

## ASSESSMENT OF ATTITUDES AND PERCEPTIONS ON SUSTAINABLE NUTRITION PRACTICES AMONG STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN ABEOKUTA, OGUN STATE, NIGERIA

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### ABSTRACT

Growing concerns about the health, environmental, and social consequences of food choices have led to a greater focus on sustainable nutrition. This study assessed the consumer behaviour and perceptions of sustainable nutrition practices among students in selected tertiary institutions in Ogun State, Nigeria. A total of 435 respondents participated in the survey, using a semi-structured questionnaire to collect data on socio-demographics, awareness, attitudes, consumption patterns, and perceived barriers towards sustainable nutrition. Findings show that 76.8% of respondents were aged 18–25 years. Only 44.8% had previously encountered the term “sustainable diet,” mainly through school (18.3%) or online sources (17.3%). While 39% reported considering sustainability in their food choices, 54.8% expressed a willingness to pay more for environmentally friendly products. Common practices included cooking to reduce left overs (64.5%) and buying locally sourced foods (65%), while avoiding imported foods was least observed (26.8%). Difficulty in changing habits (37%) was the most cited barrier. The study highlights a positive attitude towards sustainable nutrition among students, but also reveals limited awareness and behavioural gaps. Targeted nutrition education and institutional sensitisation are recommended to promote sustainable dietary behaviours among young adults in tertiary institutions.

**Keywords:** Sustainable nutrition, Consumer behaviour, Food system

### INTRODUCTION

Sustainable nutrition has gained global attention in recent years in response to the dual challenge of rising diet-related health issues and environmental degradation caused by modern food systems. Von Koerber et al. (2017) defined sustainable nutrition as dietary practices that minimize environmental impacts while supporting food and nutrition security and fostering good health across generations. Such diets enhance overall well-being and are designed to meet current needs without compromising the ability of future generations to do the same (Cena and Calder, 2020). The EAT-Lancet Commission and the United Nations Sustainable Development Goals (SDGs) both emphasized the need for dietary shifts that promote both human health and planetary sustainability.

In recent years, a growing emphasis on sustainable nutrition practices has been driven by increasing awareness of food choices' environmental, social, and health impacts (Monterrosa *et al.*, 2020). However, the adoption of sustainable nutrition practices among students in tertiary institutions remains varied and inconsistent (Aguirre-Sánchez *et al.*, 2021). Students in tertiary institutions often live alone, away from family supervision and make independent food choices, influenced by a complex mix of personal values, social pressures, and economic constraints (Scaglioni *et al.*, 2018). With increasing access to diverse food options and changing lifestyle patterns, assessing how students make dietary choices and perceive nutrition-related information is essential. Moreover, the academic environment provides a fertile ground for both the dissemination of knowledge and the fostering of behaviours that can have long-term impacts on health and sustainability (Clark *et al.*, 2016). However, the current body of research does not fully address how these students perceive sustainable nutrition practices, and does not adequately explore the behavioural drivers that influence their adoption of such practices.

This study, therefore, aimed to examine consumer behaviour and perceptions related to sustainable nutrition practices among students in selected tertiary institutions in Abeokuta, Ogun State, Nigeria.

### MATERIALS AND METHODS

#### Study Area

The study was conducted in Abeokuta, Ogun State. Abeokuta is the state capital and the largest city in the State. It is located at 7°09'–7°39' E and 3°20'–3°54' N, on the east bank of the Ogun River, near a group of rocky outcroppings that rise above the surrounding wooded savanna (Taiwo *et al.*, 2023). The primary source of livelihood is farming, stone quarrying, and the making of indigo tie and die textile, popularly known as *adire*. Abeokuta is comprised of three local government areas: Abeokuta North, Abeokuta South, and Odeda. In addition, Abeokuta is home to three public tertiary institutions, including the Federal University of Agriculture, Abeokuta (FUNAAB), Moshood Abiola Polytechnic (MAPOLY), and Federal College of Education, Abeokuta (FCE).

#### Study Design

The study employed a descriptive cross-sectional design.

