



**EFFECT OF A TWO-DAY AWARENESS PROGRAMME  
ON THE SAFETY KNOWLEDGE OF PRIMARY SCHOOL PUPILS  
IN MODAKEKE, OSUN STATE, NIGERIA**

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**Abstract:**

The study examined the effect of a two-day awareness programme on the safety knowledge of primary school pupils in Modakeke, Osun State. It compared the safety knowledge of pupils by gender and type of school. The study adopted the pretest-posttest experimental research design. A total of 200 pupils (110 Males and 90 females) were selected using stratified random sampling technique. Stratification was based on school type (Public and Private). A self-developed questionnaire was used to gather information on the safety knowledge of pupils before and after a 2-day intervention programme which exposed them to information on accident prevention measures at different settings in the school including road, laboratory, school garden, classrooms and staircase and playground. The pretest and posttest scores were compared and the Pearson Product Moment Correlation Coefficient analysis yielded  $r=1$   $p > 0.05$ . It was concluded that the awareness programme improved the school safety knowledge of primary school pupils at all settings. Regular short-term safety awareness programmes were recommended in schools.

**Keywords:** awareness, accident, safety, intervention, pupils

**1. Introduction**

Schools provide the most effective way of influencing any population especially the children who are at the growing stage. The school children are at a stage when

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behaviours can be shaped easily, reshaped and modified to reflect and conform to the norms and values of the community and the society at large in order to help them cultivate and maintain healthy and safe lifestyles as they interact with their environment. However, the Nigeria school-age population ( $\pm 6 - 11$ ) years who comprises about 20% of the total population (Nwankwo, 2004) and especially those in the primary school age have been found to be highly susceptible to many unfavourable conditions that predispose them to dangers including accidents and injuries. In their study, Nkere, Ajibola and Ibe (2017), found that 5,369 (24.4%) of patients that visited the Accidents and Emergency unit of a teaching hospital in Calabar, between 2012 and 2015 were injured patients, and 15.6% of the injured were children less than 10 years. Adoga and Ezoilo (2014) in their earlier study in Jos found a higher injury prevalence of 31.1%. It was also revealed in the review of Ayodele, Olubayo-Fatiregun & Olawale (2017) that school accidents were commonest among this age group and the consequences were found to be more serious as compared to home accidents.

There are many predisposing factors in accident occurrence among children. In his submission, John (2006) indicated childhood-based factors which include curious, exploratory and imitative natures of the child. Apart from their inquisitive nature, children' developmental stage influences their abilities to deal with hazards, the more reason why school children within the primary level (that is pupils at the first six years of school) require high level supervision to perform many activities safely. The age of the child has therefore been linked to the type of accident or injury that they involved in. For instance, it was established that children of less than one year who die from injuries are predominantly victims of unintended suffocation or accidental strangulation, while drowning is a main cause of injuries and deaths among the children aged 1-4 years, and in ages up to 10 years, falling was the mechanism of injury whereas, traffic injuries were found to be responsible for most injuries among persons aged between 11 and 19 years (Nkere, Ajibola & Ibe (2017). Observations have indicated that these children often try to explore and attempt new activities without having the capability of assessing the level of risks that may be involved, which makes them more susceptible to injuries.

Also, childhood injuries were closely linked with social and economic deprivations (Lynn, 2016). Corroborating this assertion, the World Report on Child Injury Prevention (2008) revealed that children from poorer backgrounds are five times more likely to die as a result of accidents than children from better-off families and the gap is widening. Childhood is a social construction, whose boundaries shift with time and place and this has implications for vulnerability to injury. Other specific socio-economic factors associated with injury among children include; low household income, increased number of persons in household, increased number of children under 16 years, lower maternal education, multi-family dwelling, and overcrowding.

As regards the relatedness of gender to accident vulnerability, the National Action Plan for Child Injury Prevention (NAP, 2012) indicated that some children are at greater risks than others for an injury, based on gender. For example, the author noted

that injury-related deaths and disabilities are more likely to occur among male children of those living in specific geographic regions and in certain racial/ethnic groups and vulnerability in each category varies according to age and gender. According to Nkere, Ajibola and Ibe (2017), the gender distribution of injured patients in their study was 59.9% males as against 40.1% females. This was earlier found by Chalya, Kanumba, Mabula & Gilyoma (2011), Toluse, Idowu, Ogundele & Egbewole (2016) and Ayodele, Olubayo-Fatiregun & Olawale (2017).

A separate study carried out by the Benard van Leer Foundation (2011) indicated that environment is a key factor affecting the occurrence and severity of accidents. The author stated that the extent of supervision in and outside the school and the presence of open hazard sites (including narrowness of corridor, unguarded railings, poor illumination, poorly arranged furniture etc.) where probability of accidents is high make children more vulnerable though, many times, these environmental factors could be a contributory factor and not an immediate cause.

