Innovations

The Effect of Cultural Factors onSustainable Food Consumption in Nigeria

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Abstract
Food consumption is very important in the health and well being of individuals in an economy.The study illustrated the effect of cultural factors such as religion,customs and tradition; consumer habits on sustainable food consumption. Data were collected from 940 households in study with the help of a well structured questionnaire. Regression analysis was used to test for the significance Nigeria for this of the effect of the identified variables on sustainable food consumption.Results revealed that gender played a role in sustainable food consumption. Women were seen to eat more of pastas, milk, cheese, bread than men. Results also showed the significant effect of the afore mentioned cultural factors in Nigeria.All Cultural factors (Religion, customs and tradition, and consumer habits) were seen to be significant, thus, has a great effect on sustainable food consumption. It emphasized the critical importance of taking these cultural factors into consideration and developing strategies for modifying food consumption practices.The study recommends government efforts through policy initiatives to facilitate, enhance and support local food consumption.

Keywords: 1.*Culture, 2.Sustainable food consumption, 3.religion, 4.customs and tradition, 5.consumer habits.*

Introduction

Food is important for everyday living and food is gotten from agriculture and its related activities. The Stern report calculated that agriculture contributes about 69percent of Green House Gas (GHGs) emission and of those agriculture related GHGs, animals are responsible for 31percent and fertilizers for 38percent (Stern, 2006). In line with the above, the European Commission Assessment of Europeans consumption pattern concluded that food accounts for one third of GHGs emissions (Tukker, Bausch and Verheijden, 2009). It is evident that meat and dairy are the most significant sources of GHGs and other environmental impact. Diary animals have a high impact on land use, water and cereals.

Food consumption is very important in the health and well being of individuals in an economy by sustaining lives. Thus, the United Nations' Sustainable Development Goals (SDGs) have four out of 17 elements focused on food, health and sustainable consumption: SDG 2 focuses on Zero hunger, SDG 3 emphasizes Good Health and Well being, SDG 6 proposes Clean Water and sanitation and SDG 12 emphasizes Responsible Consumption and Production (United Nations Development Program, 2015). Africa with a fast rising population of over 1.25 billion and a growth rate of 2.5% per annum has witnessed several unsustainable food related issues, some of which is as a result of a shift in consumption patterns towards more animal protein, emergence of heavily processed/packaged

food labels, widening gap between the rich and poor, lack of food security down to increased rate of food waste which has led to escalating rates of health related diseases and disorders such as obesity, malnutrition and death. There is also a change in Consumer food habits majorly due to development and globalization which has given rise to too many food labels-packaged, processed and over processed. Although globalization is accompanied by changes from traditional food to adoption of western diets, but then sometimes, food habits internalized during early globalization are still adhered to and retained. While food plays an important role in satisfying individuals' basic needs, consuming food in excess to the body's needs may lead to undesirable health outcomes. As a result of this, most developed economies like United Kingdom, Germany, Netherlands, Sweden, Brazil are restricting food supplies and placing strict regulations to consumption patterns. This is basically because the consumption of nutritious, safe and appropriate foods leads to a well nourished and healthy society. Also, a healthy food environment is essential to protect individuals and communities from diseases and other public health risks (Follard, Savage, Landrigan, Hanbury and Keir, 2015). Reisch, Eberle and Lorek (2013) noted that food habits and preferences are shaped by cultural traditions, norms, fashion, psychological needs and personal food experiences. Nigerians are comparatively high consumers of processed foods. The value of Nigerian food import in 2015 – 2017 is about #1.0 billion per day with foods and beverages ranking 58 percent of the imports (www.tradingeconomics.com). These imports are largely soft drink, oil and fat, confectionaries and so on. National Health and Medical Research Council (2013) establishes that diet related diseases are as a result of inadequate intake of fruits and vegetables, and over consumption of energy dense, nutrient poor foods.

