

ASSESSING THE SOCIOECONOMIC AND NUTRITIONAL IMPACT OF FOOD RESTAURANTS IN HIGHER INSTITUTIONS: A CASE STUDY OF KATSINA STATE, NIGERIA

Jamila Musa Kankara¹, Maryam Mannir Sani², Iliyasu Gambo³, Amina Ibrahim Duwan⁴

¹Department of Basic Studies, Hassan Usman Katsina Polytechnic, P.M.B 2052, Katsina, Katsina State, Nigeria.

²Department of Education, Hassan Usman Katsina Polytechnic, P.M.B 2052, Katsina, Katsina State, Nigeria

³Department of Applied Chemistry, Federal University Dutsinma Katsina, Katsina State, Nigeria

⁴Science Department, Community College of Arabic and Islamic Studies Goruba, Katsina, Katsina State, Nigeria.

E-mail Address: jamilakankara779@gmail.com

ABSTRACT

This study examines the socioeconomic and nutritional impact of food restaurants within higher institutions in Katsina State, Nigeria, where campus dining has become integral to student life, influencing their financial choices, dietary habits, and social interactions. Adopting a mixed-methods approach, this research includes surveys, interviews and statistical analyses to capture insights from students, food service providers and institutional administrators. Results indicate that while food services on campuses support local economies and provide students with accessible meal options, significant concerns remain regarding the nutritional quality, variety, and affordability of these options. A paired sample t-test analysis reveals a notable shift in students' nutritional choices, showing a statistically significant difference in dietary habits before and after regularly dining at campus restaurants. Findings emphasize the role of institutional food environments in shaping dietary behaviors, often leading to increased consumption of calorie-dense, nutrient-poor foods, which could impact students' long-term health and academic performance. This study underscores the need for higher institutions to prioritize nutritional standards, affordability, and diversity in food options to enhance student well-being. Recommendations include policy reforms to improve food quality, maintain affordability and ensure diverse menu options that meet students' dietary needs and preferences, thereby fostering a healthier campus environment conducive to students' holistic development.

Keywords: Socioeconomic; Nutrition; Restaurants; Higher Institutions.

1. INTRODUCTION

The provision of food services within higher education institutions plays a pivotal role in shaping the socio-economic landscape and nutritional well-being of students. Across the globe, the presence of food restaurants on High Institutions campuses has become a defining feature of student life, reflecting evolving culinary preferences and socio-cultural dynamics. In Katsina State, Nigeria, amidst a backdrop of diverse cultural heritage and a burgeoning student population, the proliferation of food establishments within higher institutions underscores the need to comprehensively examine their impact on both socio-economic dynamics and nutritional outcomes. The organizational food environment, encompassing schools, universities, workplaces, and other settings, serves as a pivotal arena for encouraging healthy eating habits, given its significant impact on individuals' dietary behaviors within these contexts. Of these environments, the High institution campus holds particular importance. (Kubik et al., 2003; Glanz et al., 2005; Saelens et al., 2007). During their time at High Institutions, students develop eating habits that often endure into adulthood, making it a distinctive opportunity to advocate for a nutritious diet. (Haberman & Luffey, 1998; Holdsworth & Haslam, 1998; Seymour et al., 2004; Kelly et al., 2013) However, studies suggest that, in many cases, the campus food environment discourages healthy eating or encourages unhealthy dietary practices due to the low nutritional quality of the foods sold in these settings. (Byrd-Bredbenner et al., 2012; Horacek et al., 2013; Roy et al., 2015; Pulz et al., 2016). Research also indicates that college students often adopt inadequate dietary practices, such as skipping meals, consuming high amounts of ultra-processed foods, and having a low intake of fruits and vegetables. (Papadaki et al., 2007; Fabián et al., 2013; Girz et al., 2013). There is a scarcity of studies investigating the association between campus food environments and the dietary practices of individuals exposed to them or analyzing the impact of changes to this environment on the dietary practices of this group. (Holdsworth & Haslam, 1998; Kelly et al., 2013; Roy et al., 2015). By conducting a comprehensive case study on the socio-economic and nutritional impact of food restaurants in higher institutions within Katsina State, this research seeks to generate actionable insights that can inform policy formulation, institutional planning, and community engagement efforts. By illuminating the intricate interplay between food service provision, student welfare, and community development, this study aims to foster informed decision-making and collaborative initiatives aimed at creating inclusive, sustainable, and vibrant campus environments that prioritize the holistic well-being of all stakeholders.