#### Sample Size Determination

The sample size was determined using Slovin's formula

$$n = \frac{N}{1 + Ne^2}$$

where,

n= number of samples

The population of students in FUNAAB = 19,357  
([funeral.edu.ng](http://funeral.edu.ng))

The population of students in MAUSTECH = 18,878  
([mapoly.edu.ng](http://mapoly.edu.ng))

N= total population size (19,357+18,878) = 38,235

$e = \text{error of margin } (0.05)$

therefore,

$$n = 38,235 / (1 + 38,235(0.05^2))$$

$$n = 395.9$$

The sample size was increased to 435 to cater for attrition ( $395.9 + 10\%$  of 395.9); however, 400 respondents' data were included in the analyses after data cleaning.

### Sampling Technique

A multistage random sampling technique was employed. In the first stage, two tertiary institutions, a federal university and a state polytechnic, were randomly selected for the study based on enrolment. At the second stage, a simple random sampling was utilised to select colleges/schools within each institution, and then departments within the respective college or school. In the final stage, stratified random sampling was employed to select respondents from different academic levels (based on year of study).

### Data Collection

A semi-structured questionnaire divided into five (5) sections was used to collect data on the socio-demographic and economic characteristics, the awareness and understanding of sustainable nutritional practices, attitude and perception towards sustainable nutrition, consumption patterns of the respondents, and the barriers and facilitators to the adoption of sustainable dietary practices. The questions were adapted from previous research (Sanchez-Bravo et al., 2020; Tobler et al., 2011; Joshi et al., 2023). The obtained data were analysed using SPSS version 22.0.

The departmental board of the Nutrition and Dietetics department, Federal University of Agriculture Abeokuta, Abeokuta, Nigeria, approved the study.

### RESULTS AND DISCUSSION

Table 1 shows the socio-economic characteristics of the respondents. The majority (76.8%) are young adults between 18 and 25 years old, with more females (55.3%) than male respondents (44.8%). Most of the respondents (34.3%) earn between 20,000 and 40,000 naira per month.

**Table 1: Socio-economic Characteristics of Respondents**

Variable	% (n=400)
<b>Age</b>	
<18	13.5
18-25	76.8
>25	9.8
<b>Sex</b>	
Male	44.8
Female	55.3
<b>Religion</b>	
Christianity	74.0
Islam	26.0
<b>Ethnicity</b>	
Yoruba	74.5
Hausa	4.0
Igbo	15.5
Others	7.7
<b>Estimated Monthly Income (₦)</b>	
≤ 20,000	30
20,000-40,000	34.3
41,000-60,000	17.5
> 60,000	18.3

Nearly half (44.8%) had heard the term "sustainable diet" or "sustainable nutrition" before, while 55.3% had not. Schools (18.3%) and online sources (17.3%) were the most common sources from which respondents learned about the concept

(Table 2). Thirty-five per cent of the respondents expressed strong awareness that seasonal fruits and vegetables are better for the environment. However, about a quarter of the respondents showed a lack of awareness.

**Table 2: Sustainable Nutrition Awareness**

Variable	% (n=400)
<b>Have you heard the term sustainable diet/nutrition before?</b>	
Yes	44.8
No	55.3
<b>If yes, where?</b>	
Online	16
School	18.3
Friends	6
Social media	3.8
Others	0.8
N/A	55.3
<b>To what extent are you aware of sustainable nutrition practices?</b>	
Very aware	23.0
Somewhat aware	25.0
Neutral	17.8
Somewhat unaware	9.3
Very unaware	25.0

Table 3 presents the respondents' attitudes towards sustainable nutrition. Some of the participants (25.3% "always" and 26.3% "often") consider the sustainability of their food choices when making decisions. About a third of respondents (31.3%) reported to always pay attention to the environmental impact statement on the food label/package

while purchasing food, with another quarter (28%) often doing so. Over half of the respondents reported frequently including locally sourced or seasonal foods in their meals. Furthermore, over half (54.8%) indicated a willingness to pay more for products with a lower environmental impact.

