

RESEARCH ARTICLE

Available Online at <http://www.aer-journal.info>

Assessment of Occupational Safety and Health Practices among Workers in the Garment, Textile and Dyeing Industries in Abeokuta, Ogun State, Nigeria

W. L. Akintayo

Department of Home Economics and Hotel Management, College of Vocational and Technology Education, Tai Solarin University of Education, Ijebu-Ode, Ogun State, Nigeria; akintayo2002@gmail.com

Abstract

This study made a comparative analysis of the occupational safety and health practices among workers in the Garment, Textile and Dyeing industries in Abeokuta, Ogun State, Nigeria. Two research objectives guided the study. This study is a descriptive survey research designed conducted among all the 157 garment, textile and dyeing workers and the respondents from each of the three industries were selected using Stratified random sampling technique. Data was collected using an interviewer administered questionnaire. Data was processed using SPSS IBM version 20 and analyzed using descriptive and inferential statistics. Mean was used to answer the research objectives, while Analysis of Variance (ANOVA) was employed to see the effect of explanatory variables on dependent variable. Findings revealed that safety practices in an industry does not depend on the type of work it engaged in but was positively associated with being informed of safety precautions and being supplied with chemical information by supervisors. The study also apparently revealed that the prevalence of accident in industries is not as a result of safety equipment, but a combination of careless attitude of workers, and employer's failure to enforce compliance to safety rules. Implications were drawn from the study and recommendations were made to workers and employers for benefiting the dividends of good safety practices.

Keywords: Safety Practices, Garment Industry, Textile Industry, Safety and Health Practices, Cloth Dyeing

Introduction

A healthy and motivated workforce is the key fundamental for productivity and economic prosperity. Workers in an industry seek greater reward for their productive efforts through improved working conditions and a safer working environment. Safe workplace, for increased production and higher productivity, are necessary for the promotion and protection of workers which serve as inevitable complementary aspects of industrial development (Dhillon & Liu, 2006; Stranks, 2017). However, industrial occupations may create unsafe work and work environment

because of the inherent sources of hazard present in their material, process, technologies, and products. These sources of hazards may pose the risk of industrial accidents and work-related ailments to the workers within the industrial premises in particular the general public vicinity and the environment in general (Crities, 2015). Since, the workers are the driving forces of the national economy, thus their working lives should be placed on the top priority against occupational health hazards.

Garment and textile industry is one of the most important strategic industries which constitute about 7% of total industrial

production in the world and 8.3% of the total trade in industrial materials. It also, occupies more than 14% of the total labour force in the world as it employs about 40 million people in various countries of the world (Deshmukh, 2010). In Nigeria, the production of textiles at both traditional and industrial level had flourished at both cottage and industrial levels. Studies by Asaju, (2014), Oloyede, (2015) and Makinde (2018) showed that the industry had been a major employer of labour (about 60% of the labour force) in the manufacturing sector and contributed immensely to the socio-economic and cultural development of the country. Nigerian textiles and garment industry can be classified as woven, non-woven, dyed or patterned which include; Aso Oke, Akwete, Okene, Adire (resist dyed fabric) and Ankara fabrics (contemporary) among others. These fabrics have age long qualities such as high durability, unique textures and traditional designs. They are traditionally used on special occasions such as wedding, naming, house warming, burial, and chieftaincy installation ceremonies among others. The surface decorated fabrics such as Adire and Ankara fabrics are produced by the process of dyeing, printing and direct application of other chemical elements of finishing unto the surface of the fabric during their manufacture and the chemicals evaporate into the air we breathe or are absorbed through our skin.

The workers in these manufacturing units are employed in various sectors of the industry, namely cutting, stitching, weaving, washing, bleaching, cloth dyeing and finishing where they work for more than 9 hours a day and performing the same activities throughout the day. The garment and textile dye workers are subject to occupational hazards on a daily basis during the production of the fabric due to exposure to precarious conditions in the workplace (Akintayo, 2019). The unhealthy and unsafe work environment in garment and Textile dyeing industries according to Kleiman & Turner (2016) resulted in several health and

safety (H&S) challenges ranging from chemical exposure from the processing and dyeing of materials; exposure to cotton and other organic dusts, which can affect the throat and lungs; musculoskeletal discomforts; noise exposure, which can lead to hearing loss; temperature and ventilation, which can lead to fatigue and dehydration if temperatures are too high.