Then we are posed with the question; what effect does cultural factors have on sustainable food consumption? Many questions are unanswered about the specifics and dynamics of sustainable consumption, which are due to the shortcomings of previous research, but this study will demonstrate the role played by the elements of culture in food consumption, what differences can be observed in the food consumption of different populations, and how cultural factors such as customs and traditions, religion, and consumer habits affect food consumption habits. Nevertheless, not forgetting the importance of other factors such as taste, economic factors, social factors and so on, on sustainable food consumption. The World Health Organization (WHO) emphasizes the benefits of looking at social, cultural, political, physical and structural influences for effective prevention and management of health issues and disorders (WHO, 2000) but this study explores cultural influences on food behaviours of Nigerians. This paper is based on a survey that explores the effect cultural factors have on sustainable food consumption. The key research question addressed in this study is "what effect exists between cultural factors and sustainable food consumption in Nigeria?" The study forms part of a PhD research program and aims to analyze cultural approaches which could be utilized to enhance sustainable food consumption. The findings of this study aim to provide valuable information to consumers, manufacturers and policy makers on the effect of culture on sustainable food consumption in Nigeria. The theme of this paper suggests that while there are other factors that propel sustainable food consumption, prevailing cultural factors also significantly shape sustainable food consumption. Hence, efforts should go beyond encouraging sustainable practices but also marshalling the machinery of government through policy initiatives to facilitate, enhance and support local food consumption to achieve economic development.

Literature Review

a) The Concept of Sustainable Foods/Diets

The FAO–UN(2010) defined Sustainable diets as "those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable, nutritionally adequate, safe and healthy; while optimizing natural and human resources. Also, sustainable diets were seen by the FAO – UN (2010) to be connected to food security. According to them, food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life. More than enough food is produced to feed everyone in the world yet, close to 800 million people are chronically hungry. This is because the affordability of food largely

relates to income. Therefore, ensuring access to food is one of the key pillars of food security and an anti-poverty agenda.

The UK Sustainable Development Commission in its final report to government proposed a multi-dimensional or omni-standards approach to sustainable foods. They proposed six main issues for food sustainability. These include quality, health, social value, environment, economy and governance (SDC, 2011). Garnett (2014) outlined the characteristics of low environment impact diet to include: diversity (a wide variety of foods eaten), balance achieved between energy intake and energy needs, minimally processed tubers and whole grains, moderate quantity of meat and all animal products, dairy products or alternatives such as fortified milk eater with moderation, unsalted seeds and nuts, small quantities of fish and aquatic products sourced from certified fisheries. very little consumption of foods high in fat, sugar or salt; and finally tap water which should be preferred to soft drinks/beverages. Most sustainable foods fall under Natural Foods (those foods obtained directly from plants or animals without having undergone any major alteration such as fruits eggs or milk. Also, minimally processed food such as grains dried or ground or frozen and pasteurized milk are also natural foods), Processed Foods (those manufactured with the addition of salt or sugar like canned and bottled vegetables, cheeses and bread); Ultra Processed Food (those who have undergone various stages of processing like packaged foods, pastries and pizzas); Oils, Fat, Salt & Sugar(extracted from natural food by pressing, grinding, crushing and reforming).

Sustainable food consumption is consumption of foods/diets that meets the dietary needs of man, the society, environment, economy and culture. Everyday great amounts of food are produced, processed, transported by the food industry and consumed by us and these activities have direct impact on our health and the environment. A study by Horton (2003) found that in food shopping, green processes were advanced. More so, the places where shopping occurs is important- green commercial enterprises, organic markets, health food stores and so on. The Organization for Economic Cooperation and Development (OECD) in 2008 opined that consumption is a way of expressing status and identity, causing consumers to be very conscious of their purchases but then peer pressure and social norms are most times dictates of consumption pattern. Other factors such as sensory factors, economic factors, and environmental factors have been seen to influence food consumption (Ifeanyichukwu and Nwaizugbo, 2020).

