



Attitude Towards Occupational Hazards And Safety Practice Among Carpenters In Rivers East Senatorial District, Rivers State

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ABSTRACT

This study investigated the attitude towards occupational hazards and safety practice among carpenters in Rivers East Senatorial District, Rivers State. The descriptive survey design was adopted with a population consisting of 8,000 carpenters in Rivers East. The sample size for the study was 848, which was selected using a multi-stage sampling procedure. The instrument for data collection was a structured questionnaire titled, "attitude towards occupational hazards and safety questionnaire" with a reliability coefficient of 0.815. Data collected was analyzed using descriptive statistics of mean, z-test and ANOVA at 0.05 level of significance. The finding of this study showed a high extent of safety practices (2.95 ± 0.61), and positive attitude (3.22 ± 0.58) towards occupational hazards. The result showed that positive attitude was found more among those who had work experience of 5-10 years (3.27 ± 0.63) and males (3.22 ± 0.59). The findings of the study showed that there was a significant difference in attitude towards safety measures among carpenters based on years of work experience [$F(3, 782) = 2.88; p < 0.05$]. It was concluded that carpenters had positive attitude towards both occupational hazards and safety measures which was expressed in their satisfactory practice of safety measures. It was recommended that, environmental Protection Agency should visit workplaces to ensure that workplace (including carpentry workshops) operations meet required safety standards and prescribed legal requirements by sustaining regular monitoring and inspection of workplaces.

Keywords: Attitude, Carpenters, Hazards, Rivers East, Safety

INTRODUCTION

Carpenters constitute a significant proportion of the workforce in the construction industry and like every other occupation, they are exposed to workplace hazards which require mitigation by adopting safety measures. The World Health Organization (2016) explained that, carpentry is an age-long practice and primarily a mean of livelihood for carpenters and their families but, there is evidence that most carpenters are exposed to a number of workplace hazards which constantly deteriorate their health on daily basis. Global report by the International Labour Organization (ILO, 2019) estimated that, over 300 million occupational injuries and at least 320,000 fatal occupational injuries occur each year. A further two million cases of fatal work-related diseases are reported annually. The global work-related deaths estimated that occupational injuries and work-related diseases when joined together amounts to 2.3 million annually (Occupational Safety & Health, 2016). In Nigeria, Onyekwelu et al. (2019) noted that, about three quarter (74.6%) of carpenters reported ocular morbidity but only 67.5% were aware of safety measures in their work such as the proper use of protective eyewear.

In the words of Amanze and Agu (2014), safety is the science and art of identification, evaluation, and control of workplace hazards which include measures of preventing human exposure to adverse agents as

well as faulty or unsafe practices. To buttress the above, Aluko et al (2016) opined that occupational safety practices is the control of hazards in the workplace or during work. Safety practices in an organize work setting, generally written methods of how to perform a task with minimum risk to people, equipment, material environment and procedures (Infrastructure Health and Safety Authority, 2019). However, to achieve a safe work practice in any occupational setting including carpentry there shall be safe work procedures which are series of specific steps that generally guide work through a task from beginning to the end. These steps must be made known to the workers because one cannot practice what he does not know although, knowledge does not translate to practice in all cases but could influence the attitude towards it. An individual's knowledge is interwoven with attitude. The American Psychological Association (APA), (2019) stated that, attitude influences an individual's choice of action, and responses to challenges, incentives, and rewards. Thus, the attitude of the worker is an inevitable factor influencing safety practice of workers.

Hazard are the dangers that carpenters encounter that have the potential to affect their health which could include the risk of accident and of contracting occupational diseases such as respiratory disorder which can be gotten from the inhalation of wood dust. Occupational health hazard always involves the damage of risk in an occupation. There are many health hazards that emanate from various operations that are carried out during carpentry due to the exposure to toxic substance and incident that may occur during the process. The occupational hazard encountered by carpenters can be categories into five different groups, which included biological, physical, chemical, ergonomic, mechanical and psychosocial (Health and safety Authority (HAS, 2018). Carpenters are exposed to some organisms found on wood (air borne micro-organism). Biological hazards originate from biological process of having organism. Achalu (2010) opined that, the resultant occupational disease of biological hazard includes anthrax, brucellosis, leptospirosis, tetanus, schistosomiasis, occupational exposure to infection may be due to contact with patients in waiting place, and almost all infectious diseases can be occupational hazard to workers.

