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Status and Adequacy of Safety Strategies of Early Childhood Education Centres in Southwestern Nigeria

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Abstract
The study assessed the status and adequacy of safety strategies of early childhood education centres in Southwestern Nigeria. These were with the view to providing information on the safety of early childhood education centres in Southwestern Nigeria. This study adopted a descriptive survey research design and the study population consisted of all Early Childhood Education (ECE) centres of six Southwestern states of Nigeria. The sample for the study consisted of 240 ECE centres, as well as 240 parents and 240 teachers in the centres. Multistage sampling procedure using Simple Random, Snowball and Accidental Sampling techniques were used to select the samples. The study utilised School Safety Checklist (SSC). Data were analyzed using simple percentages. The results showed that early childhood education centres in Southwestern Nigeria were highly safe in disaster prevention (51.7%), playground safety (53.3%) and cyber safety (64.6%). They were fairly safe in the school buildings (52.5%), water hygiene (15.0%), transport safety (18.3%), health and safety (49.2%) as well as social and emotional safety (41.7%) but not safe in fire safety and management (82.9% did not fulfill fire safety conditions). The results also showed that

the safety strategies of 5.4% of the centres were not adequate, 49.6% of the centres were fairly adequate and 45.0% of the centers were very adequate. The study concluded that most of the early childhood education centers in South-western Nigeria had adequate safety strategies.

Keywords: Status, Adequacy, Early Childhood Centre, Southwestern Nigeria

Introduction

Safety means lots of different things to different people under different circumstances. However, it appears to be a common denominator to all applications of safety is the avoidance of harm. Safety itself can be viewed as a science and it is probably best understood under the concept of safety science. What then is Safety Science? Safety Science serves as a borrowed term from the field of Science and Technology and it refers to an international medium for research in the science and technology of human safety. It includes safety in all aspects of human endeavour from the home environment, to the workplace and extends to other aspects like travel, leisure and every other aspect of human hazardous activities (Aven, 2014). By the scope of the definition above, safety science would potentially include safety in schools.

The first question to address would be whether going to school comes under hazardous human activities. This would have been debatable decades gone by, but in our present world, the answer is much easier with various reports of violence and dangers to which children and teachers are exposed at school (Omisore. Omisore, Afolabi, Olajide, Ariye and Agunbiade 2013), (Longobardi, Badenes-Ribera, Fabris, Martinez, & McMahon, 2018; Zenn, 2018). By definition therefore, safety science can be viewed as the study of the total embodiment of safety educational programmes, safety journals, safety papers, safety researchers as well as safety research groups and societies (Aven, 2014). Aside from this academic definition of safety science is the common definitions of safety which include "the

condition of being safe; freedom from danger, risk, or injury" and "– the condition of being safe from undergoing or causing hurt, injury, or loss." There are also professional definitions of safety which include the Leveson definition who defined safety as 'the absence of accidents, where an accident is defined as an event involving an unplanned and unacceptable loss' (Leveson, 2004).

The National Education Research and Development Council (NERDC), an organ of the Federal Ministry of Health in conjunction with the UNICEF has developed the National Minimum Standard For Early Child Care Centres in Nigeria (FRN), 2007). The document prescribes minimum standards for the location, classroom size, flooring, roof, ceiling, walls, illumination, doors and roofing. According to the document, such buildings must be free from chemical and other hazards, as well as excessive noise. While the provisions of the Federal Ministry of Health regarding building safety are rather scanty, the Indian National Commission for Protection of Child Rights includes more detailed requirements for building safety captured under physical safety. Within the concept of safety, especially physical safety, lighting and illumination readily come to mind as essential for the purpose, maintaining well-lighted school environment where there is no cover for shady activities. These, therefore, form part of the important classroom conditions to check while assessing physical safety. Illumination and adequate lighting work beyond lighting up the environment, they are associated with increased concentration and better performance (Singh & Arora, 2014).