In addition to these factors, poor safety knowledge of pupils especially in the school environment have been found to be a highly contributory factor in accident causation and there are evidences that the knowledge of these pupils about keeping safe is shallow. For instance, the boy who climbed the tree to pluck fruits; the girl who turns the handle of a frying pot on fire to herself or that who uses broom stick to pick dirt from his or her ears has demonstrated either lack of safety knowledge or non-challant attitude towards safety. Corroborating these statements, Ibhafidon, Onuzulike and Ewusie (2017) found that students in their study were generally unaware or had low level of awareness about safety in times of disasters. The author confirmed that there was no significant difference in the awareness level of males and females when it comes to safety during these times. These results contradicted those of Vijayakumari and Sabitha (2015) who found that more girls than boys at the secondary school level had greater safety awareness during disasters. As stated by the authors, females are more concerned with family matters than their male counterparts, hence, she may gather more information regarding the protection of the family than the males.

To reduce the rate and cost of accidents therefore, researchers like Okafor (2000), Ejifugha (2002), Vacca and Boscher (2003), Fakeye, Oyinlola and Salaam (2017) have suggested formal school-based safety education as a means of creating safety awareness. Unfortunately, schools do contend separately with multiples of other uncoordinated projects and programmes which places burden on school authorities thereby making the formal school-based intervention programme unproductive to an extent. To worsen the situation, the haphazard way in which the safety education subject is handled in schools especially at the primary school level, where the subject of safety is not included as a main subject in the curriculum; where the Health Education subject (which houses safety education as one of its content areas) has an underdog status, where it is only included in the school curriculum as a correlated subject; handled by non-qualified personnel, with poor funding and inadequate teaching facilities and equipment threatens the efficacy of the school safety education

However, what readily comes to mind as a complementary programme to the school-based safety education is the use of regular safety awareness/campaign programmes and interventions, which researchers like Okafor (2000) and Onyezere (2017) have suggested as effective in mass knowledge creation and building. Although, studies on the efficacy of these awareness programmes abound, researches have not confirmed the efficacy of such short-term interventions among the primary school pupils in Modakeke, Ile-Ife; hence this study.

The specific objectives of this study were to:

- a. examine the safety knowledge of males and female primary school pupils in Modakeke;
- b. compare safety knowledge between the pupils in private and public schools in the study area; and
- c. investigate the effect of the 2-day accident prevention awareness on safety knowledge of primary school pupils at different settings.

### **1.1 Hypothesis**

1. There is no significant difference between the safety knowledge of male and female primary school pupils in Modakeke, Ile-Ife, sun State.
2. There is no significant difference between the safety knowledge of Public and Private primary school pupils in the study area:
3. The 2-day Accident Prevention Awareness programme will not have significant effect on the safety knowledge of primary school pupils at different locations in the school.

## **2. Methodology**

The pretest-posttest experimental research design was employed for this study. The population for the study comprised the entire public and private primary schools in Modakeke, Osun State. A total of 200 pupils were selected using stratified random sampling technique with the type of school (Public or private) as stratum. From each type of school, 100 pupils were selected using convenient sampling technique. There were 110 males and 90 females. Study was delimited to primaries 4 – 6. A validated questionnaire titled 'Effect of Awareness Programme on Safety Knowledge' (EAP-SA) was used to collect pre and post intervention data from the pupils while an Accident Prevention Education Package was used to disseminate adequate information on how to keep safe at all settings ( home, school and road) to the pupils for 2 days. Data were collected before and after intervention. The pre-post data were correlated using Pearson Product Moment Correlation Coefficient.

### 3. Results

**Table 1:** Chi-square Summary Table on Male and Female Knowledge of Safety Measures at Different Settings

Settings	Sex	No	df	( $\chi^2$ Calc)	( $\chi^2$ Calc)	P	Sig
Road	Public	100	1	1.24	3.84	0.05	NS
	Private	90					
School Farm	Public	100	1	2.46	3.84	0.05	NS
	Private	90					
Classrooms and Staircase	Public	100	1	0.30	3.84	0.05	NS
	Private	90					
Laboratory	Public	100	1	3.41	3.84	0.05	NS
	Private	90					
Playground	Pubic	100	1	0.22	3.84	0.05	NS
	Private	90					

Table 1 showed that when the safety knowledge of males and females was compared, the Cal. $\chi^2$  scores for pupil's knowledge of safety measures on the road ( $\chi^2=1.24$ ); School farm ( $\chi^2=2.46$ ); Staircase and classrooms ( $\chi^2=0.30$ ); Laboratory ( $\chi^2=3.41$ ) and Playground ( $\chi^2=0.22$ ) were less than the  $\text{tab}\chi^2=3.84$  at 0.05 level of significance. This means that the hypothesis that states that there is no significant difference between the safety knowledge of male and female pupils was upheld.