The objective of Occupational Health and Safety is to assure that every working personnel both male and female in any industry have a safe, healthy and conducive working environment so as to preserve human resources. Though this objective has been achieved to a great extent in the developed countries, developing countries still have far to go in satisfying this requirement. One of the main reasons for this is lack of studies on workers engaged in both organized and unorganized sectors with reference to the health and safety measures. Earlier studies by Sullivan (2015) indicated that garment and textile manufacturing workers had neurological, respiratory and musculoskeletal problems. There was also accident indicating that the workers had accidents either due to lack of safety devices or non-use of personal protective equipment. The frequency and severity of such accidents varied by section and category of work.

A number of Textile graduates are prospectively expected to work in industries where they can contribute their technical know-how to the development of the nation, Due to industrialization, many industries have emerged with sophisticated machines and working together with the use of harmful substances for production (Taiwo, 2015). However, incessant cases of accident are always reported in these industries. According to Fagbemi (2017), it is highly improbable that any family exist in Nigeria which has not experienced the anguish of the sudden loss of a beloved one as a result of accident that could have been avoided. Bigelow & Robson (2015), posited the Workplace accident statistics in Table 1

below to show that people experience more physical problem at work.

Table 1: Accident Statistics

Workplace Accident	Statistics
Deaths occurring from occupational accidents and work-related diseases across the globe yearly	2.2 Million
Occupational accidents	270 Million
Work related disease incidents	160 Million
Deaths from workplace accidents	350 Million
Deaths from workplace diseases	1.7 Million

Source: Occupational Health and Safety Management Fact sheet (2015)

Crities (2015) posited that, accident cost Millions of lost man-hours of production each year among printing workers in Nigerian Textile industry, but this is of little importance when compared to the immeasurable cost of human suffering. He further stressed that victims of industrial accident may be blinded, maimed for life, or confined to hospital bed for months or even die. Accidents do not just happen; they are caused by unsafe acts of people and unsafe conditions. One cannot think of a single accident that could not have been prevented by care and forethought on somebody's parts. Kadiri (2006), observes that safety is often not recognized in the top of priorities when it comes to building and managing industries. Thousands of accidents occur in garment and textile industry environment every day and so many lives have been lost or rendered useless due to this occurrence.

Another statistic gathered by Safety Management Services (2012), show that of every three accident which occur among Garment workers in Tamil Nadu, India, two are caused by the personal element of the victim, and one by every means beyond his control. US Department of Labour (2009), also revealed that unsafe acts of people account for approximately 80% of all accidents while unsafe condition for about 20%. Giovanis (2010), explains that some employers assume little responsibility for the protection of worker's health and safety. Some are ignorant of the fact that they have moral and legal responsibility to protect their workers. Lack of attention to safety practices such as using prescribed safety equipment; turning off equipment after

work, provision of medical and first aids facilities among others, undoubtedly creates inherent unsafe situations in the process that leads to disastrous accidents. Workers have a fundamental right to life, their families and dependants also do not have to suffer anguish due to loss of their relatives. Employee do not also need to use, what ought to be the profits from their investment in setting victims' families as compensation.

It is a basic human right to return home from work in good health. Workers deserve a conducive workplace with safety assurance in an environment where his well being – physical, mental and social is promoted and maintained to the highest degree. Good safety practices will reduce material wastage, increase productivity, save money that will otherwise be spent on personnel injury or death, claims, legal fees and government penalties which can exact heavy toll on company's resources. The nation at large will also benefit, this is because the success of industries will consequently impact the economy positively. In the light of the above background, the study aim to assess the occupational safety and health practices among workers in the Garment, Textile and Dyeing industries in Ogun State, Nigeria.

Research Objectives

1. To ascertain the safety measures among factory workers in the garment, textile and dyeing industries
2. To determine the attitude of workers to safety measures in the garment, textile and dyeing industries.

METHODOLOGY

Study Area

The study was carried out in Abeokuta metropolis, Ogun State, Southwestern Nigeria. Ogun State borders Lagos State to the south, Oyo and Osun states to the north, Ondo to the east and the Republic of Benin to the west. The State has 20 Local Government Areas and 3 senatorial districts namely Ogun East, Ogun Central, and Ogun West. Abeokuta is the foremost and major capital city in Nigeria where the production and usage of Adire fabric is popular among Ogun State inhabitants for different purposes ranging from wedding, naming, house warming, office and casual wears.

Research Design

This research was a survey research designed to assess the safety and health practices among workers of garment and textile industries. According to Olaitan & Nwoke (2014), a survey research is one in which the entire population or representative sample is studied by collecting and analyzing data from the group through the use of questionnaire. Survey research was considered suitable because the study sought for information from the workers in the two industries with the aid of questionnaires.

