UNIVERSITY OF CAPE COAST

FOOD HABITS AMONG INTERNATIONAL STUDENTS AT THE UNIVERSITY OF GHANA

EUNICE MATEY

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BY

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Thesis submitted to the Department of Hospitality and Tourism Management of the Faculty of Social Sciences, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Hospitality Management.

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ABSRACT

This study investigated the food habits of international students at the University of Ghana, employing the theory of acculturation as a guiding framework. The aim of the study was to examine whether the food practices, patterns, and settings of international students changed after arriving in Ghana. A cross-sectional study design was employed, and data were collected from 122 international students using questionnaires. Both descriptive (frequencies, percentages, mean and standard deviation) and inferential analyses (independent t-test, ANOVA, paired t-test and factor analysis) were used to analyze the data. The findings of the study indicated that there is a noticeable shift in the food habits of international students following their arrival in Ghana. The study revealed that various aspects of food practices, including consumption patterns and dining environments, undergo changes. These changes can be attributed to the exposure to new cultural experiences, including different cuisines, culinary practices, and social dining norms within the Ghanaian context.

In conclusion, it can be said that there has been changes in the food habits of international students. Changes were observed in international students' food settings, practices and patterns after coming to Ghana. In furtherance, these changes in eating practices and patterns can be attributed largely to environmental, individual and food-related factors. It is therefore recommended that food service providers, in and around Legon, should provide meals that can cater for the diverse student background especially international students.

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DEDICATION

To my beloved husband, Lt GN Maxwell Oduro Anakwa and my children

LIST OF ABBREVIATIONS

IS	International Students
OECD	Organisation of Economic Cooperation Development
UCC	University of Cape Coast

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CHAPTER ONE

INTRODUCTION

Background to the Study

At the university level, international education is a substantial export market with fierce rivalry in key countries including the United Kingdom (UK), Canada, New Zealand, Australia, as well as certain African nations Tarrant, Rubin & Stoner, 2014). Decision-makers at national, state, and institutional levels around the world have become interested in the internationalization of higher education over the past few decades (Netz, 2021). Governments increasingly believe that international education has a substantial impact on economic growth and national wealth (Frempong, 2015). In 2020, more than 6.4 million students attended postsecondary institutions outside of their home country, a rise from 2 million in 2000 (UNISCO's Institute for Statistics-UIS, 2022). Nearly 4.4 million of the international students are in Organisation of Economic Cooperation Development (OECD) countries, as the United States of America (22%), United Kingdom (13%) and Australia (10%) were the major destination in 2020 (OECD, 2022a).

Additionally, because they themselves are the results of international migration and have transcended cultural boundaries, foreign students are well positioned to be resources for global involvement. In terms of cultural advantages, international students are thought to contribute significantly as "bridges" between their local communities and their home communities abroad (Siczek, 2015). Once again, international students are regarded as one of the most important stakeholders in tertiary education. As stakeholders, international students support their host universities and nations financially

and intellectually (Ramachandran, 2011). International students frequently contribute significantly to the success of academic research and teaching by providing a range of viewpoints, life experiences, and languages that enhance the university experience for all students. Financially, international students who are pursuing their education pay tuition to their host universities before spending their money on products and services, thus enhancing the economy of the host nation. Thus, it has become vital for decision-makers to take their welfare into account (Jarvis, 2020).

However, despite the immerse contribution of international students; they experienced some adjustment challenges in the host campus. International students have more challenges than domestic students do to surviving and furthering their education overseas, including adjusting to a new culture, language barriers, a lack of sociopsychological support, and financial difficulties (Fischer, 2012). Additionally, a study revealed that international students had much greater stress levels and depression symptoms than domestic students (Acharya et al., 2018). All of these stressors could be induced by internationals students' food adjustment issues. It appears that one predominant adjustment issue confronting international students is related to their diet or food. Generally, when students start their studies at tertiary schools, they might be making decisions about what to eat for the first time when they live alone (Gram et al., 2015).

The situation in Ghana is similar to that of other countries. Frempong (2015) noted that, oversea students make up a significant portion of the university's student body and are crucial to its expansion and reputation. However, the provision of certain essential services, like food service on the

various university campuses, is necessary to either draw in more international students or keep those who are already enrolled in the university (Hoffmeyer-Zlotnik & Grote, 2019). To improve on these needs, the management of all universities in Ghana ensure that their campuses are provided with varied types of both local and continental dishes that are safe for consumption for the students (University of Ghana International Students' Handbook, 2018). They also ensure that there is proper sanitation on the campuses as well as adequate security and shelter for these international students. The availability of these provisions will give some level of comfort to the international student while adjusting to the host campus (University of Ghana International Students' Handbook, 2018). The latter has received more attention, especially because health and wellbeing are factors that affect academic accomplishment (Ansari & Stock, 2010). The students' consumption of nutritious food is a significant trait that can be observed. International students all throughout the world have long expressed concern about changes in meals (Edwards, Hartwell, & Brown, 2010; Hannigan, 2007).

Similarly, as highlighted by Fischer (2012), since international students move from their countries to settle and study in other countries and for that matter Ghana, they are certainly going to be exposed to the culture of Ghana. The culture of Ghana is depicted by the food consumed, the behavioural lifestyle, dressing, attitudes, and perceptions among others. Due to changes in culture and surroundings, international students are unlikely to prefer specific meals and cultures that they used to enjoy in their native countries (Brown, Edwards, & Hartwell, 2010). It is critical for international

students to learn to accept and adapt to the host country's new culture in order to successfully integrate into the host country (Wang, & Hannes, 2014).

