



WORKPLACE SAFETY MANAGEMENT AS CORRELATES OF WELLBEING AMONG FACTORY WORKERS IN OLUYOLE INDUSTRIAL ESTATE, IBADAN, OYO STATE NIGERIA

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ABSTRACT

Significant proportion of Nigerians working in manufacturing firms do not enjoy the desirable level of wellbeing when it comes to safety and health. Safety management practices of industries have implications for employees' wellbeing and productivity. This study investigates relationship between safety management practices and psychological wellbeing in the workplace. The study was a correlational study utilizing the survey strategy to collect the data. Two hundred and fifty-two (252) employees were drawn using the purposive sampling technique from three production companies located in Oluyole Industrial Estate, Ibadan, Oyo state, Nigeria. A self-report questionnaire was employed in collecting the data. The data was analysed using descriptive statistics and Pearson correlation analysis at 0.05 level of significance. Results revealed that there was no significant relationship between workers safety training ($r=.062, p>.05$), design of equipment ($r= -.03, p>.05$) and employees' wellbeing. There was significant positive relationship between equipment maintenance and employees' wellbeing ($r=.32, p<.05$). It was concluded that frequent routine maintenance induced positive and sound wellbeing among factory employees. It was advised that good safety management practices promotes fewer industrial accidents more productivity and less worker compensation or man-hour loss due to poor wellbeing.

KEY TERMS: employees' wellbeing, safety management, workers safety training, design of equipment, equipment maintenance

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INTRODUCTION

A significant proportion of Nigerians do not enjoy the desirable level of wellbeing that allows social and economic productivity, especially those working in Nigerian factories. Wellbeing is the state of acceptable level of good physical health, emotional and mental wellness (WHO, 2004). Wellbeing is all encompassing referring to aspects of psychological; physical health; financial, social well-being and the likes (WHO, 2004). Grant, Christianson, and Price (2007) define well-being in terms of three factors which include social, physical, and psychological functioning. Following the classification of Nussbaum, (2001) and Sen, (1993); the psychological dimensions describes variables such as agency, satisfaction, self-respect, and capabilities; physical dimension include food, shelter, health care, warmth, and mobility. The dimensions of social wellbeing include; community participation, acceptance and altruistic behaviours. A broad spectrum of literature have identify that importantly employee well-being is a significant determinant of organisational performance and firms survival. Due to its ability to lower health/illness related costs, labour turnover, work tardiness, absenteeism, increased organizational citizenship behaviour (Grant, Christianson, and Price ,2007; Podsakoff, MacKenzie, Paine, and Bachrach, 2000) and job performance (Grant, Christianson, and Price, 2007).

Accordingly, managerial safety initiatives among other organisations goals are often structured with the explicit aim of improving performance through increasing employee well-being. Safety management, a group of activities relating to health and safety in the workplace implemented by the management (National safety Council, 2004). These include: Identification, assessment and control of all workplace hazards and risks; proactive approach to safety and health issues by members of organization (Supervisors, Workers and Managers); provision of information and training for employees in all cadre; design and implementation of organizational goals on health and safety (National safety Council, 2005). Literature has shown that the most significant approach to safety management (improving employees' safety awareness and safety behaviours) is through safety training practices, equipment design and maintenance though given less priority by organizations (Jensen, 2002).

Safety training is a consistent activity in encouraging safety awareness and safety compliance. Consequently, success in safety management is attained if there is substantial compliance to safety procedures and regulations (Yu and. Hunt, 2004). Safety training is successful only when the employees internalises safety rules, regulation and put to practice. Though there is difficulty in directly estimating the impact of safety management practice have on various dimensions of employee wellbeing. It is adjudge that safety management improves psychological well-being of employees as it moderates employees' satisfaction and quality of life (Judge and Watanabe, 1993).

Safety management through design is aimed at minimizing access, mechanical, and Non-mechanical hazards (Work Safe Victoria, 2007). Mechanical safety prevention through design is to prevent accidents caused by parts in motion. Non-mechanical hazards reduction is through prevention of toxic emissions, control of fluids or gaseous matter under pressure, chemical materials and by-products, electricity and noise. The third management effort; provision of safe access is about creating suitable access in, on and around machinery (Work Safe Victoria, 2007.). These safety management provisions are in orders. Higher order controls is acquiring safe, effective equipment which are durable for the environment it is used. Lower order controls include enforcing use of personal protective equipment (PPE) in preventing injuries; staff rotation to reduce exposure to a hazard etc. though not as effective as higher order controls, as it rely more on intuition, and supervision(Work Safe Victoria, 2007.).