**Table 2:** Chi-square Summary Table Comparing Knowledge of Safety Measures between Public and Private School Pupils

Settings	Sex	No	df	( $\chi^2$ Calc)	( $\chi^2$ Calc)	P	Sig
Road	Public	100	1	.78	3.84	0.05	NS
	Private	100					
School Farm	Public	100	1	10.34	3.84	0.05	S
	Private	100					
Classrooms and Staircase	Public	100	1	10.62	3.84	0.05	S
	Private	100					
Laboratory	Public	100	1	25.54	3.84	0.05	S
	Private	100					
Playground	Pubic	100	1	0.63	3.84	0.05	NS
	Private	100					

Table 2 showed that when the road and playground safety knowledge of public and private school pupils were compared, data showed that the  $\text{cal}\chi^2$  scores for pupil's knowledge of safety measures on the road ( $\chi^2=3.78$ ) and Playground ( $\chi^2=0.63$ ) were less than the  $\text{tab}\chi^2=3.84$  at 0.05 level of significance, while  $\chi^2$  values for knowledge of safety measures in the school farm ( $\chi^2=10.34$ ); Staircase and classrooms ( $\chi^2=10.62$ ) and Laboratory ( $\chi^2=25.24$ ) were greater than the  $\text{tab}\chi^2=3.84$  at 0.05 level of significance. This means that the hypothesis that states that there is no significant difference in safety knowledge between the public and private school pupils was upheld for road and playground safety, but rejected for farm, stairway/classroom and laboratory safety measures.

Tables 3 – 7 show the correlation analysis of the pre and post intervention scores for different settings

**Table 3:** Correlation Analysis of Pupils' Safety Knowledge  
 on the Road (Pre and Post Intervention)

<b>Correlations</b>	<b>Walking on the left side of the road</b>	<b>Facing on-coming vehicle when walking on the road</b>	<b>Crossing the road at zebra crossings</b>	<b>Not playing on the road</b>	<b>Waiting for vehicles to stop before crossing the road</b>	<b>Riding bicycle without complying with safety rules</b>	<b>Not sleeping when carried on motorcycle</b>	<b>Looking to the right, left and right again before crossing the road</b>
Walking on the left side of the road	1.000 .000 197							
Facing on-coming vehicle when walking on the road	.345 .000 197	1.000 .000 197						
Crossing the road at zebra crossings	-.219 .002 197	-.119 .094 197	1.000 .000 197					
Not playing on the road	.282 .000 197	.147 .038 197	.021 .767 197	1.000 .000 197				
Waiting for vehicles to stop before crossing the road	.045 .528 197	.088 .219 197	.057 .428 197	.171 .016 197	1.000 .000 197			
Riding bicycle without complying with safety rules	.283 .000 197	.374 .000 197	-.223 .002 197	.002 .976 197	-.015 .836 197	1.000 .000 197		
Not sleeping when carried on motorcycle	.007 .918 197	-.133 .061 197	.246 .000 197	.068 .342 197	-.016 .817 197	.029 .685 197	1.000 .000 197	
Looking to the right, left and right again before crossing the road	.165 .020 197	.182 .010 197	-.179 .011 197	.058 .415 197	.187 .008 197	.044 .535 197	-.296 .000 197	1.000 .000 197

Data in Table 3 indicated that there was no correlation in pupils' pre and post intervention responses to questions on safety measures on the road ( $r=1$ :  $p > 0.05$ )

**Table 4:** Correlation Analysis of Pupils' safety knowledge on the Farm  
 (Pre and Post Intervention)

Correlations	Not playing with insects and snakes	Not holding gardening tools on their edges	Not putting hands or legs into holes at school/garden	Wearing gloves when handling waste	Maintaining adequate workspace during gardening	Washing hands with soap and water after gardening	Using farm tools as prescribed by the teachers during gardening
Not playing with insects and snakes	1.000						
Not holding gardening tools on their edges	.215	1.000					
Not putting hands or legs into holes at school/garden	.378	.137	1.000				
Wearing gloves when handling waste	.389	.297	.514	1.000			
Maintaining adequate workspace during gardening	.373	.088	.443	.426	1.000		
Washing hands with soap and water after gardening	.415	.194	.501	.502	.578	1.000	
Using farm tools as prescribed by the teachers during gardening	.116	.141	.258	.189	.168	.182	1.000

Table 4 showed that there were disparities in pupils pre and post intervention responses to items on accident prevention measures in the school farm ( $r=1$   $p > 0.05$ ). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the farm safety knowledge of pupils was rejected.

