-related stress."

Response to stress varies among workers and teams (Akanji, 2015). However, a drawback of the P–E fit model is the limitation in considering individual differences and the subjective well-being factors that may cause misfit (Akanji, 2015). Customer feedback, as noted by P2, serves as a tool in understanding individual differences to enhance work-related stress management. Because the feedback form can enhance understanding of individual differences, the information in the form can help a supervisor in understanding the subjective well-being factors the P–E fit theory does not address. Emphasizing the importance of feedback in managing work-related stress, P1 noted, "Feedback on personnel performance and stress-handling ability are useful to the supervisors in understanding the stress-handling ability of the workers to determine what leadership support is required to improve the match between the worker's desires and the job demand."

The match between workers and organizational leaders is necessary to prevent stress (Charoensukmongkol et al., 2016). According to P3, "supervisors' support, teamwork, and supervisors' field presence" can strengthen the bond with the worker. Under such working conditions, the supervisor "cascades key information to the worker on work-related stress and enhances the worker's awareness on the need for adaptation to what the worker cannot change." P4 identified ways a supervisor can collaborate with a

worker to reduce work-related stress: “effective job planning, defining priorities, effective communication with workers, mentoring of workers on how to manage external and family pressure, and training the worker to enhance competence.” The responses of P3 and P4 aligned with the findings of Charoensukmongkol et al. (2016) on the need for synergy between workers and organizational leaders as a key to effective work-related stress management.

P1, P3, and P6 identified clients and customers as stakeholders who have a role to play in effective work-related stress management. Both P1 and P6 noted that pressure from clients or customers is a key challenge in managing work-related stress and sometimes disrupts a stress management plan. According to P6,

> The client that is calling you does not look at the time; all the client is interested in is for you to deliver on his request and such request puts pressure on you to meet the demand within the client’s timeline.

As P1 observed,

> Meeting clients’ or customers’ timeline can be a source of stress. The clients wants the job completed within a certain timeline but you being at site may know that the task is not achievable within the timeline but so as not to look as if you are not serious, you keep pressing on to finish and that can expose the workers to stress.

The implication, as noted by P3, is that to effectively manage work-related stress, “there should be synergy among organization’s management, workers, and clients.” Such synergy in managing work-related stress has been recommended by multiple researchers

(Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019; Worringer et al., 2020). Figure 3 shows the themes based on respondents' perceptions of stakeholders who are responsible for effective work-related stress management. Based on the strategies that respondents have successfully used to manage work-related stress, it is obvious that work-related stress management requires a stakeholder approach—the involvement of the individual worker, coworkers, supervisor or team lead, organizational management and leadership, and clients or customers.

Figure 3

Stakeholders Involved in Work-Related Stress Management

P1, P2, P3, and P4 emphasized the roles workers play in effective work-related stress management. P3, P4, and P6 emphasized the role of organizational leadership in

ensuring availability of occupational health monitoring resources for workers, driving competency development and providing the tools required to ensure worker–job match, worker–environment match, and worker–organization match. All the respondents noted that the leader of each work team or supervisor plays a critical role in ensuring effective work-related stress management, which was consistent with the observation of Huang et al. (2021) that supervisor support enhances stress-reducing responses for workers. P1, P2, P5, and P6 emphasized the need for clients and customers to be part of work-related stress strategies, as urgent requests by clients negatively impact the strategies the organizations put in place for work-related stress management. The clients or customers may be other petroleum companies or users of the products or services of the petroleum industry. A review of the responsible parties for the different stress management strategies highlighted by the respondents shows that no single stakeholder has control over all factors that contribute to work-related stress, hence the need for an all-stakeholder approach. The need for adoption of an all-stakeholder approach for stress management aligns with researchers' recommendations on effective work-related stress management (Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019; Worringer et al., 2020).

There are various strategies that organizational leaders use to manage work-related stress. Figure 4 shows the summary of the themes based on the strategies the participants have successfully used to manage work-related stress. The strategies include (a) effective task planning, (b) co-worker support, (c) supervisor support, (d) shift

rotation, rest, and time-off, (e) training and mentoring of workers on stress management, (f) occupational health monitoring programs, (g) development of workers competency in assigned tasks, (h) providing the right resources to ensure safe task execution, (i) social and recreational activities, and (j) assignment of task to match worker ability, needs, and desires.

Figure 4

Strategies Used to Manage Work-Related Stress

PI and P2, while sharing the strategies they have successfully used to manage work-related stress, emphasized that the response to stress is individualized and that there is no single strategy that fits all workers and contexts. According to P1,

> Some can easily be stressed while others can endure for a longer time. Company should monitor the stress level of their personnel. Some personnel can work longer offshore and still perform well while others may not. When making choices and selecting a team, consider individual capacity.

P2 noted that “the same strategy cannot be applied in managing all workers. For instance, the strategies for managing trained and untrained workers are different. Tolerance for stress varies among workers based on difficulty of the job and their level of competence.” These observations of P1 and P2 align with the conclusion of Amarnath and Himabindu (2016) and Pellerone et al. (2020) that individual characteristics should be considered when selecting stress management strategy. The individual characteristics of the workers may interact with workplace stressors thereby impacting the level of stress each worker experiences and the impact the worker experiences (Florea & Florea, 2016; Jugdev et al., 2018; Lee et al., 2017; Pellerone et al., 2020). The P–E theory is based on the principle of mismatch between the worker’s needs and desires and the factors in the organizational environment (Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Doruk & Mantler, 2018; Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Survival et al., 2019). By considering the characteristics of the worker as noted by P1 and P2, the supervisor can adopt strategies to enhance the match between the worker’s characteristics and the prevailing conditions at the work environment.

Each worker possesses characteristics such as skill, competence, physical ability, and personality (Akanji, 2015). The amount of work-related stress a worker experiences depends on the extent of mismatch with the worker’s characteristics such as skill, competence, physical ability, and personality (Akanji, 2015; Osibanjo et al., 2016; Tsareva et al., 2019). As noted by P1, “some workers can easily be stressed while others can endure for a longer time.” P2, therefore, noted that since “tolerance for stress varies among workers based on difficulty of the job and their level of competence,” there is the

need for the "supervisor to monitor the workers." P3 made similar observation and recommended "supervisor's field presence" during tasks. "Monitoring of workers" according to P1 and "supervisor's field presence" according to P3 are helpful in stress management because, as noted by P1, "If I notice that somebody can do two things in a day at the beginning and his productivity is reducing, then I need to look at the person as he may be stressed."

There are various strategies that have successfully been used to manage work-related stress (Amarnath & Himabindu, 2016; Isfianadewi & Noordyani, 2020; Muthusamy & De Silva, 2019; Oyelaran et al., 2017; Roozeboom et al., 2020; Wijnen Ben et al., 2020). Based on the responses of the research participants, the actual strategies that the supervisors in the petroleum industry use depends on the worker, the stressors, and the context. One of the strategies successfully used is effective task planning. According to P4, "through effective task planning, the supervisor understands what each task will require and can effectively align resources to match with what the task requires." P5 expressed similar perspective:

> First and foremost you do job planning. If you don't plan your job well, you'll work under stress. When you plan your job, you know which one to execute at any point in time. Planning will help you to know how many of the jobs you have that you can safely execute. If you don't plan, you will tend to execute all the jobs you have and when eventually you cannot execute all, it will affect you. Improper planning induces stress.