Specifically, they must learn how to adapt to the dietary culture of Ghana, therefore, must essentially adapt new or different eating habits in order to coincide with the dietary culture of Ghana. As a result, the term "eating habits" in this study relates to people's reasons for eating, the foods they eat, who they eat with while dining, as well as how they get, store, consume, and dispose food. Eating habits per this study, covers food practices, food patterns, and food settings (Terragni, Garnweidner, Pettersen & Mosdøl, 2014).

A variety of factors, such as personal preferences, social interactions, cultural traditions, religious beliefs, economic status, environmental influences, political influences, emotional triggers, nutritional education, and media and advertising influences, all have an impact on people's eating habits (Kabir, Miah & Islam, 2018). These factors collectively make up the fundamental building blocks of people's eating habits and food-related activities. These elements interact and add to the complexity of eating behaviors, which are influenced by a mix of individual, societal, and environmental factors. Promoting healthier and more sustainable eating habits in individuals and communities requires an understanding of these aspects (Osei-Kwasi, et al., 2016).

International students have their own food patterns, food practices and food settings that they developed from their countries. However, for them to adjust to the Ghanaian dietary culture then it becomes necessary for them to adopt the eating habits of Ghana. Food habits refer to a person's choices or decisions regarding the foods he or she consumes (Rodriguez 2011). When to

eat, how much to eat, where to eat, and what to eat are just a few of the topics that have been discuss (MacNicol, Murray & Austin, 2003). Though these international students have to acculturate the host food, the choice of food they consume and the factors that determine their choices have to be interrogated.

In furtherance, the food patterns of the host campus determine the way international students can adjust to the eating habits. Food patterns per this study refer to the types of food eaten and how these foods are combined for consumption. That is, whether dairy products, vegetables, whole grains cereals, fish, meat, among other food categories (Galbete et al., 2017). Additionally, if foreign students must adapt to the dietary customs of the host campus, then their food practices must be considered with keen interest. Food practice in this study comprises the number of times they eat daily and the frequency with which they skipped meals (Nti, Brown & Danquah, 2012). Food practices can also be categorized as excellent or bad dietary practices (Nana & Zema, 2018).

Again, the food settings of the host country have an impact on international students' adjustment demands. The quantity, diversity, and accessibility of eating venues are all taken into account in this study, along with the availability, cost, quality, and advertising of food and beverage products in the country of origin (Glanz, Sallis, Saelens & Frank, 2005). The food settings are the places or locations where food is purchased and consumed (Dayour, 2015). In Ghana, the food settings usually comprise but not limited to homes, restaurants, supermarkets, chop bars, fast food joints, hawkers and tabletop food settings. This study, which explores how

international students in Ghana have changed their eating habits, is extremely prudent given these transition issues.

Statement of the Problem

Though international education serves a crucial function in the host campus and country, it is not without some hindrances, which affect its full implementation. Additionally, international students could be experiencing difficult challenges in trying to adjust to host culture, especially with the host dietary culture. The literature on eating habits among international students is extensive. However, the majority of these research (Brown et al., 2010; O'Sullivan & Amirabdollahian, 2016; Alakaam, Castellanos, Bodzio, & Harrison, 2015; Alakaam & Willyard, 2020) were carried out in the US, New Zealand, the UK, and England. O'Sullivan and Amirabdollahian (2016) also examined loyal tongue, liberal mind: International students' experiences on dietary acculturation in England in order to better understand the meanings associated with food by international postgraduate students in England. Alakaam, Castellanos, Bodzio, and Harrison (2015) also looked at what influences international students' eating patterns while studying in the US.

However, only a few studies were conducted in African countries like Ghana. These are Osei-Kwasi et al. (2020), who focused on acculturation and food intake among Ghanaian migrants, and Danquah et al. (2010), who focused on nutritional and physical activity behaviours of international students. Brown, Edwards, and Hartwell (2010) also found that home meals are essential to international students, as well as the physical, emotional, sensory, and social differences between home foods and foreign foods. Even

though the study was on food, its scope was limited to only the meaning and experiences attached to home food by international students. The ability of these students to adapt to the host food, particularly in terms of the eating habits they develop, their eating patterns, and practises, as well as the host food settings, is unclear, which is why this research is necessary.

Additionally, a study conducted by O'Sullivan and Amirabdollahian (2016) on international students' experience on dietary acculturation shows that while some students made changes in their diet, others also adopted new dietary experience. The study, though highlighted the adoption of the host food and culture by the international students, it failed to examine the specific food patterns and practices, as well as the food settings of the host country. Alakaam, Castellanos, Bodzio and Harrison (2015); Alakaam and Willyard (2020) also state that the food setting and campus environment influence the kind of food choice that international students make and the eating habits they develop in their host country. However, the study could not explore the food patterns and the food practices adopted by the international students in their quest to adjusting to the host culture. There is therefore, the need to explore these areas in order to add to literature.