**Table 5:** Correlation Analysis of Pupils' Safety Knowledge in the Classrooms and on Stairways (Pre and Post Intervention)

<b>Correlations</b>	<b>Not engaging in rough play</b>	<b>Sharing sharp objects like blades with friends</b>	<b>Avoiding chasing mates on the stairs</b>	<b>Running on wet stairways</b>	<b>Avoiding sitting on damaged chair</b>	<b>Avoiding gliding/hanging on stairs handrails</b>
Not engaging in rough play	1.000					
Sharing sharp objects like blades with friends	.151	1.000				
Avoiding chasing mates on the stairs	.255	.168	1.000			
Running on wet stairways	.398	.226	.278	1.000		
Avoiding sitting on damaged chair	.313	.189	.247	.246	1.000	
Avoiding gliding/hanging on stairs handrails	.096	.107	.140	.200	.125	1.000

Table 5 showed that there were disparities in pupils' pre and post intervention responses to items on accident prevention measures on the classrooms and stairways ( $r=1$   $p > 0.05$ ). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the Classroom and staircase safety knowledge of pupils was rejected.

**Table 6:** Correlation Analysis of Pupils' Safety Knowledge in the Laboratory (Pre and Post Intervention)

<b>Correlations</b>	<b>Avoiding skin contacts with chemicals</b>	<b>Not lighting matches or candles inside laboratory</b>	<b>Avoiding eating in the laboratory</b>	<b>Not inserting metals or hands into electrical sockets in the laboratory</b>	<b>Wearing gloves in the laboratory</b>
Avoiding skin contacts with chemicals	1.000				
Not lighting matches or candles inside laboratory	-.022	1.000			
Avoiding eating in the laboratory	.530	-.021	1.000		
Not inserting metals or hands into electrical sockets in the laboratory	.489	-.027	.564	1.000	
Wearing gloves in the laboratory	.451	-.023	.526	.379	1.000



Table 6 showed that there were disparities in pupils' pre and post intervention responses to items on accident prevention measures on the laboratory ( $r=1$   $p > 0.05$ ). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the laboratory safety knowledge of pupils was rejected.

**Table 7:** Correlation Analysis of Pupils' safety knowledge on the Playground  
 (Pre and Post Awareness Intervention)

Correlations Control Variables	Playing on dry surfaces	Using appropriate shoe-size for training	Using sports equipment only when teachers/ spotter is around	Picking sharp objects like broken bottles, needles and nails off the playground	Not playing or walking on wet floors	Not playing or sitting close to dilapidated buildings
Playing on dry surfaces	1.000 .					
Using appropriate shoe-size for training	-.064 .373 197	1.000 .				
Using sports equipment only when teachers/ spotter is around	.084 .238 197	-.170 .016 197	1.000 .			
Picking sharp objects like broken bottles, needles and nails off the playground	.343 .000 197	.026 .715 197	.146 .040 197	1.000 .		
Not playing or walking on wet floors	.047 .514 197	.106 .138 197	-.320 .000 197	.015 .836 197	1.000 .	
Not playing or sitting close to dilapidated buildings	.480 .000 197	-.112 .116 197	.063 .376 197	.386 .000 197	-.074 .297 197	1.000 .

Table 7 showed that there were disparities in the pupils' pre and post intervention responses to items on accident prevention measures on the playground ( $r=1$   $p > 0.05$ ). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the playground safety knowledge of pupils was rejected.

#### 4. Discussion of Findings

The result of this study which indicated that both males and females were not different in their safety knowledge was supported by Ibhafidon, Onuzulike and Ewusie (2017) but contradicted the results of Vijayakumari and Sabitha (2015) who found that girls at the secondary school level have greater safety awareness during disasters. It is agreed

that females are more concerned with family matters than their male counterparts and are most likely to get more interested to learn safety information about protection of the family than the males. It is even surprising that no difference was found between the knowledge of males and females on accident prevention measures in the school farm.

The disparity in the awareness level of private and public schools' pupils in this study could be attributable to the fact that children attending private schools are majorly those whose families have high socioeconomic status and are more likely to be much guided and given accurate information about working safely than children whose parents do not care about the safety of their children. The result of this study which showed that the programme intervention had effect on the pupils' knowledge of accident prevention measure was earlier suggested by Okafor (Okafor, 2000 and Onyezere, 2017)

## 5. Conclusion

On the basis of the results of the study, it was concluded that the safety knowledge of primary school pupils in Modakeke is high and that males and females did not differ in their safety knowledge of accident prevention measures. The 2-day intervention programme had effect on the school safety knowledge of the pupils.

### 5.1 Recommendation

It was recommended that pupils should be well educated on how to prevent accidents in various settings. This can be accomplished through implementation of regular safety awareness programmes to complement the school-based safety education in schools.

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