**Table 3: Attitudes Towards Sustainable Nutrition**

Variable	Percentage (n=400)
<b>How often do you consider the sustainability of your food choices?</b>	
Always	25.3
Often	26.3
Occasionally	23.5
Rarely	13
Never	11
<b>How often do you pay attention to the environmental impact statement on the food label/package while purchasing food?</b>	
Always	31.3
Often	28
Occasionally	21.3
Rarely	12.8
Never	6.8
<b>How frequently do you include locally sourced or seasonal foods in your meals?</b>	
Always	24.8
Often	28.5
Occasionally	32.3
Rarely	11.5
Never	3.0
<b>Would you pay more for products with less environmental impact?</b>	
Yes	54.8
No	45.3

Most respondents (72%) agreed that eating fresh rather than dried fruit is more sustainable due to the energy required for drying and that traditional food varieties are more sustainable because they promote biodiversity (Table 4).

**Table 4: Perception towards Sustainable Nutrition (n = 400)**

Variables	A	SA	N	D	SD
It is more sustainable to eat fresh fruit than dry fruit because energy is needed to dry the products	57	60	94	10	8
Organic vegetables are the perfect choice for consumers because they are bacteria-free.	42.8	27.5	20.5	6.8	2.5
Reducing the intake of animal fats can be considered a sustainable behaviour because it reduces medical expenses.	43	19	30	6.8	1.3
Seasonal fruits are the most sustainable foods; they can be eaten directly from the plant.	48.8	17.0	26.3	7.5	0.5
Making yogurt at home is more sustainable than buying it from the store.	41.8	20	23.3	13.5	1.5
Traditional food varieties are sustainable because they increase biodiversity	51.5	21.3	20.8	5.3	1.3

NB: Agree (A), Strongly Agree (SD), Neutral (N), Disagree (D), Strongly Disagree (SD)

Forty-one percent and 34.8% of respondents respectively were willing to adopt more environmentally friendly practices of choosing items with minimal packaging to reduce waste and choosing food items that have not been imported by

airplane to reduce carbon footprint, however, about a quarter of the respondents did not express willingness to adopt these practices (Table 5).

**Table 5: Friendly Food Consumption Pattern (n = 400)**

Variables	I am doing this already	I would like to do this	I am not doing this and I am not willing to	I don't know
Purchase locally sourced foods.	65	16.8	10	8.3
Choose items with minimal packaging to reduce waste	35.8	41	10.8	12.5
Choose food items that have not been imported by airplane to reduce carbon footprint.	26.8	34.8	25.8	12.8
Purchase organic produce	45.5	27	14.2	13.3
Consume only fruits and vegetables that are in season	53.5	25.8	11.3	9.5
Eat meat at most, twice a week, or a little at a time	54	25.8	14.2	6.0
I cook in a way to avoid having leftovers to throw away	64.5	19	9.5	7

Difficulty changing consumption and shopping routines (50.5%), lack of information and clear labelling of sustainable foods (44%), and perceived higher cost of sustainable foods

(38.5%) are some of the barriers to the adoption of sustainable nutrition among students (Table 6).

**Table 6: Barriers to the Adoption of Sustainable Nutrition Practices (n = 400)**

Variables	A	SA	N	D	SD
I have not heard of sustainable foods	44.8	6.0	17.8	22.8	8.8
Sustainable foods are not available where I shop	23.8	17.3	31.8	20.5	6.8
Lack of clear labeling of sustainable foods	28.5	15.5	32.8	15.5	7.8
I do not know where to buy such products.	24.5	17.3	28.7	23.5	6.0
Sustainable foods are too expensive	26.5	12.0	36.8	17.3	7.5
Sustainable foods do not taste good	14.8	11.5	42	22.3	9.5
I do not believe in what is promised by these products	29.5	14.2	33.3	16.8	6.3
It is difficult to change my consumption and shopping routine	37	13.5	21	22	6.6
I do not know what fruits and vegetables are in season	29.8	18	19	24.5	8.8
Lack of cooking skills	21	14.8	20	28.2	16.0

NB: Agree (A), Strongly Agree (SD), Neutral (N), Disagree (D), Strongly Disagree (SD)

## Discussion

This study assessed tertiary institution students' awareness, perceptions, and practices of sustainable nutrition. The respondents' characteristics are consistent with previous research among similar demographics in Nigeria, being predominantly young, female and single (Akinbule et al., 2024). The period of emerging adulthood characterises the transitioning period between adolescence to young adulthood and the age of acquisition of tertiary education.