In the Ghanaian context, the problem of adjusting to the Ghanaian food culture by international students also exist (Danquah, Odjoji, Graham-Acquaah & Steiner-Asiedu, 2010). However, a thorough search of Ghanaian based literature revealed limited research on eating habits among international students in Ghanaian universities. In 2010, At the University of Ghana, pilot research was conducted by Danquah et al. on the implications for health promotion of international students' eating and exercise habits, although the

study only looked at eating patterns of international students of the three major types of meal such as breakfast, lunch and supper without exploring how the students adopt and acclimate to the new eating culture in the Ghanaian setting.

Therefore, a comprehensive study to explore the food habits i.e., food patterns, food practices, and food settings of the Ghanaian context and how international students adjust to the Ghanaian food culture is needed to be able to comfortably live in Ghana. Additionally, according to the University of Ghana with a total of 1106 international students, both post-graduate and undergraduate, (Information Technology Office, 2022) appears to host a larger number of international students, among all public universities in Ghana, therefore, it is important to study such an issue at the University of Ghana.

Objectives of the Study

The primary purpose of this research was to examine the food habits of international students at the University of Ghana, Legon.

Specifically, the study sought to:

i. Explore the food settings of international students at the University of Ghana, Legon.
ii. Examine the food practices of international students at the University of Ghana, Legon.
iii. Analyse the food patterns of international students at the University of Ghana, Legon.
iv. Explore the factors that influence changes in the eating habits of international students at the University of Ghana, Legon.

Research Questions

i. Where are the food settings of international students at the University of Ghana?

ii. How does the food practices of international students at the University of Ghana differ from their home country?

iii. What are the food patterns of international students at the University of Ghana?

iv. What factors account for the change in food habits of international students at the University of Ghana?

Research Hypothesis

H_1: There is no statistically significant relationship between food settings and food practices.

$H_{2:}$ There is no statistically significant difference in international students' food patterns before and after coming to Ghana.

Significance of the Study

The study's findings were anticipated to provide information regarding the variables influencing international students' food preferences, information that will be useful to the university administration in ensuring that there is food available for international students. The results of this study should also shed light on the variables that govern how international students' eating habits evolve over time and how this impacts their ability to lead healthy lifestyles, laying the groundwork for addressing these consequences. The study will also add to literature and serve as a source of reference for further

studies on eating habits, experience and healthy lifestyle of international students.

Delimitation of the Study

The study looked into how overseas students' eating patterns have changed while attending the University of Ghana, Legon. It also looked into the elements that influence international students' food choices. Only foreign students from the University of Ghana, Legon, were geographically included in this study.

Definition of Terms

Food Habits	The set of choices or decisions made in relation to the foods consumed. What to eat, when to eat, how much to eat, and where to eat are all factors to consider.
Food Patterns	The foods that are consumed and how they are mixed for consumption.
Food Practices	The number of times they ate each day and how often international students skipped meals.
Food Settings	The location, number, type, and accessibility of food outlets as well as the accessibility, affordability, and quality of food and beverage products.
International Students	They are students who have moved from their home country or territory to another country or territory with the sole purpose of pursuing a degree from a specific university.

Chop Bar A chop bar is a Ghanaian food center that serves local cuisines in a contemporary dining setting. The name chop bar was coined from the words chop and bar. Chop is a local slang for the words ' to eat' and bar is an area meant for selling local alcoholic drinks.

Bush Canteen A canteen is an eatery provided by an organisation such as a college for its students and price of food is normally at a subsidised rate.

Organisation of the Study

The study was organized into five chapters. In Chapter One, the background information of the research was presented, followed by the statement of the problem, the study's purpose, objectives, research questions, and the significance of the study. The chapter also covered the scope and limitations of the research. Chapter Two delved into theoretical and conceptual frameworks related to the topic. Additionally, it provided a comprehensive review of the existing literature concerning changes in eating habits. In Chapter Three, the research methods employed in the study were described in detail. This chapter explained the study area, research philosophy, design, data sources, target population, sample size, sampling procedure, research instruments, pre-testing of instruments, fieldwork process, data collection procedure, ethical considerations, as well as the methods for data analysis and presentation. Chapter Four was dedicated to the analysis and discussion of the study's findings. This section presented a thorough examination and interpretation of the data gathered during the research.

Finally, Chapter Five served as the conclusion and recommendations section. Here, the study's key findings were summarized, and conclusions were drawn based on the results. Additionally, practical recommendations were provided for relevant stakeholders or decision-makers based on the study's outcomes.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents both theoretical and empirical reviews on issues relating to food habits among international students. Issues reviewed include food habits among international students, food patterns among international students, food practices among international among international, food settings among international students, gender and food habits, and age and food habits. Other issues include the theories underpinning the study as well as the conceptual framework.

Theoretical Framework

The social ecology system theory served as the foundation for this investigation.

Social Ecological System Theory (1979)

The "socio-ecological model" (the Ecology of Human Development) was developed by psychologist Urie Bronfenbrenner in the late 1970s, as a way to recognize that individuals affect and are affected by a complex range of social influences and nested environmental interactions. It is important to know that the concept of ecological systems influencing human development has roots in the work of several theorists. This model has been developed and expanded upon by various researchers and scholars (Berkes & Jolly, 2002; Golden & Earp, 2012). Nonetheless, the model illustrates how closely linked nature and society are. A system of systems' resilience is contingent upon

numerous elements originating from the interconnections between ecosystems and human societies. (Davidson-Hunt, & Berkes, 2003).