1.1 Customer Satisfaction in University Cafeterias: The Role of Food Quality and Service

There is an abundance of research on customer satisfaction in both the private and public business sectors. However, in the context of higher education, fewer studies have explored this area (Garg & Kumar, 2017; Chang et al., 2014; Sapri et al., 2009). According to Navarro and Iglesias (2005), researchers have made numerous efforts to define the concept of satisfaction concerning services offered in higher education (Ng, 2005; McWilliams, 2000). They emphasize that satisfaction represents the final stage of a psychological process. Amelia and Garg (2016) highlighted that a customer's first impression, alongside the quality and accuracy of food and the politeness of staff, plays a significant role in determining satisfaction. In university cafeterias, where students form the majority of users, satisfaction with institutional food services is becoming increasingly relevant (El-Said & Fathy, 2017; Chang et al., 2014; Sapri et al., 2009). Kwun (2011) explored the influence of gender differences on how campus food service attributes impact perceived value, satisfaction, and consumer attitudes. According to Garg and Kumar (2017), dining experiences significantly affect satisfaction and loyalty among both students and staff. In the context of university cafeterias, customer satisfaction is closely linked to the quality, variety, and hygiene of food and beverages, as well as fairness in pricing and value (Ng, 2005; Tam et al., 2017). Based on these attributes, several factors influence customer choices regarding food services. The level of satisfaction with university cafeterias is primarily dependent on the quality of food and beverages (McWilliams, 2000; Xi & Shuai, 2009; Kim et al., 2009). McWilliams (2000) defines food quality as the characteristics that make food acceptable to customers. Key aspects such as overall quality, taste, freshness, nutrition, and portion size are important measurements of food quality. Since food and beverage quality is central to food service operations, it has been extensively evaluated for factors like temperature, texture, flavor, and aroma (Xi & Shuai, 2009; Namkung & Jang, 2007). Food and beverage quality significantly influences customers' intentions to return to a restaurant. Oh (2000) identified a strong positive correlation between satisfaction with food and beverage quality and customers' intent to continue dining at a particular establishment. Workplace dining, often criticized for poor quality and unhealthy food choices, can have negative effects on customers (Kjøllestad et al., 2011). Tam et al. (2017) emphasized the importance of promoting healthier eating options, and institutions are responsible for creating environments that make healthy food choices easier for students. Previous studies suggest that many institutional food environments are dominated by energy-dense, nutrient-poor options that are heavily promoted (Roy et al., 2016; Horacek, 2013). It is the responsibility of food service operators to offer a variety of products on their menus, giving customers more options. The menu is a critical aspect of a restaurant's marketing strategy (McCall & Lynn, 2008).

1.2 The Role of Price and Value in Student Satisfaction with Campus Food Services

In campus food services, it is important to note that students often face financial constraints, which significantly affect their decisions when choosing food service providers. Due to their limited budgets, students are consistently seeking reasonably priced options (Li, 2008). Similarly, Nadzirah et al. (2013) identified cost as the primary factor influencing students' choices in university food service operations, emphasizing that students' limited funds shape their preferences. To ensure students continue using on-campus food services instead of seeking off-campus alternatives, Nadzirah et al. (2013) suggested that food service operators should improve their menus by reconsidering pricing strategies. Soriano (2003) found that customers' expectations of quality are tied to the price they pay for a service; as prices rise, so do quality expectations. The same study noted that the cost of a meal is as important as other factors in determining satisfaction. Several researchers have examined price fairness, which refers to the judgment of whether the outcome or process involved in obtaining a service is reasonable (Bolton & Shankar, 2003). Soriano (2003) also stressed that the price of a meal, along with its value, is just as important as other dimensions of service quality. Ng (2000) and Xi and Shuai (2009) also considered price and value when evaluating students' perceptions of dining hall service quality. Martin-Consuegra et al. (2007) found that perceived price fairness positively influences customer satisfaction. Chang and Suki (2018) used partial least squares (PLS) analysis to compare how food quality, price fairness, staff performance, and ambiance impact student satisfaction with cafeteria services at two universities. Similarly, Klassen et al. (2005) identified price as the most significant factor for students with tight budgets when selecting a food service provider. Another study by Yuksel and Yüsel (2002) highlighted that customers who perceive they are getting good value for their money are more likely to revisit a food service establishment.

