# Perception of Pupils, on Home Grown School Feeding Programme in Ebonyi State, South-East Nigeria

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#### **Abstract**

The purpose of the study was to determine the perception of pupils on the Home Grown School Feeding Programme in Ebonyi State, South-East Nigeria. The research utilized a cross-sectional survey research design on a population of 66591 pupils in the selected public primary schools. A sample of 540 pupils was used for the study. The instrument for data collection is a 30-item "Questionnaire on Perception of Pupils on Home Grown School Feeding Programme (QPPHGSFP)." Four hundred and eighty-six (486) copies of each questionnaire were administered and 483 (99.4%) were retrieved. Data were analyzed using frequencies and percentages. Chi-square statistic was used to test the null hypothesis at a p≤0.05 level of significance. Result showed that HGSFP makes the pupils to enroll, attend, remain in school. Pupils like the quality and the size of the food served, and it was locally produced. Age, sex, and class level was not significant (p>0.05) while the location was significant (p<0.05). Conclusively pupils' perception was good on HGSFP. We recommend that the government and other stakeholders in charge of the programme should remain committed to providing the needed resources for the smooth running of the programme to improve the educational infrastructure of rural communities.

**Keywords:** HGSFP, perception, pupils, socio-demography

## 1. Introduction

School feeding programme (SFP) according to World Bank is a targeted social safety nets that provide both educational and health benefits to the most vulnerable children, thereby increasing enrollment and attendance rates, reducing absenteeism, increasing cognitive development and improving food security at the household level (World Food Programme, 2015). Generally, the objectives for the school meals are mainly three; School feeding as a social safety net; as a requirement to advance learning and educational outcomes; and to boost nutrition and or health status of the school children (Aliyar, Gelli, & Hamdani 2015; Bashir, Lockheed, Ninan & Tan, 2018). School feeding programme attract children to school by providing nutritious meals in exchange for school participation. If children are malnourished, SFP may also boost learning and cognitive development by improving attention spans and nutrition. The attraction of these programme is their potential to improve both school participation, learning, and cognitive outcomes (Azubuike & Mbah, 2019).

Home Grown School Feeding Programme (HGSFP) can be seen as a vehicle to stimulate local economies by providing a market and source of income for local smallholder farmers (Gelli, Masset, Folso, Kusi, Arhinful, Asante, et al., 2016; Bundy, de Silva, Horton, Jamison & Patton, 2018a). Also, it can be used as a strategy to ensure that School feeding menus contain a variety of nutritious food that school children are accustomed to (Aliyar, Gelli, & Hamdani, 2015; Bundy, de Silva, Horton, Jamison & Patton 2018b). Besides, the school feeding programme (SFPs) is intended to alleviate short-term hunger, improve nutrition and cognition of children and transfer income to families (Cole, 2013).

While schools in countries under high and upper-middle-income have access to food for all school children, those

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nations under-middle and low-income, have limited or no access to food provision in schools (Yendaw and Dayour, 2015). For instance, nearly half the world's schoolchildren, some 310 million, in low- and middle-income countries eat a daily meal at school. India now feeds more than 100 million children; Brazil 48 million; China 44 million; South Africa and Nigeria each more than 9 million (WFP, 2019).

However, in the U.S., the National School Lunch Program (NSLP) is the second-largest nutrition assistance program subsidizing over 30 million meals each school day at a Federal cost of \$14 billion annually (US Department of Agriculture Food and Nutrition Service, 2018). However, in Nigeria, the National Home Grown School Feeding Programme (NHGSFP) is a feeding programme that aims to improve the health and educational outcomes of public primary school pupils at the cost of N70 per day (NHGSFP, 2017). It uses farm produce locally grown by smallholder farmers to provide children nutritious mid-day meals on every school day (Drake, Woolnough, Burbano, & Bundy, 2016). The programme links local farmers to the education sector by facilitating their access to the school feeding market (NHGSFP, 2017) and support incomes of caterers and cooks involved in the foodservice provision (Gelli, Masset, Folson, Kusi, Arhinful, Asante, et al., 2016; World Food Programme, 2019).