The concepts of sustainable nutrition and diets are gaining increasing focus for protecting the long-term well-being of humanity. Consequently, awareness and understanding of these concepts are growing worldwide. However, more than half of this study's respondents reported not having previously heard of sustainable nutrition/diet, this reflects a concerning gap in awareness suggesting that despite global efforts to promote sustainability in food systems, the message may not be reaching younger populations in academic settings. The

reported level of awareness in this study is lower, compared with findings among university students in Istanbul by Yuskel and Onal (2021). Fifty-eight percent of the students reported to have heard of sustainable diet and 67% could describe what sustainable nutrition is (Yuskel and Onal, 2021). Perceptions and practice are deeply tied to awareness. If people are unaware of sustainable nutrition, it is unlikely that they will intentionally engage in practices that align with the principles. However, among those aware of the concept, school and online platforms were the most common sources of information. This highlights the role of formal education and digital platforms in shaping students' knowledge and promising avenues for future interventions. In this study, about fifty per cent of respondents know that seasonal fruits and vegetables are better for the environment. This finding aligns with the findings of Irazusta-Garmendia *et al.* (2023), which recorded high awareness (12.3%) that plant-based foods have a high environmental impact.

Despite the low awareness, many of the respondents demonstrated positive attitudes towards sustainability in food choices with about half of the respondents reported to consider the sustainability of food products when shopping suggesting openness to sustainability. In a study by Busquets *et al.*, 59% acknowledge that they take sustainability into account when shopping. This pattern aligns with studies showing that values and attitudes to sustainability can exist even in the absence of technical familiarity (Kenny *et al.*, 2023; Irazusta-Garmendia *et al.*, 2023). Furthermore, over half stated that they are willing to pay more for products with less environmental impact, similar to the findings of Irazusta-Garmendia *et al.* (2023). These findings reflect health consciousness and the fact environmental consideration is already playing a role in the consumption behaviour of a significant proportion of the student population. This suggests a latent potential for broader adoption of sustainable nutrition practices if targeted educational strategies and enabling environment are introduced.

Overall, participants agreed more strongly with statements that organic vegetables are the perfect choice for customers because they are bacteria-free and that eating fresh fruit is more sustainable than dry fruit, because energy is needed to dry the products. The findings of the high perception of sustainable foods among undergraduates in this study are consistent with the evidence of previous studies (Jungbluth *et al.*, 2000; Daniel *et al.*, 2021).

Food consumption is associated with various environmental impacts, so consumers' food choices include significant environmental impact (Tobler *et al.*, 2011). This study discovered that most participants are open to buying locally sourced food, choosing products with minimal packaging to reduce waste, and even considering organic options. Most participants reported being conscious of avoiding leftovers and wastage during cooking. According to the United Nations, 121kg of food are wasted annually per capita globally (United Nations Environment Programme, 2021). The participants expressed low consumption of red meat, which may reflect awareness of its environmental impact or health risks associated with red meat consumption.

One of the barriers identified affecting the adoption of sustainable nutrition practices is a lack of awareness of sustainable foods. Without knowledge about how sustainable nutrition contributes to personal health and environmental well-being, the respondents are less likely to prioritise or incorporate these practices into their lives. Additionally, without awareness, the individuals might not know what sustainable options are available or how to access them,

leading to a continuation of unsustainable habits. This finding aligns with the study by Baungaard *et al.* (2023), who reported lack of knowledge and education as barrier to the adoption of sustainable nutrition practices among university students.

## CONCLUSION

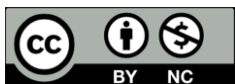
Most respondents were young adults aged 18-25, with a slightly higher proportion of females. Over half of the respondents had not heard of sustainable diet/nutrition. Those who were primarily aware learned about it through school or online sources, indicating a need for more comprehensive education on sustainable nutrition. Incorporating sustainability concepts into general education curricula, student-led campaigns and university policy reforms may help bridge this gap.

Attitudes towards sustainable nutrition were generally positive, with many students considering sustainability in their food choices. There was strong agreement on practices like consuming fresh fruits and traditional food varieties and purchasing locally sourced food, with many respondents willing to adopt sustainable nutrition practices. More efforts should be directed towards sustainable nutrition education to increase awareness and promote healthy practices.

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