Safety management can also be implemented through equipment maintenance; which describes various processes employed in keeping equipment in working order (HSE, 2016). Maintenance is about equipment and machines being safe, compliance with safety regulations and capable of attaining desired output. Maintenance is usual ongoing, vary in terms of procedure depending on the type of equipment involved (HSE, 2016). Ranging from basic checks to total overhaul, equipment maintenance is a combination of specific tasks as a requirement for safety, laws, and equipment repair protocols (HSE, 2016).

Five types of maintenance identified include: Corrective maintenance; to correct defects in equipment. Preventive Maintenance; to prevent any future problem. Predictive Maintenance: pursues constant knowledge of status and operational capacity of the installations. Zero Hours Maintenance (Overhaul): a review of equipment operational ability at scheduled intervals before appearance of fault or due to ageing. Periodic maintenance (Time Based Maintenance TBM); the basic elementary tasks of collecting information, visual inspections, and servicing (Garidor, 2016; HSE, 2016). What is not known is how these practices may influence or improve employees' wellbeing. Thus, the need to empirically establish the true relationship between safety management initiatives and psychological wellbeing.

The level of safety management in industrial firms in the Nigerian industrial settings is largely inadequate (Ewuzie and Ugoani, 2016). Ranging from foreign owned to the locally owned industries in Nigeria, anecdotal evidence revealed that safety management is largely neglected except in protecting the infrastructure of the organisations. Newspaper reports showed that many of the industrial accidents and negative health consequences of industrial are largely unreported and actions to limit the impact not taken. Industrial organizations in Nigeria are very hazardous, annually a large proportion of factory workers both skilled and unskilled die as many more

are injured or maimed in their workplace (Ikeke, 2014; Ogunmola-Omilani, and Jegede, 2015; Nations Encyclopedia, 2016; New youth, 2014). Many of these cases are unreported in many developing countries including Nigeria (Pearson, 2009). Fewer factories among the new established firms actually made deliberate effort in minimizing health and safety hazards through provision of temperature and humidity controls, while poor lighting and ventilation are peculiar to older establishments working environments (Nmadu, 2008).

Industrial safety situation in developing countries like Nigeria is worst off due to low concern for safety, lack of accurate records and poor regulations and control Nigeria statutory regulations on industrial safety are largely inherited from British or American codes. This includes the Factory Act of 1990, which is a local version of the Factory Act of 1961 of Britain (FGN, 1990; Idoro, 2004). The Federal Government of Nigeria have put up statutory practice and structures for inspecting the safety condition of factories, reporting accidents and injuries in factories and for sanctioning non-compliance with statutory safety laws. However, it was evinced that the provisions, regulations and sanctions were poorly implemented and regulated (Idoro, 2004, 2011).

Most Nigerian employers pay lip service to safety management as a subject and too few are willing to actions towards solving these problems. Despite the fact that every employer is duty bound to protect employees and keep them informed about health and safety practices. However, the prevailing safety of management practices have been identified to be debilitating and how these affect employees is of considerable priority to scholars (WHO, 2004). These conditions negatively impact on the physical and psychological wellbeing of the industrial workers (WHO, 2004). Empirical study linking industrial safety to wellbeing status is scarce. Also, studies localised to the study of industrial hubs in the Nigerian hinterland are limited. Whereas these areas have gain little attention from regulatory authorities.

The study aims to study the safety management activities of industries and to establish whether there is any relationship between safety provision for workers and their wellbeing in the workplace. This study covers the area of safety management activities in industries in the Ibadan region of Oyo state, Nigeria and seeks to establish if any relationship exist between safety provision for worker and workplace psychological wellbeing. The study is limited to the employees in the industries alone and their reported wellbeing.