b) Cultural Factors and food consumption

The most important elements of culture are religion, values and beliefs, customs, gender roles and consumer habits. The role of religion in food consumption is imperative. For instance, the muslim avoid pork while the roman catholics avoid meat during lent. Religion shapes an individual's eating style and pattern. In addition, people respond to sub-cultures. These subcultures are in the form of customs and traditions. These too have been seen to have significant influences on individuals, thus individuals tend to adjust their values and belief systems to align to the prevailing norm. For instance, in Africa, Chicken is slaughtered for women who give birth. Many atimes, cultures are transmitted primarily by the family and also the community. Studies like Camporesi (1989) and Montanari (1994) have found values as major determinants of food preference and consumption. Another major cultural attribute is consumer habits and this is shaped by constant exposure to their culture. Consumer food choices also vary sometimes as a result of location. Prescott (2002) discovered American eating habits to differ from the German. Gender and age, though not cultural factors will be integrated into the study because of its imperative role with regards to healthy living. It has been observed that as people grow older, they tend to make food choices based on health.

Past research studies(Bredahl, 2001; Curtis, 2004; Gaskell, 2004) have mentioned that culture and geographic regions also influence consumer attitude towards Sustainable foods.Thus, the importance of exploring cultural influences on food behaviour. The most important elements of culture are language, religion, values, attitudes, customs and different norms of the group or society. When we think about cultural models, we interpret different combinations of these elements. The aim of cultural models is, therefore, to find the elements and evaluate their proportions. Research carried out by Nemeth, Rudnak, Ymeri and Fogarassy (2019) has shown the significant importance of culture in sustainable food consumption. The study found that dietary choices are complex decisions that have a significant strong cultural underpinning for sustainable eating and community values which can also

strongly influence the development of the local food supply practices. Liobikiene, Mandravickait and Bernatoniene (2016) also revealed how cultural aspects contribute to purchase behavior. It is reported that there is no significant relationship between personal norms and green food purchases (Tanner & Kast, 2003). Nevertheless, personal norm can be influenced by the value a person carries which may come or developed by cultural or religious value. Human values are referred to as relatively stable beliefs about the personal or social desirability of certain behaviours and modes of existence. Values express the goals and needs that motivate people in appropriate ways to attain these goals/needs. Values can play an important role in the consumer decision process, like product choice and brand choice (Vermeir& Verbeke, 2006) numerous studies have linked ethical or sustainable behaviour to personal values (Vermeir& Verbeke, 2006). Religious values sometimes influence behaviour towards certain action. Personal factors (ignorance of sustainable products) or situational (lack of sustainable products in local retail outlets) factors inhibit the purchase of sustainable foods (Vermeir and Verbeke, 2008)

Extant Literatures have identified varying cultural factors to be affecting sustainable food consumption. Chioma and Ireneus (2020) also identified the importance of socio cultural factors on sustainable food consumption. Abdulla (1979) identified Socio-cultural factors such as religion, beliefs, food preferences, gender discrimination, education and womens' employment to all have a noticeable influence on food consumption patterns in the Arab region. The results of Naeem (2003)survey indicated that a large number of men with health disorders such as diabetes were failing to control and manage their condition, thus, having an overall attitude to enjoy life and a belief that seemed to have been influenced by cultural norms- overweight conditions "fat people" tend to project prosperity and well-being in Leeds community. Religion also played a prominent role as people had the notion of "leaving the rest to Allah". Generally the collected data indicated a large influence of cultural values dominating the behaviour of the sample population. In Beals,Anderson, Peterson, Thompson and Hargreaves (1981) study, age and gender were seen to have significant influence on dietary habits. The consumption of bread at breakfast decreased with age while the consumption of carbonated beverages at morning snack increased remarkably with age. Newmanand Linke(1982)by the use of a detailed questionnaire and interview, determined the relationship between traditional food habits before immigration and after immigration. Result showed a significant change in food habits when comparing those habits practiced before immigration to those practiced after immigration. Dawson, Schneiderand Fletcher (2007)investigation was to examine gender differences in the health and lifestyle behavioral choices of Canadian university students. A total of 638 (472 female and 166 male) undergraduate students were evaluated. Result showed a significant difference between Males and females in their responses to health and food behaviors. Also, women were seen to have sweet tooth, thus ate more of chocolates, pizza, sandwiches and sweet foods than men. Men were seen to be stronger , thus handled the effect of stronger food products like alcohol.Cultural factors such as societal beliefs, food availability, language, gender differences and place of residence were seen to determine food preference and consumption.