The safety implications of monitoring children's movement are obvious unlike monitoring teachers' movement. However, the system will be flawed if children are present in the class or school premises without teachers supervising and ensuring their safety. By implication, a teacher cannot just mark the register and leave the premises only to appear when it is time to mark the register the second time. Whatever happens to the children during the unauthorized absence of teachers and other staff is the responsibility of ECE managers making it another breach of trust not to monitor

the movement of teachers. This is particularly so considering the age of the children under the ECE category. Keeping a time book is another safety recommendation whose importance needs to be explored. When teachers sign in and out of the school premises, it helps to review the general safety of the school. A pattern of consistent lateness of teachers which occasions children being left in the school by parents much earlier than teachers arrive could mean two things both with the same result-- reduced safety of children. First, parents may be dropping off their children much earlier than agreed with school authorities.

In the Nigerian setting especially in busy megacities, the temptation to drop off children at school at unsafe hours is strong because parents need to commute through busy traffic to get early to work. Children being left consistently early when the school has not provided for staff cover might serve as an invitation to kidnappers and other criminally-minded persons. The current state of school environments in Nigeria cannot be described as very safe. Negligence and little respect for lives and property have been reported. The collapse of a three-storey building in which a nursery and primary school were located as recently reported attests to the unsafe environment (Sahara-reporters, 2019).

Further evidence on the unsafe environment in Nigerian schools can be deduced from reports that suggest that there is currently no evidence of routine safety checks on electrical fittings in Nigerian schools which is not according to international minimum standards (Jahn, 2004). Awosope highlighted other environmental safety-related flaws in schools. These include sub-standard materials used for electrical poles in bad states, proximity of tall trees to electrical wires and strong winds pulling electric wires resulting in serious risk to life (Awosope, 2014). According to the Federal Ministry of Education, to reduce external interference from dangerous animals and prevent children from straying, ECE facilities should be fenced with concrete, mud, bamboo, raffia, corn stalk, wood, flowers hedge or plants, but there anecdotal evidence shows that many ECE centres are not fenced (FRN, 2007) .

Safety strategies are meant to prevent or minimize the effect/impact of hazards. Reports from literature revealed several concerns regarding the status of safety strategies within and outside Nigeria. Taiwo recently reported an unfortunate school bus fire, claiming the lives of several pupils in Abuja, Nigeria (Taiwo 2018), very similar to an earlier report where a school bus fire incident in Ibadan claimed the lives of innocent pupils (Ogunyemi, 2012). These two reports revealed a likely failure in the simple safety strategy of ensuring that school busses have fire extinguishers. These lapses are not peculiar to Nigeria as evidenced by a recent school bus incident in Tanzania where a bus driver, two teachers and 29 students got drowned in a river (Alabi, 2017). Beyond serious incidents of this nature, a simple safety strategy of using appropriate playground flooring materials to minimize injuries during play is flagrantly neglected by proprietors and regulators of ECE (Nwhator and Adeyemi 2021). It is also common knowledge that the other simple safety strategy of installing CCTV cameras in schools is not yet popular in most Nigerian elementary schools, maybe because of the over-dependence on security guards. Unfortunately, as pointed out by James and Saraso, human security guards are having serious limitations including not inability to store a log of criminal activity and over-dependence on subjective memory social prejudices (James, Bitrust and Saraso, 2016).

The single parameter of adequate teacher to pupil ratio greatly impacts safety in ECE centres. This is more so because of the tender age of many of the children under the ECE age bracket. Scholars have pointed to the unacceptable 1:40 teacher–pupil ratio in Kenya with the majority (73 percent) of schools having more than 40 pupils in a class (David, Cheloti, & Maithya, 2018). It is noteworthy that the recommended 1:25 teacher-pupil ratio in Nigeria is much better than the Kenya recommendations. Despite this, ECE experts at the Obafemi Awolowo University have criticized this blanket figure recommended by the National Policy on Education as being inconsiderate of the age of lower-class ECE pupils (Ajayi, 2008;

Bennett & Tayler, 2006). The observations of Ajayi and colleagues agree with those of Bennett & Tayler (Bennett & Tayler, 2006).