1.3 The Critical Role of Service Quality in Customer Satisfaction in Food Service Operations

Service quality is a fundamental aspect of the restaurant industry, as dining out is often a social event (Andaleeb & Conway, 2006; Brady et al., 2001). Some studies have found that service quality can be more influential than food quality in determining overall dining satisfaction. For instance, Yuksel and Yuksel (2002) suggest that service quality significantly impacts dining satisfaction, especially for customers seeking adventurous or healthy food options. Service quality has been evaluated based on customers' expectations and perceptions of the service provided (Yilmaz, 2006). Inkumsah (2011) found that customer satisfaction is directly linked to the quality of food service offered. Similarly,

Garg (2014) noted that food service affects customers' perceptions of a restaurant. According to Küçükaltan (2007), different customers may assess the same service differently, largely due to their personal views on the service provided. If the service fails to meet expectations, perceived service quality is low; however, if it exceeds expectations, the perceived service quality is high (Akbaba & Kilinc, 2001). Abo-Baker (2004) described service quality as an organization's ability to satisfy customers by meeting or exceeding their expectations through specific service characteristics and standards. In the context of higher education, Kim et al. (2009) pointed out that students' expectations and perceptions of service quality can vary from one student to another, and even from one semester to the next. This variability creates a more dynamic and complex business environment, making it difficult to measure service quality and identify its determinants. Tan et al. (2014) emphasized that the intangible nature of services is a crucial factor in service quality, yet also makes it challenging to measure. Moreover, employees play a crucial role in the success of food service establishments, particularly when it comes to service quality. According to Kim (2019), personality traits and the use of social networks can influence job satisfaction among workers, which in turn affects customer perceptions of service quality. Hensley and Sulek (2007) highlighted that employee behavior, including interactions such as friendly greetings, responsiveness, and maintaining cleanliness, significantly shapes customers' views of service quality. Barsky (1992) also noted that quick and responsive service positively impacts customer satisfaction. It is important for food service operators, especially those on university campuses, to improve service quality in order to discourage students from seeking off-campus alternatives. Students are aware of the quality of food service options both on and off-campus and are not confined to campus services alone.

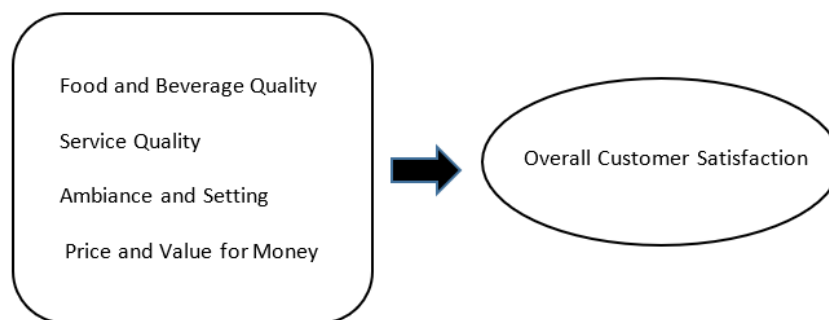


Fig. 1. Ultimate measures for Customer Satisfaction

Mireille and Carole (2019) study the Impact of Food Service Attributes on Customer Satisfaction in a Rural University Campus Environment. The purpose of his study was to determine different food service attributes that have an impact on customers' overall satisfaction at a rural university cafeteria. This poses significant challenges for policymakers, institutional leaders, and community stakeholders seeking to promote student welfare, foster economic development, and ensure food security within higher education institutions. Without a clear understanding of the socio-economic and nutritional dimensions of food restaurants, there is a risk of overlooking disparities in access to nutritious food options, neglecting opportunities for entrepreneurship and community engagement, and failing to address concerns regarding food safety and hygiene standards. Therefore, there is an urgent need for research that comprehensively examines the socio-economic and nutritional impact of food restaurants within higher institutions in Katsina State. By addressing this gap in knowledge, this research seeks to provide evidence-based insights that can inform policy formulation, institutional planning, and community engagement efforts aimed at creating inclusive, sustainable, and vibrant campus environments that prioritize the holistic well-being of all stakeholders.