It has been observed that factors such as hunger, illness, frequent truancy, lack of school requirements among others are the causes of poor enrollment and high dropout rates in schools (Kristjansson, Francis, Liberato, Benkhalti Jandu, Welch et al., 2012). Nevertheless, in regions where School feeding programme is functioning well, analysts have seen consistent positive effects of school feeding in its different modalities on energy intake, micronutrient status, school enrollment, and attendance of the children participating in SFPs compared to non-participants (World Bank, 2012; Kristiansson, Gelli, Welch, Greenhalgh, Liberato, Francis & Espejo, 2016). Studies have also indicated that the effective provision of food enhances school children participation. For instance, in the studies of Taylor and Ogbuogu, (2016) and Bundy et al., (2018b) pupils reported that the school feeding program contributes to their enrollment, attendance, and participation in primary schools. Also, Nikiema, 2017 found that take-home rations (THRs) increased school attendance for both boys and girls. however, the findings further showed that girls' enrolment rate within schools increased by 3.2 percent which was driven by the increase in the number of newly enrolled girls compared with boys.

Moreover, most of the studies conducted on Home Grown School Feeding Programme were done outside Nigeria and other parts of the country. There has not been any conducted in Ebonyi State to the best of the researchers' knowledge. This deficiency created the gap which the present study intended to fill.

## 1.1 Objective of the Study

To determine the perception of pupils on the Home Grown School Feeding Programme (HGSFP), based on age, sex, class, and location.

## 1.2 Significance of the Study

Findings from the study will assist in recommending the most effective strategy for implementing a result-oriented School Feeding programme in Ebonyi State of Nigeria. Intended beneficiaries (school children and families) will benefit maximally from the programme as a result of the implementation of recommendations from this work. Furthermore, stakeholders will be well informed on the relevance or otherwise of the SFP on primary education. Positive outcomes will get them committed to the success and sustenance of the programme. Also, the negative effects of the programme if found will be addressed.

# 1.3 Scope of the Study

The study will cover a total of 54 public primary schools from 7 LGAs (2 LGAs per senatorial zone) in Ebonyi State. This translates to 5% of schools from each of the 7 LGAs. The research is limited to the perception of pupils, on Home Grown School Feeding Program among primary school children in Ebonyi State.

# 1.4 Research Questions

1. What is the perception of pupils on the Home Grown School Feeding Programme (HGSFP) based on age, sex, class, and location?

# 1.5 Research Hypotheses

The following hypotheses will be specifically tested at p $\leq$  0.05 level of significance.

- 1. There is no significant difference in the pupils' perception of the school feeding programme based on age
- 2. There is no significant difference in the pupils' perception of the school feeding programme based on sex
- 3. There is no significant difference in the pupils' perception of the school feeding programme based on class level

4. There is no significant in the pupils' perception of the school feeding programme based on location

#### 1.6 Theoretical Framework

#### Gregory's theory of perception

One of the most widely held constructivist theories of perception is Gregory's theory who used the flow of ontogenetic time (Gregory, 1990). Gregory established mechanisms for the explanation of impressions and reasons why our perception is so complex and universal. One of the greatest advantages of his approach is that when speaking of the process of perception it takes into account our personal history and that he understood that to operate with sensory data does not necessarily mean to perceive, but to perceive always means to integrate feelings into a broader context of our beliefs and opinions. It also involves also active participation of higher cognitive functions responsible for constructing. The brain has to guess what an individual sees based on previous experiences (McLeod, 2018). This theory is suitable for this work because, based on the past experience of pupils that received food in the course of HGSFP, they will have to integrate their feelings and say their opinion.

#### 2. Methods

#### 2.1 Research Design

A descriptive, cross-sectional research design was used for this study.

# 2.2 Setting of Study

This study took place in 7 purposively selected LGAs in Ebonyi State, Southeast Nigeria.

## 2.3 Study Population

The population comprised 1066 public primary schools in the state practicing HGFSP. The population of pupils is 317, 087 (Ebonyi State Universal Basic Education Board, 2018).