This focus of the model takes a holistic and all-encompassing approach to comprehending human behaviour in the context of numerous interconnected systems and the dynamic interactions that occur between people and their environments. It also acknowledges that modifications made to one level can have an impact on other levels (Cumming, G. S. (2014; Bodin et al., 2019). This interdependence makes it possible to analyze the variables influencing behavior in greater detail. Notwithstanding its potency, it is imperative to recognize that the social ecology model is not without limitations. These include the possibility of oversimplifying intricate connections and the difficulties associated with quantifying these complex influences in empirical research (Taylor, 1988).

The model was proposed to understand the complex interplay between individuals and their environments across different levels (Fiksel, 2006). It acknowledges that elements at the individual level affect behaviour, interpersonal, community, institutional, and social levels (Karahanna, Evaristo & Srite, 2005; Golden & Earp, 2012). Numerous research have made extensive use of the paradigm, especially in the fields of public health and social sciences, to examine and address a range of issues **(**Karahanna et al., 2005**)**. For example, it has been applied to studies on health behaviours, substance abuse, education, and environmental sustainability. Only a small number of scholars have experimentally evaluated how the model has been used to analyse how factors at different levels impact individual and communities, guiding interventions and policies that consider the multifaceted

nature of the human behaviour and development (Berkes, & Jolly, 2002; Stanger, 2011; Schölmerich, & Kawachi, 2016).

Furthermore, some of these factors identified by the social-ecological model at different levels that influence behaviour, including food related behaviours are;

Individual Factors: They include personal preferences, knowledge, attitudes, and skills regarding food and nutrition.

Interpersonal Factors: These factors deal with social relationships, family, friends, and social networks that can impact food choices and practices.

Community Factors: The local environment, access to grocery stores, farmers' markets, and community resources that influence food availability and choices.

Institutional Factors: They are policies and practices within organisations, such as schools and workplaces that shape food environments and behaviours.

Structural Factors: Broader societal influences, including cultural norms, economic policies, and media messages, which contribute to shaping food patterns and practices at a societal level.

Meanwhile, in the context of this study, addressing issues related to food patterns, settings, and practices requires considering and intervening at multiple levels to establish a more encouraging and conducive environment for wise and healthful choices (Kumanyika et al., 2008; Golley et al., 2011). The target demographic which consists of foreign students studying in Ghana, is significantly impacted by these issues (Edwards, Hartwell & Brown, 2010),

and it is critical to acknowledge that models of sustainability in a stable state are excessively basic and to have a deeper comprehension of the adaptive, dynamic behaviour of difficult systems as well as their resistance to disruption and academic constraints. As they left the shores of their home country to a different country for academic pursuits, their food patterns, settings, and practices which are the anchors of the study will change leaving them with no options than to adopt and adapt to the cultural norms (Johnston, Szabo & Rodney, 2011) of the visiting country such as Ghana. These cultural norms include the food patterns, settings, dressing, practices, and behaviours among others in the environment they find themselves (Johnston, Szabo & Rodney, 2011; Fieldhouse, 2013).

The body of research has also shown that the food environment, which includes the whole range of options from which consumers (international students) choose which foods to purchase and eat, is an essential location within the food system (Stroebele & De Castro, 2004; Caspi et al., 2012; Roy, Rangan & Allman-Farinelli, 2015) to put policies into place that encourage sustainable eating on campus and there is the need to adapt to the new lifestyles until they return back home. According to a study by Harrison et al. (2015), many foreigners experience nutritional difficulties due to cultural adjustment. The campus settings, food environment, personal preferences, and religion are the primary elements influencing diets of the foreign students studying in Ghana (Alakaam, 2016; Nemeth et al., 2019).

Furthermore, the results of dietary modifications were linked to the cultural norms of the host nation, which included a wide selection of meals that may potentially cause weight gain, elevated blood sugar, and elevated

cholesterol (Edwards, Hartwell & Brown, 2010; Harrison et al., 2015; Nemeth et al., 2019). Application of the notion of the food environment (settings) started more and more to examine links as the fields of public health and nutrition adopted a socio-ecological paradigm to investigate the complex and interrelated elements that affect dietary choices, there was a greater correlation between diets, the built food environment, and chronic disease in high-income countries. (Downs et al., 2020).

Also, using an idea of social-ecology to study and address food-related issues among international students in a different setting involves considering factors at various levels (Lynch, M., & Batal, M. (2011; Hirsch, Lim & Otten, 2016). According to a study by Amore (2019), influence can occur at four different levels: individual (intrapersonal), social environment (interpersonal), physical environment (community settings), and macro-system (societal). Additionally, according to the socio-ecological paradigm, these variables include each person's current environment's knowledge gap on nutrition and this will take time for them to adopt the foods in that setting. It also goes to evaluate the cultural background, food preferences, regarding foreign students' understanding of nutrition (Dey et al., 2019; Nemeth et al., 2019). Interpersonal level which deals with encouraging social support networks among international student by creating forums for shaping recipes, dining experiences and cultural food practices (Amore, Buchthal & Banna, 2019; Kaur et al., 2020; El-Ammari et al., 2020). One way to do this is by creating relationships with local students to facilitate cultural exchange and understanding.