P6 also alluded to the value of planning as a strategy for stress management. According to P6,

> For activities that we have advance notice, we try to plan ahead and know the worker to assign the job, inform the worker to prepare and align his personal needs with the job requirements. But for urgent requests from clients, there is really no time for the worker to prepare and align his personal desires with the job needs before resuming work and this imposes stress on the worker.

The implication is that when there is effective planning, organizational leaders can align the worker's need with the task demand thereby reducing the potential for work-related stress. Researchers noted supervisor support as necessary for effective work-related stress management but did not specifically identify effective task planning as a stress management strategy (Charoensukmongkol et al., 2016; Collins, 2016; Govindaraju, 2019; Gu & Wang, 2019; Isfianadewi & Noordyani, 2020; Kachi et al., 2020; Lecca et al., 2020; Oyelaran et al., 2017; Worringer et al., 2020). Based on the findings from this study, supervisors could use effective task planning to improve job design. Improving job design is a means to reduce role overload, role ambiguity, job conflict, or group pressure thereby reducing work-related stress (Amarnath & Himabindu, 2016; Isfianadewi & Noordyani, 2020; Muthusamy & De Silva, 2019; Oyelaran et al., 2017).

Worker-worker match and effective supervisor support were other strategies that respondents effectively used to manage work-related stress. While P1, P3, and P5 identified effective team selection to ensure worker-worker match, P1 and P2 noted that worker-supervisor relationship was key in managing work-related stress. According to

P5, “building a team where there is flexibility in supporting each other is necessary for managing work-related stress.” P3 achieved worker-worker support through “reduced workload by aligning number of personnel with task need.” On the need to ensure worker-supervisor match, P1 stated that “supervisor monitoring of field personnel and taking action to address their need is most effective in managing work-related stress.” P2 added that the “supervisor should engage the worker to determine state of mind and involve the worker in key decision making.” Worker-supervisor and worker-worker relationships are part of the social environment (Asgari et al., 2017; Svedahl et al., 2016). Effective worker-supervisor and worker-worker relationships enhance a culture of support and feeling of care (Asgari et al., 2017; Oyelaran et al., 2017; Svedahl et al., 2016). Such strategy also enhances a match between the worker and the social environment and a work culture where the organizational leadership style is compatible with the worker needs (Asgari et al., 2017; Oyelaran et al., 2017; Svedahl et al., 2016). As emphasized by P1, “supervisor-subordinate relationship is key in enhancing effectiveness of work-related stress management. Supervisor’s sensitivity to the worker’s needs and response is key in managing work-related stress.”

Another strategy that respondents have successfully used to manage work-related stress is occupational health management. The strategy involves periodic assessment of the impact of workplace stressors on the worker’s health and proactive action to address any identified issues. As noted by P3, “there is occupational health arrangement in place to examine the workers and proactively identify and manage stress.” P5 stated that the organization “monitors worker’s stress level so you don’t get to crisis situation. With the

monitoring, you know the stress condition of each worker and proactively take action to address any anomaly." P3 and P4 while emphasizing the relevance of occupational health, added that the strategy was also a means to demonstrate organizational commitment to workers health and wellbeing. The information from the organizations health, safety, and environment (HSE) policies generally aligned with the findings from the respondents. For instance, HSE policies included each organization's commitment to promotion of workers welfare and control of environmental factors that may cause injury, illness, or discomfort to the workers. The use of occupational health assessment as a strategy for work-related stress management aligns with the recommendations of Kinnunen-Amoroso and Liira (2016) and Magnavita (2018) for organizational leaders to prioritize the occupational health of the workers. A combination of effective leadership with occupational health approach is an effective strategy for stress management (Kinnunen-Amoroso & Liira, 2016).

The presence of occupational health services may also enhance the effectiveness of recreational activities. Some of the respondents noted that they have successfully used social and recreational activities to manage work-related stress in line with the observation of Calogiuri et al. (2016) and Wheeler et al. (2020) that involvement in recreational activities is a widely used strategy for stress-management. P5 specifically mentioned "encouraging exercise among the workers" while P1 noted that the organizational leaders "periodically organize outdoor get-together with the workers." Recreation not only enhances a stress-free work atmosphere but also a cordial work environment between the workers and the organizational leaders (Amarnath &

Himabindu, 2016; Doruk & Mantler, 2018; Feddeh & Darawad, 2020; Gu & Wang, 2019; Kleis & Kellogg, 2020; Lissah et al., 2020). Since occupational health is part of the HSE policies of the organizations studied, organizational leaders support the use of occupational health service as a strategy for work-related stress management. Malik et al. (2017) and Thakur (2017) identified organizational policies as effective strategies to enhance the promotion of worker-organization fit. In line with the P–E fit theory, improving worker-organization fit will enhance reduction or elimination of work-related stress (Priyadarshi & Premchandran, 2018; Tang et al., 2018; Zhang et al., 2021).

Having adequate rest is another strategy for managing work-related stress (Jones & Daigle, 2018; Malik et al., 2017; Thakur, 2017). According to P1, P2, and P6, having scheduled time-off and effective shift rotation are helpful in ensuring rest time for the worker. P1 noted a strategy to "develop a work rotation schedule for the personnel working offshore to enable the workers know when to proceed on time-off." As observed by P1, such a schedule "has helped to reduce uncertainty on how long each worker will stay offshore thereby mitigating work-related stress." The perspectives of P2 and P6 align with the research conclusion that rest time is effective in managing work-related stress to promote good health, work-family balance, and work-life balance (Malik et al., 2017; Thakur, 2017). The challenge in relying on scheduled time-off as a strategy for managing stress, as noted by P1and P6, is that urgent requests from clients can sometimes disrupt planned time-off schedule.

Improved competency is another strategy organizational leaders have successfully used to manage work-related stress. P2 emphasized the need to understand the cause of

the stress and alluded that “tolerance to stress varies based on the difficulty of the job” and so noted that where there is “incompetence-induced stress, the way forward would be to address the competency issue” to ensure a match between the worker capability and the job demand. P4 in emphasizing the importance of competency noted, “If you’re competent, you work with less stress. When you’re competent you’re confident.” P5 agreed that competency can affect work-related stress but indicated that supervisors can use effective task planning to address competency-induced work-related stress. Findings on competency from review of documents at the companies that participated in the study corroborated the responses of the research participants. All the three companies included training and competency development as part of their organizational policies. Company C3 specifically listed “demonstration of competence at work” as one of the minimum HSE requirements for the workers while Company C1 noted in its HSE policy that “the workforce shall be trained and encouraged to protect personnel, contractors and client health and safety…” Company C2 had a structured on-the-job training program for the workers to enhance their competency. The focus on competency aligns with the use of demands-abilities fit to manage work-related stress. The demands-abilities fit deals with the level of compatibility between the worker’s knowledge, skills, and capabilities and the knowledge, skills, and effort the job requires (Bohndick et al., 2018). Based on feedback from respondents and document review, some ways organizations in the petroleum industry strive to achieve demands-abilities fit include assignment of task to competent workers, having a structured training plan to enhance competency in assigned tasks, and building a team where there is mutual support for each other.