## 2.4 Sampling and Sampling Technique

The sample size of the study is 486 pupils, in Fifty-four (54) Public Primary Schools, which is 5% of public Primary Schools, in Ebonyi State. A multistage sampling technique was used. This procedure involved first dividing the state into zones: Ebonyi North, Ebonyi Central, and Ebonyi South. secondly, purposive sampling was used to select the seven Local Government where the study was carried out, North-2, Central-2, and South-3 that are currently providing school meals (In-school), thirdly selection of schools in different LGAs and lastly, nine (9) pupils (3 in primary 1, 2, and 3 respectively) were randomly selected.

# 2.5 Instruments for Data Collection

A self- administered questionnaire was used to obtain information about school feeding from pupil. It consists of thirty (30) items in 2 Sections. Section A has 5 items on demographic data and section B has 25 items on the school feeding programme in the school. The face validity of the instrument was validated by two other experts and the reliability established from the result of two schools in Ebonyi State that is not included in the study. A high-reliability co-efficient of 0.934 was obtained hence, the instrument was considered reliable for use in this study.

# 2.6 Method of Data Collection

The researchers had meeting with the school headteachers who were used as research assistants. The procedure for data collection was explained and their consent obtained. The teachers explained the content of the questionnaire to the pupils. Data was retrieved from each school on agreed dates by the researchers. A total of four hundred and eighty-six (486) was distributed and 483 (99.4%) retrieved.

#### 2.7 Method of Data Analysis

Data generated were analyzed using SPSS Version 23. Descriptive statistics such as frequency, percentages, and chi-square were employed and hypotheses tested at p < 0.05 level of significance.

#### **Inclusion criteria**

Schools currently providing school meals (In-school) for the past six months.

#### **Exclusion criteria**

Schools not currently providing school meals (In-school).

## 2.8 Ethical Consideration

Ethical review and approval was obtained from the Ethical Committee of the State Ministries of Education and

Health.

#### 3. Results

#### 3.1 Socio-Demographic Characteristics of Respondents

A total of 483 pupils completed the questionnaire, out of which 254 (52.6%) were males, and 229(47.4%) were females. The age of the respondents was ranged between 4-13 years. distribution their age distribution was as follows: 146 (30.2%) were age 4-6 years, 253 (52.4%) 7-9 years, and 84(17.4%) 10-13 years with the mean age of 7.6±0.48 SD. Based on classes, 179 (37.1%) were in primary 1, 157(32.5%) primary 2 and 147(30.4%) primary 3. Concerning location, the majority of the pupils were living in the rural 321(66.5%) while less were in the urban 162(33.5%). (Table 1)

Table 1. Socio-demographic characteristics of respondents (n = 483)

Variable	Frequency	Percentage
Age in years		
4-6	146	30.2
7-9	253	52.4
10-13	84	17.4
Mean age: 7.6 ± 0.48, Min-Max: 4-13		
Sex		
Male	254	52.6
Female	229	47.4
Class		
Primary 1	179	37.1
Primary 2	157	32.5
Primary 3	147	30.4
Location		
Urban	162	33.5
Rural	321	66.5
Total	483	100.0

#### 3.2 Pupils Perception of Home Grown School Feeding Programme

The result of the study in table 2 revealed that the majority of the pupils 96.9% like HGSFP which showed good perception; 49.1% come to school with snack money before the introduction of HGSFP, while after the introduction of HGSFP, 20.3% come to school with snack money. Moreover, 89.9% of participates do better in class due to HGSFP. On attendance, retention, and enrollment, 76.8% of the pupils attend school every day, 85.1% remain in school till school dismisses, 88.6% come to school regularly, 73.1% tell other children to come to their school. In addition, majority of pupils were served with local foods such as yam porridge 470(97.3), rice 481(99.6), beans porridge 473 (97.9), okpa 464(96.1) and moi-moi 425(88.0) while, eggs 221(45.8), fruit 117(24.2), meat 87(18.0), fish 201(41.6), garri and soup 51(10.6), were served in smaller quantities. Only few students received zobo drink 21(4.3), buns 23(4.8), chin chin 9(1.9), and biscuit14(2.9) and noodles 13(2.7). (Table 2)