Conceptually derived from cultural sociology, the study investigates how eating behaviours define symbolic boundaries and the ways in which class and ethnic background have an impact on ethical eating. (Johnston, Szabo & Rodney, 2011). There is also the need to evaluate the accessibility of diverse and culturally relevant food options in local markets and grocery stores because their food patterns might differ from the environment, they find themselves (Baumann, Szabo & Johnston, 2019). This may lead to advocating for the availability of ingredients from different cuisines to support diverse dietary needs. Consequently, there should be a collaboration with the universities to integrate cultural diversity into campus dining options. This helps to promote the inclusion of international cuisines in cafeteria menus and organize cultural food events to celebrate diversity.

These factors at multiple levels including interventions can be help to create an environment that supports the diverse food patterns, settings, and practices of international students, by ultimately promoting their well-being and successfully adapting to the new food culture.

Conceptual Framework

The researcher's conception of how the research topic should be approached serves as the conceptual foundation for the investigation, the precise course the investigation must take, and the relationships between its numerous variables (Osanloo & Grant, 2016). It is described as a set of ideas, presumptions, and beliefs that underpin and guide the study plan by Miles and Huberman (1994). The framework specifically "lays out the major factors, constructions, or variables and presume linkages between them" (Miles &

Huberman, 1994). A conceptual framework, according to Camp (2001), who also provided a clear definition of the term, is a structure of knowledge that best explains the natural flow of a phenomenon under study. This study's conceptual foundation will look into the topic of international students' food habits.

Food Habits among International Students

Food habits refer to a person's choices or decisions regarding the foods he or she consumes. How much and when to eat, where to eat, and what to eat are just a few of the topics they discuss (MacNicol, Murray & Austin, 2003). In reaction to societal and cultural influences, these are the attitudes and behaviours that predetermine how people or when clusters of people choose, consume, and make use of quantities of the selected food available (Viljoen & Gericke, 1998). The things that people eat and the motivations for their eating, who they eat with, how it is obtained, stored, used, and discarded food are all included in eating behaviours (Rodriguez, 2011). There are several different variables that could affect people’s eating habits, such as social, cultural, religious, economic, environmental, and political factors. Food is usually consumed with family members and in the confines of the home, making these behaviors more intimate than others.

Similar to how language reflects our sociality and expresses our ethnic or cultural identity, our eating habits do the same according to Van den Berghe, (1984). "We begin learning the cultural rules of food and eating early in our socialization, and we aren't even aware of the rules until we are presented with other cultures" (Abrahams 1984: p. 20). Moving to a different

country puts one in a scenario where they are exposed to new or different cuisine, and it can be a challenge to one's identity in many ways. However, research suggest that eating patterns are one of the last cultural aspects to alter when it comes to movement and the ethnic minority's customs (Charon Cardona, 2004; Spiro, 1955). Immigrants reflect on their previous dining experiences while they cook or prepare food in their new nation (Sutton 2001). A significant portion of a person's feeling of ethnic identity is kept due to their accustomed eating patterns and the cultural and symbolic associations that ethnic food has with their country of origin.

According to Sutton (2001), eating habits, like other dimensions of human behaviour, are not born out of thin air. They are the product of a variety of personal, cultural, societal, and psychological factors. These components are intertwined in the development of a completely distinct individual for each person. Food habits are impacted by a variety of factors other than the meals available. Habits are influenced by both psychological and biological factors. Significant aspects include the geography of the area, the farming practises used by the locals, their economic marketing plans, their opinions on food safety or health, as well as their history and culture.

Eating habits can be classified as "healthy" or "unhealthy." In contrast to bad eating habits, which call for selecting foods that are nutrient-deficient in the appropriate ratios and quantities, healthy eating practises entail picking foods that meet the demands of the individual while providing a balanced diet. The majority of unhealthy eating patterns, which frequently centre around fatty and sugary foods and cause conditions like obesity, diabetes, hypertension, and gout, have essentially replaced the beneficial patterns,

which frequently involve traditional meals. This provides a very good explanation for the rising occurrence of nutritional issues in Ghana and other nations as a result of a change in eating patterns (Gilbert & Khokhar, 2008).

Food Patterns among International Students

In addition, the food patterns of the host campus determine the way international students can adjust to the dietary culture. Food patterns per this study refer to the types of food eaten and how these foods are combined for consumption. That is, whether dairy products, vegetables, whole grains cereals, fish, meat, among other food categories (Galbete et al., 2017). Others contend that cultural norms, attitudes, values, and beliefs, as well as knowledge of nutrition and, in industrialized nations, active commercial promotion and marketing methods, all have an impact on people's eating habits (Offei-Ansah, 2013). The food patterns of international students could be fair or poor (Agbozo, et al., 2018), health conscious or non-health conscious (Abubakari & Jahn, 2016).

Food Practices among International Students

Again, if international students must adapt to the nutritional customs of the host campus, their eating habits must be carefully considered. In this study, food practices include how often students skipped meals and how often they ate each day. (Nti, Brown & Danquah, 2012). Food practices can also be categorized as good or poor dietary practices (Nana & Zema, 2018). The food practices of international students could be adequate or inadequate, poor, fair or good (Nti, Arthur & Opare-Obisea, 2016).