Sampling Procedure

The study was carried out in Ogun State, Nigeria. Three industries were purposively selected, each from the garment, textile and dyeing industry, to cover industries in the garment, textile and dyeing areas of the industry. The study population comprised of 157 garment, textile and dyeing factory workers. All the garment, textile and dyeing factory workers who directly involved in the

process of production at spinning, weaving, finishing, engineering, and garmenting departments were included in the study. Stratified random sampling was used to select workers from each of the three industries.

A structured questionnaire was used for data collection. The questionnaire was subjected to face validation by three technical education experts while the reliability of the instrument was established using CronBach Alpha (α) formula and it yielded a reliability coefficient of 0.87. The questionnaire was administered, retrieved, and analysed. Mean was used to answer the research questions. Normal values were assigned to different scaling items of the questionnaire and corresponding mean scores were interpreted using real limit of numbers. Concerning the limit for agreement or rejection, any item statement that had a mean score of 3.50 and above was regarded as Strongly Agreed, 2.50 – 3.49 as Agreed, 1.50 – 2.49 as Disagreed, and 0.50 – 1.49 as Strongly Disagreed. However, Analysis of Variance (ANOVA) was employed to test the hypotheses at 0.05 level of significance. The null hypothesis was upheld when the probability (ρ) value is greater than, or equal to the preset alpha level (0.05), and otherwise rejected. (i.e. Significant at $\rho < 0.05$, Not significant at $\rho \geq 0.05$).

RESULTS

The result for the study were obtained from the research objectives data obtained and analysed.

Research Objective 1: ascertain the safety measures among factory workers in the garment, textile and dyeing industries.

Table 2: Means of respondents on the safety measures put in place in the three industries

S/N	Item Description	Cloth Dyeing Industry		Garment Industry		Textile Industry	
		X	Remark	X	Remark	X	Remark
1	The industry trains workers to be safety conscious	3.28	Agree	3.38	Agree	3.35	Agree
2	The industry provides first aid facilities	3.36	Agree	3.23	Agree	3.38	Agree
3	The industry provides proper lighting in the workshop	3.47	Agree	3.35	Agree	3.32	Agree
4	The industry ensures physical comfort of workers	3.35	Agree	3.32	Agree	3.33	Agree
5	There is adequate information on the use of harmful substance	3.47	Agree	3.35	Agree	3.49	Agree
6	The industry responds to all accident and injuries on time	3.35	Agree	3.25	Agree	3.39	Agree
7	The industry enforces safety rules	3.38	Agree	3.33	Agree	2.25	Disagree
8	There is adequate ventilation in the workshop	3.35	Agree	2.45	Disagree	2.68	Agree
9	The industry provides personal protective equipment	3.27	Agree	3.35	Agree	3.46	Agree

Table 2 shows the opinion of the workers on the safety measures available in the garment, textile and cloth dyeing industries. The data in Table 2 shows that all the workers in the three industries were almost of the same opinion on the provision of safety and health practice measures in their workplace. However, workers in the textile industry pointed out that compliance to safety rules are not enforced in their

industry. In the same vein, workers in the garment section of the industry complained of poor ventilation of their workshop. Workers in the three industries agreed on the presence of all other safety measures in their workplace.

Research Objective 2: determine the attitude of workers to safety measures in the garment, textile and dyeing industries.

Table 3: Attitude of workers to the safety measures by workers in the garment, textile and dyeing industries

S/N	Item Description	Cloth Dyeing Industry		Garment Industry		Textile Industry	
		X	Remark	X	Remark	X	Remark
1	Workers use safety equipment provided by the company	3.35	Agree	3.39	Agree	3.27	Agree
2	It is good to promptly report any faulty equipment	3.38	Agree	3.35	Agree	3.44	Agree
3	It is compulsory to use safety equipment	2.32	Disagree	2.33	Disagree	3.14	Agree

4	Workers should not participate in rough play in the workplace	3.33	Agree	3.38	Agree	3.25	Disagree
5	Welfare of others at work should be considered	3.49	Agree	3.30	Agree	3.22	Agree
6	It is necessary to follow instructions attached to materials and equipment	3.39	Agree	3.27	Agree	3.37	Agree
7	It is important to obey safety rules	3.25	Agree	3.43	Agree	3.33	Agree

Table 3 above reveals that workers in the three industries are in conformity with the safety rules laid down in their various workplaces, with the exception of workers in the garment and cloth dyeing industries

who believed that obedience to safety rules is voluntary.

Hypothesis 1: There is no significant difference in the responses of workers in the three industries on the adequacy of safety measures.