The adequacy of health and safety strategies is also questionable. Evidence from the report of the study by Wagbatsoma and Aimiuwu revealed that most schools in Benin City Nigeria still practice open refuse dumping, portable water was a luxury in public schools and pit latrines were commonest toilets (Wagbatsoma & Aimiuwu, 2008).

Statement of the Problem

Nigerian school children are often exposed to building collapse, electrical and transport hazards, unsafe playgrounds and poor hygiene-related hazards. Little attention is paid to high pupil to teacher ratio (Ajayi, 2008), supervision, health records, Closed Circuit Tele Vision (CCTV) and cyber safety which may influence school quality and endanger child safety though perceived differently by parents and teachers. Despite research into some of these areas, available data is still limited and school safety influence of factors like Closed Circuit Tele Vision (CCTV), cyber safety, emergency doors, paediatric health, keeping of health records, disability friendliness, overpopulation etc. are yet to be well-researched. The current study hopes to address most of these areas.

Aim and Objectives of the Study

The specific objectives of the study are to:

a. assess the status of safety strategies of early childhood education centres in Southwestern Nigeria; and
b. determine the adequacy of safety strategies in early childhood education centres;

Research Questions

1. What is the status of safety strategies of early childhood education centres in Southwestern Nigeria?
2. How adequate are safety strategies in early childhood education centres?

Methodology

The study employed descriptive survey research design. The population for this study comprised 240 early childhood education centres in the six Southwestern states of Nigeria. This included privately-owned nursery schools and mission/faith-based nursery schools. Multistage sampling procedure was adopted. The study was conducted in the six Southwestern States of Nigeria namely Lagos, Ogun, Oyo, Osun, Ondo and Ekiti State. Simple random sampling technique was used to select three out of the six Southwestern states. From each randomly selected state, two senatorial districts were selected using simple random technique and from each randomly selected senatorial district, four Local Government Areas (LGAs) were selected using simple random technique. From each randomly selected LGA, ten early childhood education centres were selected using snowball sampling technique. Accidental sampling technique was used to select the 10 early childhood education centres as well as teachers and parents.

An instrument titled School Safety Checklist (SSC) was used. The CSCS was developed by the National Commission for Protection of Child Rights in India (National Commission for Protection of Child Rights (2017). The original CSCS checklist consists of five broad areas namely physical safety, emotional/personal safety, social safety, emergency preparedness, and cyber security. The five broad sections are further divided into several subsections including fire safety, health and hygiene, child abuse etc. This adapted checklist was used to capture all relevant areas namely school building, fire safety management, disaster prevention, construction site safety, playground safety, water hygiene, transport safety, health and safety as well as social/emotional safety. The instrument was pilot tested in three local government areas of Lagos State namely Mushin, Osodi-Isolo and Surulere while necessary adjustment was made.

The reliability estimate was determined for items constituting each subcomponent and later on the whole items on the checklist. The result is presented in Table 1.

Table 1: Reliability Statistics of the Sub-sections and Whole Items on School Safety Checklist

Sections	*No of items*	*Cronbach's Alpha*
School Building	23	0.82
Fires Safety Management	6	0.92
Disaster Prevention	5	0.214
Construction Site Safety	-	-
Playground Safety	7	0.88
Water Hygiene	4	0.83
Transport Safety	10	0.55
Health and Safety	25	0.93
Social and Emotional Safety	16	0.94
Total	**96**	**0.97**

N.B: Only one school has score for two items measuring Construction Site Safety and as a result, reliability value cannot be computed.

Table 1 shows the reliability coefficient for each subsection of School Safety Checklist. It is shown that Disaster Prevention and Transport Safety subcomponents have reliability coefficient less than 0.8 whereas, the least among other subcomponents is 0.82. The whole items on the Checklist yielded a reliability coefficient of 0.97 with 96 items. Data collected were analyzed using simple frequencies and percentages.

Results

Research Question 1: What is the status of safety strategies of early childhood education centres in Southwestern Nigeria?

