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SELF PROTECTION MOTIVATION, SUBJECTIVE NORMS, AND ACCIDENT PREVENTION PRACTICES AMONG OIL WORKERS IN SOUTH-SOUTH NIGERIA

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Abstract

The study investigated self protection motivation, subjective norms and accident prevention practices among oil workers in south- south Nigeria. This study on self protection motivation, subjective norms and accident prevention practices among oil workers in south-south Nigeria takes a cursory look and investigate holistically workers accident prevention practices as its relate to self protection motivation, subjective norms of the oil companies in south- south in Nigeria. The study is informed by the fact that although, many oil companies of repute, SPDC, Agip and chevron inclusive do provide appreciable equipment and adequate measure to prevent accident or reduce to its minimal occurrence in workplace. It is still recorded that accidents occurrence in oil company remain a great concern. This then becomes puzzling and there is need for thorough investigation into this situation. It is against this backdrop that these research was conducted to investigate among other things self protection motivation of workers and subjective norms of the company and how it has generally impacted on workers accident prevention practice in SPDC, Agip and Chevron, south- south Nigeria. the researcher adopted the descriptive survey research method of the ex- post factors design. The multi- stage sampling technique was used to select 1000 oil flow workers in Agip, Chevron and shell petroleum development company, south- south Nigeria. The instrument that was used for date collection was self constructed questionnaire with reliability of 0.62 for person co relation at 0.05 level of significance and alpha Cronbach 0.61. frequency count means and percentage was used to analyse three research questions and linear multiple regression was used to test nine workers intention for safety practices and self protection motivation and subjective norms. Also there was no significant relationship between workers accident experience and accident prevention practice among oil workers in south- south Nigeria. implication of these findings are that they need to prevent themselves against accident in workplaces, all policies and rules made by the company to prevent accident do reflect in there intention to exhibit accident prevention practices. Efforts should be made by the company to give regular training to old and new workers on the need to practice absolute safety in the industry and adequate monitoring of workers for safety practices. This study concluded among others that on the job training will have a positive impact on workers accident prevention practice and that more effort should be made to strategize on the job training and made its regular for workers. The study recommended among others that safety training should be given regularly to both old and new workers. Finally its was suggested that the study could be implicated in other industries in south- south Nigeria and among other oil workers in south-south Nigeria.

Keywords:

Self protection motivation, subjective norms, accident prevention, practices, oil workers.

INTRODUCTION

Background to the study

Safety as a peculiar phenomenon cut across all human endeavors so much that, when it is present can create meaningful development in all sectors of life. Safety can only be sustained when there is positive accident prevention practices among workers. According to Pat, (2021) workplace accident have continue to be a significant problem in our various industries including Shell Petroleum Development Company,Agip and other oil companies. Perhaps, this is why How Henry, (2020) Olusalo et al (2018) and Chiejile, (2015) identified ways of accident prevention practices as a tool to safeguard the safety of the workers. Daniel et al (2023); Ayobami (2016) and Obiorah (2019) noted that workplace accidents have been on the increase due to poor workers attitude to safety practices, poor usage of personal protective equipments, mechanical factors, non-compliance to safety rules and inadequate safety training.

This should be why Afedolo, et al (2022) opined that workers in workplace must have knowledge and show positive attitude towards accident prevention. Oshieneuren, et al (2018) asserted that good safety practices of workers in the oil industries, promote the image of the organization and increase the workers morale. Although, organizational climate can cause accident in workplace. This is why the importance of safety in the industry can not be overemphasized.

Intention of workers in Shell Petroleum Development Company, Agip and other oil firms for safety practices such as keeping safety rules and regulations, wearing of personal protective equipments, among others can lead to avoidance of accident. Intention according to Daniel et al (2023) can emanate from individual belief, Societal norms, safety culture of the organization and even the environment which comprises human and material environment. The workers intention for safety practices can be influenced by their age, gender, marital status, level of formal education, family size, punitive measures, years of working experience and accident experiences within and outside work place .

There are many factors that influences the individual health behavior like, previous personal accident experience, accident experience by other workers, death of another worker and deformities resulting from the occurrence of accident. Agwu,(2013) noted that the health behavior of workers in workplace can tilt towards negative or positive health practices through previous accident experiences of self or others, deformities from accident, fatality from accident and the environmental influence , that is the environment in which the organization operates. He further stated that others are: safety norms of the organization, regular safety training for workers and good safety supervision by safety officer.

It is the intention of oil firms to institute and prevent hazards in their operations. This is evidenced in the Environmental Impact Assessment Report of SPDC (2000) where her intention was to train and inform its workers. This, according to SPDC (2000) will reduce the potential for impacts to public health and safety of workers and others at their sites. Despite this good gesture towards accident prevention practices, Afedolo, et al (2022) noted that accident still occur in shell petroleum company, Agip and various other oil industries. According to SPDC (2000) HSE Newsletter, over 350 accident cases are recorded yearly that might be as a result of negligence of safety rules, act of God, carelessness, personal belief and host of others. Chiejile, (2015) noted that host communities of oil firms/ industries suffers great damages from constant oil spillage caused by these industries that has destroyed their aquatic habitat. It is in Shell's intention to investigate non-compliance to safety rules

and dismissal of culprits to serve as a punitive measure and act as deterrent to others. Punitive measures for violation of safety rules and regulations can serve as checkmate to the worker intention towards accident prevention practices at workplace (Oshieneuren, 2018). According to Obiorah, et al(2019) punitive measures such as redundancy of the worker, worker demotion, cut in salary and termination of one's appointment has been used to promote accident prevention practices. He further stated that the punitive measures can also be in minor form such as query and suspension for some period of time by management. Chiejile, (2015) is of the view that punitive measures if known to workers , is powerful enough to predict accident prevention practices of the worker in workplace.

Protection Motivation Theory (PMT) was proposed at the onset for conceptual clarity to the comprehension of appeals of fear and was later used to conceptualize pro-environmental behavior (ayobami 2018); Olaniran at al 2023. According to Noah at al (2022); Obiorah, at al (2019), Protection Motivation Theory consists of four factors, which include perceived seriousness or severity of a threatening event, the perceived probability of the occurrence, or vulnerability, the efficacy of the recommended preventive behavior, and the perceived self-efficacy. Protection Motivation emanates from threat appraisal and the coping appraisal. Threat appraisal is the estimate of the chance of being involved in an accident (vulnerability) and estimated seriousness or fatality of the accident (severity). In the context of industrial work environment, when the worker refuse to use harness belt while working on height above 8.5 metres, the threat appraisal estimate of the chance of being involved in an accident such as fall from height and the estimated seriousness or fatality of the accident such as skull fracture, leg fracture, spinal cord injury and even death.

Accident Prevention Practices are obligations for workers in manufacturing or any organization of which Shell Petroleum Development Company, Agip and chevron of course meant to keep them safe from injuries of various magnitudes and death. Olusalo et al (2018) revealed that various accident prevention practices such as putting on helmet while working on height, using of seat belt while driving, smoking only in authorized areas, maintaining the specified speed limit, wearing of safety equipments such as safety boots, apron, eye goggles and hand gloves are important in accident prevention in workplace. Accident prevention behavior is a part of overt behavior (Oshieneuren, 2018).

Pat et al (2021) suggested that the determining factor for this behavior (accident prevention practices) is the amount of an individual's intention whether or not to exhibit that particular behaviour. Maduabuchi (2023) noted that intention can be applied to predict the strength of the willingness of an individual to carry out behaviour and a series of planned and conducted efforts to perform it. This is being pointed out in the 'Reason Action Theory' Olaniran at al (2023) asserted that intention emerges from two determinants. The first determinant is personal in nature and is reflected in one's attitude. The second determinant is subjective norms which reflect social influence. Anyawu (2014) further explained that apart from attitude and subjective norms, there exists the third influencing determinant known as perceived behavioural control. Perceived behavioural control is one's perception of the control one has that is related to certain behaviours (Andrew et al 2021). Therefore, the intention one has can be predicted by three main determinants which include attitude towards certain behaviour, possessed subjective norms and perceived behavioural control. This is the Theory of Planned Behaviour.