1.4 Objectives of the Study

The research aims to assess the socioeconomic and nutritional impact of food restaurants in higher institutions, focusing on Katsina State, Nigeria.

This research endeavors to achieve the following objectives:

- Evaluate the socio-economic contributions of food restaurants within higher institutions, including their role in job creation, revenue generation, and entrepreneurial opportunities for students and local communities.
- Examine the dietary patterns, nutritional choices, and food preferences of students before and after the establishment of food restaurants, with a focus on their impact on nutritional intake and overall health outcomes.
- Investigate the social dynamics facilitated by food restaurants, including their role in shaping social interactions, campus culture, and community engagement among students.
- Propose recommendations and policies to optimize the socio-economic and nutritional benefits of restaurants while mitigating risks and disparities in higher education institutions in Katsina State.

2. RESEARCH METHOD

2.1 Research Design:

This study adopt a mixed-methods approach, combining both quantitative and qualitative techniques to comprehensively assess the socio-economic and nutritional impact of food restaurants within higher education institutions in Katsina State, Nigeria. The research design integrate surveys, interviews, focus groups, and observational analysis to capture diverse perspectives and gather rich data on various dimensions of food service provision.

2.2 Study Area

The research was conducted among students and staff from both private and government tertiary institutions in Katsina State, Nigeria. Katsina is situated approximately 160 miles east of Sokoto and 84 miles northwest of Kano, near the border with Niger. The city is an agricultural hub, known for producing groundnuts, cotton, hides, millet, and guinea corn, and is home to mills that produce peanut oil and steel. Predominantly Muslim, the population of Katsina consists mainly of the Fulani and Hausa ethnic groups.

2.3 Data collection

Students and Institutional management from the selected Higher Institutions in the state ware interview and help in answering the questionnaire administered to them. students from different years of study, Campus Restaurant Staff, and Institutional management are included to get a comprehensive view. By collecting data from these groups, we gather diverse perspectives on both the socioeconomic and nutritional impacts on campus in higher institutions of Katsina state

2.4 Statistical Analysis

The research used the statistical package for social sciences software SPSS for the analysis, descriptive statistics was used to summarize responses related to job creation, revenue generation and entrepreneurial opportunities. This gives an overall picture of the socio-economic impact of the food restaurants. Similarly, the research analyze nutritional choices by examining the frequency of responses regarding healthier food options and dietary changes and compare students' nutritional choices and dietary patterns before and after the establishment of food restaurants, t-tests was used for the comparison

3. RESULT AND DISCUSSION

This section presents an analysis and interpretation of data collected on the socioeconomic and nutritional impacts of food restaurants on students in higher institutions across Katsina State, Nigeria. It explores the demographic characteristics of the respondents, their food consumption patterns and the influence of campus dining on their nutritional choices. Given the increasing reliance on campus food services by students, understanding these impacts is crucial for evaluating how dietary habits and nutritional quality affect students' health, well-being and academic performance. Through descriptive statistics and statistical tests.