3. Methodology

The study adopted quantitative survey research method. Geographically, the study was carried out in Nigeria. Nigeria has a population of over 200 million, 170 ethnic groups and six geo-political zones namely South East, South West, South South, North East, North West, North Central- with their diverse cultures and traditions. The study took cognizance of almostevery ethnic group as all geopolitical zones was covered. A sample size of 1259 was statistically determined. A pilot test was first conducted using 30 households in one of the mentioned geopolitical zones in Nigeria. The questionnaire was structured to have two sections A and B. Section A presented the demographic profile of the respondents while section B dealt majorly on the constructs of the study using a seven-point likert scale ranging from 1-7 (Strongly agree to strongly disagree) or (always to never) as the case may be. Respondents were required to tick the boxes depending on how much they agree or disagree with each question. The items in the questionnaire were adapted from key literatures- Clasen et al (2015), Constance, Marlos, Friedier, Ottfried and Jana (2015); Quynh, Stuart, Hoang, Sandra, Gretcher and Daniel (2015) ;Veltkamp, Anschutz, Kremers and Holland (2017), Puoane, Matwa,Bradley,and Hughes(2006).Regression analysis was used to test for the effect of the aforementioned cultural factors on sustainable food consumption.

4. Results

Of the 1259 copies of questionnaire distributed to the participants, 940 were duly and correctly filled, thus, considered useable. This represents a 76percent total return rate. The demographic Profile of the respondents is shown below

a. Demographic Profile of the respondents

Table 1 Bio Data of the Respondents

		Frequency	**Percentage (%)**
Marital Status	Single	213	22.7
	Married	701	74.6
	Divorced/widowed	26	2.8
	Total	**940**	**100**
Educational Qualification	M.sc and above	460	49
	O'level	240	25.5
	FSLC	200	21.3
	No formal education	40	4.3
	Total	**940**	**100**
Family Monthly Income	Less than #100,000	255	27.1
	#101,000 - #200,000	449	47.8
	#201,000- #300,000	133	14.1
	Above #300,000	103	11
	Total	**940**	**100**
Number of Children	Above three	303	32.2
	Two	317	33.7
	One	235	25.0
	None	85	9.0
	Total	**940**	**100**

Table 1 above shows the educational qualification, marital status, family monthly income and number of children of the participants. From the table, there are a greater number of married people which denotes mental and emotional stability, a greater percentage of educated people and a greater number of people living above average in terms of income.

b) Table 2 Religion * Gender Cross tabulation

			Gender		Total
			Male	Female	
Religion	Christianity	Count	285	247	532
		% of Total	30.3%	26.3%	56.6%
	Muslim	Count	158	45	203
		% of Total	16.8%	4.8%	21.6%
	Others	Count	105	100	205
		% of Total	11.2%	10.6%	21.8%
Total		Count	548	392	940
		% of Total	47.7%	41.7%	100.0%

Table 2 above shows the religious background of the respondents alongside their gender. 56.6% of the participants are Christians, 21.6% are Muslims and about 21.8% represents others. This aspect is also very important in this study as religion is part of the cultural factors involved in sustainable food consumption behaviour. This signified the versatility of the population under study. All religious beliefs present in Nigeria are well represented.

c) Table 3 -Food the Participants eat often

	Male	**Female**	**Total**
Fruits	**398**	**542**	**940**
Percentage (%)	**42.3**	**57.7**	**100**
Vegetables	**459**	**481**	**940**
Percentage (%)	**48.8**	**51.2**	**100**
Meat/Chicken/fish	**739**	**201**	**940**
Percentage (%)	**78.6**	**21.4**	**100**
Egg, Milk, Yogurt	**448**	**492**	**940**
Percentage (%)	**47.7**	**52.3**	**100**
Bread	**355**	**585**	**940**
Percentage (%)	**37.8**	**62.2**	**100**
Rice and Pasta	**225**	**715**	**940**
Percentage (%)	**23.9**	**76.1**	**100**

From the table above, fruits, vegetables, pasta, egg, milk, cheese were eaten often by the women. The men ate more meat, chicken. Nevertheless, Bread which is high in carb was eaten more by the female.