A health, safety and environment management system (HSE-MS) was incorporated into project design and exploration document of Shell Petroleum Development Company, Agip and Chevron as specified in Nigeria's Mineral Oils (Safety) regulations of (1997). It is expected that this will reduce or eliminate accidents during oil minerals exploratory activities as oil firms management,

SPDC, Agip and Chevron inclusive has been compelled to introduce exploratory site safety audit, that is safety of the oil field being monitored by management and appropriate measures are taken to prevent accident through practices of different safety policies as a proactive means for reducing or eliminating accidents. It is this exploratory site safety and workers' behaviour in oil industries that forms the subject of this study.

Nigerian Institute of Safety Professionals (2004) considers site safety audit as a proactive programme formulated to enable employees identify and eliminate workplace hazards (unsafe acts of persons, unsafe mechanical conditions or unsafe environmental conditions). The unsafe acts of persons can be any activity or practices done by the worker in workplace that can lead to injury or accident such as working in wet floor, not wearing protective clothing, leaning over to pick an object instead of squatting to pick it. Unsafe mechanical conditions refer to faulty machines that can be injurious and are capable of causing accident to the workers while unsafe environmental conditions are things present in the work environment that are hazardous to the health of the worker.

According to Mgbnlowasi (2023) management of oil firms have the objective of reduction of worker's exposure to workplace accidents. It usually has the objective of reducing exposure to the aforementioned workplace hazards and the adoption of this proactive approach may have been done or informed by the occurrence of major accidents or internal findings from investigation of accidents and reportage of falling safety standards. With the safety regulations and safety audit put in place worker's behaviour is expected to tilt towards elimination of site hazards and promotion of safety consciousness within the organization.

Bosede et al (2022) opined that safety regulations are important in managing risks and communicating safety and hazards awareness to the workers who are exposed to the hazards. Since exploratory projects are always faced with time, cost and manpower constraints, tasks need to be prioritized in terms of hazards and risks so that limited site resources will be focused on those tasks that expose workers to the greatest danger (Mgbnlowasi 2023).

There are instant consequences of accidents on workers' productivity which are very grave. As a result of the fatality of such incidents, companies should be legally, morally and socially compelled to incorporate safety training into the education for workers. Exploratory activities, accidents, especially those that involve lost time injury (LTI) and lost work days (LWD) sometimes lead to closure of work. Mgbnlowasi (2023) observes that this situation leads to loss of man-hours, poor output, poor reputation and low workers morale.

It has been suggested by theories that workers, instead of protecting themselves tend to avoid potential hazards. This modifies their behaviour in ways to protect themselves from such incidents and therefore put up certain subjective behaviours. These two variables lead to certain patterned behaviours by workers. This study was conducted in SPDC, Agip and Chevron operational areas in the Niger Delta geopolitical zone of Nigeria. The region consist of the states surrounding the River Niger delta in southern Nigeria. The states are Edo, Delta, Bayelsa, Rivers, Akwa-Ibom, and Cross River States. The region is known for its onshore and off-shore oil wealth and SPDC mainly operates in this region since 1960 and still operate in this region till date. Agip and Chevron are also known for their onshore and off-shore oil wealth and still operates in this region till date. This study is focused therefore, on how workers of SPDC, Agip and Chevron put up behaviours to protect themselves from accidents and behave in subjective manner and how these two patterns of behaviour are related to accident prevention.

Recent observations shed light on whether oil industry workers have access to information about how to prevent accidents in their workplaces and what to do during such incidents. Observations have also indicated that their thoughts, utterances and actions show that they are safety conscious. Everything about them indicates that they have a patterned behaviour implying a sort of planned behaviour. Preliminary findings by Hude, N, Rini, N, Mardoni, Y. and Putra, P. (2012) indicated that participation for "Zakah" was motivated by religious, individual and organizational factors.

When an employer fails to insure the employees against the Labour, Safety Welfare Bill of (2012) which stipulates severe penalties of up to 500,000 naira for individuals and 2 million naira for corporate organizations for violating occupational safety measures, the organization may face sanction or tarnish the company's reputation. This huge compensatory gesture has made employers to be conscious of their employers safety welfare. It is still observed and also stated in SPDC Newsletter (2000) that SPDC workers are safety conscious and have positive safety behaviour.

Given the fact that attitudes towards a given behaviour and the subjective norms associated with the behaviour are direct determinants of that behavioural intention which leads to the actual practice of the behaviour (Maduabuchi et al 2023) . It is therefore imperative that self protection motivation and organizational safety culture norms can bring change in behavior.

Workers intervening variables such as gender, age, level of formal education, marital status and years of working experience may also influence their behavioural intention towards self protection and subjective norms of accident prevention practices.

Andrew et al (2021) found that the variable of subjective norm is one of the variables that contribute to Muzakki's intention in Indonesia. Mgbnlowasi (2023) posited that self motivation and subjective norms among the workers of SPDC reduced accident/ incident rate in Shell Bonny terminal integrated project. Oshieneuren at al (2018) asserted that self protection motivation and subjective norm are modifier of behavior. If behavioural change were practiced, the people that were affected by the Black Saturday fires incident would have been averted as huge number of deaths were recorded.

However, according to Olusalo (2018), in spite of the safety cultures inculcated into workers, especially in the oil exploration companies, a lot of accidents are recorded on daily basis.

The kind of behavior among oil workers therefore, needs to be unraveled so as to comprehend the situation better. It is therefore necessary to empirically establish the notion that self protection motivation and subjective norms may indeed be predictors of accident prevention practices among workers in oil companies in South-South Nigeria; as well as the extent to which this is determined by their behavioural intention measured by their attitudes and subjective norms towards accident prevention practices. In order to find solution to the aforementioned, the following questions need answer:

Research Questions

1. What are the intentions behind oil workers exhibition of safety behavior in South- South Nigeria?

2. To what extent are the punitive measures against violators of such safety behaviours be a determinant of accident prevention practices among workers in oil industries in South- South Nigeria?

3. What are the ways workers experience accidents within and outside workplace in oil industries in South- South Nigeria?

Hypotheses

1. There is no significant relationship between the intention of oil workers in exhibiting safety behaviour and self protection motivation, subjective norms and accident prevention practices among workers in oil industries, South - South Nigeria.

2. There is no significant relationship between the age of workers and accident prevention practices among oil workers in South - South Nigeria.

3. There is no significant relationship between the gender of workers and accident prevention practices among oil workers in South -South Nigeria.

4. There is no significant relationship between the level of formal education of workers and accident prevention practices among oil workers in South - South Nigeria.

5. There is no significant relationship between the marital status of workers and accident prevention practices among oil workers in South - South Nigeria.

6. There is no significant relationship between the years of working experience of workers and accident prevention practices among oil workers in South - South Nigeria.

7. There is no significant relationship between the punitive measures against violators of such safety behaviors and self protection motivation, subjective norms and accident prevention practices among oil workers in South - South Nigeria.