Table 4: Analysis of Variance (ANOVA) of the responses of workers in the three industries on the adequacy of safety measures

Variation Source	Sum of Squares	DF	Mean Squares	F	Sig.	Remark
Between Groups	0.247	2	1.12	0.027	0.35	NS
Within Groups	122.5	107	3.54			
Total	155.48	109				

The result presented in table 4 revealed that no significant (NS) difference in the mean responses of workers in the three industries on the adequacy of safety measures. ($F=0.03$, $\rho>0.05$), therefore null hypotheses

one (1) was not rejected at 0.05 level of significance.

Hypothesis 2: There is no significant difference in the responses of workers in the three industries on compliance with safety rules.

Table 5: Analysis of Variance (ANOVA) on the responses of workers in the three industries on compliance with safety rules

Variation Source	Sum of Squares	DF	Mean Squares	F	Sig.	Remark
Between Groups	0.19	2	1.10	0.042	0.27	NS
Within Groups	60.8	107	3.23			
Total	60.99	109				

The result presented in table 5 revealed no significant (NS) difference in the mean responses of workers in the three industries on their compliance to safety rules. ($F=0.04$, $\rho>0.05$), therefore null hypotheses two (2) was not rejected at 0.05 level of significance.

- There is no significant (NS) difference in the mean responses of workers on the adequacy of safety measures
- There is no significant (NS) difference in the mean responses of workers in the three industries on their compliance to safety rules

Summary of Findings

The following are summary of the findings:

- Some industries, even after providing safety measures and equipment, failed to enforce the safety rules among their workers.
- Workers in the three industries are in conformity with the safety rules laid down in their various workplaces

DISCUSSION

Although the present study is descriptive in nature, it yields data on the safety measures among factory workers in the garment, textile and dyeing industries and the attitude of workers to safety measures. The study shows in objective one that the garment, textile and dyeing industries in Ogun State failed to enforce the safety rules among

their workers, even after providing safety measures and equipment. This posture may appeal to the attitude of indiscipline, disobedience, and lack of self-control in some workers; which could make them disregard the use of safety kits and equipment. This will expose the workers and the employers to the undesirable effects of workplace accidents. This finding is in line with the report of US Department of Labour (2009) that employers often fail to enforce the Occupational Safety and Health (OSHA) standards. McCornick and Sander (2013), further noted that a good safety skill programme together with build-in compliance in proper tool, equipment, and material usage, can often reduce the incidence of injuries, material wastage and cumulative effect traumas.

Findings also revealed that some industries actually failed to provide adequate safety measures for their workers. An example is that of the garment industry that was not well ventilated. This is in consonance with the observation of Kleiman & Turner (2016), that despite laws designed to ensure safety in the workplace, accident rates in companies are alarmingly high due to equipment insufficiency, use of inappropriate equipment, safety devices being removed or inoperative, and the lack of such things as engineering controls, respiratory protection and protective clothing.

From this study, it was also found that some workers believe it is not compulsory to use safety equipment. Workers non-challant attitude may probably be because accidents do not occur frequently in the workplace. This is in line with the paraphrased account in the International Labour Organization. (2012), that because the sentence of foolish living is not speedily executed, men's heart is fully set to continue in it.

The findings of objective two also show that workers in the three industries shows positive attitude to the safety measures as majority of them were all in conformity with the safety rules laid down in their various

workplaces. Based on the findings of the study, safety practices are not determined by the type of work an industry engage in. This is because, there was no significant difference in the responses of workers in the three industries on the adequacy of safety measures and compliance to safety rules. This is in line with the findings of Gadds & Collin (2012) that safety culture in an organization is a product of individual and group values, attitudes, perceptions, competencies, patterns of behaviour, and this determines the commitment to an organization's health and safety management. Safety practices in an organization is dependent on more complex factors, as exemplified above, rather than the type of work the industry engages in.

CONCLUSION

Based on the result of this study, it is interesting to discover that some workers do not appreciate the importance of ensuring safety, somewhere in their mind; they believe it is not compulsory to use safety equipment. Some employers even balance this deadly equation by not enforcing safety rules among their workers. This study showed that accident in industries is not majorly because of absence of safety equipment, but failure to ensure compliance of workers by the employers. This will increase the likelihood of accidents, as workers can violate the safety rules at will. One can imagine what is likely to happen when a worker that already have a feeling that safety rules are overemphasized, magnified or exaggerated now pair up with an employer who does not enforce safety rules. In this situation, incessant accidents and causalities should be expected in the industries.