Providing the resources a worker needs to complete a task is another strategy for managing work-related stress. The respondents used this strategy to explore ways to ensure there is a match between the number of workers in a team and the demand of the task. P1 specifically noted that "the supervisor needs to match the number of workers with the task requirement and align project timeline with the workload each worker faces." A worker's needs, abilities, and desires should match the job the supervisor assigns to the worker (Tang et al., 2018). The match can be through compatibility between the worker's needs and the resources the organization supplies (Bohndick et al., 2018; Tang et al., 2018). According to P2, the supervisor should "provide incentives to make workers feel a sense of belonging and recognize the workers for good work." Based on the responses from the research participants and the review of company documents, other strategies supervisors use to achieve the compatibility include effective task planning, mentoring of workers on stress management, providing bonus for extra work, and addressing issues raised by the workers timely. As emphasized by P1 "the supervisor monitoring the worker and taking action to address his or her need is effective in aligning the job demands with the worker needs." P2 noted that "the supervisor should make the workers feel well-treated and supported to deliver on assigned tasks." Such support, P2 added, "will make the worker feel a sense of belonging." When a worker feels a sense of belonging, based on the finding of Lecca et al. (2020) and Olowodunoye et al. (2017), the worker would feel less stress through perception of the presence of organization's support and the ability to proactively cope with work demand.

The strategy of having scheduled time off aligns with the recommendations of Gu and Wang (2019), Jae-Geum et al. (2020), and Tan et al. (2021) on the need for organizations to balance the time at work and the time off work since the time a worker rests or spends in activities outside the workplace positively enhances the restoration of any energy lost at work and reduction in stress level. The strategy of using scheduled time off to enhance work-family balance was identified as effective. Maintaining work-family balance and work-life balance is a typical challenge experienced by workers (Amarnath & Himabindu, 2016; Chang et al., 2017; Dixon et al., 2019; Kocalevent et al., 2020; Omar & Asif, 2016; Paais, 2019). Work-family balance and work-life balance are indicators of the lack of mismatch between the worker's attention to the family, personal life issues, and work (Dixon et al., 2019; Thakur, 2017). P5 specifically emphasized how supervisors had effectively used the strategy to enhance work-life and work-family balance. The strategy of scheduled time off aligns with Moen's theory of time – the critical need to ensure allocation of enough time for personal and family issues (Dixon et al., 2019). Since workers who lack work-family balance face the challenge of meeting the expectations and requirements of their family members (Amarnath & Himabindu, 2016; Chang et al., 2017; Jennings et al., 2016), having scheduled time off helps in managing work-related stress induced by the mismatch between the worker, family, and non-work-related needs.

Assigning tasks that match the worker's ability and preferences is another strategy that respondents have successfully used to manage work-related stress. A typical strategy P1 has used is "having workers that can do multiple activities." According to the

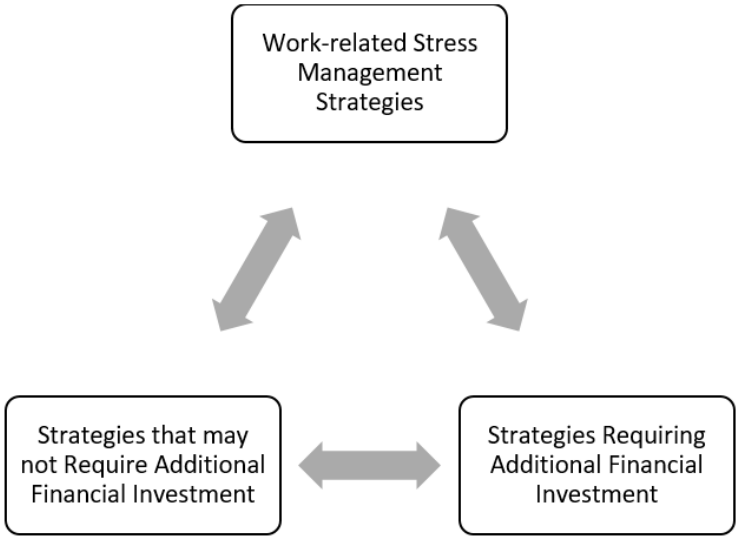
respondent, “instead of doing one type of job alone all the time which may result in stress, you allow each worker sometime to recover while another person takes over from him or her. If you don’t consider having workers with multiple skills in your planning and have only one person that can do one job, then that may affect the stress the workers are exposed to.” The strategy used by P1 is similar to that of P5 who noted the need to “build a team where there is flexibility in supporting each other.” P5 also “assigns leadership role to personnel with the relevant skills for the job.” P1, P2, and P4 agreed that assigning a task to a worker without considering the worker’s need is a means of inducing stress. Such assignment, as observed by P2, will result in “incompetence-induced stress.” Through effective task planning, as noted by P3, P4, and P6, the supervisor can eliminate work-related stress by assessing the worker’s ability and aligning the worker’s prefernces with the demands of the assigned task. As noted by P4, through planning “the supervisor understands what each task will require and can effectively align resources to match with what the task requires.” Except for urgent requests, P6 noted that “we try to plan ahead and know the worker to assign the job, inform the worker to prepare and align his personal needs with the job requirements.” Where there is a match between the worker and the assigned task, the task does not adversely impact the worker (Kong et al., 2020; Konze et al., 2017; Reís et al., 2020).

Based on the responses of the research participants, I grouped the strategies used for managing work-related stress in the petroleum industry into two: the strategies that involve additional or significant financial investments and the strategies that may not involve additional or significant financial investment. The different groupings are

depicted in Figure 5. The data from document review are in alignment with the grouping. A review of the strategies indicated inter-relationship between the strategies that require additional or significant financial investment and the strategies that may not require additional or significant financial investment. The implication is that the strategies that may not involve additional or significant financial investment may enhance the effectiveness of the strategies that require additional or significant financial investment and vice versa.

Figure 5

Grouping of the Strategies for Managing Work-Related Stress



Amarnath and Himabindu (2016) recommended that organizational leaders implement certain strategies to manage work-related stress without additional or significant financial investments. Such strategies include (a) provision of healthy and conducive working conditions, (b) elimination of role ambiguity, (c) flexible working conditions, (d) reward and recognition (e) job enrichment and rotation, (f) periodic

individual and group counseling sessions, (g) training on stress management, (h) workers counselling, and (i) recreational activities (Amarnath & Himabindu, 2016). The respondents in this study agreed with these recommendations and indicated in practice how such strategies have been successfully applied.

Some of the strategies that supervisors have successfully used to manage work-related stress do not require additional or significant financial investment by the supervisors or organizational leaders. Figure 6 is a summary of the themes on the strategies.

Figure 6

Strategies Not Requiring Significant Financial Investment

Many researchers observed that adjustments in the workplace to improve a match between the workers and the workplace factors can help in reducing work-related stress even without additional or significant financial cost (Amarnath & Himabindu, 2016; Doruk & Mantler, 2018; Feddeh & Darawad, 2020; Gu & Wang, 2019; Kleis & Kellogg, 2020; Lissah et al., 2020). The findings from this study confirmed how some of the adjustments at the workplace enhanced worker-job fit, worker–organization fit, worker–environment fit, worker–vocation fit, worker–worker fit, and worker–supervisor fit in line with the P–E fit theory thereby reducing work-related stress. The respondents identified effective supervisor–worker relationship, a strategy that does not require any additional financial investment, as the most successful of the strategies they have used to manage work-related stress.