The major objective of the study is to determine if accident prevention practice among oil workers are predicted by self protection motivation and subjective norms. Specifically the study aims at

1. Ascertaining the intention of oil workers for their safety practices.

2. Identify self protection motivation of workers influencing accident prevention practices.

3. Identify subjective norms observed by workers that influence accident prevention practices.

4. Ascertain intervening factors influencing accident prevention practices.

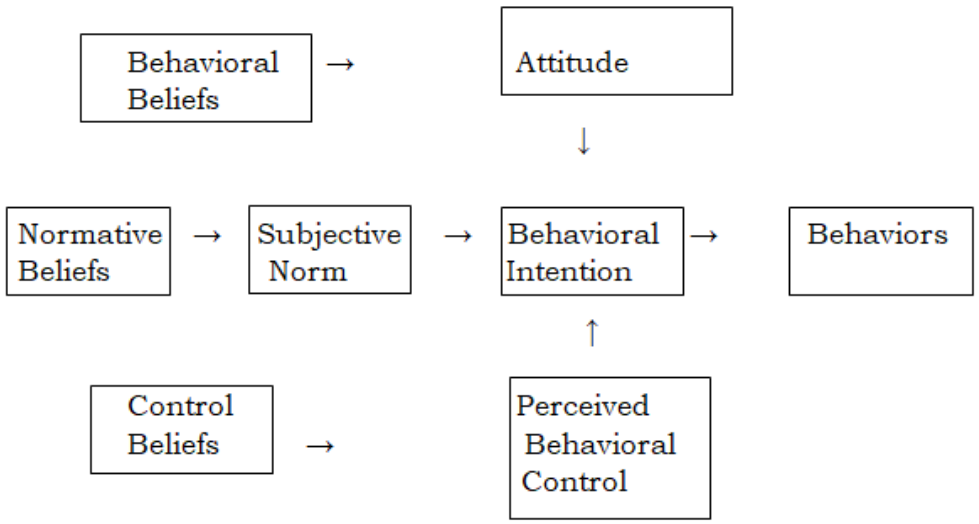
5. Identifying / finding out the punitive measures for violation of such safety practices.

6. Ascertaining individual worker's accident experiences influencing accident prevention practices.

Methodology

Actual control and also a measure of confidence in one's ability to perform a given behavior. The diagram below represents TPB.

Figure 1: Theory of Planned Behavior



Source: Beatson and Mehennan 2010

Figure 1: Theory of Planned Behavior (Source: Beatson and Mehennan 2010).

In TPB, there are three main elements or variables that determine behavioral intentions. These include attitude, subjective norm, and perceived behavioral control. These are in turn determined through a person's salient underlying beliefs (Beatson and Mehennan, 2010).

Behavioral beliefs are considered to be the consequences of outcome beliefs and outcome evaluations."Outcome beliefs concern the perceived likelihood of a given outcome occurring, and outcome evaluations concern the personal desirability of that outcome" (Beatson and Mehennan, 2010).

In the context of industrial accident, salient outcome belief may include the ideas that wearing of protective wears or obeying safety rules will ensure safety , and that adequate preparation can prevent injury, death and time loss.

Normative beliefs are considered to be the product of referent beliefs and one's motivation to comply. In the context of industrial accident safety, there is the tendency that social pressures to engage in various preparatory behaviors can emerge from various sources; examples include members of family and national authorities. The options of sources may be consistent or inconsistent with each other for example, the love of living close to nature may cause some members of the family to frown at felling of trees . Yet the fear of reptiles (snakes) may lead other members to approve of this.

Previous research according to Etu Colon; William and Carrol (2008) indicated that some people are always reluctant to fell trees in their premises when they are told to do so by others. Control beliefs have been conceptualized as the produce of the perceived frequency of facilitating or inhibiting variables and their capacity to enhance or impede the relevant behavior. In an industrial accident safety context, fire accident perceptions about the financial expense of buying and installing fire fighting equipments and the requirements for the installation are examples of control beliefs.

Various recent researches support the utility value of TPB that explains what people do and what they do not do across a wide range of circumstances , especially those that concern health – related behaviors. In meta – analysis, the theory accounted for 39% of variation in intentions and 27% in behaviors (Armitage and Conner,2001). The theory has also been utilized in injury prevention context Trifiletti et al, (2005); Gielen and Slut (2003), it's efficacy in injury prevention is yet to be widely tested.

However, critics have seen that conceptualization and the predictive power of some constructs are problematic. The subjective norm component, for instance, has been seen to be a relatively weak prediction of intentions. There is evidence to suggest that the poor performance of the subjective norm component in many researches can be attributed to issues of measurement which include that common place practice involves using a single – item measure of the construct (Armitage and Conner, 2001).

No matter how it is criticized because of relatively narrow conceptualization of subjective norm construct, the subjective norm component has been considered in terms of the perceived pressure, from others, to perform or not to perform the relevant behaviors. It concerns beliefs about what others think the individual should do. It neglects descriptive norms which is about what others themselves actually do.

The theory can be linked to accident prevention. It is believed that one's own efforts at carrying out accident prevention practices. The achievement here is accident prevention which translates to perceived behavioral control to prevent or avert accidents in the work place. The subjective norms which are functions of one's beliefs that are formed by others in one's life. The subjective norms in this study are the beliefs about others that are formed by oil industries in the lives of the workers, which leads to behavioral control.

The variables of gender, age, level of formal education, marital status, and working experience are here regarded as correlates of planned behavior as these are most likely to influence the behavior of workers towards planned safety behavior. Though, this subjective norm is formed by the workers with the intention to prevent accident and avoid punitive actions of the company. These intentions lead to the actual behavior of practicing safety strategies.

Self Protection Motivation Theory

Accidents are generally perceived to be frightening. Therefore theories concerned with appeals of fear are going to be relevant and maybe of utility while trying to comprehend human behavior in the workplace that enhance industrial safety. The Protection Motivation Theory of Rogers (1985 p.13) has been the dominant theoretical perceptive in fear appeals. This approach is in line with Levental's (1970) differentiation between moves to control a potential threat (danger control) and measures at controlling the emotions elicited by a threat (fear control), and emphasizes the importance of cognitive processes in response to threats. Here, threat components are combined (Vulnerability, Severity, and response efficacy) from the Health Belief Model (HBM) (Becker, (1974); Rosenstock, (1974)), and one (Self efficacy) from social learning theory (Bandara, 1977). According to the Self Protection Motivation Theory (SPMT) perspective, adaptive and maladaptive responses to health threat, messages are the consequences of two appraised processes which are threat appraisal and coping appraisal.

The process of threat appraisal involves an assessment of the threat and rewards of maladaptive responses. The threat assessment process is hinged on perceived severity or fatality and susceptibility

information. Perceived fatality concerns beliefs on the magnitude or seriousness of a health threat, while perceived susceptibility has to do with beliefs about one's level of vulnerability to health threat.

In an SPDC safety context, beliefs about fatality include the notion or idea that people could be in the process of rescuing, defending, or passively sheltering. According to Beatson and Mehennan (2010) instances of susceptibility beliefs include the idea that fires could occur where one lives and that one could be trapped if fire were to engulf one's house. They further opined that perceived severity and susceptibility are predicted to enhance the probability of engaging in adaptive responses.

The process of coping appraisal involves assessment of response costs and the two efficacy components -- response efficacy and self- efficacy. Rogers (1985 p. 73) is of the view that cost can include any of the variables of inconvenience, expense, unpleasantness, difficulty, complexity, side – effects, disruption to daily life and overcoming habit strength.

Response efficacy is conceptualized based on one's expectations that the recommended behavior (s) will reduce the threat effectively. Self – efficacy is related to the fact that one's belief that one has the ability to successfully perform the recommended actions. In the context of industrial fire safety, examples of response efficacy beliefs include the ideas that evacuation will save one's life or that having a water source and pump, and fire extinguisher will improve the chances of defending one's self.

SPMT actual behavior is preceded by behavioral intentions. In SPMT, protection motivation is operationalized in terms of these intentions that are influenced by the coping and threat appraisal processes. According to Rogers (1985), the assumption of SPMT brings out six sufficient conditions that are prerequisite to eliciting protection motivation and coping behaviors. An individual most believe that (1) the threat is fatal (2) he or she is vulnerable, (3) he or she can perform the coping response, (4) the coping response is effective, (5) the rewards associated with the maladaptive response are outweighed by the factors decreasing the probability of making the maladaptive response and (6) the cost of the adaptive response are outweighed by the factors increasing the probability of making the adaptive response"

One of the most important elements in accident prevention practices or behavior in work place which is influenced by the workers' motivation to protect him/her by complying with safety regulations of the industry. According to Rogers (1985) Protection Motivation Theory (PMT), is the motivation to protect oneself from any kind of danger. This is a linear function of threat and coping appraisal processes.