Table 2. Frequency and percentage of responses of pupils on their perception on HGSFP (n = 483)

S/N	******	Yes	No	
5/11	items	f(%)	f(%)	
1.	Like the Home Grown School Feeding Programme (HGSFP)?	468(96.9)	15(3.1)	
2.	Come to school with snack's money before the HGSFP?	237(49.1)	246(50.9)	
3.	Come to school with snack's money after HGSFP?	98(20.3)	385(79.7)	
4.	Food given to you is delicious and you like it?	446(92.3)	37(7.7)	
5.	Satisfied with the size of food given to you?	342(70.8)	141(29.2)	
6.	Attend school every day because of the food?	371(76.8)	112(23.2)	
7.	Remain in school till school dismisses because of the food?	411(85.1)	72(14.9)	
8.	Food helps you participate and understand better in class?	434(89.9)	49(10.1)	
9.	Food makes pupils in your class to come to school?	428(88.6)	55(11.4)	
10.	Tell other children to come to your school because of the food given?	353(73.1)	130(26.9)	
11.	Served with food such as; Yam porridge	470(97.3)	13(2.7)	
12.	Rice	481(99.6)	2(0.4)	
13.	Beans porridge	473(97.9)	10(2.1)	
14.	Okpa	464(96.1)	19(3.9)	
15.	Moi-moi	425(88.0)	58(12.0)	
16.	Eggs	221(45.8)	262(54.2)	
17.	Fruits	117(24.2)	366(75.8)	
18.	Meat	87(18.0)	396(82.0)	
19.	Fish	201(41.6)	282(58.4)	
20.	Garri and soup	51(10.6)	432(89.4)	
21.	Zobo drink	21(4.3)	462(95.7)	
22.	Buns	23(4.8)	460(95.2)	
23.	Biscuits	9(1.9)	474(98.1)	
24.	Chin-chin	14(2.9)	469(97.1)	
25.	Noodles	13(2.7)	470(97.3)	

# 3.3 Pupils Perception and Socio-Demographic Determinants

#### Age

We employed the Chi-square test and detected a statistically significant association between sociodemographic characteristics and perception. The good perception observed in this study was more among pupils within age 7-9 years (middle aged), however, there was no statistically significant association between the perception of pupils and age (p>0.05) in all the items. Though age was significant with pupils' perception on attendance (p=0.021\*), enrollment (0.000\*) and Biscuit meal (0.028\*). (Table 3)

#### Sex

The good perception observed in this study was found more among male pupils than females however, there was no statistically significant association between the perception of pupils and sex (p>0.05). (Table 4).

#### Class level

The study also revealed that there was no statistically significant association between the perception of pupils and class level(p>0.05). Nevertheless, pupils in primary one had a more positive perception than the other groups. (Table 5)

## Location

Fifteen out of twenty-five items on perception were statistically significant with location ( $p \le 0.05$ ) with those in the rural having a good perception more than those in the urban. These were on their perception of: size of food given (p=0.007\*); attendance (0.005\*); class participation (0.036\*), enrollment (0.004\*, 0.001\*). Then on food served: yam (0.009\*); moi-moi (0.002); eggs (0.00\*); fruit (0.00\*); meat (0.005); fish (0.026\*); Garri and soup (0.011\*) and zobo drink (0.017\*). (Table 6)

Table 3. Frequency, Percentage and Chi-square of Responses of pupils on their Perception of HGSFP based on age (n = 483)