In order to determine the status of safety strategies of early childhood education centres in Southwestern Nigeria, two approaches were adopted. In the first instance, rated value of each item under each safety parameter on School Safety Checklist (SSC) was subjected to a descriptive analysis of frequency and percentage.

The items were rated using Condition well fulfilled (CWF=3), Condition fairly fulfilled (CFF=2), Condition not fulfilled (CNF=1) and Not available (NA=0). Thereafter, rated values of items on each safety parameter examined were summed together and converted to a percentage such that parameter with 0 percent (0%) was adjudged as Not Available, parameter with value between 1-49 percent was adjudged as Condition not fulfilled, 50-69 percent as Condition fairly fulfilled while value of 70 percent and above was adjudged as Condition well fulfilled. These categorized values were then subjected to a descriptive analysis of frequency and percentage. The results are shown in Tables 2 and 3.

Table 2: Descriptive Analysis of Items on Safety Parameters on School Safety Checklist

S/N	Safety Parameters and their Items	CWF		CFF		CNF		NA	
		f	%	F	%	f	%	f	%
A	**School Building**								
1	Free from inflammable materials.	219	91.3	5	2.1	9	3.8	7	2.9
2	Cracks in building.	115	47.9	39	16.3	54	22.5	32	13.3
3	Dilapidated building.	101	42.1	54	22.5	52	21.7	33	13.8
4	School premises disable friendly.	78	32.5	31	12.9	120	50.0	11	4.6
5	Alarm for public alert in place	136	56.7	49	20.4	46	19.2	9	3.8
6	CCTV monitoring system in place.	13	5.4	4	1.7	187	77.9	36	15.0
7	Security guard on duty.	70	29.2	11	4.6	153	63.8	6	2.5
8	Electrical fittings in school premises well-secured.	157	65.4	21	8.8	45	18.8	17	7.1
9	Electrical switchboard cautioned.	112	46.7	43	17.9	62	25.8	23	9.6
10	Any naked wires.	112	46.7	11	4.6	78	32.5	39	16.3
11	Any case of electrical shock reported in the past.	125	52.1	3	1.3	73	30.4	39	16.3
12	Controlled access or cautions to heavy electrical equipment.	116	48.3	14	5.8	69	28.8	41	17.1

13	Any electrical spark in the past one week.	123	51.3	7	2.9	74	30.8	36	15.0
14	Corridors/stair cases free of obstruction.	186	77.5	18	7.5	22	9.2	14	5.8
15	Classroom doors/emergency doors clear of obstruction.	193	80.4	17	7.1	27	11.3	3	1.3
16	Floor evacuation plan displayed.	74	30.8	17	7.1	139	57.9	10	4.2
17	Any ceiling hanging from roof.	126	52.5	28	11.7	55	22.9	31	12.9
18	Dampness in toilet walls.	118	49.2	50	20.8	57	23.8	15	6.3
19	Cross-ventilation in classrooms.	197	82.1	34	14.2	7	2.9	2	.8
20	Classrooms well-illuminated.	193	80.4	28	11.7	17	7.1	2	.8
21	Functional lighting conductor.	128	53.3	13	5.4	79	32.9	20	8.3
22	Open wells/ponds if present, covered with protective covering.	155	64.6	3	1.3	52	21.7	30	12.5
B	**Fire Safety Management**								
23	Current fire safety certificate.	25	10.4	4	1.7	192	80.0	19	7.9
24	Current fire extinguisher in place.	55	22.9	7	2.9	161	67.1	17	7.1
25	Other fire-fighting system on	20	8.3	15	6.3	187	77.9	18	7.5
	Descriptive Analysis of Items on Safety Parameters on School Safety Checklist								
26	School conducts mock fire drills in association with fire services.	14	5.8	16	6.7	196	81.7	14	5.8
27	Fire emergency management policy accessible to all.	16	6.7	20	8.3	188	78.3	16	6.7
28	Fire service emergency number openly displayed.	19	7.9	6	2.5	201	83.8	14	5.8
C	**Disaster Prevention**								
29	Any railway track nearby.	103	42.9	-	-	84	35.0	53	22.1
30	Any measures to control access to children if river is nearby.	164	68.3	4	1.7	45	18.8	27	11.3
31	Obstruction-free drainage system in place.	176	73.3	11	4.6	44	18.3	9	3.8