When a worker experiences supervisor support, there is emotional or psychological response from the worker (Gu & Wang, 2019; Huang et al., 2021; Kang et al., 2017; Lecca et al., 2020; Worringer et al., 2020). The result of the response is positive impact on job satisfaction and three aspects of burnout – emotional exhaustion, depersonalization, and the perceived lack of personal accomplishment (Charoensukmongkol et al., 2016; Gu & Wang, 2019). Environmental factors contribute to work-related stress (Asgari et al., 2017; Svedahl et al., 2016). Since worker–supervisor relationship is part of the social environment with potential to contribute to work-related stress (Asgari et al., 2017; Svedahl et al., 2016), effective worker-supervisor relationship enhances a culture of supervisor support, feeling of care, and workers' perception that the supervisor is interested in workers' concerns. Some leaders, through unfriendly

leadership style, actually contribute to work-related stress (Zagross & Jamileh, 2016). Since there is a relationship between leadership style and work-related stress, effective stress management requires fostering a work culture where the organizational leadership style is compatible with the worker needs (Oyelaran et al., 2017). The culture may manifest in the form of leaders listening to workers concerns, open communication, and motivation of the workers to exhibit their full potential. Such atmosphere would mitigate work-related stress due to the mismatch between the workers needs and socio-environmental factors thereby eliminating accidents and other adverse consequences of work-related stress (Lecca et al., 2020; Lissah et al., 2020; Oyelaran et al., 2017; Worringer et al., 2020; Yukongdi & Shrestha, 2020).

Creating a culture of co-worker support is another effective work-related stress management strategy that may not require any significant financial investment. Since worker–worker relationship is part of the social environment with potential to contribute to work-related stress, building a work culture where there is mutual support among the workers can be effective in managing work-related stress (Asgari et al., 2017; Svedahl et al., 2016). This finding from the study aligns with the observation of Charoensukmongkol et al. (2016) that workers that experienced co-worker support felt less emotional exhaustion and more personal accomplishment. As noted by P2 during the interview, organizations should create a culture where there is mutual trust and healthy competition among the workers. Considering the positive impact of co-worker support, there is the need for increased education and awareness on how the supervisors' and co-workers' behaviors contribute to work-related stress (Charoensukmongkol et al., 2016;

Choi & Kim, 2019; Havermans et al., 2018; Javaid et al., 2016; Kang et al., 2017; Kleis & Kellogg, 2020).

The use of recreational and social activity is another strategy adopted by supervisors for work-related stress management. While offsite recreational or social activities may involve financial commitment, P1, P2, and P4 identified cost-free recreational and social activities such as exercise, cracking of jokes, and sharing of comic reliefs. The responses of the participants align with the recommendation of Amarnath and Himabindu (2016) and Wheeler et al. (2020) that recreational activities is effective in managing work-related stress. Involvement in social activities is a means organizational leaders could use to promote worker–worker fit thereby reducing or eliminating work-related stress in line with the P–E fit theory (Chichra et al., 2019; Holm et al., 2019; Huang et al., 2021; Lecca et al., 2020; Ljungholm & Olah, 2020).

Another cost-free strategy the supervisors successfully use for work-related stress management is mentoring of workers on stress management. Respondents in all three partner organizations identified toolbox talk as an avenue for mentoring on stress management during tasks. As noted by P1, “toolbox talk is a meeting held with the work team prior to the start of any task to discuss the procedure for the job and the safety precautions to prevent incident while working.” Mentoring can also be through safety meetings and sharing of safety messages. The mentoring can be part of supervisor’s support for the worker (Kristman et al., 2017; Wong et al., 2017). The awareness can improve the worker’s understanding of work-related stress, stress-inducing conditions, life-style changes needed to mitigate stress, adaptive skills for conditions outside the

worker's control, and strategies the worker can implement to reduce the impact of work-related stress. Document review at partner organizations showed evidence of a culture of safety discussion as part of the mentoring process. At partner organization C2, there was a roster for thrice a week HSE discussion on topics that included different aspects of health and safety. At partner organization C3, safety and health alerts were posted on the notice boards to raise awareness about different aspects of HSE. A typical alert that was relevant to work-related stress was titled "Fatigue."

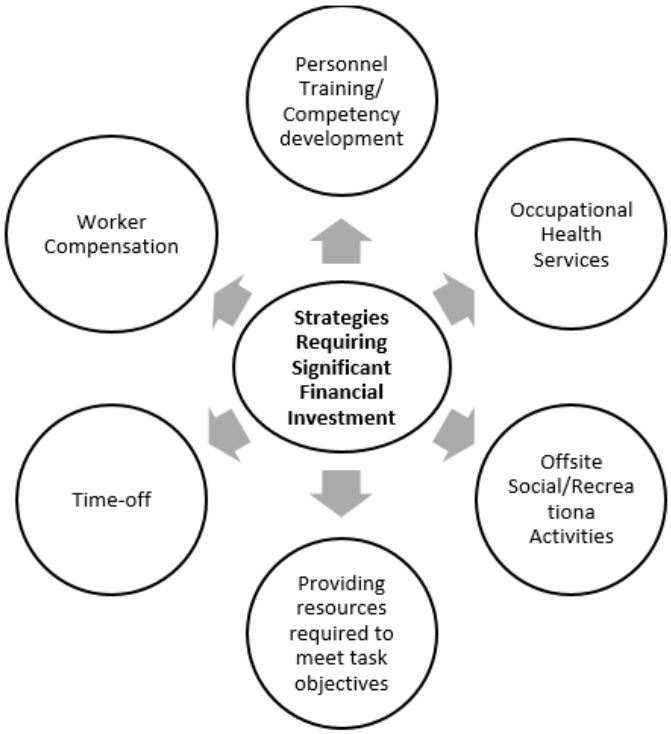
Another strategy the supervisors use is the alignment of assigned task with the worker's need and desires. Such alignment enhances worker–job fit. Part of the strategy the supervisors use to enhance worker–job fit is ensuring worker control of the assigned task. As noted by P2, "supervisors should involve the worker in key decision making concerning the worker's job." Job control is a means to enhance reduction in the adverse effects of increased workload while increasing the adverse effects of emotional dissonance that also necessitates self-control (Kong et al., 2020; Konze et al., 2017; Reís et al., 2020). To enhance job control, P3 recommended "empowering the workers to speak up where the job assigned does not align with the worker's needs." P6 uses similar strategy by "creating the atmosphere where the workers can speak their mind about any task."

All the respondents do not use the same strategies to manage work-related stress. According to P1, P2, and P3, effective task planning is necessary for managing work-related stress. P1, P3, and P5 identified supervisor support as essential. To P2 and P3, worker compensation is key. P1, P2, and P4 identified providing time off for workers as

an important stress management strategy. Another strategy is occupational health assessment identified by P3, P5, and P6. Based on P4 and P5, workers need training to enhance competence as a means of eliminating work-related stress. P2 and P3 cited recreational activities as examples of strategies they have successfully used for work-related stress management. Some of these strategies involve significant or additional financial investments. Such strategies as indicated in Figure 7 include workers training to enhance competency for assigned roles, hiring of additional workers to enable effective time-off schedule and shift rotation, investments in occupational health programs, payment for offsite recreational or social events, and workers compensation to ensure worker–pay match.

Figure 7

Strategies Requiring Significant or Additional Financial Investment



The strategies that involve additional financial investment mostly fall within the group some researchers describe as the action-oriented approach. The strategies mostly involve changing the conditions or work environment that induce stress to achieve the condition that aligns with the P–E fit theory (Adaramola, 2012; Isfianadewi & Noordyani, 2020; Lissah et al., 2020; Thakur, 2017; Zajc & Kohont, 2017). The training of the worker helps in improving competencies and developing new skills to meet the requirements of assigned tasks, managing work demands, handling performance issues, or eliminating the stressful conditions (Adaramola, 2012; Roozeboom et al., 2020). The strategy of providing the resources to meet task objectives may involve financial investments to improve job design. Improving job design can be a means to reduce role overload, role ambiguity, or job conflict (Amarnath & Himabindu, 2016; Isfianadewi & Noordyani, 2020; Muthusamy & De Silva, 2019; Oyelaran et al., 2017). Investing in hiring the right and adequate number of workers enables balancing the time at work and the time off work. The strategy is effective in work-related stress management since the time a worker spends in activities outside the workplace positively enhances the restoration of any energy lost at work (Gu & Wang, 2019; Jae-Geum et al., 2020).