The worker sees the threat posed by accident and develop a coping strategy to overcome the threat. Therefore, the worker will take measures to protect him/her if he/she know that he/she is exposed s from occupational health hazards and he/she feels will be protected by coping with available accident preventive measures such as the use of personal protective equipments.

In order for the workers to protect themselves from the danger of accident and the punitive measure of oil industry , they exhibit behaviors that prevent accidents. The worker would like to protect themselves health wise, physically and socio-economically from the consequences of getting involved in accidents and their hazardous incidents, therefore they practice accident prevention in the discharge of their duties.

Subjective Norms

Subjective Norms are regarded as one's perceptions or assumptions about expectation of others with responses to certain behaviors that one will or will not perform. As long as this perception is very subjective in nature, this dimension is referred to as subjective norms.

Subjective Norms like SPMT are influenced by beliefs, just like attitudes towards behavior. Attitude towards behavior are a function of belief in the behavior (behavioral belief) that will be performed, while subjective norms are a function of one's beliefs that are formed by others in one's life (Hanno and Violette (1996);Eagly and Chaiken (1993) and Fiebbein and Ajzen 1975).

It is assumed to be function of beliefs that the persons' approval or disapproval of performing a particular behavior. The individual intention to perform certain behavior he/she perceives that important others in one's life think he/she should. Others in one's life can be a person's Boss, close friend, religious leader, Teacher and so on. This behavior is guided by approval or disapproval by others the behavior. For example if the Boss disapprove of workers working without putting on complete personal protective equipment (PPE) needed for a specified job, the worker will have a positive on the need to put on complete PPE while working and as a result develop intention towards the right behavior to prevent accident.

Occupational Health and safety (O H S)

Development of occupational Health and safety in Nigeria is like any other developing country which felt is necessary to bring health to employee, and properties of the industry. Originally, the main occupation was non-mechanized agriculture and animal husbandry and the workers are mainly women and children. Later, manufacturing and construction came into being. Today occupation in Nigeria have grown beyond boundaries.

In the word of Bankole (2009) occupational health and safety are predictors of employee productivity in an organization, such as in SPDC Port Harcourt. Labour is one of the vital resources required for high level productivity. Without labour, other factors of production like capital, machine and land remain passive. This is probably why Egenege (2006) further stated that, accident prevention must be provided for by employers and employee comply with the regulation and rules, have the knowledge, and positive attitude toward accident prevention. Labour is always held responsible for whatever goes wrong in the production process. Suffice it to say that without labour that keeps and maintain rules of accident prevention, no high level productivity can be attained. A sound health and well safeguarded working environment to have an effective and efficient workforce, that is, highly productivity and capable of accomplishing the corporate goals for an organization.

The perception of industrial relations in Nigeria according to Bankole (2009) is parochial. He further emphasized that the issues of safety and health touch on the fundamental human element in the workplace, without which no organization can grow or survive. For instance, the rate of industrial accident in an organization is often used as the index of its level of inefficiency. Any organization according to Ndagi (2011) that is prone to high industrial accidents, probably due to the absence of adequate safety measure or workers knowledge of, poor attitude to accident preventions, is likely to suffer high labour turmoil, absenteeism, low productivity, high labour cost and reduced profitability.

An organization that cannot maintain the health of its workers is likely to face the problem of weak, feeble and unproductive workforce. The issues of health and safety must be given significant attention and action for the industrial and occupational sectors. Achalu (2000) reported that modern

occupational health and safety came into being as a result of colonization and industrialization by Britain. The first occupational health services in Nigeria after the abolition of slave trade is the royal Niger company of Britain. After the world war in (1930), many industries started emerging, among them was the construction of rail line and coal mining. Workers in these industries worked for the period of 12 – 14 hours daily under unspeakable devastating conditions of grim, dust, physical hazards, smoke, heat, pollutions and accidents (Achalu, 2000; Reich and Okubo, 1992). Awareness therefore developed and grew in the area of occupational health legislation and compliance.

Unuraye (2005) and Asogwa (2000) posited the following as efforts of development of occupational health in Nigeria.

- In 1941, the workman's compensation ordinance was introduced which was later replaced by the workman's compensation Decree no 17 of 1987 which governed Nigeria currently.
- 1942, the department of labour was created.
- 1945, Labour code ordinance was enacted which was replaced by the Labour Decree , later Act in 1974.
- 1951,Ministry of Labour was created.
- 1952,The appointment of Mr P.R.F. Britnell as the first Chief Inspector of factories by the Factory Decree no 16 of 1987.
- 1958, the various regulations relating to occupational health and safety in Nigeria were introduced and amended as act.
- 1962, Britnell organized the first industrial safety conference in Lagos.
- 1964, lectureship on occupational health was created at University of Lagos.
- 1970, the society of occupational health physicians of Nigeria was founded replacing the Nigerian branch of British association of Industries medical officers (Olojoba, 2009).

The researcher adopted the descriptive survey research method of the expost facto r design. Egbule and Okobia (1998) stated that expost-facto research design is one of the most suitable method of collecting first hand data for the purpose of describing a population that is fairly large. The quality of survey method enhanced the ability to collect relevant information from workers (respondents) on Self Protection Motivation. Subjective Norms and Accident Prevention Practices among oil workers in South-South Nigeria.The population for this study included all the SPDC, Agip and Chevron field workers who are stationed in all the Niger Delta States of Nigeria. The estimated population of the study is nine thousand, six hundred and ten (9,610) workers in all SPDC, Agip and Chevron oil fields in south-south Nigeria. This number constitutes the population for the study.Multi-stage sampling technique was used to select the respondents (see appendix iv). In the first stage 50% of the Niger Delta states where oil industries operates was randomly selected. During the second stage, 10% of the workers in the selected fields was randomly selected to get the sample size that was used for this study. The sample is one thousand (1000) selected from the three oil industries. That is, 200 respondents from Agip oil company, 350 respondents from Chevron oil company and 450 from Shell Petroleum Development Company (SPDC) drawn proportionally from five departments namely, transport, engineering, production, drilling and estate.The sample size was one thousand (1000) field workers drawn proportionally from five departments namely, transport, engineering, production, drilling and estate in the three oil firms.The research instrument is the questionnaire titled – Self Protection Motivation, Subjective Norms and Accident Prevention Practices among oil workers in South-South Nigeria. It was used to generate information on the basis of the research questions raised to guide the study and hypotheses formulated to be tested. The instrument consists of broadly two sections 'A' and 'B'. Section 'A' consist of introductory part designed to elicit socio-demographic

characteristics such as; gender, age, level of formal education, marital status, working experience, job training attended, safety training/workshop attended and household size.While section 'B' is made up of 58 questions and sub-sections such as; intention for safe practices in oil industries (safety issues), factors that make workers to practice safety in oil industries work place, the punitive measure for violation of safety regulations, and workers' experiences in and out oil industries and workers years of working experience. Data was collected from the selected respondents with the use of the self-structured questionnaire . To validate the instrument, both the face and content validity was used. The instrument was submitted to the supervisors, three experts from the department of Human Kinetics and Health Education from Delta State University, Abraka and two (2) safety officers from SPDC and AGIP. One from SPDC office in port Harcourt and one from Agip office in Abo. The draft questionnaire alongside with the purpose of the study, research questions and hypotheses was given to these experts to make their inputs or contributions so as to ensure that the instrument meet the purpose of establishing it. The items in the questionnaire were selected to reflect the objectives to be achieved for the study. Their suggestion was useful in modifying and establishing the instrument. In other words the final draft was based on the expert corrections and recommendations.The test – retest method was used. This was achieved by administering the instrument to 30 workers at the SPDC Ikpoba field stations which is outside the study sample that was used for the study. This oil field in south – south Nigeria was chosen because it shares similar interest in safety issues with other oil firms. After the interval of two (2) weeks, the same exercise was repeated to the same group of workers. The result collated was analyzed using Pearson product moment correlation co efficient and the reliability of 0.75 for safety behaviors, 0.71 for self protection motivation, 0.66 for subjective norms, 0.78 for accident prevention practices, 0.62 for punitive measures and 0.84 for accident experiences was obtained. This was considered very reliable for the study. However, Cronbach Alpha result showed reliability level of 0.886 for safety behaviors, 0.904 for self protection motivation, 0.866 for subjective norms, 0.917 for accident prevention practices, 0.803 for punitive measures and 0.94 for accident experiences. According to Zaiontz, (2016) 0.50 or higher reliability indicates good reliability. This was to further confirm the reliability of the instrument. In conclusion, there was a good evidence from the above that the scale had good psychometric properties of reliability. See Appendix II.