RECOMMENDATIONS

The following recommendations are suggested based on the findings of the study:

1. Garment and textile industries should provide adequate measures to safeguard

the health of their workers; they should comply with national requirements on factory operations. This is for the benefit of their workers and their business profitability.

Garment and textile employers should devise a strategy of monitoring compliance to safety rules. This is important in order to change the safety culture of their employees.

Workers should frequently be re-orientation on the need to safeguard their lives by observing the safety rules at all times. This may be through current reports of worldwide workplace causalities to the workers.

1. There must established policies binding the owners of garment, textile and cloth dyeing to keep conditions conducive for workers.
2. Some protective equipment must be provided, these include face masks and first-aid facilities, to protect workers from the adverse effects of the environment.
3. There should always be at least one first aid box with a trained member of staff available in an area that is accessible to all the workers.
4. The proprietors, with the co-operation of the government, must also provide health insurance.
5. The management should regularly check and document the national laws and regulations concerning workplace safety.

REFERENCES

- Akintayo, W. L. (2019). Creativity, innovation, and entrepreneurship: a panacea for fashioning better future for the Nigerian textile and clothing industry. *Egghead: The Journal of Arts*. Department of Fine- Art, Faculty of Environmental Design, Ahamadu Bello University, Zaria, Nigeria. 4(1). 1-10.
- Asaju, K. S. (2014). The Rising Rate of Unemployment in Nigeria: The Socio-Economic and Political Implications, *Global Business and Economics Research Journal*. 3(2), 78-86.
- Bigelow, P. L. and Robson, L. S. (2015). *Organizational Health and Safety Management Audit Instruments: A Literature Review*. Institute for Work and Health, Toronto. 9, 11
- Crities, T. R. (2015). Reconsidering the costs and benefits of a Formal Safety Program. *Professional Safety*, 40(12), 28-32.
- Deshmukh, L. M. (2010). *Industrial safety management*. New Delhi: Tata McGraw Hill.
- Dhillon, B.S. and Liu, Y. (2006). Human error in maintenance: a review. *Journal of Quality in Maintenance Engineering, Emerald group, Ottawa*.12 (1), 21-36
- Fagbemi, B. S. (2017). Accident causation and prevention. *Journal of Risk Management*. 2 (1), 15-25.
- Gadds, S., & Collins, A. M. (2012). *Safety Culture. A Review of Literature*. Sheffield: Human Factor Group.
- Giovanis, N. S. (2010). The Measurement of Health and Safety Conditions at Work Theoretical Approaches, Tools and Techniques a Literature Review. *International Research Journal of Finance and Economics*, Issue 36, p 87.
- International Labour Organization. (2012). Fact sheet on occupational health and safety. ILO, Geneva. Retrieved February 20, 2014, from Safety emporium.com/ilofactsheet
- Kadiri, S. A. (2006). *Safety handbook for Engineering and Applied Professionals*. Lagos: Supreme Publishers Limited.
- Kleiman, L. S. and Turner, M. C. (2016). *Safety Practices in the Workplace*. USA: Encyclopaedia for Business.
- Makinde, D. O. (2018). "Old Wine, New Bottle: The Changing Face of Adire in Contemporary Nigerian Arts". Paper Presented at the 30th Anniversary of the Department of Fine Arts, Obafemi Awolowo University, Ile-Ife.
- McCornick, J. E. and Sander, M. S. (2013). *Human Factors in Engineering and Design*. New York: McGraw Hill.
- Olaitan, S. O. and Nwoke, G. I. (2014). *Practical Research Methods in Education*. Onitsha: Summer Educational Publishers.

- Oloyede, Z. O. (2018). An Assessment of Factors Militating Against Fabric Production In Contemporary Nigerian Textile Industry. Paper Presented at a Workshop Organized by The Entrepreneurial Unit of Obafemi Awolowo University. Ile-Ife.
- Safety Management Services (2012). The safety edge. Retrieved January 19, 2014 from <http://www.sons-ink.com/igear/safety>
- Stranks, J. B. (2017). *Human factors and Behavioural Safety*. First Edition, UK: Elsevier Ltd.
- Sullivan, R. F. (2015). *Environmental Risk Management*. New York: Palgrave Macmillan.
- Taiwo, O. A. (2015). Assessment of safety measures in West Portland cement. Unpublished B.Sc. Project, University of Agriculture, Abeokuta. Ogun State. Nigeria.
- US Department of Labour (2009). *Occupational safety and health administration (revised)*. Washington DC: OSHA3075. Retrieved February 19, 2014 from <http://agency.osha.US.int/publications>