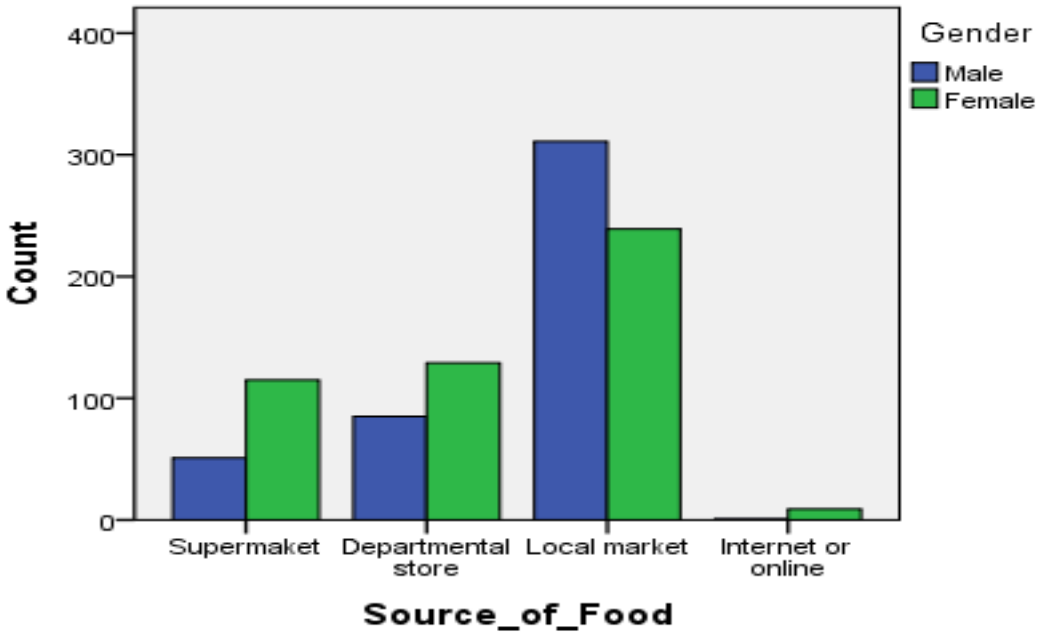

Fig 1 Source of food (Field study, 2022)

The figure above provides answer to where respondents buy their foods from. Majority of the participants purchase their foods from the local markets. This is evident as the Nigeria is characterized by many local markets located in almost every part of the city, thus, the high patronization of this market.

Further, the researcher inquired to know the means by which the respondents get to the above store. Majority of the participants get to the local market in Bus/okada. This is relatable as the researcher has explained previously of the proximity of the local markets and their greater number which makes them easily accessible.