In line with the P–E fit theory, the aim of work-related stress management strategy is to ensure a fit between the desires of the worker and the organizational needs (Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Doruk & Mantler, 2018; Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Survival et al., 2019). As observed by some of the respondents, achieving the fit can be challenging especially considering what P1 and P6 called “urgent requests by clients.” As noted by P1,

> The clients wants the job completed within a certain timeline but you being at site may know that the task is not achievable within the timeline but so as not to look as if you are not serious you keep pressing on to finish and that can expose the workers to stress.

P6 made a similar observation:

> The client that is calling you does not look at the time; all the client is interested in is for you to deliver on his request and such request puts pressure on you to meet the demand within the client's timeline.

Such situations may create a conflict between the organizational needs and the worker's desire thereby adversely impacting the stress management strategy of the organization. Apart from the challenge of managing clients' requests, many of the respondents alluded to the need to aspire for a fit between the worker's desires and the organizational needs. For instance, with effective planning or training of workers, the respondents aim to enhance worker-job fit. As noted by P6, "such strategy helps to align the worker personal needs with the job requirements" while P2 identified training as a means to eliminate "competency-induced stress." As noted by P1 and P6, the lack of control over clients' requests can impact the choice of stress management strategy. Also, the financial implications of the strategies shown in figure 7 can affect the use of the strategies. Supervisors in the petroleum industry of the Nigerian Niger Delta region should be familiar with these strategies and explore avenues to implement them to eliminate or reduce misfit between the worker and factors in the work environment.

Theme 3: Challenges Impacting Effective Work-Related Stress Management

There are challenges that adversely impact effective management of work-related stress (Akbari et al., 2017; Lecca et al., 2020; Lee et al., 2017; Paais, 2019; Wasserman & Trosten-Bloom, 2017). One of such challenges in the petroleum industry is urgent requests by clients that adversely impact time off schedule or shift rotation, task planning, and resources distribution. As explained by P1,

> The clients wants the job completed within a certain timeline but you being at site may know that the task is not achievable within the timeline but so as not to look as if you are not serious you keep pressing on to finish and that can expose the workers to stress.

P6 corroborated respondent P1's response:

> The client that is calling you does not look at the time; all the client is interested in is for you to deliver on his request and such request puts pressure on you to meet the demand within the client's timeline.

Another respondent noted that "urgent requests from clients are sources of emotional strain due to calling personnel out at odd hours and having limited time for personnel to rest." The respondents expressed lack of control over clients and so could not clearly define the strategy for managing client-induced work-related stress. As noted by P1 "so as not to look as if you are not serious, you keep pressing on to finish and that can expose the workers to stress." The management of work-related stress should involve all stakeholders (Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019;

Worringer et al., 2020). While the respondents in this study identified specific strategies for workers, supervisors, and organizational leaders to enhance work-related stress management, clients in the petroleum industry were identified as a key challenge to the successful implementation of stress management strategies. The strategy for managing client-induced work-related stress is an area for further study.

Another challenge for managing work-related stress is inadequate resources to achieve worker–pay match. As noted by P4, "compensation is below the worker's need so there is the need to define minimum compensation standard and bonuses for extra work." P2 identified the "need to focus on welfare of workers, define minimum working condition for workers, and provide incentives to make workers feel a sense of belonging." Because of the inability to achieve worker–pay match, a respondent noted that "there is that tendency that when a worker finishes work and is supposed to rest, the worker goes elsewhere to work during his or her off time and that may induce stress." Another respondent identified "lean manpower and poor condition of service as requiring attention." The review of documents at partner organization C1 showed that "management shall allocate adequate resource and plan for the continuous improvement and promotion of HSE" was part of the HSE policy. A similar statement was also included in the occupational hygiene policy. The company also noted in the HSE policy that "HSE issues shall be given priority in all operations by performing all operations with regard to the prevention of accidents." It was unclear the extent the organization has complied with the HSE policy in view of the contrary perspectives shared by respondents.

Based on equity theory, a worker expects fairness and justice in the pay he or she receives and in the distribution of resources, obligations, and rewards (Abun et al., 2020; Adams, 1963; Elmadağ & Ellinger, 2018; Virtanen & Elovainio, 2018). The implication is that a worker who perceives being unfairly rewarded compared to others, may experience stress (Abozaid et al., 2019; Abun et al., 2020; Adams, 1963; Allisey et al., 2016; Elmadağ & Ellinger, 2018; Meier et al., 2020; Virtanen & Elovainio, 2018). Though P5 and P6 noted that they give bonus for extra work as a strategy for stress management, they agreed that the perception of fairness may vary among workers and so it may be challenging determining when there is a worker-pay match. Payment for extra workdays or longer workday may also be a disincentive for workers to rest hence increased potential for work-related stress. Also, contemporary organizations often carry out changes and reorganizations as part of the strategy to achieve efficiency (Virtanen & Elovainio, 2018). In the midst of the changes, it is challenging to identify the factors to consider in determining when the pay a worker receives is aligned with the worker's desires and needs. Document review at the three partner organizations did not show any specific strategy to ensure worker–pay match. This is another area for further study.

Inability to adapt stress management strategy to meet individual worker's need is another challenge supervisor's experience in managing work-related stress. Since the response to work-related stress is individualized, there is variation on the optimum stress level among workers (Amarnath & Himabindu, 2016; Pellerone et al., 2020). The document review at the partner organizations did not show any specific strategy for meeting each worker's need. Though P1 identified "Supervisors' monitoring of field

personnel and taking action to address their need" as being effective, the respondent added that "individual differences is a challenge." P2 made similar observation and noted that "no one strategy fits all workers; effective strategy varies among individuals." As noted by Akanji (2015), a drawback of the P–E fit theory is the limitation in considering individual differences and the subjective well-being factors that may change the personal or contextual experiences that cause misfit. An area for further study is identifying the strategies for determining the optimum level of work-related stress for each worker.

Applications to Professional Practice

The purpose of conducting this study was to analyze strategies that supervisors in the petroleum industry use to manage work-related stress. The findings from the study align with the conclusions of many researchers that work-related stress can contribute to the drop in worker productivity and reduced organizational profitability (Akbari et al., 2017; Lecca et al., 2020; Lee et al., 2017; McNicholas et al., 2020; Muthusamy & De Silva, 2019; Oduaran, 2016; Osibanjo et al., 2016; 2017; Paais, 2019; Parkes, 2017; Rigó et al., 2021; Roach et al., 2017; Wasserman & Trosten-Bloom, 2017). Though some researchers (Akbari et al., 2017; Lecca et al., 2020; Lee et al., 2017; Paais, 2019; Wasserman & Trosten-Bloom, 2017) noted that organizational leaders face the challenge of managing work-related stress, the findings in this study show that despite challenges, some supervisors in the petroleum industry have successfully used strategies to manage work-related stress.