Maslow hierarchy theory of needs have conceptualized safety needs as one of the basic human needs for survival and growth (Hergenhahn, and Olson, 1999). These needs required are arranged in order of importance that it motivates and direct behaviour. Physical needs, such as food, water, or oxygen, constitute are lowest rung of the needs hierarchy and self-actualization at the topmost end of the ladder. The lowest must be satisfied before moving to another level. After meeting the requirement for basic physical needs, a job that simply provides feeding and accommodation are no longer satisfying. Employees then prioritized meeting safety needs. For example, employees may be ready to work in an unsafe factory to earn enough money to ensure they are able to feed and have accommodation over their heads, but once their basic needs are met, they will remain satisfied with the job only if their workplace is safe.

Safety needs is factored into psychological as well as physical safety. Safety needs have been demonstrated as the fourth most important factor in workplace wellbeing preceded by job security, benefits, and compensation (SHRM, 2008) the top three out of four needs were related to the safety or security factor. Inability to fulfill these needs in order of importance leads to instability in personal disequilibrium and stagnation. Lacks of employees' safety depress their motivation, satisfaction and subsequent poor wellbeing (Hergenhahn, and Olson, 1999).

Empirical studies such as Olsen, Bjerkan and Nvestad (2009) while investigating safety programme implemented by a Norwegian petroleum company found that training and safety management improves employees' worker commitment to safety. Zohar and Luria (2005) demonstrated that implementation of safety training intervention for supervisors improved safety climate and reduced accidents rates. Cooper and Philips (2004) found that safety intervention improved Safety climate. Gerr, Monteilh and Marcus (2006) found significant relationships between supervisory safety concern, work station satisfaction and reduction in visual and musculoskeletal discomfort.

METHODS

The study was a correlational in nature and data was obtained through the survey strategy.

Participants

The target population for the study consists of employees of the production companies located in Ibadan Oyo state Nigeria. Two hundred and fifty-two (252) employees were drawn from the population of employees in the three production companies involved in the productions of Confectionaries, Beverages, and Household products using the purposive sampling technique.

Instrument

The instrument employed in collecting data is a self-report questionnaire containing standardized instrument. The questionnaire was designed to elicit information on wellbeing and safety management activities. The questionnaire captures personal information about the respondent (For example, age and sex). The instrument includes items adapted from Cox and Cheyne (2000) Safety Management Practices scale. The adapted items include work place safety training, equipment maintenance and design of equipment in an industrial work environment. The item reliability revealed that the safety training sub scale yielded Cronbach alpha value of 0.81; equipment maintenance = 0.72 and design of equipment scale 0.88. These indicate that the measures have meritorious reliability. To measure wellbeing, the 14-items scale by Ryff, Lee, Essex, and Schmutte, (1994) which has six dimensions. These include dimensions of autonomy, purpose in life, personal growth, environmental mastery, positive relations, and self-acceptance. The Cronbach's alpha for internal consistency reliability of the scale was 0.72. In this study, Cronbach's alpha for internal consistency reliability of .83 was generated for the scale. All the scales were scored on 5-point response format ranging from "Strongly disagree =1", to "Strongly Agree =5". The averaged overall high score on the scale indicates favourable psychological wellbeing.

Research Procedure

Permission was sought from the HR managers of the selected manufacturing firms located in the Oluyole industrial estate, which is the industrial hub of the Ibadan city. Informed consent was administered on the employees purposively selected from the three shifts in the selected firms. The questionnaires were administered personally to the employees used for the study. The researcher explained to the respondents that the questionnaires were strictly for research purpose only. They were assured that the information would be treated confidentially. A total of 300 copies of questionnaires were administered however only 252 questionnaires retrieved was analysed in the study.

Data Analysis

The questionnaires that were properly completed were used for the data analysis. The researcher utilized frequency count and simple percentage to describe the respondent's characteristics. Relationship between variables was tested using Pearson correlation analysis at 0.05 level of significance.

RESULTS

Analysis of respondents' characteristics revealed that majority of the respondents, (53.3%) were males and 46.7% were females. 56.7% of the respondents were between the age of 20 -29 years, 36.9% age of 30-39 years, 6% were 40 -49 years old while only 0.4% was between 50 – 59 years. This shows that majority of the respondents were in the middle age years. 18.3% have secondary school education, 46(18.3%) have OND, 23(9.1%) of the respondents have HND, 20 (7.9% and 2 (.8%) have master's degree. This shows that majority of Nigerians working in these factories have low educational qualification. Further analysis to assess the relationship between safety provision for worker broken down into 3; provision of safety training for workers, design of equipment, pattern/ frequency schedule equipment maintenance and employees' wellbeing and workplace psychological wellbeing was carried out using Pearson correlation analysis and the summary presented in Table 1:

Table 1: Pearson Product Moment correlation showing the relationship between workers safety training, design of equipment, schedule equipment maintenance and employees' wellbeing

Variables	Mean	S.D	r - cal	P	Remark
Employees wellbeing	34.36	7.06			
Provision of Safety training for Workers	16.93	7.59	.06	>.05	N.S
Design of equipment	55.70	8.30	-.03	<.05	Sig.
Equipment maintenance	31.50	9.98	.32**	<.05	Sig.