S/n	Items -	4-6 years	Ages 7-9 years	10-13years	– χ² cal	
5/11		Yes	Yes	Yes	– х саг	p-value
		f(%)	f(%)	f(%)		
1.	Like the Home Grown School Feeding Programme (HGSFP)?	145(31.0)	243(51.9)	80(17.1)	4.212	0.122
2.	Come to school with snack's money before the HGSFP?	79(33.3)	122(51.5)	36(15.2)	2.854	0.240
3.	Come to school with snack's money after HGSFP?	27(27.6)	52(53.1)	19(19.4)	0.584	0.747
4.	Food given to you is delicious and you like it?	139(31.2)	233(52.2)	74(16.6)	3.856	0.145
5.	Satisfied with the size of food given to you?	104(30.4)	181(52.9)	57(16.7)	0.432	0.806
6.	Attend school every day because of the food?	124(33.4)	186(50.1)	61(16.4)	7.775	0.021*
7.	Remain in school till school dismisses because of the food?	130(31.6)	206(50.1)	75(18.2)	5.645	0.059
8.	Food helps you participate and understand better in class?	134(30.9)	225(51.8)	75(17.3)	0.860	0.651
9.	Food makes pupils in your class to come to school?	137(32.0)	219(51.2)	(72(16.8)	5.702	0.058
10.	Tell other children to come to your school because of the food given?	124(35.1)	164(46.5)	65(18.4)	19.986	0.000*
11.	Served with food such as; Yam porridge	143(30.4)	244(51.9)	83(17.7)	1.673	0.433
12.	Rice	146(30.4)	252(52.4)	83(17.2)	1.837	0.399
13.	Beans porridge	143(30.2)	247(52.)	83(17.5)	0.434	0.805
14.	Okpa	140(30.2)	245(52.8)	79(17.0)	1.316	0.518
15.	Moi-moi	128(30.1)	223(52.5)	74(17.4)	0.200	0.990
16.	Eggs	62(28.1)	122(55.2)	37(16.7)	1.355	0.508
17.	Fruits	31(26.5)	65(55.6)	21(17.9)	1.036	0.508
18.	Meat	25(28.7)	47(54.0)	15(17.2)	0.134	0.935
19.	Fish	63(31.3	106(52.7)	32(15.9)	0.578	0.749
20.	Garri and soup	14(27.5)	24(47.1)	13(25.5)	2.604	0.272
21.	Zobo drink	8(38.1)	8(38.1)	5(23.8)	1.825	0.402
22.	Buns	9(39.1)	10(43.5)	4(17.4)	0.999	0.607
23.	Biscuits	6(66.7)	1(11.1)	2(22.2)	7.133	0.028*
24.	Chin-chin	7(50.0)	4(28.6)	3(21.4)	3.560	0.169
25.	Noodles	6(46.2)	4(30.8)	3(23.0)	2.561	0.278

Table 4. Frequency, Percentage and Chi-square of responses of pupils on their Perception of HGSFP based on Sex n = (483)

	Items	Sex			
C/NI		Male	Female	- χ² cal	
S/N		Yes	Yes	х саг	p-value
		f(%)	f(%)		
1.	Like the Home Grown School Feeding Programme (HGSFP)?	248(53.0)	220(47.0)	0.984	0.321
2.	Come to school with snack's money before the HGSFP?	124(52.3)	113(47.7)	0.013	0.908
3.	Come to school with snack's money after HGSFP?	54(55.1)	44(44.9)	0.321	0.577
4.	Food given to you is delicious and you like it?	240(53.8)	206(46.2)	3.496	0.061
5.	Satisfied with the size of food given to you?	183(53.5)	159(46.5)	0.398	0.528
6.	Attend school every day because of the food?	203(54.7)	168(46.5)	2.909	0.880
7.	Remain in school till school dismisses because of the food?	215(52.3)	196(47.7)	0.085	0.771
8.	Food helps you participate and understand better in class?	233(53.7)	201(46.3)	2.071	0.150
9.	Food makes pupils in your class to come to school?	228(53.3)	200(46.7)	0.703	0.402
10.	Tell other children to come to your school because of the food given?	192(54.4)	161(45.6)	1.710	0.191
11.	Served with food such as; Yam porridge	248(52.4)	229(47.6)	0.222	0.638
12.	Rice	252(52.4)	229(47.6)	1.811	0.178
13.	Beans porridge	250(52.9)	223(47.1)	0.649	0.420
14.	Okpa	246(53.0)	218(47.0)	0.872	0.350
15.	Moi-moi	224(52.7)	201(47.3)	0.020	0.888
16.	Eggs	106(48.0)	115(52.0)	3.494	0.062
17.	Fruits	59(50.4)	58(49.6)	0.289	0.594
18.	Meat	47(54.0)	40(46.0)	0.088	0.767
19.	Fish	105(52.2)	96(47.8)	0.017	0.897
20.	Garri and soup	29(56.9)	22(43.1)	0.418	0.518
21.	Zobo drink	11(52.4)	10(47.6)	0.000	0.984
22.	Buns	11(47.8)	12(52.2)	0.220	0.639
23.	Biscuits	5(55.6)	4(44.4)	0.032	0.857
24.	Chin-chin	7(50.0)	7(50.0)	0.039	0.844
25.	Noodles	7(53.8)	6(46.2)	0.008	0.927