In Rivers East senatorial District, hazards from carpentry activity are multifactorial and could originate from the wood, work environment, worker, and management (Ezeugwu et al., 2017). This might be due to the activities entrenched in the carpentry work. Aden (2011) stated that, carpenters work with wood and other common materials, such as plastic, fiberglass and steel. Many Carpenters work on industrial, commercial or residential construction projects; while others perform maintenance work, remodeling or repairing existing products or structures. A carpenter is an important part of any construction team. They have the skills and knowledge to cut, fasten, carve, and design objects made of wood or other materials. They are gifted in measuring precisely, sometimes called carpentry math, and know how to use different construction tools like saws, drills, small hand tools, and a variety of mechanized tools. Yet, carpentry like every other occupation is not total free of hazards. The World Health Organization (2016) report showed that, the total economic losses due to occupational illnesses and injuries are enormous. A country's development is largely dependent on the health status of the workforce. Increase productivity and wealth creation is dependent on a healthy, well trained and motivated workforce (WHO, 2016). Likewise, Aden (2011) noted that, carpentry work is sometimes strenuous due to prolonged standing, climbing, bending, and kneeling which are often the major task. This makes the workers to be vulnerable to number of work injuries and illnesses. Carpenters risk injury working with sharp or rough materials, using sharp tools and power equipment, and working in situations where they may slip or fall. Consequently, workers in this occupation experience a very high incidence of nonfatal injuries and illnesses. Hence, according to Takele and Mengesha (2010), carpenters need to be fully aware of the hazards inherent in their work so as to adopt protective measures against adverse health effects which could be instigated by the workplace hazards. Based on the foregoing, the researcher deemed it necessary to investigate the attitude towards occupational hazards and safety practice among carpenters in Rivers East Senatorial District, Rivers State. The study provided answers to the following research questions:

1. What is the extent of safety practice among carpenters in Rivers East Senatorial District, Rivers State?
2. What is the attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State?

3. What is the attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on years of work experience?
4. What is the attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on gender?
5. What is the attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State?

Hypotheses

The following hypotheses were stated to guide the study:

1. There is no significant difference in the attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on years of work experience.
2. There is no significant difference in the attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on gender.
3. There is no significant difference in the attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State based on years of work experience.
4. There is no significant difference in the attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State based on gender.

METHODOLOGY

The descriptive survey design was adopted with a population consisting of 8,000 carpenters in Rivers East. The sample size for the study was 848. The Sample size was determined using the Cochran formula for calculating sample size for a non-finite population $n = z^2pq / d^2$. Where, n = sample size, p (proportion) = 50% = 0.5, z = confidence level 95% (1.96)², q = 1-p = 0.5, d² = confidence interval = 5% = 0.05² = 0.0025. After adjusting for a non-compliance rate of 10%. The total = 424. This minimum sample size was doubled, making the sample size 848, to enable the researcher have a better representation of the respondents from each of the selected Local Government Areas. The sample was selected using a simple random sampling technique. The instrument for data collection was a structured questionnaire titled, “attitude towards occupational hazards and safety practice questionnaire” with a reliability coefficient of 0.84. The instrument was designed to gather information on the attitude of the respondents towards occupational safety on a modified four point Likart scale of “strongly agree, agree, disagree and strongly disagree” and safety practices on a modified Likert Scale of always, sometimes, rarely and never” with 12 items. Data collected was analyzed using descriptive statistics of percentage, and inferential statistics of mean and percentage and inferential statistics of z-test and One-way Analysis of Variance (ANOVA) at 0.05 level of significance.