Table 1: Demographic profile of the respondents

Gender of the respondent	Frequency	Percentage
Male	20	16.7%
Female	100	83.3%
Total	120	100%
Age of the respondents		
16-20 years	103	85.8%
21-25 years	4	3.3%
31 years and above	13	10.8%
Total	120	100%
Years of study		
1st Year	90	75.0%
2nd Year	7	5.8%
3rd Year	7	5.8%
4thYear	12	10.0%
Post graduate	4	3.3%

Total	120	100%
Institution		
Umaru Musa Yar'adua University	26	21.7%
Hassan Usman Katsina Polytechnic	66	55.0%
Federal University Dutsin-Ma	14	11.7%
Federal College of Education Katsina	14	11.7%
Total	120	100%
Employed while studying		
Yes	26	21.7%
No	94	78.3%
Total	120	100%
Regular food eater		
Yes	94	78.3%
No	26	21.7%
Total	120	100%

The sample showed a predominantly female demographic, with 83.3% (100 respondents) being female and only 16.7% (20 respondents) male. This gender distribution may reflect the enrollment demographics of the institutions surveyed or indicate a higher interest or availability among female students to participate in the study. The age distribution of respondents revealed that a significant majority, 85.8% (103 respondents), are between 16 and 20 years old. A smaller portion, 3.3% (4 respondents), are in the 21-25 age range, while 10.8% (13 respondents) fall within the 31 years and above category. This distribution highlights that the majority of respondents are young adults, potentially in the early years of higher education, which aligns with the typical age range for undergraduate students in Nigerian institutions.

Most respondents (75%) are in their first year of study, with smaller percentages distributed across the second (5.8%), third (5.8%), and fourth years (10%). Postgraduate students make up 3.3% of the sample. This suggests that the data primarily represents early undergraduate students, who might have limited exposure to on-campus food options compared to more senior students.

The distribution of respondents across institutions shows that the largest group, 55%, is from Hassan Usman Katsina Polytechnic, followed by Umaru Musa Yar'adua University at 21.7%. Federal University Dutsin-Ma and Federal College of Education Katsina each have 11.7% of respondents. This distribution reflects a varied sample, allowing insights from different higher education institutions within the state.

Regarding employment, 21.7% of respondents reported being employed while studying, whereas 78.3% were not. This suggests that a majority of the students rely solely on other financial support sources, potentially influencing their food purchasing choices and frequency of restaurant visits on campus. The table indicates that 78.3% of respondents eat at restaurants regularly, while 21.7% do not. This high rate of regular restaurant food consumption could imply reliance on campus food services for daily nutrition, suggesting that restaurant quality and variety could significantly impact student health and nutrition.

3.1 T-Test to evaluate the nutritional impact of food restaurant

To evaluate the nutritional impact of restaurant food on students' dietary habits, a paired sample t-test was conducted to compare students' nutritional choices before and after regularly eating at campus restaurants.

Table 2. Paired Samples Statistics nutritional impact of food restaurant					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Nutritional_Choice_Before	3.7873	120	.12625	.01153
	Nutritional_Choice_After	4.4045	120	.19668	.01795

Table 3: Paired Samples Correlations for nutritional impact of food restaurant				
		N	Correlation	Sig.
Pair 1	Nutritional_Choice_Before & nutritional_Choice_After	120	.079	.391

Table 4: Paired Samples Test for nutritional impact of food restaurant

		Paired Differences					t	df	Sig. (2-tailed)
		Mea n	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Nutritional_Choice_Before - Nutritional_Choice_After	-.61722	.22517	.02056	-.65792	-.57652	-30.027	119	.000

The analysis of descriptive statistics reveals a shift in students' nutritional choices associated with regular restaurant visits, as evidenced by an increase in the mean nutritional choice score from 3.7873 before frequenting restaurants to 4.4045 after. This notable rise in the average score indicates that dining at campus restaurants may influence students' dietary habits, potentially due to the variety, accessibility, or specific types of food available in these settings, which could lead to a change in preferences or nutritional decisions over time.

The paired samples correlation between "Nutritional Choice Before" and "Nutritional Choice After" was calculated to be 0.079, with a significance level of 0.391, indicating a weak relationship between students' dietary preferences prior to and following regular restaurant visits. This low correlation suggests that changes in students' nutritional choices over time may be influenced by additional factors beyond just restaurant dining, potentially including individual health goals, food availability, social influences, or evolving personal preferences.