Improvement in Organizational Profitability

One of the focus areas for organizational leaders is ensuring high workforce productivity to achieve organizational profitability (Akbari et al., 2017; Wasserman & Trosten-Bloom, 2017). As identified in this study, work-related stress can potentially cause reduced worker productivity, impaired judgment, workplace accidents and injuries, and project delays. Aderibigbe and Mjoli (2019b) specifically identified low job satisfaction, increased absenteeism, and reduced worker productivity as some of the known consequences of work-related stress in the Nigerian work environment. Implementing the strategies identified in this study could potentially improve supervisors' knowledge and skills in work-related stress management and eliminate project delays, workplace accidents, and hazards due to work-related stress. A reduction in accident rate may reduce the cost of hiring replacements for injured workers and the expenses in medical treatment and compensation of injured personnel. With improved profitability, there is probability for increased investments in the petroleum industry for enhanced economic growth of Nigeria.

Positive Organizational Image and Reputation

Organizations with positive health and safety records have positive social image and reputation (Cao & Li, 2020; Mapa et al., 2019). Such organizations typically enjoy public patronage. Relatives and friends of workers can spread information that may impact an organization's public perception (Cao & Li, 2020). About 80% of an organization's value is dependent on the intangible assets such as public image, brand, and reputation (Mapa et al., 2019). Clients and customers hardly change brands when an

organization has good reputation (Mapa et al., 2019). “Good reputation produces advantages such as: price concession; high morale; risk reduction; strategic flexibility; and improvement in financial performance” (Mapa et al., 2019, p.49).

When an organization has a reputation for adverse health impacts on workers, project delays, and hazardous work environment due to ineffective management of work-related stress, the organization may experience less patronage, shareholders’ apathy, difficulty in hiring competent workers, and reduced customer trust to deliver on commitments (Cao & Li, 2020; Mapa et al., 2019). Such scenarios may indirectly result in reduction in organizational profitability and possible loss of business opportunities (Mapa et al., 2019).

Work-related stress does not only adversely impact workers but may impact an organization’s ability to support positive citizenship behavior (Aderibigbe & Mjoli, 2019a, 2019b). Organizational citizenship behavior enhances effective interaction among workers and is necessary for improved organizational performance (Aderibigbe & Mjoli, 2019a, 2019b). Such a condition may result in high worker turnover which has been identified as a consequence of work-related stress in the Nigerian business environment (Aderibigbe & Mjoli, 2019a; 2019b). Applying the strategies identified in this study may enhance organizational leaders’ ability to demonstrate citizenship behavior which may lead to reduction in worker turnover.

Positive Impact on the Nigerian Economy

The petroleum industry of the Nigerian Niger Delta region is the major source of revenue for the Nigerian government (Elum et al., 2016; Ukpong et al., 2019). Anything

that impacts the sectors directly impacts the Nigerian business environment and economy (Elum et al., 2016; Ukpong et al., 2019; Zaccheaus & Ajuwon, 2019). For instance, Zaccheaus and Ajuwon (2019) described Nigeria as an oil-dependent, bank-based economy. The implication is that anything that affects the petroleum sector also affects the banking sector and directly impacts the entire Nigerian economy (Zaccheaus & Ajuwon, 2019). The Nigerian business environment is already challenging due to its social-economic structure (Osibanjo et al., 2016; Ukpong et al., 2019). Implementing the strategies identified in this study may improve profitability in the petroleum industry and encourage new or increased investments thereby boosting the revenue to the Nigerian government to enhance socio-economic activities. With increased investments in the petroleum industry, there may be need to increase job opportunities, infrastructural development, support services such as catering, recreational, and laundry services, and social amenities, which may result in a boost in economic activities within the oil producing communities of the Nigerian Niger Delta region. Such a boost can potentially impact the social and economic wellbeing of the inhabitants of the region.

Implications for Social Change

Many researchers have noted that work-related stress has adverse impact on the worker's health (Chichra et al., 2019; Hadadian & Zarei, 2016; Jennings et al., 2016; Oyelaran et al., 2017; Stauder et al., 2018). When a worker's health is negatively impacted, the family and dependents also suffer (Chichra et al., 2019; Hadadian & Zarei, 2016; Jennings et al., 2016; Oyelaran et al., 2017; Stauder et al., 2018). Identifying and implementing strategies for effective work-related stress management is a means to

eliminate or reduce adverse impact on workers' health, promote workers welfare and wellbeing, improve work-family and work-life balance, and reduce dependency ratio (Malik et al., 2017; Thakur, 2017).

The petroleum industry is the major source for revenue to the Nigerian government (Elum et al., 2016; Ukpong et al., 2019; Zaccheaus & Ajuwon, 2019). Leaders in the petroleum industry may use the findings from this study to manage work-related stress to reduce the adverse effects on human health, improve profitability of the petroleum industry thereby providing the required resources for the Nigerian government to implement the social contract with the citizenry, create job opportunities, invest in infrastructures, and generally improve the living standard and welfare of the citizenry. Effective management of work-related stress through the strategies identified in this study may also help in reducing or eliminating stress-related illnesses. A reduction in illness may result in reduction in medical expenses and the need for care and family support for the sick. A suitable work environment is necessary to meet the physical, psychological, and social conditions to perform at optimum level (Priyadarshi & Premchandran, 2018; Zhang et al., 2021). Implementing the strategies identified in this study may foster person-organization fit. Such conditions may enable the worker to meet their personal needs and desires on and off the job. Providing the worker time off and time for recreational activities may enhance work-life and work-family balance in addition to providing the worker opportunity for community services and social activities. Reducing work-related stress may also enhance the reduction in the psychological trauma

associated with stress thereby improving the quality of life and enhancing positive social image for workers and oil companies in the Niger Delta region.

Recommendations for Action

Recognizing the adverse impact of work-related stress, there is the need for immediate action to share and implement the identified strategies to eliminate or reduce work-related stress. Researchers emphasized the need for adoption of all-stakeholders approach in managing work-related stress (Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019; Worringer et al., 2020). The implication is that implementing all the recommendations of this study may require the collaboration of all the stakeholders – organizational leaders, supervisors, workers, and clients or customer – to prevent the action or inaction of one stakeholder from adversely affecting the success of the strategy being implemented by another stakeholder.

In some countries, there are laws with penalties for organizations whose workers experience adverse health impact due to work-related stress (Duncan, 2018; Lockwood et al., 2017). Apart from the penalty, organizations implicated for poor management of work-related stress may face poor public image (Cao & Li, 2020; Mapa et al., 2019). Avoiding such penalties may require organizational leaders to actively champion work-related stress elimination.

Organizational leaders could drive awareness among the different stakeholders on the strategies that have successfully been used to manage work-related stress. The leaders may incorporate stress management into their HSE policy statement. As noted by

Lockwood et al. (2017), having effective work-related stress management policy may indicate an organization's commitment to work-related stress management and may be a key strategy to avoid legal action for poor management of work-related stress.

Organizational leaders may also consider designing and implementing specific training programs for the workers and supervisors on stress management, promoting open communication with the workers, supervisors, and organizational leaders through periodic town hall and safety meetings. Amarnath and Himabindu (2016), Giorgi et al. (2020), and Kleis and Kellogg (2020) found open door communication as effective in work-related stress management. The leaders could also facilitate availability of resources for occupational health monitoring including wearable stress monitoring devices as recommended by Li et al. (2021) and address issues impacting workers' pay, welfare, and wellbeing. The organizational leaders could also consider engaging clients and customers on ways of mitigating client-induced work-related stress that disrupt work schedules and task planning.