Data was collected from the selected respondents with the use of self-structured questionnaire. The instrument was administered by the researcher and six trained research enumerators that was employed from among the safety officers of the selected fields . The instrument was administered with to the respondents within the time frame of eight weeks and was administered to the field workers in oil flow sites after proper explanation of the items in the instrument. Two enumerators from each state was used for the study for the purpose of the administration of the research instrument so as to assist the researcher because of the wide area coverage of the study. Ample time was also given to the respondents to ensure careful reading of the questions in the questionnaire so as to answer them objectively before they were retrieved.

The data generated was treated with the use of descriptive statistics such as frequency counts and percentages and means derived from 4 – point Likert's type scale of Strongly Agree = 4, Agree = 3, Disagree =2, Strongly disagree =1. Percentages was used to analyzed the demographic variables age, sex, gender, marital status, level of formal education and years of working experience, while mean and standard deviation was used analyze research question 1,2 and 3. The hypotheses was tested with the use of linear multiple regression .

PRESENTATION OF DATA AND DISCUSION OF RESULTS

The chapter focused on the presentation of data which were collected for the study. The analysis of the data is based on the hypotheses that were formulated to guide the study. This is followed by the discussion of results. The first section focused on research oquestions while the second section was devoted to testing the nine hypotheses.

Research Question I

What are the intention behind oil workers exhibition of safety behavior ?

Table 1 Mean and standard deviation of the intention behind oil workers exhibition of safety behavior

	Statement	Mean	SD	Decision
1.	Avoidance of injury of any type	3.24	0.80	Agreed
2.	Avoidance of accident	3.54	0.69	Agreed
3.	Promote work time safety	3.06	0.81	Agreed
4.	Avoidance of punishment of any type	3.06	0.85	Agreed
5.	Prevention of possible suspension	2.88	0.77	Agreed
6.	Prevention of possible demotion	2.84	0.86	Agreed
7.	Prevention of possible termination of appointment	2.77	1.00	Agreed
8.	Prevention of time wastage or loss time in the organization	3.19	0.89	Agreed
9.	Avoidance of death	2.88	0.80	Agreed
10.	Prevention of damage payment by management	2.99	1.05	Agreed

Table 1 showed that items 1,2,3,4,5,6,7,8,9 and 10 with a mean range d of 2.77 – 3.54 were above the cut off mark of 2.50. This implied that these items are behind oil workers exhibition of safety behavior.

Research Question 2

To what extent are punitive measures against violators of such safety behavior be a determinant of accident prevention practices among workers in oil industries ?

Table 2 Mean and standard deviation on punitive measures against violators of such safety behavior be a determinant of accident prevention practices among workers in oil industries.

Statement	Mean	SD	Decision
38. Termination of appointment/ Dismissal	3.61	0.71	Agreed
39. Suspension	1.80	1.24	Reject
40. Demotion	3.37	0.76	Agreed
41. Query	3.08	0.54	Agreed

42. Cut in salary	2.77	0.88	Agreed
43. Redundancy	3.00	0.70	Agreed

Table 2 indicated items 38.40.41.42 and 43 with a mean ranged of 2.77 – 3.61 were above the cut off mark of 2.50. This revealed the punitive measures against violators of such safety behavior , act as a determinant of accident prevention practices among workers in oil companies.

Research Question 3

What are the ways workers experience accident within and outside workplace in oil industries in South-South Nigeria?

Table 3 Mean and standard deviation in the ways workers experience accident within workplace in oil industries in South-South Nigeria.

Statement	Mean	SD	Decision
44. I was involved in fire accident at workplace	0.69	0.46	Disagree
45.I had vehicle accident in workplace	0.72	0.45	Disagree
46. I had mechanical accident (machines resulting in cuts, bruises and crush injuries in workplace	0.67	0.47	Disagree
47. I had electrical accident while at work	0.48	0.50	Disagree
48. I fell from height and sustained injury while at work.	0.47	0.50	Disagree
49. I had chemical burns in the workplace	0.68	0.47	Disagree
50. I fell into the sea and was rescued while at work	0.62	0.49	Disagree

Table 3 showed that items 44-50 with a mean ranged of 0.47-0.72 were below the cut off mark of 2.50. Therefore, these items showed that workers accidents experience within workplace in oil industries in South- South Nigeria did not influence their safety behaviors in workplace.

Table 4 Mean and standard deviation in the ways workers experience accident outside workplace in oil industries in South-South Nigeria.

Statement	Mean	SD	Decision
51. I had sprain	0.65	0.48	Disagree
52. I was involved in fire accident outside my workplace	0.71	0.46	Disagree

53.I had vehicle accident outside m y workplace	0.68	0.47	Disagree
54. I had mechanical accident (machines resulting in cuts, bruises and crush injuries) outside my workplace	0.64	0.48	Disagree
55. I had electrical accident outside my place	0.61	0.49	Disagree
56. I fell from height and sustained injury Outside my workplace.	0.58	0.49	Disagree
57. I had chemical burns outside my workplace	0.59	0.49	Disagree
58. I was rescued from drowning in the river Outside my place of work	0.58	0.49	Disagree

Table 4 indicated that items 51-58 with a mean ranged of 0.56 - 0.71 were below the cut off mark of 2.50. However, these items revealed that workers accidents experience outside workplace in oil industries in South- South Nigeria did not influence their safety behaviors in workplace.

Hypothesis 1

There is no significant relationship between intention of oil workers in exhibiting safety behavior and accident prevention practices among workers in oil industries, South-South, Nigeria.

Table 5 Multiple Regression Analysis of intention of oil workers in exhibiting safety behavior and accident prevention practices among workers in oil industries.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Safety behavior	.	Enter

a. Dependent Variable: Accident Prevention Practices

b. All requested variables entered.

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.820	0.673	0.672	0.44408	0.673	2051.859	1	998	.000

a. Predictors: (Constant), Safety Behavior

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	404.634	1	404.634	2051.859	.000[b]
	Residual	196.809	998	.197		
	Total	601.444	999			

a. Dependent Variable: Accident Prevention Practices
b. Predictors: (Constant), Safety Behavior

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.419	.062		6.762	.000
Safety Behavior	1.560	.044	1.734	35.108	.000
Self Protection Motivation	-.579	.049	-.861	-11.847	.000
Subjective Norms	-.068	.029	-.111	-2.355	.019

The result in hypothesis 1, showed the regression analysis of a linear relationship between intention of oil workers in exhibiting safety behavior and self protection motivation, subjective norms and accident prevention practices among workers in oil industries.
The computed F value of 2051.859 and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship between intention of oil workers in exhibiting safety behavior and self protection motivation, subjective norms and accident prevention practices among workers in oil industries was rejected.
The R^2 adjusted value of 0.672 showed that 67.2% of the variance in accident prevention practices was accounted for by safety behavior, self protection motivation and subjective norms.
The unstandardized regression coefficient (B) for predicting accident prevention practices from safety behavior was 1.560, self protection motivation = -0.579, and subjective norms = 0.068. the standardized coefficient (B) for safety behavior was 1.734, t = 35.108; self protection motivation = -0.861, t = -11.847; subjective norms = -0.111, t = -2.355. Therefore, self protection, safety behavior and subjective norm are significant at alpha level of 0.05.