RESULTS

The results of the study are shown below:

Table 1: Weighted mean and standard deviation on the extent of safety practices among carpenters in Rivers East (N = 787)

SN	Safety practices	\bar{X}	Std Dev.	Remark
1	Ensures work environment is clean	3.25	.56	HE
2	Arranged working tools in such a way that it will not cause any harm	3.21	.54	HE
3	Inspects working areas to ensure there is no harmful object or condition	3.01	.39	HE
4	Ensures that workplace safety rules and regulations are obeyed	3.17	.52	HE
5	Replaced faulty equipment	3.07	.49	HE
6	Used foot protection like safety shoes at work	3.05	.56	HE
7	Use head protection like helmet at work	2.72	.73	HE
8	Used eye protection like eye goggle at work	2.74	.74	HE
9	Used hand protection like hand glove at work	2.78	.71	HE
10	Used hearing protection like ear muff or ear plug at work?	2.74	.76	HE
11	Used respiratory protection like nose mask at work?	2.72	.81	HE
	Grand mean	2.95	0.61	HE

Criterion mean = 2.50. Key: HE = high extent, LE = low extent

Table 1 presented the extent of safety practices among carpenters in Rivers East. The result showed that the grand mean of 2.95±0.61 is greater than the criterion mean of 2.50, indicating a high extent of safety

practice. Thus the extent of safety practice among carpenters in Rivers East Senatorial District, Rivers State was high.

Table 2: Mean and standard deviation on attitude towards occupational hazards among carpenters in Rivers East Senatorial District

Items	M	S.D	Decision
Hazards are inevitable so no need to identify them	3.06	.41	Positive
Taking time to spot out hazards in the workplace is not necessary because they will always be there	3.19	.44	Positive
A carpenter do not need to bother about hazards in the job	3.13	.45	Positive
My body is strong so facing any hazard is not a big deal	3.26	.62	Positive
Carpenters do not need to talk about hazards	3.29	.68	Positive
Carpentry work is hazard free	3.35	.87	Positive
The carpentry workers should manage and work with faulty machines because machines are expensive to get	3.28	.64	Positive
There is no need to provide fire extinguisher at the carpentry workshop because there are no naked fire there	3.24	.58	Positive
Grand mean	3.22	.58	Positive

Criterion mean = 2.50

Table 2 revealed mean and standard deviation on attitude towards occupational hazards among carpenters in Rivers East Senatorial District. The result showed that the grand mean of 3.22±0.58 is greater than the criterion mean of 2.50 indicating a positive attitude. Thus, the attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State is positive.

Table 3: Analysis of Variance (ANOVA) showing significant difference in attitude towards occupational hazards among carpenters based on years of work experience

Sources of variance	Sum of squares	Df	Mean sum of squares	F-value	p-value	Decision
Between group	6.998	3	2.33	2.51	.06*	H ₀ Not Rejected
Within group	723.626	784	.92			
Total	730.624	787				

*Not Significant, p>0.05

Table 3 shows the One-Way ANOVA of significant difference in attitude towards occupational hazards among carpenters based on years of work experience. The findings of this study shows that there is no significant difference in attitude towards occupational hazards among carpenters based on years of work experience [F(3, 784) = 2.51; p>0.05]. Therefore, the null hypothesis which states that there is no significant difference in attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on years of work experience was not rejected.

Table 4: Z-test result showing the significant difference in attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on gender

Group	N	\bar{X}	SD	df	z-cal	p-value	Decision
Female	147	3.03	.94	785	1.02	0.82*	H ₀ Not Rejected
Male	640	3.05	.97				

*Not Significant; p>0.05

Table 4 showed the z-test summary of the significant difference in attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on gender. The result of the study showed that there was no significant difference at (z-cal = 1.02, df = 785, p = 0.82). The p>0.05 therefore, the finding was not significant. Thus, the null hypothesis which stated that there was no significant difference in in attitude towards occupational hazards among carpenters in Rivers East Senatorial District, Rivers State based on gender was not rejected.

Table 5: Analysis of Variance (ANOVA) showing significant difference in attitude towards safety measures among carpenters based on years of work experience

Sources of variance	Sum of squares	Df	Mean sum of squares	F-value	p-value	Decision
Between group	3.523	3	1.174	2.88	0.03*	H ₀ Rejected
Within group	317.748	784	.407			
Total	321.271	787				

*Significant, $p < 0.05$

Table 5 shows the One-Way ANOVA of significant difference in attitude towards safety measures among carpenters based on years of work experience. The findings of this study shows that there was a significant difference in attitude towards safety measures among carpenters based on years of work experience [$F(3, 784) = 2.88; p < 0.05$]. Therefore, the null hypothesis which stated that there is no significant difference in attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State based on years of work experience was rejected. The Post Hoc test of multiple comparism showed that there was significant difference in all groups except for the two extreme groups, < 5 years and ≥ 15 years.