32	School near factory producing smoke/other dangerous products.	153	63.8	3	1.3	60	25.0	24	10.0
D	**Playground Safety**								
33	Sports safety equipment like helmets present.	32	13.3	16	6.7	179	74.6	13	5.4
34	Playground free of bushes waterlogged areas.	179	74.6	28	11.7	29	12.1	4	1.7
35	Playground free of waterlogged areas.	183	76.3	34	14.2	23	9.6	-	-
36	Playground floor of safe material.	118	49.2	68	28.3	50	20.8	4	1.7
37	Playground equipment with no protruding parts.	108	45.0	52	21.7	71	29.6	9	3.8
38	Playground equipment are age-appropriate.	94	39.2	59	24.6	79	32.9	8	3.3
39	Playground equipment are free of rust.	97	40.4	54	22.5	75	31.3	14	5.8
40	Children are supervised during play.	199	82.9	23	9.6	16	6.7	2	.8
E	**Water Hygiene**								
41	Safety certificate for drinking water.	91	37.9	7	2.9	134	55.8	8	3.3
42	Water source well-protected.	148	61.7	13	5.4	74	30.8	5	2.1
43	Water tested by local authorities periodically.	110	45.8	12	5.0	115	47.9	3	1.3
44	Safe drinking water available in the school.	132	55.0	7	2.9	90	37.5	11	4.6
F	**Transport Safety**								
45	Dedicated contact person supervising transport staff.	119	49.6	16	6.7	23	9.6	82	34.2
46	School bus driver has current driver's license.	129	53.8	6	2.5	18	7.5	87	36.3
	Descriptive Analysis of Items on Safety Parameters on School Safety Checklist								
47	Police verification of drivers before appointment.	93	38.8	18	7.5	43	17.9	86	35.8
48	Instruction on safe distance while starting/ parking school bus.	109	45.4	20	8.3	25	10.4	86	35.8
49	Children taught travel rules.	108	45.0	21	8.8	27	11.3	84	35.0

50	Fire extinguisher in school bus.	95	39.6	7	2.9	51	21.3	87	36.3
51	First aid box in school bus.	75	31.3	5	2.1	73	30.4	87	36.3
52	Parent feedback system on transport, driver and conductor.	107	44.6	25	10.4	22	9.2	86	35.8
53	Bus not overloaded.	106	44.2	23	9.6	27	11.3	84	35.0
54	Arrangement in place for emergency transport.	111	46.3	14	5.8	30	12.5	85	35.4
55	Attendant accompanies children home on alighting from bus.	117	48.8	18	7.5	28	11.7	77	32.1
G	**Health And Safety**								
56	Medical records of all children kept by school.	144	60.0	29	12.1	61	25.4	6	2.5
57	Trained health personnel available in school all the time	105	43.8	51	21.3	81	33.8	3	1.3
58	Regular health check-ups for children.	113	47.1	54	22.5	73	30.4	-	-
59	Parents let the school know about children's health challenges.	166	69.2	46	19.2	26	10.8	2	.8
60	Any arrangement with a nearby hospital on health issues.	161	67.1	37	15.4	40	16.7	2	.8
61	School clinic/bay equipped for medical emergency.	92	38.3	50	20.8	95	39.6	3	1.3
62	Equipped first aid box available in school clinic/bay.	135	56.3	47	19.6	54	22.5	4	1.7
63	First aid protocol for common injuries prominently displayed.	70	29.2	35	14.6	128	53.3	7	2.9
64	Contact number of doctor/ambulance prominently displayed.	56	23.3	28	11.7	150	62.5	6	2.5
65	Staff trained on first aid & cardiopulmonary resuscitation (CPR).	65	27.1	33	13.8	141	58.8	1	.4