Food Settings among International Students

International students' adjustment demands are also influenced by the food settings available on the host campus. The food setting is the places or location where food is purchased and consumed. In Ghana, the food settings usually comprise homes, restaurants, supermarkets; chop bars, and table top food. Food settings are characterized by elements that control access to food and beverages by evaluating their nutritional composition and the methods used to get and consume them (Glanz, Sallis, Saelens & Frank, 2005; Hoslten, 2009; Widener, Metcalf & Bar-Yam, 2011). In schools and universities, the food settings can influence eating habits by supporting or discouraging a healthy lifestyle (He, Tucker, Gilliland, Irwin, Larsen & Hess, 2012). Students' eating habits may be significantly influenced by the length of time they spend at school, the environment around them, and the way that they are taught (Larson, Story & Nelson, 2009).

Conceptual Framework

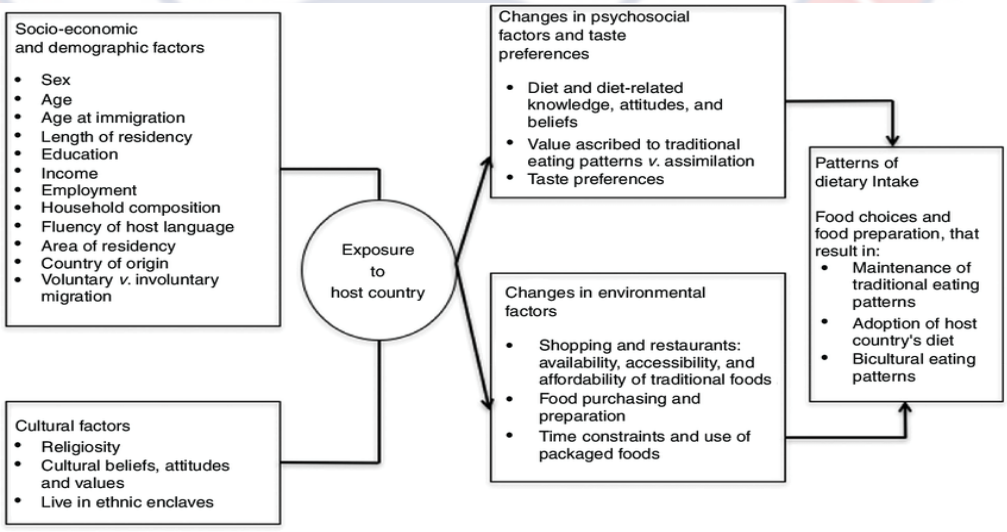

Figure 1: Original Model by Satia-Abouta (2003)

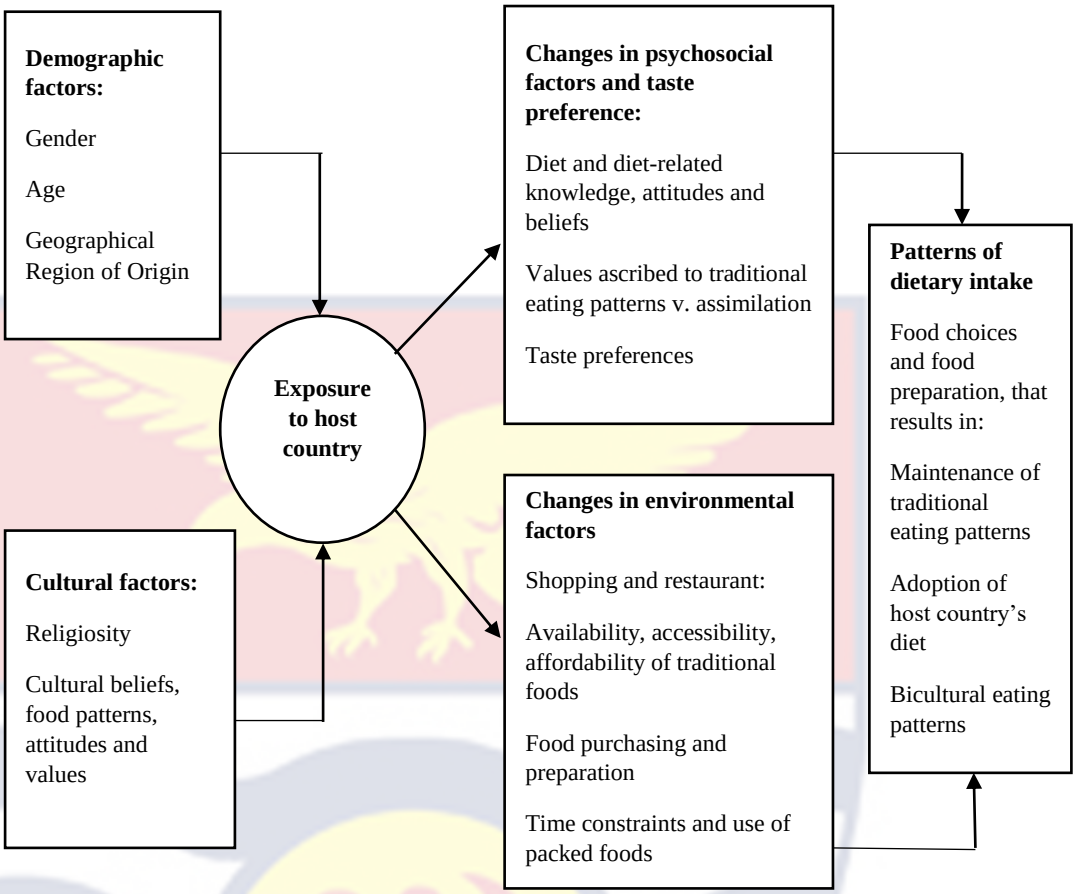

Figure 2: Adopted Version of Dietary Acculturation

The framework indicates that eating habits are influenced by several factors, which can result in considerable dietary change (Satia-About, 2003). These factors are divided into three categories: socioeconomic, demographic and cultural. When an international student arrives in the nation of residence, they are immediately made available to the host country's cultural perspectives. The beliefs, eating habits, attitudes, and values of the host nation are only a few examples of these cultural traditions. Changes in environmental elements or situations result from exposure to the host culture such as shopping and restaurants, such as the availability, accessibility, affordability of traditional foods, food purchasing and preparation, time constraints, and use of packaged foods, as well as variations in psychosocial elements and taste