Hypothesis 3

There is no significant relationship between age of workers and accident prevention practices among oil workers in South-South, Nigeria.

Table 7 Regression analysis of age of workers and accident prevention practices among oil workers.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Age[b]	.	Enter

a. Dependent Variable: Accident prevention practices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
	0.433[a]	0.188	0.187	0.69965	0.188	230.667	1	998	.000

a. Predictors: (Constant), Age

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	112.914	1	112.914	230.667	.000[b]
	Residual	488.530	998	.490		
	Total	601.444	999			

a. Dependent Variable: Accident Prevention Practices

b. Predictors: (Constant), Age

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	4.628	0.068		68.452	.000
	Age	-0.192	0.013	-0.433	-15.188	.000

a. Dependent Variable: Accident Prevention Practices

Age * Accident prevention practices Cross tabulation

Count

		Accident prevention practices						Total
		SD	1.50	D	2.50	A	SA	
Age	18-23	0	0	0	0	0	7	7
	24-28	0	0	0	0	0	107	107
	29-33	0	0	0	0	0	49	49
	34-38	0	0	0	0	0	294	294
	39-43	13	0	0	0	0	84	97
	44-48	0	0	0	0	0	94	94
	49-53	32	5	40	9	100	165	351
	>53	0	0	0	1	0	0	1
Total		45	5	40	10	100	800	1000

The result in table 7 showed the regression analysis of a linear relationship between the age of workers and accident prevention practices among oil workers. The computed F value of 230.667and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship between the age of workers and accident prevention practices among oil workers was rejected.

The R^2 adjusted value of 0.187 indicated that 18.7% of the variance of accident prevention practices was accounted for by age.

The unstandardized regression coefficient (B) for predicting accident prevention practices from age was -0.192. The standardized coefficient (B) for age was -0.433, t = -1.973; self protection motivation = -1.068, t = 14.635; subjective norms = -0.477, t = -15.188. Therefore, age was significant at alpha level of 0.05.

Furthermore, age group of 34-38 strongly observe accident prevention practices while age group of >53 years poorly observe accident prevention practices.

Hypothesis 4

There is no significant relationship between the gender of workers and accident prevention practices among oil workers in South-South, Nigeria.

Table 8 Regression analysis of gender of workers and accident prevention practices among oil workers

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	GENDER	.	Enter

a. Dependent Variable: Accident prevention practices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.895[a]	0.801	0.801	0.34614	0.801	4021.727	1	998	.000

a. Predictors: (Constant), GENDER

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	481.867	1	481.867	4021.727	.000[b]
	Residual	119.576	998	.120		
	Total	601.444	999			

a. Dependent Variable: Accident prevention practices

b. Predictors: (Constant), GENDER

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

1	(Constant)	6.203	0.042		149.100	.000
	GENDER	-2.314	0.036	-0.895	-63.417	.000

a. Dependent Variable: Accident prevention practices

Collinearity Diagnostics

Model	Dimension	Eigen value	Condition Index	Variance Proportions	
				(Constant)	GENDER
1	Male	1.965	1.000	0.02	0.02
	Female	0.035	7.467	0.98	0.98

a. Dependent Variable: Accident prevention practices

GENDER * Accident prevention practices Cross-tabulation

Count

		Accident prevention practices						
		SD	1.50	D	2.50	A	SA	Total
GENDER	Male	0	0	0	0	100	800	900
	Female	45	5	40	10	0	0	100
Total		45	5	40	10	100	800	1000

Table 8 revealed the regression output of a linear relationship between the gender of workers and accident prevention practices among oil workers. The computed F value of 4021.727and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship between the gender of workers and accident prevention practices among oil workers was rejected.

The R^2 adjusted value of 0.801 indicated that 80.1% of the variance of accident prevention practices was accounted for by gender.

The unstandardized regression coefficient (B) for predicting accident prevention practices from gender was -2.314. The standardized coefficient (B) for gender was -0.895, t = -63.417. Therefore, gender was significant at alpha level of 0.05. Furthermore, male contributed 2% of the variance and female 98% of the variance in gender. From the cross-tabulation, males strongly observe accident prevention practices than females.

Hypothesis 5

There is no significant relationship between the level of formal education of workers and accident prevention practices among oil workers in South-South, Nigeria.

Table 9 Regression analysis of the level of formal education of workers and accident prevention practices among oil workers

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
	Level of Education	.	Enter

a. Dependent Variable: Accident prevention practices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.256[a]	0.065	0.064	0.75053	0.065	69.733	1	998	0.000

a. Predictors: (Constant), Level of Education

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	39.280	1	39.280	69.733	.000[b]
	Residual	562.164	998	.563		
	Total	601.444	999			

a. Dependent Variable: Accident Prevention Practices

b. Predictors: (Constant), Level of Education

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.546	0.109		41.705	0.000
	Level of Education	-0.334	0.040	-0.256	-8.351	0.000

a. Dependent Variable: Accident prevention practices

Level of Education * Accident Prevention Practices

			Accident prevention practices						Total
			SD	1.50	D	2.50	A	SA	
Level of education	Primary education	Count	$0_{a, b}$	$0_{a, b}$	$0_{a, b}$	$0_{a, b}$	0_{b}	63_{a}	63
		% within level of education	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
		% within Accident prevention practices	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	6.3%
		Residual	-2.8	-.3	-2.5	-.6	-6.3	12.6	
	Secondary education	Count	0_{a}	$0_{a, b}$	0_{a}	$0_{a, b}$	0_{a}	217_{b}	217
		% within level of education	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
		% within Accident prevention practices	0.0%	0.0%	0.0%	0.0%	0.0%	27.1%	21.7%
		Residual	-9.8	-1.1	-8.7	-2.2	-21.7	43.4	

	Tertiary education	Count	45_a	$5_{a, b}$	40_a	10_a	100_a	520_b	720
		% within level of education	6.3%	0.7%	5.6%	1.4%	13.9%	72.2%	100.0%
		% within Accident prevention practices	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	65.0%	72.0%
		Residual	12.6	1.4	11.2	2.8	28.0	-56.0	
Total		Count	45	5	40	10	100	800	1000
		% within level of education	4.5%	0.5%	4.0%	1.0%	10.0%	80.0%	100.0%
		% within Accident prevention practices	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0%

Each subscript letter denotes a subset of accident prevention practices categories whose column proportions do not differ significantly from each other at the .05 level.

Table 9 revealed the regression output of a linear relationship between the level of formal education of workers and accident prevention practices among oil workers. The computed F value of 69.733and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship between the gender of workers and accident prevention practices among oil workers was rejected.

The R^2 adjusted value of 0.064 indicated that 6.4% of the variance of accident prevention practices was accounted for by the level of formal education.

The unstandardized regression coefficient (B) for predicting accident prevention practices from the level of formal education was -0.334. The standardized coefficient (B) for the level of education was -0.256, t = -8.351. Therefore, level of education was significant at alpha level of 0.05. Furthermore, the cross tabulation shows that respondents who had tertiary education had higher tendency of observing accident prevention practices.

Hypothesis 6

There is no significant relationship between the marital status of workers and accident prevention practices among oil workers in South-South, Nigeria.

Table 10 Regression analysis of marital status of workers and accident prevention practices among oil workers.