66	Health education on nutrition and balanced diet.	185	77.1	34	14.2	21	8.8	-	-
Descriptive Analysis of Items on Safety Parameters on School Safety Checklist									
67	Health education on alternatives to junk food.	188	78.3	32	13.3	20	8.3	-	-
68	School canteen, if present free from filth, rodents etc.	153	63.8	29	12.1	51	21.3	7	2.9
69	Food products in canteen all covered.	159	66.3	23	9.6	53	22.1	5	2.1
70	Teachers observe eating habits during break.	195	81.3	25	10.4	14	5.8	6	2.5
71	Weakly personal hygiene checks- hair, nails, clothes, teeth etc.	209	87.1	18	7.5	10	4.2	3	1.3
72	Separate toilets for boys and girls.	138	57.5	29	12.1	69	28.8	4	1.7
73	Separate toilet for children with disability.	37	15.4	14	5.8	184	76.7	5	2.1
74	Age-appropriate toilet system.	116	48.3	45	18.8	71	29.6	8	3.3
75	Attendants for children aged 3-6 while using the toilet.	149	62.1	50	20.8	32	13.3	9	3.8
76	Running water available in all toilets.	109	45.4	49	20.4	75	31.3	7	2.9
77	Toilets clean and regularly maintained	153	63.8	53	22.1	30	12.5	4	1.7
78	Regular inspection of sanitation facilities.	142	59.2	54	22.5	40	16.7	4	1.7
79	School regularly conducts hand-washing sections for children.	152	63.3	59	24.6	24	10.0	5	2.1
80	Hygiene messages incorporated into curriculum.	194	80.8	26	10.8	15	6.3	5	2.1
H	**Social and Emotional Safety**								
81	Grievance committee on child sexual abuse (CSA).	68	28.3	44	18.3	125	52.1	3	1.3
82	All staff are sensitized on CSA committee and child laws.	94	39.2	31	12.9	112	46.7	3	1.3
83	All staff trained to be alert to child abuse indicators.	108	45.0	40	16.7	90	37.5	2	.8

84	Parents regularly sensitized on CSA reports mechanism.	69	28.8	58	24.2	109	45.4	4	1.7
85	Children regularly sensitized on CSA reports mechanism.	75	31.3	54	22.5	108	45.0	3	1.3
86	Any verification protocol for all staff working with children.	83	34.6	47	19.6	106	44.2	4	1.7
87	Training for all staff on child safety and child abuse.	106	44.2	49	20.4	82	34.2	3	1.3
Descriptive Analysis of Items on Safety Parameters on School Safety Checklist									
88	Child safety posters prominently displayed in school.	67	27.9	32	13.3	137	57.1	4	1.7
89	Child safety/protection materials accessible in school library.	72	30.0	23	9.6	139	57.9	6	2.5
90	Qualified child counselor/psychol ogist full or part time.	87	36.3	70	29.2	78	32.5	5	2.1
91	Children regularly oriented towards good and bad touch.	141	58.8	48	20.0	46	19.2	5	2.1
92	Sensitization on substance abuse.	136	56.7	45	18.8	57	23.8	2	.8
93	Sensitization on self-respect.	182	75.8	34	14.2	22	9.2	2	.8
94	Sensitization on gender issues.	162	67.5	49	20.4	27	11.3	2	.8
95	Anti-bullying policy/committee in place in school.	104	43.3	64	26.7	70	29.2	2	.8
96	Children aware of anti-bullying policy/committee.	109	45.4	53	22.1	73	30.4	5	2.1
97	Children taught skills to cope with negative emotions like anger, stress and fear.	168	70.0	41	17.1	29	12.1	2	.8
98	Children taught on self-confidence and good self-esteem.	187	77.9	35	14.6	14	5.8	4	1.7

99	Children cautioned on gutter language, rudeness, politeness etc.	204	85.0	23	9.6	11	4.6	2	.8
1	**Cyber Safety**								
100	Teachers check phones/other devices for materials harmful to children.	155	64.6	19	7.9	42	17.5	24	10.0

CWF= Condition well fulfilled, CFF=Condition fairly fulfilled, CNF= Condition not fulfilled, NA=Not available.