preferences, including absorption, values attached to conventional eating patterns, nutrition and knowledge, attitudes, and beliefs about nutrition. All of these elements have an impact on and lay the groundwork for changes in eating behaviours among international students.

Empirical Review

This study reviewed previous researches conducted by other researchers in relation to food habits, food experience and healthy lifestyle of international students. The research looked at empirical studies on international students' dietary habits. Specifically, the review was focused on the food habits of international students, their food patterns, food practices, and as well as their food settings.

Food Habits among International Students

Individual food habits have long been a fascinating research topic, as many people cook meals that they enjoy as well as those with which they were raised. Most people would avoid preparing foods they dislike or are unfamiliar with (Offei-Ansah, 2013). Food habits play a crucial part in the daily lives of the majority of peopleStoetzel, 1990). He cited research on Tunisian Jewish immigrants' behaviour that revealed changes in their eating patterns only happened after they had started to assimilate. Long before they began altering their food patterns, they assimilated the language and media of the host nation. Sometimes a change in religious views comes first, then a change in eating habits. Food preferences are frequently complex, illogical, and symbolic (Rodriguez, 2011). Thus, it is difficult to modify them. Naturally, the

difficulty lies in cultivating desired changes while directing and motivating favourable ones.

Additionally, Rodriguez claims that people eat in accordance with acquired behaviours in terms of behaviours, meal and snack schedules, permissible foods, food pairings, and portion sizes (2011). Acceptable conduct is referred to as etiquette. For instance, some cultures perceive it as appropriate to lick one's fingers when consuming food, while others consider it impolite. Depending on whether the dinner is formal, informal, or outstanding, etiquette and eating customs change (such as a meal on a birthday or religious holiday). Rodriguez (2011) continued by stating that trying new foods is a good way to develop new eating habits.

There are numerous flavour and meal pairing options available. Some food or flavour pairings are simple to accept, while others need experimentation or learning. Everyone enjoys sweetness, but it takes practice to acquire an appetite for flavours like salt, sour, spicy, acidic, bitter, and scorching. A person is more likely to accept a food if they are exposed to it frequently and encouraged to eat it. As a person is exposed to a cuisine more frequently, they become more accustomed to it, lose their fear of it, and acceptance may grow. Some people exclusively consume a certain type of food and flavour combination, while others relish trying new foods and flavours.

Again, people typically ingest food that has been consumed by their family in the past (Lowenberg et al. 1974). That is, dietary habits are passed down from generation to generation. Meal styles are influenced by elements such as eating utensils, food combinations, serving methods, color utilization,

leftovers disposal, rubbish disposal, and cultural considerations. The elements that influence eating habits can be categorised based on these reviews. Emotions, according to Fleck (1981), have a significant impact on what, when, and how one eats. According to Bender (1993), people who eat with others are more likely to indulge in a luxurious and nutritious supper and to eat healthier than those who eat alone. Adow et al. (1991) assert that when individuals move from their native locations to new ones, they bring their long-standing eating practises with them. Can the same be true about foreign students residing on the host campus, though?

Change is inevitable and is motivated by a multitude of elements, such as shifting ethnic identities. Although migrants, like international students, attempt to maintain their old eating patterns in their new environments, change is unavoidable. The duration of stay in the home nation, the size and make-up of the household, the gender, and the socioeconomic status all have an effect on both the degree and mode of acculturation. Other factors include the extent of resemblance or difference between the host and migrant cuisine-related cultures (Caplan et al. 1998; den Hartog, 1995; Kalcik, 1984).

The different cultures that the second generation is exposed to routinely shape their eating patterns (Harbottle, 2000). Because affordable ethnic food items are widely available, immigrants can develop and maintain their own cuisine cultures (Charon Cardona, 2004; Jamal, 1996). Perez-Cueto, et al., (2009) discovered three clusters of international students who reported dietary changes, which were factored in a "less energy-dense" meal, "more fruits and vegetables," and "less processed" meals in their study of foreign students enrolled at Ghent University in Belgium. Students in cluster one

consumed more fruits, vegetables, and fibre. The biggest cluster, number two, reported overall dietary changes and a move away from processed foods in particular. Cluster three was made up of students who shifted their eating habits to include less energy-dense items. They went on to say that, there were gender variations in healthy dietary adjustments, notably in men, and that a perceived shortage of healthy food options prevented people from making healthier decisions.