Supervisors could build trust with the workers, enhance supervisor–worker support, and facilitate training related to stress management and competency development. Through effective task planning, the supervisors could also enhance worker-job match while assigning tasks. The workers could include discussion on stress management during toolbox talk, attend scheduled trainings for competency development and stress management, and provide the required support to co-workers to address stress-related issues.

I plan to explore various means to disseminate the results of this study. The options I will explore include opportunities to share the findings and recommendations of the study with business leaders and HSE professionals through conference presentations and workshops, publication of research findings in academic, business, HSE, and research journals, and sharing the summary of the study findings with the leadership of organizations that participated in the study.

Recommendations for Further Research

The findings of this study are based only on document review and the views of the supervisors selected through purposive sampling. The views of the selected supervisors might not be the accurate representation of the conditions in the entire petroleum industry of the Nigerian Niger Delta region. This study focused on the strategies that supervisors have successfully used to manage work-related stress. Recognizing that apart from supervisors, other stakeholders such as workers, clients, and organizational leaders play key roles in effective work-related stress management, further study that includes how the strategies applied by one stakeholder affects another stakeholder could be required.

Despite identifying and implementing strategies to manage work-related stress, urgent requests from clients, impact some of the stress management strategies such as time-off schedule and effective task planning. The respondents in this study could not clearly define the strategy for managing client-induced work-related stress. This could be an area for further study.

Contemporary organizations often carry out changes and reorganizations as part of the strategy to achieve efficiency (Virtanen & Elovainio, 2018). While recognizing that worker-pay mismatch results in work-related stress, further study could be needed to determine the factors to consider in determining when the pay a worker receives is aligned with the worker's desires and needs.

The response to work-related stress is individualized (Amarnath & Himabindu, 2016; Pellerone et al., 2020). Considering individual differences, the subjectivity in human needs, and the variation in the contexts of stress management, further study could be required to identify the strategies for determining the optimum stress level for each worker to enhance effective work-related stress management.

Only six supervisors selected from three companies through purposive sampling participated in this study. The views of the selected supervisors might not be the accurate representation of the conditions in the entire petroleum industry of the Nigerian Niger Delta region. Further study with larger sample size involving more companies could be required to overcome the limitation of this study.

Reflections

Discussing the challenges experienced during research is necessary for reflexivity and practice-based learning (Held Mirjam, 2020). The doctoral journey for me was long and stressful. At a point, I considered dropping out especially when I felt I was not making any progress. I felt stuck and devoid of the required support, mentorship, and guidance. However, my motive for starting the study sustained my pursuit. This was in line with Giddens' theory of structuration since the "primary reasons, motives and

motivations for engaging in doctoral studies influence" the response to challenges experienced (Skakni, 2018, p.179). A learning from this is that each doctoral student should have a strong reason for engaging in the program and should let the reason act as a motivator to keep going despite challenges.

The doctoral journey involves lots of experience (Barwood, 2019; Frydman et al., 2019). As observed by Barwood (2019, p.1058), "a myriad of experiences yields the research journey and for each researcher that journey is unique, crafted from enlightenment, disappointment, and in some cases, sheer frustration." While for some students, doctoral study may be circumstantial, for others, it is the product of a deep desire for higher education and knowledge (Barwood, 2019). The implication is that "for some the research journey is a life journey, a personal quest for affirmation, an overt declaration of self-worth, self-meaning and self-love" (Barwood, 2019, p.1058). Success in the doctoral program depends on how effective the student manages multiple factors from different, subjective, and complicated experiences (Frydman et al., 2019).

There are many challenges associated with the doctoral research work (Barwood, 2019; Frydman et al., 2019; Owens et al., 2020). One of the challenges is that many students start the journey without clear understanding of what it involves (Pather & Remenyi, 2019). Though a doctoral student should develop the mental strength to face the challenge associated with research work (Pather & Remenyi, 2019), I discovered during my study that I did not clearly understand the details of what doctoral research involves and so was not as prepared as I should have been before starting the journey. Many students have similar experience at the initial stage of the doctoral research (Pather

& Remenyi, 2019). I also lacked clear understanding of the different stages of the doctoral study and so felt frustrated when I was not making the expected progress. While Pather and Remenyi (2019) noted that there are various supports available to the doctoral student, I did not feel I had the required committee support and was not even aware of some of the support services. I had to learn of some of the support services and available resources through class discussions and collaborative learning. A key learning for me is the need for understanding of the different stages of the doctoral work prior to starting and defining realistic timeline to progress pass each stage. A student planning to undertake a doctoral study should first conduct an assessment to confirm the feasibility of such ambition and to identify the qualities and values required for a successful doctoral study (Pather & Remenyi, 2019). The student should also develop an adaptive mindset to adjust to changes that might not have been part of the original plan (Nyika, 2018).

Different students use different strategies to manage the challenges experienced in the doctoral journey. While some students freely share their challenges with their doctoral chair, others explore different approaches to cope with ensuing issues (Angervall & Silfver, 2019). Effective management of the challenges is necessary for success in doctoral research (Owens et al., 2020). While I was tempted initially to continue to struggle despite not receiving the required committee support, requesting a change in my doctoral chair was necessary to address the issue of required support. The moment my doctoral chair was changed, I could feel a big sense of support and progress. It was obvious that the doctoral chair plays a key role in a student's success in a doctoral program (Ngulube & Ukwoma, 2019). A lesson from this is that a student should not

mind seeking help if not making the desired progress or requesting a change in a committee member if not receiving the required support.

Researchers experience challenges during data collection depending on the study environment and research participants (Nyika, 2018). Subjective collection and interpretation of research data has been identified as one of the challenges of doctoral research (Angervall & Silfver, 2019). Recognizing and embracing human fallibility is necessary in enhancing learning from research work (Held Mirjam, 2020). The initial temptation was to expect the responses to the interview questions to align directly with the findings of previous research work and my conceptual framework. However, I had to consciously rely on the interview responses to identify themes before comparing the responses to existing literature and the conceptual framework for the study to avoid subjective interpretation of the research findings. Having and following the interview protocol was helpful during the interview process. The protocol enabled me to avoid deviating from the interview plan and ensure consistency throughout the interview process. A learning from this experience was a researcher must have a plan before starting and to follow the plan despite subjective impulses to deviate.

Conclusion

Work-related stress is a challenge in the petroleum industry (Lecca et al., 2020; Lee et al., 2020; McNicholas et al., 2020). The phenomenon adversely impacts workers' health and productivity and reduces organizational profitability (Akbari et al., 2017; Jennings et al., 2016; Lecca et al., 2020; Lee et al., 2017; Oyelaran et al., 2017; Paais, 2019; Zagross & Jamileh, 2016). Despite the adverse impacts, work-related stress can be

managed (Isfianadewi & Noordyani, 2020; Wijnen Ben et al., 2020). Some strategies for managing work-related stress involve significant or additional financial investments while others do not require significant or additional monetary commitment (Amarnath & Himabindu, 2016; Giorgi et al., 2020; Kleis & Kellogg, 2020). The objective of the different stress management strategies is to reduce or eliminate the mismatch between the factors at the workplace and the worker's needs, desires, and preferences (Chaturvedi & Dubey, 2016; Chen, Sparrow, et al., 2016; Doruk & Mantler, 2018; Jugdev et al., 2018; Kunasegaran et al., 2016; Osibanjo et al., 2016; Survival et al., 2019). Of the different strategies that have been successfully used to manage work-related stress, supervisor support to the worker was identified as the most effective and does not require significant or additional financial investment. The implication is that with the right leadership style, work-related stress can be reduced without the organization incurring additional cost.