The result shown in Table 2 shows that under school building safety parameter, 91.3 % of the early childhood education centres in Southwestern Nigeria have buildings that well fulfilled the condition of being free from inflammable materials. Also, 82.1% of the centres well fulfilled the conditions of cross-ventilation while 80.4% well fulfilled the condition of Classroom doors/emergency doors clear of obstruction, and Classrooms well-illuminated. Furthermore, 77.5% well fulfilled the condition of corridors/stair cases free of obstruction. However, 77.9%, 63.8%, 57.9%, and 50.0% of the centres failed to fulfil the conditions of CCTV monitoring system in place, Security guard on duty, Floor evacuation plan displayed, and School premises disable friendly respectively. On fire safety management, the percentages of centres that well-fulfilled the condition ranged from 5.8 to 22.9 while 67.1% to 83.8% of the centres failed to fulfil the conditions. Disaster prevention had 42.9% to 73.3% of centres that well fulfilled the conditions, while the percentages of those who failed to fulfil the condition ranged from 18.3 to 35.0.

Also, the percentages of centres that well fulfilled conditions for playground safety ranged from 13.3 to 82.9, while those that failed to fulfil those conditions ranged from 6.7 to 74.6 percent. Water hygiene had between 37.9 and 61.7 percent of centres that well fulfilled the conditions, while between 30.8 to 55.8 percent of the centres failed to fulfil the conditions. Early childhood education centres that well fulfilled transport safety conditions ranged from

31.3 to 53.8 percent, those who failed to fulfil the conditions were between 7.5 to 30.4 percent, while centres with no transport safety measures ranged from 32.1 to 36.3 percent. Health and safety strategies had between 15.4 to 87.1 percent of centres that well fulfilled the conditions while between 4.2 to 76.7 percent failed to fulfil the conditions. On social and emotional safety of the centres, 27.9 to 85.0 percent well fulfilled the condition while 4.6 to 57.9 percent failed to fulfil the conditions. Cyber safety had 64.6% of the centres that well fulfilled the condition of safety, 17.5 failed to fulfil the condition while 10.0 percent of the centres did not have such measure in place. The summary of the status of safety strategies of early childhood education centres in Southwestern Nigeria is presented in Table 2.

Table 3: Status of Safety Strategies of Early Childhood Education Centres in Southwestern Nigeria.

S/N	Safety Parameters	CWF		CFF		CNF		NA		Rmk
		F	%	F	%	F	%	F	%	
1	School Building	70	29.2	126	52.5	44	18.3	-	-	**FS**
2	Fire Safety Management	13	5.4	16	6.7	199	82.9	12	5.0	**NS**
3	Disaster Prevention	124	51.7	43	17.9	68	28.3	5	2.1	**HS**
4	Playground Safety	128	53.3	72	30.0	40	16.7	-	-	**HS**
5	Water Hygiene	108	45.0	36	15.0	94	39.2	2	.8	**FS**
6	Transport Safety	111	46.3	44	18.3	13	5.4	72	30.0	**FS**
7	Health and Safety	100	41.7	118	49.2	22	9.2	-	-	**FS**
8	Social and Emotional Safety	84	35.0	100	41.7	55	22.9	1	.4	**FS**
9	Cyber Safety	155	64.6	19	7.9	42	17.5	24	10.0	**HS**

HS= Highly Safer, FS= Fairly Safe, NS = Not Safe at all

Results in Table 3 show the status of safety strategies of early childhood education centres in Southwestern Nigeria. In terms of school building, it is shown that 29.2% and 52.5% of the centres respectively well fulfilled and fairly fulfilled the safety conditions while 18.3% of the centres failed to fulfill school building safety conditions. Therefore, in terms of school building, early childhood education centres in Southwestern Nigeria were fairly safe (FS). Considering the fire safety management of the centres, it is shown that 5.4% and 6.7% of the centres respectively well fulfilled and fairly fulfilled the conditions whereas, 82.9% failed to fulfilled the conditions while 5.0% of the centres did not have fire safety management measures in place. Therefore, early childhood

education centres in Southwestern Nigeria were not safe (NS) fire safety wise. In disaster prevention, 51.7% and 17.9% of the centres respectively well fulfilled and fairly fulfilled the conditions, 28.8% did not fulfil the conditions while 2.1% of the centres did not have such safety measure in place.