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Marital status	.	Enter

a. Dependent Variable: Accident prevention practices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.429[a]	0.184	0.184	0.70108	0.184	225.664	1	998	.000

a. Predictors: (Constant), Marital status

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	110.916	1	110.916	225.664	.000[b]
	Residual	490.528	998	.492		
	Total	601.444	999			

a. Dependent Variable: Accident prevention practices

b. Predictors: (Constant), marital status

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.325	.050		87.072	.000
	Marital status	-0.574	.038	-0.429	-15.022	.000

a. Dependent Variable: Accident prevention practices

Table 10 revealed the regression output of a linear relationship between the marital status of workers and accident prevention practices among oil workers in South-South, Nigeria. The computed F value of 225.664and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship the marital status of workers and accident prevention practices among oil workers was rejected.

The R^2 adjusted value of 0.184 indicated that 18.4% of the variance of accident prevention practices was accounted for by the marital status.

The unstandardized regression coefficient (B) for predicting accident prevention practices from the marital status was -0.574. The standardized coefficient (B) for marital status was -0.429, t = -15.022. Therefore, level of education was significant at alpha level of 0.05.

Hypothesis 7

There is no significant relationship between the years of working experience of workers and accident prevention practices among oil workers in South-South, Nigeria.

Table 11 Regression analysis between the years of working experience of workers and accident prevention practices among oil workers

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method

1	Years of working experience	.	Enter

a. Dependent Variable: Accident prevention practices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.510[a]	.260	0.260	.66766	.260	351.211	1	998	.000

a. Predictors: (Constant), Years of working experience

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	156.561	1	156.561	351.211	.000[b]
	Residual	444.883	998	.446		
	Total	601.444	999			

a. Dependent Variable: Accident prevention practices

b. Predictors: (Constant), Years of working experience

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.729	.061		77.588	.000
	Years of working experience	-0.488	.026	-0.510	-18.741	.000

a. Dependent Variable: Accident prevention practices

Table 11 revealed the regression output of a linear relationship the years of working experience of workers and accident prevention practices among oil workers in South-South, Nigeria. The computed F value of 351.211and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship between years of working experience and accident prevention practices among oil workers was rejected.

The R^2 adjusted value of 0.260 indicated that 26% of the variance of accident prevention practices was accounted for by the years of working experience.

The unstandardized regression coefficient (B) for predicting accident prevention practices from the years of working experience was -0.488. The standardized coefficient (B) for the years of working experience was -0.510, t = -18.741. Therefore, the years of working experience was significant at alpha level of 0.05.

Hypothesis 8

There is no significant relationship between the punitive measures against violators of such safety behavior and self protection motivation, subjective norms and accident prevention practices among oil workers in South-South, Nigeria.

Table 12 Regression analysis between the years of working experience of workers and accident prevention practices among oil workers

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Punitive measures, Subjective norms, Safety behavior, Self protection motivation[b]	.	Enter

a. Dependent Variable: Accident prevention practices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.998[a]	.995	.995	.05489	.995	49661.591	4	995	.000

a. Predictors: (Constant), Punitive measures, Subjective norms, Safety behavior, Self protection motivation

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	598.446	4	149.612	49661.591	.000[b]
	Residual	2.998	995	.003		
	Total	601.444	999			

a. Dependent Variable: Accident prevention practices

b. Predictors: (Constant), Punitive measures, Subjective norms, Safety behavior, Self protection motivation

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.051	.009		5.466	.000
	Safety behavior	.101	.010	.113	10.649	.000
	Subjective norms	.006	.004	.010	1.457	.145
	Self protection motivation	-.061	.008	-.091	-8.033	.000
	Punitive measures	.941	.004	.961	211.614	.000

a. Dependent Variable: Accident prevention practices

Table 12 revealed the regression output of a linear relationship between the punitive measures against violators of such safety behavior and self protection motivation, subjective norms and accident prevention practices among oil workers in South-South, Nigeria. The computed F value of 49661.591and a p-value of 0.000. Testing at an alpha level of 0.05, P value is less than the alpha value. Hence, the null hypothesis which states that there is no significant relationship between the punitive measures against violators of such safety behavior and self protection motivation, subjective norms and accident prevention practices among oil workers is rejected. The R^2 adjusted value of 0.995 indicated that 99.5% of the variance of accident prevention practices was accounted for by punitive measures, safety behavior, self protection motivation, and subjective norms.
The unstandardized regression coefficient (B) for predicting accident prevention practices from the punitive measure was 0.941, safety behavior was 0.101, self protection motivation was -0.061subjective norms was 0.006. The standardized coefficient (B) for punitive measure was 0.961, t = 211.614, safety behavior was 0.113, t = 10.649; self protection motivation was -0.091, t = -8.033, subjective norms was 0.010, t = 1.457. Therefore, punitive measures, self protection motivation, safety behavior are significant as indicators of accident prevention practices while subjective norm is not significant.

Discussion of Results

The findings of the results were discussed under the following subheadings.

The finding in research question 1, Table 4: 1, showed that items 1,2,3,4,5,6,7,8,9 and 10 with a mean range d of 2.77 – 3.54 were above the cut off mark of 2.50. This implied that these items are behind oil workers exhibition of safety behavior. That is to say. avoidance of injury, accident, work time loss, punishment, suspension, demotion, death and damage payment by management.

The result in hypothesis 1 revealed that there was significant relationship between intention of oil workers in exhibiting safety behavior and self protection motivation, subjective norms and accident prevention practices among oil workers.

This finding supports the view of Asikhia and Emenike (2011) which indicated that the intention of oil workers to protect themselves against accident in workplace, motivate them to practice preventive measures against accident. That is the intention of oil workers to prevent accident help them to comply with accident prevention practices at workplace

The result in hypothesis 2 revealed that there was significant relationship between Age and accident prevention practices among oil workers. Age is significant in accident prevention. It revealed that the older the worker the more committed they are to accident prevention practices to avoid accident at workplace.

This study concur with the results of Idubor and Oisamoje (2013) that said, age of the worker influences their attitude and practices towards accident prevention in oil industries. This study is further supported by Ottinwa (2011) who noted that the age of the worker brings about maturity in safety behavior and practices.

The finding in research question 2 revealed that table 4 a items 44-50 with a mean ranged of 0.47-0.72 were below the cut off mark of 2.50. Therefore, these items showed that workers experience of

accidents within workplace in oil industries did not influence their accident prevention practices. Also, their experiences of accidents outside workplace do not influence their safety behaviors.

The study in hypothesis 3 showed that gender there was significant relationship between gender and accident prevention practices among oil workers.

This study is in agreement with Eferakorho and Eboh (2016) which says that gender has a significant relationship with accident prevention practices of workers while Omoluabi (2013) is at variance that gender has no significant relationship in accident prevention issues of workers.

The result in hypothesis 4 revealed that there was a significant relationship between level of formal education of workers and accident prevention practices among oil workers. that is to say, whatever level of formal education the worker attains will influence their accident prevention behaviors and practices.

The result of this study is in line with that of Oluwagbemi and Chirolu (2004) which says that formal level of education of the worker will significantly influence their safety behaviors and practices. This is in agreement with the findings of Nwanchukwu (2012) which stipulated that workers with higher level of formal education are most likely to practice accident prevention in the industries. This is at variance with the findings of Olojoba (2009) which stipulated that workers with higher level of formal education are most likely to default in the practice of accident prevention in the industries.

This study concur with the results of Idubor and Oisamoje (2013) that said, age of the worker influences their attitude and practices towards accident prevention in oil industries. This study is further supported by Ottinwa (2011) who noted that the age of the worker brings about maturity in safety behavior and practices.

In hypothesis 5 the result indicated that there was no significant relationship between marital status of workers and accident prevention practices among oil workers.

The findings is at variance with the results of Eferakorho and Eboh (2016) and Makussen(2003) who are in view that marital status of the worker has no influence with their accident prevention practices while Ayodele (2002) and Olojoba (2009) are in support of this result. They are of the view that marital status of the workers influence their behavior towards accident prevention practices. find that increase in family size brings more responsibility that make workers to assume high degree of commitment to organizational norms against the occurrence of accident at workplace.

The finding further agrees with that of Akinson (2012) who found that workers with large family size motivate themselves to adhere to accident prevention practices. He identified workers with no family size to more likely have unsafe safety practices in the industry.