Table 5. Frequencies, Percentage and Chi-square of responses of pupils on their Perception HGSFP based on class levels n=483

		Class levels				
S/N	Items	Primary 1	Primary 2	Primary 3	– χ² cal	p-value
		Yes	Yes	Yes	- ~	
		f(%)	f(%)	f(%)		
1.	Like the Home Grown School Feeding Programme (HGSFP)?	37.2	32.3	30.6	0.398	0.820
2.	Come to school with snack's money before the HGSFP?	38.8	28.7	32.5	3.115	0.211
3.	Come to school with snack's money after HGSFP?	35.7	37.8	26.5	1.718	0.424
4.	Food given to you is delicious and you like it?	38.3	32.3	29.4	4.822	0.900
5.	Satisfied with the size of food given to you?	38.9	32.1	28.4	2.732	0.255
6.	Attend school every day because of the food?	38.8	32.1	29.1	2.341	0.310
7.	Remain in school till school dismisses because of the food?	37.5	32.1	30.4	0.253	0.881
8.	Food helps you participate and understand better in class?	37.8	33.4	28.8	5.438	0.066
9.	Food makes pupils in your class to come to school?	38.3	32.7	29.0	4.290	0.117
10.	Tell other children to come to your school because of the food given?	39.4	31.2	29.5	3.036	0.219
11.	Served with food such as; Yam porridge	36.8	32.3	30.9	1.438	0.487
12.	Rice	37.2	32.2	30.6	4.170	0.124
13.	Beans porridge	37.2	31.7	31.1	7.662	0.220
14.	Okpa	37.3	32.3	30.4	0.283	0.868
15.	Moi-moi	36.2	32.2	31.5	2.122	0.346
16.	Eggs	35.7	32.1	32.1	0.591	0.744
17.	Fruits	35.9	32.5	31.6	0.128	0.938
18.	Meat	42.5	33.3	24.1	2.261	0.323
19.	Fish	38.3	33.3	28.4	0.705	0.703
20.	Garri and soup	45.1	25.5	29.4	1.877	0.391
21.	Zobo drink	38.1	23.8	38.1	0.940	0.625
22.	Buns	39.1	34.8	26.1	0.216	0.897
23.	Biscuits	66.7	0.0	33.3	5.175	0.75
24.	Chin-chin	50.0	21.4	28.6	1.212	0.546
25.	Noodles	46.2	23.1	30.8	0.664	0.718

Table 6. Frequency, Percentage and Chi-square of responses of pupils on their Perception of HGSFP based on Location (n = 483)