The t-test analysis shows a mean difference of -0.61722 between "Nutritional Choice Before" and "Nutritional Choice After," with a standard deviation of 0.22517 and a standard error mean of 0.02056. The 95% confidence interval for the mean difference ranges from -0.65792 to -0.57652, and the test yielded a t-value of -30.027 with a significance level of $p < 0.001$. This result is statistically significant, suggesting that regular restaurant dining has significantly altered students' nutritional choices, potentially indicating a shift toward higher or lower quality food based on availability and choice dynamics in campus restaurants.

3.2 Interpretation of the results

The demographic data illustrates a diverse sample of young students, predominantly female and primarily from their first year of study, who frequently consume food from campus restaurants. The high rate of regular restaurant patronage among students underscores the importance of understanding the nutritional impact of these food services on student health.

The statistically significant results from the paired samples t-test reveal that there is a measurable change in students' nutritional choices before and after regular restaurant visits. This shift, alongside the weak correlation between initial and subsequent choices, suggests that students' food choices evolve due to various factors, possibly including restaurant menu options, price, convenience, or exposure to diverse food types.

The findings underscore the importance of higher institutions taking an active role in assessing and improving the nutritional quality and variety of food offered within campus restaurants. With a significant portion of students relying on these dining options as a primary food source, there is a clear opportunity to influence students' dietary habits positively. By ensuring that menus include balanced, nutrient-rich options alongside affordability, institutions can help foster a health-conscious environment that prioritizes students' well-being.

Addressing the nutritional needs of students through campus dining has broader implications, potentially impacting not only physical health but also academic performance and mental well-being. A balanced diet has been shown to support cognitive function, energy levels, and focus—all essential for successful learning. Therefore, implementing a more nutritious food strategy within campus restaurants could contribute to a healthier student body, with the added benefit of promoting improved academic outcomes across the student population.

4. CONCLUSION

The findings of this study reveal that food restaurants within higher institutions in Katsina State play a significant role in shaping students' dietary habits and financial well-being. The quality of food provided is a critical factor influencing student satisfaction, with many students expressing concerns about the nutritional value and affordability of meals.

Socioeconomic factors, including the cost of food and its impact on students' budgets, were found to be significant determinants of food service preferences. This research also highlights the critical role food restaurants play within higher institutions in Katsina State, significantly impacting students' dietary habits, satisfaction, and socioeconomic well-being. While campus dining facilities offer accessible meal options and contribute to the local economy, the study reveals substantial gaps in nutritional quality and affordability. The data analysis shows a marked change in students' nutritional choices, with a shift toward less nutritious options influenced by campus dining environments. These dietary changes, combined with financial constraints, present challenges for students striving to maintain balanced and healthful diets.

In conclusion, while food restaurants contribute positively to the higher education environment in terms of accessibility and convenience, there is a pressing need to improve food quality and pricing strategies. Addressing these areas can enhance students' dining experiences, support their health, and reduce financial strain. By implementing policies focused on affordability, nutrition and variety, institutions can create supportive campus environments that promote students' well-being and academic success. This research provides actionable insights for policymakers and institutional leaders to develop food services that align with students' needs, thus fostering a healthier and more sustainable campus culture.

5. RECOMMENDATION

The following recommendations are made for the government and Institutional heads in order to

Considered the socioeconomic and nutritional impact of food restaurants in higher institutions of Katsina state and Nigeria at large.

- Food service providers should focus on improving the nutritional quality of meals, ensuring they meet students' dietary needs and preferences.
- Institutions should work with food service operators to offer affordable meal options, considering students' limited budgets and the need for value for money.
- Expanding the variety of food options can cater to diverse tastes and dietary requirements, promoting better nutrition and satisfaction among students.
- Maintaining high standards of hygiene and cleanliness in food service areas is crucial for ensuring food safety and enhancing the dining experience.
- Establishing channels for students to provide feedback on food services can help identify areas for improvement and ensure that their needs are addressed effectively.

Research Contribution

This research contributes to the understanding of the impact of food restaurants on student life within the selected higher institutions in Katsina state offering empirical data on how food quality and pricing affect students' satisfaction and financial well-being. It always Inform policymakers and educational institutions about the necessary changes to improve food services and support students. Offering recommendations for food service providers to enhance their offerings and better meet the needs of students.

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