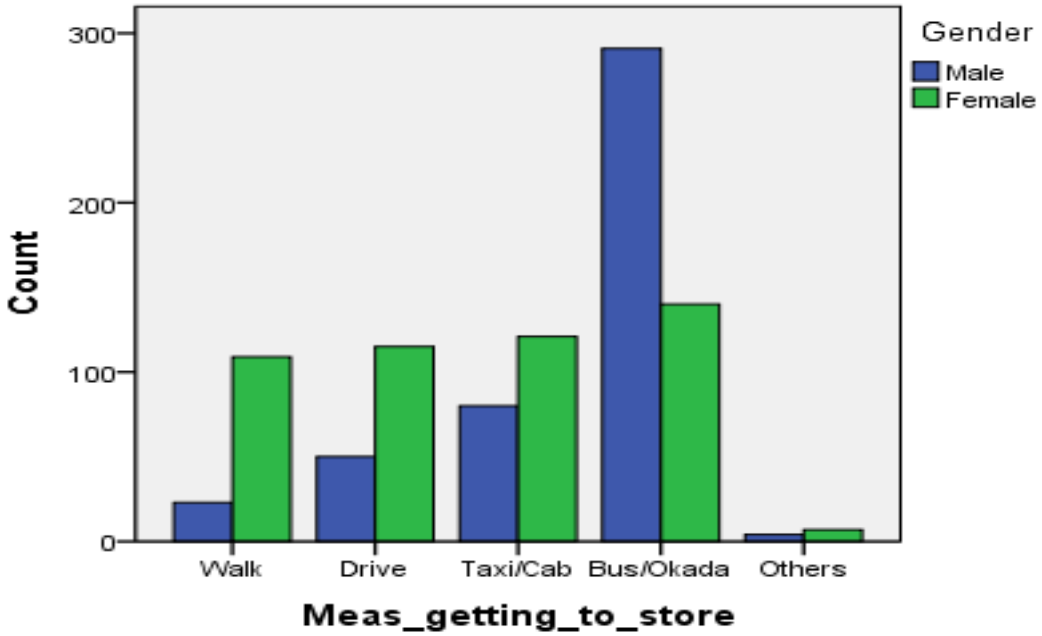

Figure 2 Means of getting to the Store(Field study, 2019)

d) Relationship test

To test for the effect/role of cultural factors (Religion, custom and tradition, consumer habit) on sustainable food consumption, the researcher employed the regression analysis with the help of SPSS version 20.

The model summary in table 4 showed results which sought to establish the explanatory power of the independent variable (Religion, custom and tradition, consumer habit) for explaining and predicting the dependent variable (sustainable Food Consumption Behaviour). R, the multiple correlation coefficients, (i.e. the linear correlation between the observed and model predicted values of the dependent variable) showed a value of .896 indicating a strong relationship. R square, the coefficient of determination (i.e the squared value of the multiple correlation coefficients) showed a value of .729 (about 72.9%) of the variation in the dependent variable is explained by the model.

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.696[a]	.729	.112	1.451

Table 5 shows a statistically significant F Statistic of 40.381

Table 5 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	255.120	3	85.040	40.381	.000[b]
	Residual	1960.608	937	2.106		
	Total	2215.728	940			

a. Dependent Variable: sustainable FC

b. Predictors: (Constant), consumer habits, custom and tradition, Religion

Table 6 showed the beta coefficients, which give the contributions of each independent variable to the model while t-values and p –values reveal the effect of the independent variables on the dependent variable and the critical ratio and the p-values respectively. In this model, religion (t = -10.034, P = .000>.05), Custom and tradition (t = 7.564, P = .000>.05), consumer habits (t = 6.597, P = .000>.05) were all significant, thus play a significant role in sustainable food consumption.

Table 6 Coefficient table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.864	.216		13.231	.000
	Religion	-.517	.051	-.435	-10.034	.000
	custom and tradition	.426	.056	.287	7.564	.000
	consumer habits	.286	.043	.250	6.597	.000

5. Findings

The result showed more women to eat more of fruits, vegetables, pasta, egg, milk, cheese while the men ate more meat, chicken. This is in consonance with Dawson, Schneiderand Fletcher (2007). Nevertheless, Bread which is high in 'carbs' was eaten more by the women which contradicts Dawson, Schneiderand Fletcher (2007).Ifeanyichukwu (2020) discussed elaborately the health-related issues facing the sub Saharan African women of which Nigeria is included.AllCultural factors (Religion, customs and tradition, and consumer habits) were seen to be significant, thus, has a great effect on sustainable food consumption. This is in line with key literatures such as Abdulla (1979); Newmanand Linke(1982); Vermeir& Verbeke, (2006); Nemeth,Rudnak, Ymeri and Fogarassy (2019); Bredahl, (2001); Curtis, (2004); Gaskell(2004).

6. Conclusion

The study basically aimed at ascertaining the role of cultural factors on sustainable food consumption. The result of the research is that cultural influences have a significant impact on food consumption. The results of the research showed that it is challenging to determine the real food needs of a given community. This is because aspects of sustainable or healthy food consumption often change, and depend to a large extent on these cultural factors.This study illustrated how strong cultural influences is on eating patterns in Nigeria. It emphasized the critical importance of taking these cultural factors into consideration in developing strategies for modifying food consumption practices. Information in this paper is a useful starting point for developing suitable interventions in future.The results of the research can help marketersbetter understand consumer behavior and also provide the basis for further representative, quantitative research.

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