** Correlation significant at 0.01 level of significance

Results in Table 1, shows that there was no significant relationship between safety training provided to workers and employees' psychological wellbeing ($r=.062, p>.05$). This suggests that employees' psychological wellbeing neither increase nor decrease with the provision of safety training. There was no significant relationship between design of equipment and employees' psychological wellbeing ($r= -.03, p>.05$). The design of equipment was not associated with improvement in employees' wellbeing. Further, there was significant positive relationship between routine equipment maintenance and employees' psychological wellbeing ($r=.32, p<.05$). This suggests that equipment maintenance improves employees' psychological well being.

DISCUSSION

The result demonstrated that there was no relationship between workers safety training, design of equipment design and employees wellbeing. Employees wellbeing neither increase nor decrease with employees safety training and design of equipment. This may have resulted from the poor implementation and lack of statutory safety programmes in the industries. These findings contrasted the findings of Olsen et al, (2009) and Zohar (2002) who demonstrated that safety interventions improved wellbeing and commitment to safety in an industrial firm. This study confirmed that equipment maintenance was the only positive correlate of employees' wellbeing. This confirms empirical findings which had demonstrated that safety management improvements reduced accidents rates and safety lapses in organisations (Cooper and Philips, 2004). The industrial sector has a direct role in creating healthy working conditions for its own employees. Preventing accidents and ill health caused by work is a key priority for everyone at work. In a safe environment there are accident rates, more productivity, more profits and less man-hour losses etc.

The implication of these findings based on Maslow's hierarchy of needs theory, shows that employee's needs is germane to their wellbeing. Employees sojourn in an organisation begins with emphasis on the lower order needs of physiology and security. These needs include concerns about adequate wages, benefits and a safe work environment. Poor safety management causes employees in an organization to feel threatened about the ability and the desire of the organization to continue to meet their physiological and security needs. Employees whose lower level needs have not been met will make job decisions based on these concerns. These decisions affect productivity, loyalty and job outcome. Maslow theory emphasised that employees' basic needs cannot be shelved as employees will always revert to satisfying their lowest level needs when these needs are no longer met or are threatened. This places an obligation on managers to act when staff safety concerns are not met.

Manager must communicate, formalize, and implement safety management policies and practices that ensure improved psychological wellbeing of employees. Managers must decide on the type of maintenance culture that has the greatest benefit in terms of cost and employees safety. Ongoing managerial communication about operational matters especially as regards the maintenance strategies is an important component of meeting employee's safety needs. Further, allowing employees to participate in decision making on operational matters is a powerful tool for engendering an all-embracing safety management culture. Cross-training, job enrichment, nice and safe work space are popular methods for making work more rewarding according to Maslow theory. A safe rewarding job is a symbol of accomplishment that motivates higher sense of wellbeing and self-actualization.

CONCLUSION

This study investigated the influence of safety management on employees' wellbeing. Results revealed that workers training and design of equipment design did not correlate with wellbeing. Routine maintenance was associated with sound psychological wellness. Based on these, it is imperative that workers training and equipment design have to be inculcated in the safety management practices of the manufacturing companies. Sound health and healthy work conditions are important prerequisite for employees' wellbeing. Industrial firms should encourage and support the participation of workers in effective health and safety/health promotion committees and programmes, and in collective bargaining processes that enhance health and well-being.

The study is limited to employees in some selected production companies in Oluyole industrial estate in Ibadan as all the companies in the industrial zone could not be visited due to time constraints and limited financial resources. Based on the enumerated limitations of the study, further studies should be carried out and the sample size increased to include all production companies in the industrial zones within and outside Ibadan. This is such that actual prevalent level of industrial safety could be ascertained and a meaningful comparison among the different zones on the variables of interest could be carried out.

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