			Location		
C/NI	Items	Urban	Rural	χ² cal	
S/N		Yes	Yes	χcai	p-value
		f(%)	f(%)		
1.	Like the Home Grown School Feeding Programme (HGSFP)?	158(33.8)	310(66.2)	0.328	0.567
2.	Come to school with snack's money before the HGSFP?	81(34.2)	156(65.8)	0.085	0.771
3.	Come to school with snack's money after HGSFP?	39(39.8)	59(60.2)	2.158	0.142
4.	Food given to you is delicious and you like it?	150(33.6)	296(66.4)	0.022	0.882
5.	Satisfied with the size of food given to you?	102(30.2)	240(70.2)	7.257	0.007*
6.	Attend school every day because of the food?	112(30.2)	259(69.8)	8.063	0.005*
7.	Remain in school till school dismisses because of the food?	132(32.1)	279(67.9)	2.507	0.113
8.	Food helps you participate and understand better in class?	139(32.0)	295(68.0)	4.392	0.036*
9.	Food makes pupils in your class to come to school?	134(31.3)	294(68.7)	8.400	0.004*
10.	Tell other children to come to your school because of the food given?	103(29.2)	250(70.8)	11.194	0.001*
11.	Served with food such as; Yam porridge	162(34.5)	308(65.5)	6.742	0.009*
12.	Rice	161(35.5)	320(66.5)	0.244	0.621
13.	Beans porridge	159(33.6)	314(66.4)	0.057	0.811
14.	Okpa	157(33.8)	307(66.2)	0.463	0.496
15.	Moi-moi	132(31.1)	293(68.9)	9.778	0.002*
16.	Eggs	41(18.6)	180(81.4)	41.060	0.000*
17.	Fruits	13(11.1)	104(88.9)	34.846	0.000*
18.	Meat	18(20.7)	69(79.3)	7.861	0.005*
19.	Fish	56(27.9)	145(72.1)	4.982	0.026*
20.	Garri and soup	9(17.6)	42(82.4)	6.462	0.011*
21.	Zobo drink	2(9.5)	19(90.5)	5.681	0.017*
22.	Buns	7(30.4)	16(69.6)	0.104	0.747
23.	Biscuits	4(44.4)	5(55.6)	0.489	0.484
24.	Chin-chin	1(7.1)	13(92.9)	4.507	0.034*
25.	Noodles	1(7.7)	12(92.3)	4.004	0.045*

#### 4. Discussion

## 4.1 Pupils perception of Home Grown School Feeding Programme

The result of the study revealed that the majority of the pupils 96.9% like HGSFP which showed a good perception; 49.1% come to school with snack money before the introduction of HGSFP, while after the introduction of HGSFP, 20.3% come to school with snack money, which is in line with World Bank, (2012), Day, Sahota, Christian & Cocks, (2015), Gelli et al, 2016 who stated that the programme indirectly impacts the economic and social lives of pupils and their families which is one of the rationales of HGSFP. On the quality and quantity of food, 92.3% like the quality of food, and 70.8% are satisfied with the size of food given. This finding was supported by Ngussa, & Twarira (2020) who reported that pupils viewed food served as enough and delicious. In contrast, Yendaw & Dayour, (2015); and Mensah (2016) reported that pupils viewed meals prepared for them were not served on time, moderately low quality, and not sufficient.

Furthermore, 89.9% of participants perceived they do better in class due to HGSFP which agrees with Alderman Gilligan, & Lehrer (2010); Yunusa, (2012), Just, (2014), Stuber, (2014), Muiru, Thinguri, Njagi & Kiarie (2014);

Hussien, Ibrahim, & Hassanin (2015); Ngussa, and Mbifile (2016); Anderson Gallagher, & Ritchie (2017); Nyakundi (2017); World Food Programme (2017); Bashir Lockheed, Ninan, & Tan (2018); Maijo (2019); Azubuike & Mbah, (2019); and Mwendwa, & Gori (2019) whose studies revealed that school feeding program has a significant influence on school participation, effectiveness in learning and cognitive outcomes. In contrast, Michelmore, & Dynarski (2017) found no influence learning activities of pupils.

On attendance, retention, and enrollment, 76.8% of the pupils perceived they attend school every day, 85.1% remain in school till school dismisses, 88.6% come to school regularly, 73.1% tell other children to come to their school. This is similar to the findings of the World Food Programme (2010); Jomaa, McDonnell & Probart, (2011); Osei- Fosu, (2011); Uwameiye and Salami. (2013); Dei (2014); Stuber, (2014); Mkanyika (2014), Yendaw and dayour, (2015); Snilstveit, Stevenson, Phillips, Vojtkova, and Gallagher (2015); Chaula (2015); Gelli (2015); Sanya (2015); Uwameiye, (2016); Taylor & Ogbogu, (2016); Kristiansson et al. (2016); WFP (2016); Nyakundi (2017); Ibrahim, (2017); Milledzi, Keney & Amponsah (2017); Mahama, (2017); Serebour, (2017); Phiri & Chisala (2017); Reuben (2017); Lee, (2018); Gyasi, Asante, Adans, & Antwi- Boasiako, (2018); Konzabre, (2018); Tagoe, (2018); Salifu, Boateng, and Kunduzore (2018); Aurino, Tranchant, Diallo, and Gelli (2018); Bundy et al. (2018); Maijo (2018); Snilstveit et al. (2018); Mwendwa, & Gori (2019); Azubuike and Mbah, (2019); and Kilu and Mugambi (2019) who reported levels of increase in enrolment and attendance, retention promote retention, reducing absenteeism and dropouts, and improving learning outcomes among primary schools pupils.