The key challenges experienced by supervisors in managing work-stress is urgent requests by clients that adversely impact effective planning, inadequate resources to achieve worker-pay match, and inability to adapt stress management strategy to meet individual worker's need. Effective work-related stress management needs involvement of all the stakeholders in the petroleum industry (Collins, 2016; Havermans et al., 2018; Isfianadewi & Noordyani, 2020; Javaid et al., 2016; Kang et al., 2017; McNicholas et al., 2020; Tatum et al., 2019; Worringer et al., 2020). Such approach requires collaboration among the workers, supervisors, organizational leaders, and clients or customers. With all-stakeholders approach, availability of resources to enable worker–pay fit, and adaptation of stress management strategy to meet individual worker's need, work-related

stress in the petroleum industry of the Niger Delta can be effectively managed to enhance workers' health, work-life and work-family balance, and increased organizational profitability with positive socio-economic impacts on the oil producing communities and Nigerian government revenue.

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Appendix A: Interview Protocol

Introduction

Greetings, opening introduction, and exchange of pleasantries

General Reminders to Participants

- State the purpose of the study
- Remind participant that information collected will held anonymously in strict confidence and used strictly for the purpose of the study
- Audio record of interview will be taken along with handwritten notes
- After the interview and transcription of data collected, the participant will review the data as part of member checking to confirm accuracy

Length of Interviews

The interview session for each participant will be about 45 minutes. However, the participant is free to withdraw from the interview at any time. If there is need, there will be a 10 – 20 minutes follow up to clarify any aspect of the interview and validate participants' responses.

Closing

- After the interview, review the transcript with the participant for validation
- Appreciate the participant for the time.

Appendix B: Interview Questions

Participant code/classification #:…….

1. What are your observations of how work-related stress affects your workers' and organization's performance?
2. What strategies do you use to manage work-related stress that affects your workers' productivity and organization's profitability?
3. How does your organization address the key challenges to implementing its successful strategies for managing work-related stress?
4. How does your organization assess the effectiveness of its strategies for reducing work-related stress?
5. Which of your strategies do you find to be most effective to reduce work-related stress for your employees?
6. For the strategy that you previously stated worked best in managing work-related stress, how have your workers responded to it?
7. What additional information would you like to share concerning the strategies for reducing work-related stress in your organization?

Appendix C: Letter of Cooperation from Partner Organization 1

[redacted]

03/03/2021

Dear Esang Esitikot,

Based on my review of your research proposal, I give permission for you to conduct the study entitled *Strategies for Managing Work-related Stress in the Petroleum Industry* within the [redacted] As part of this study, I authorize you to interview participants that meet your sampling requirement, check interview responses with the research participants to confirm accuracy, and review applicable company documents that are publicly available such as safety policy, safety procedures and safety alerts. Individuals' participation will be voluntary and at their own discretion. I am aware that my organization or workers are under no compulsion to participate in this study and that no incentives will be given by the researcher for participation in the study.

We understand that our organization's responsibilities include: identifying the personnel that meet your study population and sampling technique and releasing the research participants for interview at a venue and time agreed between you and the participant. We reserve the right to withdraw from the study at any time if our circumstances change.

The student will be responsible for complying with our site's research policies and requirements, including complying with Covid-19 protocols such as use of face mask and maintaining social distance of at least two meters with research participants.

I understand that the student will not be naming our organization in the doctoral project report that is published in Proquest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University Institution Research Board (IRB).

Sincerely,

[redacted]

Managing Director,

[redacted]

Port Harcourt,

[redacted]

Appendix D: Letter of Cooperation from Partner Organization 2

[redacted]

4th March 2021

Walden University
Minneapolis, USA

Dear Esang Esitikot,

APPROVAL TO CONDUCT RESEARCH IN ENGINEERING AUTOMATION TECHNOLOGY LIMITED

Based on my review of your research proposal, I give permission for you to conduct the study entitled *Strategies for Managing Work-related Stress in the Petroleum Industry* within the [redacted] As part of this study, I authorize you to interview participants that meet your sampling requirement, check interview responses with the research participants to confirm accuracy, and review applicable company documents that are publicly available such as safety policy, safety procedures and safety alerts. Individuals' participation will be voluntary and at their own discretion. I am aware that my organization or workers are under no compulsion to participate in this study and that no incentives will be given by the researcher for participation in the study.

We understand that our organization's responsibilities include: identifying the personnel that meet your study population and sampling technique and releasing the research participants for interview at a venue and time agreed between you and the participant. We reserve the right to withdraw from the study at any time if our circumstances change.

The student will be responsible for complying with our site's research policies and requirements, including complying with Covid-19 protocols such as use of face mask and maintaining social distance of at least two meters with research participants.

I understand that the student will not be naming our organization nor would the student be using anything else that could easily identify our organization in the doctoral project report that is published in Proquest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will not be used for any other purpose outside this research project and that it will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University Institution Research Board (IRB) and the organization.

Yours faithfully,

[redacted]

MD/CEO

[redacted]

Appendix E: Letter of Cooperation from Partner Organization 3

[redacted]

March 5,2021

Dear Esang Esitikot,

Based on my review of your research proposal, I give permission for you to conduct the study entitled *Strategies for Managing Work-related Stress in the Petroleum Industry* within the [redacted]. As part of this study, I authorize you to interview participants that meet your sampling requirement, check interview responses with the research participants to confirm accuracy, and review applicable company documents that are publicly available such as safety policy, safety procedures and safety alerts. Individuals' participation will be voluntary and at their own discretion. I am aware that my organization or workers are under no compulsion to participate in this study and that no incentives will be given by the researcher for participation in the study.

We understand that our organization's responsibilities include: identifying the personnel that meet your study population and sampling technique and releasing the research participants for interview at a venue and time agreed between you and the participant. We reserve the right to withdraw from the study at any time if our circumstances change.

The student will be responsible for complying with our site's research policies and requirements, including complying with Covid-19 protocols such as use of face mask and maintaining social distance of at least two meters with research participants.

I understand that the student will not be naming our organization in the doctoral project report that is published in Proquest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University Institution Research Board (IRB).

Sincerely,

[redacted]
Production Superintendent
[redacted]
Esit Eket Local Government Area
Akwa Ibom State
Nigeria
[redacted]

Appendix F: Approval to Use Copyright Material

RE: Permission to Use Copyright Material

[redacted]

Thu 4/1/2021 12:54 PM

To: [redacted]

Dear Esang Esitikot,

You have permission from IOS Press to go ahead and use the chart in your research report.

With kind regards,

Carry Koolbergen (Mrs.)
Contracts, Rights & Permissions Coordinator
Not in the office on Wednesdays

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Van: [redacted]
Verzonden: dinsdag 30 maart 2021 21:12
Aan: [redacted]
CC: [redacted]
Onderwerp: Re: Permission to Use Copyright Material

Dear Carry,

Thanks for the prompt response. However, mail to the email address was returned undelivered. Kindly advise if I can go ahead and use the chart (chart depicting the relationship between work stress and job performance on page 2956 of "Job stress and productivity increase" by S. S. Adaramola published in *Work*, volume 41 of 2012) in my doctoral report. I will clearly indicate the original source of the chart in my research report. Alternatively, please advise what else I need to do to gain the required permissions as all efforts to contact the original author of the chart has not been successful.

Kind regards,

Esang Esitikot