These centres were highly safe (HS) in terms of disaster prevention. Similarly, in terms of safety of playground, early childhood education centres in Southwestern Nigeria can be adjudged as highly safe (HS) as 53.3% and 30.0% of the centres respectively well fulfilled and fairly fulfilled the playground safety conditions while 16.7% failed to fulfil those conditions. In terms of water hygiene, 45.0% and 15.0% of the centres well fulfilled and fairly fulfilled the condition of safety, 39.2% did not fulfil the conditions while 0.8% did not have such measure in place. As a result, these centres can be adjudged as fairly safe (FS) in terms of water safety. The safety status of the centres in terms of transport safety is adjudged as fairly safe (FS) as 46.3% and 18.3% of the centres well fulfilled and fairly fulfilled the safety condition. However, while 5.4% did not fulfil the conditions, 30.0% of the centres did not have the measure in place at all. In the same vein, in terms of health and safety, and social and emotional safety, the centres were fairly safe (FS) 41.7% and 35.0% of the centres well fulfilled the conditions respectively while 49.2% and 41.7% respectively also fairly fulfilled the conditions. On cyber safety, the centres were highly safer as 64.6% and 7.9% of the centres respectively well fulfilled and fairly fulfilled the conditions, 17.5% failed to fulfil the conditions while 10.0% did not have such safety measure in place.

From the safety analyses above, it can be observed that while the early childhood education centres in Southwestern Nigeria were highly safe while considering disaster prevention, playground safety and cyber safety; they were fairly safe in school building, water hygiene, transport safety, health and safety, and social and emotional safety. However, in fire safety and management, they were not safe.

Research Question 2: How adequate are safety strategies in early childhood education centres?

In order to answer this research question, rated scores on each safety parameter were summed together and converted to percentage. The minimum and maximum percentage score were 34.3 and 96.7 respectively while the mean and standard deviation scores were 68.2 and 12.5. Score of 0-49 percent was adjudged as Not Adequate, 50-69 as Fairly Adequate while score of 70 percent and above was adjudged as Very Adequate. This categorization was then subjected to a descriptive analysis of frequency and percentage. The result is presented in Table 4.

Table 4: Adequacy of Safety Strategies in Early Childhood Education Centres Southwestern Nigeria

Adequacy of Safety Strategies	**Score Range (%)**	**Frequency (f)**	**Percentage (%)**
Not Adequate	0 – 49	13	5.4
Fairly Adequate	50 – 69	119	49.6
Very Adequate	70 – 100	108	45.0
Total		**240**	**100.0**

Result in Table 4 shows the adequacy of safety strategies in early childhood education centres Southwestern Nigeria. It is shown that safety strategies of 5.4% of the early childhood education centres Southwestern Nigeria were not adequate. Nonetheless, safety strategies of 49.6% and 45.0% of the centres were fairly adequate and very adequate respectively.

Conclusion

Early childhood education centres in Southwestern Nigeria were highly safe in disaster prevention, playground safety and cyber safety; they were fairly safe in school building, water hygiene, transport safety, health and safety, with social and emotional safety.

However, in fire safety and management, they were not safe and only 45.0% of the centres had very adequate safety strategies in place. School quality has a strong influence/impact on school safety.

Recommendations

1. There should be a massive awareness campaign as well as enlightenment on fire safety and CCTV monitoring systems in Southwestern ECE centres to improve the current level of safety.
2. There is a need to be a strengthening of existing measures by local government health authorities to improve playground safety, water hygiene and general health and safety measures in ECE centres in Southwest Nigeria.
3. Local education districts and teachers' associations should encourage employment of teachers specifically trained in ECE in order to improve school quality which will increase school safety.

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