The study also showed that pupils were served with local foods such as yam, rice, bean porridge, etc. this is in line with Devereux, Hochfeld, Karriem, Mensah, Morahanye, Msimango, Mukubonda, Naicker, Nkomo, Sanders, Sanousi, (2018) and Sitao, (2018) who reported that most products used were grown locally and will improve the income of farmers in the areas. However, even though pupils perceived food as being delicious, the food served pupils were not balanced as the majority reported they were not given eggs, meat, fish, and fruits. In other words, the school food menu need to incorporate appropriate and balance meals for school children. Zobo drink, buns, biscuits chin-chin, and noodles were not supposed to be given to the children as they were not in the meal plan of the Nigeria School Feeding Programme.

## 4.2 Pupils Perception and Socio-Demographic Determinants

Based on age, the good perception observed in this study was more among pupils within age 7-9 years (middle-aged), however, there was no statistically significant association between the perception of pupils and age (p>0.05) in all the items. Though age was significant with pupils' perception of attendance (p=0.021\*), enrollment (0.000\*) and Biscuit meal (0.028\*). This is in agreement with the result of Bukari & Hajara (2015) who revealed that enrollments showed positive significant correlations (p<0.05) with age.

Furthermore, the good perception observed in this study was found more among male pupils than females however, there was no statistically significant association between the perception of pupils and sex (p>0.05). This is at variance with the result of Day, et al. (2015), Hussein, et al., (2015) who stated that girls were more satisfied than boys.

The study also revealed that there was no statistically significant association between the perception of pupils and class level(p>0.05). Nevertheless, pupils in primary one had a more positive perception than the other groups. This is opposite to the findings of Day, et al., (2015), who stated that pupils from higher class seemed to perceive their school meals generally healthy.

Based on location, fifteen out of twenty-five items on perception were statistically significant with location ( $p \le 0.05$ ) with those in the rural having a good perception more than those in the urban. These were on their perception of: size of food given (p=0.007\*); attendance (0.005\*); class participation (0.036\*), enrollment (0.004\*, 0.001\*). Then on food served: yam (0.009\*); moi-moi (0.002); eggs (0.00\*); fruit (0.00\*); meat (0.005); fish (0.026\*); Garri and soup (0.011\*) and zobo drink (0.017\*). This assertion is at variance with the findings of Lagbo, (2012) who revealed that the urban school had more children enrolled than the rural community school.

In other words, the hypotheses of no significant difference in perception based on age, sex and class level were accepted. While that of location was rejected in this study.

However, there were some limitations in the study which include, time consumption, and difficulties in understanding the questionnaire. However, they were assisted by the teachers' interpretation of the content in their local language where necessary.

#### 5. Conclusion

Conclusively, pupils' perception of HGSFP was good on enrollment, attendance, retention dropout, class

participation, quality, and size of food though not a balanced diet. Food served was locally procured. Their age, sex, and class level was not significant with their perception of HGSFP while location was significant. Also, the were served locally grown food. We recommend that the government and other stakeholders in charge of the programme should remain committed to providing the needed resources for the smooth running of the programme to improve the educational infrastructure of rural communities. The school should explore further avenues to promote the active involvement of parents, communities, and local authorities in the development and implementation of the school feeding programme. The school should further enhance its agricultural activities and the school garden as an integral part of the school feeding programme.

## **Competing Interests Statement**

The authors declare that there are no competing or potential conflicts of interest.

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