The result in hypothesis 6 revealed that there was no significant relationship between the years of working experience of workers and accident prevention practices among oil workers. It was expected that years of working experience will be a determinant of workers accident prevention practices, but it was not so. The findings of this study indicated that the years of working experience of workers was not significant in accident prevention.

This study concur with the results of Male (2013) who said that, workers are committed to safety norms and regulations because of the stringent punishment attached to breaking of the safety rules and not because of the number of years spent in the organization. This study is further supported by

Ottinwa (2011) who noted that safety rules violation are common among both long serving workers and newly employed workers alike.

The result in hypothesis 7 revealed that there was significant relationship between the punitive measures against violators of safety behaviors and accident prevention practices among oil workers. The punitive measures against violators of safety behaviors is significant in accident prevention practices. It revealed that the fear of being punished or dismissal make the workers adhere to safety rule in the oil industry.

This study concur with the results of Male (2013), Idubor and Oisamoje (2013) and Ndinna (2012) who said that, punitive measures against violators of safety rules has promoted safety practices in the oil industries. They further noted that punishment is a strong reason why workers obey safety rules at workplace.

The result in hypothesis 9 revealed that there was no significant relationship between the ways workers experience accidents within and outside workplace and accident prevention practices among oil workers. This means that previous accident occurrence at any place or level will not make the workers to be actively involved in accident prevention practices in the oil firms.

The result of this study is in line with that of Oluwagbemi and Chirolu (2004) which says that previous accident experiences of workers is insignificant in workers accident prevention practices. This findings is at variance with the findings of Asikhia and Emenike (2013) which stipulated that workers previous accident experiences create fear in them to adhere to safety rules and regulations in the oil industries.

SUMMARY, CONCLUSION AND RECOMMENDATION

Oil industries has ‘safety first’ as its watchword which Shell Petroleum Development Company (SPDC), Agip and Chevron are inclusive. The oil workers have the intention of observing safety practices. This intention could emanate from the belief, societal norms, safety culture and the operational environment of the oil industry. This study was conducted to determine if accident prevention practices among oil workers were influenced by self protection and subjective norms. This study was conducted in SPDC, Agip and Chevron operational areas in the Niger Delta geopolitical zone of Nigeria.

The study was based on theory of planed behavior. The theory of planned behavior is of the view that perceived behavioral control acts as a proxy measure of actual control and also a measure of confidence in one’s ability to perform a given behavior. The population for the study included all SPDC, Agip and Chevron field workers that are stationed in all the Niger Delta States of Nigeria. The estimated population of 9610 oil field workers was used. Multi-stage sampling procedure was used and simple random sampling technique was used to draw a sample of 1000 respondents. A sample size of 10% of the selected fields were randomly selected for the study. This led to selection of 1000 respondents, 200 respondents from Agip oil company, 350 respondents from Chevron oil company and 450 from Shell Petroleum Development Company (SPDC) in South- South Nigeria. The study was a descriptive survey of expost – facto research design that employed questionnaire. Questionnaire was used to elicit information from the respondents. The questionnaire was administered after being subjected to validity test. Test-retest method was used to collect data and person correlation and cronbach alpha was used to ascertain the reliability of the instrument and a high level of reliability was achieved. The instrument was administered by the researcher and six research enumerators selected from among the Safety Officers of the selected fields. Two from each state of the study area.

Findings

The following findings were obtained in the study; There was a significant relationship between intention of oil workers in exhibiting safety behavior and self protection motivation, subjective norms and accident prevention practices among oil workers in south – south Nigeria.

1. There was a significant relationship between the intention of workers in exhibiting safety behaviors and self protection motivation, subjective norms among oil workers in south –south Nigeria.
2. There was a significant relationship between household size and self protection motivation, subjective norms and accident prevention practices among oil workers in south –south Nigeria.
3. There was a significant relationship between age and accident prevention practices among oil workers in south –south Nigeria.
4. There was a significant relationship between gender and accident prevention practices among oil workers in south –south Nigeria.
5. There was a significant relationship between level of formal education of workers and accident prevention practices among oil workers in south –south Nigeria.
6. There was a significant relationship between marital status of workers and accident prevention practices among oil workers in south –south Nigeria.
7. There was a significant relationship between years of working experience of workers and accident prevention practices among oil workers in south –south Nigeria.
8. There was a significant relationship between punitive measures against violators of safety behaviors and accident prevention practices among oil workers in south –south Nigeria.
9. There was no significant relationship between the ways workers experience accidents within and outside workplace and accident prevention practices among oil workers in south –south Nigeria.

Conclusion

Based on the findings of this study, the following conclusions were drawn:

1. Intention of oil workers in exhibiting safety behavior has a positive influence on their self protection motivation and the adherence to the subjective norms of the company and accident prevention practices among oil workers.
2. The household size, age, gender, level of formal education, marital status, years of working experience do have significant relationship with the accident prevention practices among oil workers. Also, the punitive measures for violating safety rules has a significant relationship to their accident prevention practices in the oil industry.
   However, the way workers experience accidents within and outside workplace has no significant relationship with their accident prevention practices in the oil industry.

Implications of the findings:

The need to educate and supervise workers regularly on safety practices is a mutual outcome from the findings of the study. The finding that there is a significant relationship between workers' intention of safety behavior and self protection motivation and subjective norms implies that workers' intention to practice accident prevention in place of work can be hinged to the fact that they have a need to protect themselves and also to obey the laid down safety rules and regulations of the company. The implication is that the need to protect themselves against accident in work place ,all

policies and rules made by the company to prevent accident do reflect in their intention to exhibit accident prevention practices.

The finding that there is a significant relationship between intervening variable of household size has a significant relationship with their accident prevention practices in the industry. It implies the higher the household size, the bread winner of the home tends to take precaution to protect himself and their job for a living.

The finding that there is a significant relationship between intervening variable of age has a significant relationship with their accident prevention practices in the industry. Maturity comes with increase in the age of the worker and this maturity contributed to the display of positive safety behaviors.

The finding that there is a significant relationship between intervening variable of gender has a significant relationship with their accident prevention practices in the industry. The male gender has displayed more ability to safety behaviors in the industry as compared to their female counterparts.

The finding that there is a significant relationship between intervening variable of level of formal education has a significant relationship with their accident prevention practices in the industry. The education attained by the worker, has given them the insight to the need of observing safety rules and practicing positive safety behaviors in the Industry.

Marital status also have a significant relationship with their accident prevention practices in the industry. It has shown that the married workers observe safety rules more often as compared to their unmarried counterparts.

The finding that there is no significant relationship between punitive measures for violators and accident prevention practices among oil workers was significant. This implies that the fear of being placed under punishment has made them to observe accident prevention rules of the company.

Accident experiences within and outside workplace has no significant relationship with their accident prevention practices in the industry. Efforts should be made to continually heath educate the workers until there is a need to intentionally practice accident prevention measures.

Recommendations

Based on the findings of this study, it is recommended that:

i. Punitive measures for safety rules violators be emphasized to encourage workers to practice accident prevention behaviors at workplace.
ii. Companies should be encouraged to give regular training to old and new workers on the need to practice absolute safety in the industry.
iii. Company workers should be adequately monitored to practice safety rules.

Contributions to Knowledge:

The study contributed to knowledge in the following ways::

i. It established the intentions behind oil workers exhibition of safety behavior.
ii. It showed that variables such as family size, age and level of formal education can influence workers safety behavior.

iii. It showed the extent to which punitive measures against violators of such safety behaviors can be a determinant of accident prevention practices among oil workers.

Suggestions for further studies

This study was restricted to self protection motivation subjective norms and accident prevention practices among oil workers in South- South Nigeria .It can be replicated among other oil workers in South- East geopolitical zone of Nigeria

Further studies can be carried out in other industrial workers in South – South geopolitical zone of Nigeria.

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