Table 6: Z-test result showing the significant difference in attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State based on gender

Group	N	\bar{X}	SD	df	z-cal	p-value	Decision
Female	147	3.66	.66	785	1.50	0.13*	H ₀ Not Rejected
Male	640	3.57	.63				

*Not Significant; $p > 0.05$

Table 6 showed the z-test summary of the significant difference in attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State based on gender. The result of the study showed that there was no significant difference at ($z\text{-cal} = 1.50, df = 785, p = 0.13$). The $p > 0.05$ therefore, the finding was not significant. Thus, the null hypothesis which stated that there was no significant difference in attitude towards safety measures among carpenters in Rivers East Senatorial District, Rivers State based on gender was not rejected.

DISCUSSION OF FINDINGS

The findings of the study were discussed below under the following sub-headings:

Safety practices among carpenters in Rivers East Senatorial District

The finding of this study in showed a high extent of safety practices among carpenters in Rivers East Senatorial District. This finding is encouraging because safety practice is very vital to ensure the well-being of the workers. The present result is consistent with an earlier finding by Johnson and Motilewa (2016) in Uyo, Nigeria, which showed that the participants exhibited a good level of safety practice. The finding of this study is in consonance with that of Adebola (2014) which showed that majority (90.0%) of the respondent comply with safe work practices and high proportion of the respondents (85.9%) have compliance with occupational safety procedure. The result of this study also showed other occupational safety practices of respondents which include: use of personal protective wears. It can be deduced from this result that, occupational safety practices are multi-dimensional. The finding of this study is in agreement with that of Sah et al. (2015) where occupational safety such as use of personal protective clothing during work time was practiced by majority of the respondents. The similarity found between the previous study and the present one is not surprising because, there is the possibility that, the workers were strictly monitored by their directors or they are becoming more conscious about their health which made them comply to occupational safety practices in other to avoid the cost of accidents and damages. However, this finding of this study is in contrast with the results of Adeola (2014) in his study to determine the level of awareness of occupational hazards and safety measures, where level of safety

practices was reported to be low. This variation might be due to the difference in the study setting and the sample size used.

Attitude towards occupational hazards

The finding of this study showed that workers showed negative attitude towards occupational hazards and safety practices which is expressed mainly in their negligence to such occupational hazards and safety practices. The finding of this study is similar to other studies including those of Manjula and De-Silva (2014) whose research on the factors influencing safety behaviours among workers in Sri-Lanka which showed that workers negative attitude constituted a barrier. The similarity between the present study and previous ones might be due to the homogeneity of the study respondents and the close range between the sample sizes in the different studies. The finding of this study is in consonance with that of Diwe et al. (2016) who carried out a research to examine effect of negligence to safety practice among workers in South Eastern States of Nigeria and found that negative attitude can lead to hazard and damage, hence safety measures must be applied in work places but, negligence could serve as a barrier to safety practices. The similarity between the present study and previous ones might be due to the homogeneity of the study respondents and the close range between the sample sizes in the different studies.

CONCLUSION

The study concluded based on the findings that carpenters in Rivers East Senatorial District are proactive concerning their health and safety hence, they practiced safety measures peculiar to their occupation, carpentry.

RECOMMENDATIONS

The following recommendations were made based on the findings of the study:

1. Environmental Protection Agency should visit workplaces to ensure that workplace (including carpentry workshops) operations meet required safety standards and prescribed legal requirements by sustaining regular monitoring and inspection of workplaces.
2. Employees working in food, beverage and packaging industries need to take reasonable care of their own safety and that of their colleagues, comply with safety instructions and procedures given by management and use all safety equipment properly.
3. The managers in every carpentry workshop should ensure adequate procurement of safety equipment to avoid any lapses in safety practices brought about due to unavailability of personal protective equipment.
4. The carpenters should make conscious effort on their part to ensure they do not approach safety practices with negligence as such act could be detrimental to their health, thus, they must be very mindful of safety practices.

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