A qualitative study by Hartwell, Edwards, and Brown (2010) found that the pricey nature and scarcity of similar foods are key impediments to migrating communities maintaining their eating habits. Students employed an array of tactics to maintain their culinary culture despite the cost, including, using networks of friendship to obtain supplies from home and relying on parcels provided by family members. Traditional food preparation time was also identified as a hurdle. Embracing the shift in eating pattern was one way to overcome it. According to Edwards, Hartwell, and Brown (2010), the majority of the changes happened in the first three months, as one might anticipate, and there were only slight variations in the eating routines between the Asian and European people. Similar outcomes were observed with first-year undergraduate students in the United Kingdom, where the majority of dietary modifications occurred during the initial term (Edwards & Meiselman, 2003). In a different study of international students' dietary changes in Belgium (Perez-Cueto et al., 2009), the majority (85 percent) reported that they had changed their eating habits since arriving, whereas the figures in this study were 8% no change, 59 percent very small and small changes, and 33 percent major and very major changes.

There has not been a lot of research done in Ghana regarding the eating habits of international students. However, some tribes respect their traditional cuisine and do not want to change it (Adow et al., 1991). Furthermore, an immigrant abandons his or her original speech and dress customs before abandoning their native eating habits (Lowenberg et al., 1974). In his research on immigrant dietary preferences, Sai (2002) found that immigrants generally seek out familiar meals that may not be easily available, and only reluctantly select substitutes. If familiar meals are available, people will frequently purchase them regardless of price. For instance, it was believed that northern immigrants (those who came to Accra from Ghana's three northern provinces) paid more for millet even though maize was widely available. If millet were unavailable, they would substitute maize, which they would prepare similarly to millet. Examining the dietary and behavioural traits within a study community may serve as a foundation for future treatments intended to improve people's nutrition because eating routines are typically impacted by culture and the varieties of food that are accessible for eating (Abubakari & Jahn, 2013).

Food Patterns among International Students

In addition, the food patterns of the host campus determine the way international students can adjust to the dietary culture. International students' eating habits gradually shifted toward the American diet by Almohanna, Conforti, Eigel, and Barbeau (2015) at Virginia Tech to determine what effect nutritional acculturation has on newly arriving international students' health. Some of the students put on weight as a result of food acculturation, which if

continued for longer stretches of time could have a serious impact on their health.

Saccone (2015) examined changes in the eating patterns and health condition of 25 participants at a public university using a phenomenological method. The results of the study were divided into three primary themes: modifications in the types of foods ingested, variables influencing dietary choices and patterns, and health effects. According to the research, when fewer native foods are involved, adopting foreign (US) foods or eating patterns is met with resistance and a protective bargaining. International students specifically, as well as immigrants generally, can benefit from learning from one another in order to maintain or improve their health within the host nation.

This study, though it reveals the food patterns of international students, it was qualitative in design with just participants rendering its generalization problematic. A quantitative approach with a larger population is needed to be conducted to enable broader generalization, the impetus behind the study. This study was also conducted in the US with a distinct characteristic altogether. To comprehend the case of foreigners' eating habits in Ghana, a study with an African and Ghanaian focus is required.

Although they still eat a greater proportion of fruits and vegetables than their less assimilated counterparts, non-Hispanic white peers (Neuhouser, Thompson, Coronado & Solomon, 2004). Butter and margarine were first introduced to table items like bread and potatoes during acculturation, which was one of the earliest significant nutritional modifications. Consuming more fat is also possible, albeit not significantly more. Neuhouser et al. 2004 also

found that the less acculturated folks used less lard and oil when making tortillas than the highly acculturated and non-Hispanic residents did. One should consider how long they plan to stay in the host nation.

According to Jamal (1998), who looked studied British-born Pakistanis' perceptions of English and Pakistani cuisine, suggested that the duration of stay in the country of residence could influence how meals and cuisines are seen. Along with variations in food intake, shift in meal routines and diet have additionally been noted. For instance, immigrants from Pakistan and Sri Lanka to Norway significantly changed their eating habits, shifting one hot meal instead of three each day, in order to fit in with the local traditions, primarily as a result of changes in work schedules.

Additionally, in comparison to Europeans, South Asians consumed significantly less food in the UK, two to three hours after the former had their evening meal (Simmons & Williams, 1997). Due to their hectic schedules, After living in the US for three months or longer before starting their studies, Asian students reported eating fewer meals daily, with nearly half skipping breakfast more often than the other two meals. Consumption of fats, salty and sugary snacks, and dairy products increased greatly, whereas intake of veggies, meat, and meat substitutes decreased noticeably. Even though they dined out less frequently, they favoured American fast food when they did (Pan et al, 1999).

Leong (2015) also compared international students' experiences at a single American university, as well as the acculturation challenges, they faced, using interview data from 11 international students. The students expressed their positive and negative experiences at the university, as well as their

opinions of American cultural practices. The statistics show that linguistic and cultural limitations cause Chinese students to have significantly more academic and social challenges than students from other countries. Whether students self-segregate with co-nationals or associate exclusively with Americans, these issues persist.

Recently, Pilli et al.'s (2021) study examined the dietary habits and eating habits of thirty international students who were enrolled in a Canadian institution. Many participants wished to preserve the culinary traditions of their native countries, but because to their newfound independence and unanticipated food environments, they had to change the way they ate. Fast-food environments, insufficient access to comfort foods, busy schedules, and inadequate culinary abilities all contributed to unhealthy eating patterns. These concepts are reflected in the intake of "other," less nutritious foods and in the small amounts of cereals, dairy products, fruits, and vegetables.

Similar conclusions were reached by Cheema et al. (2021), who found that international students had four distinct dietary patterns that accounted for 65 percent of the sample's overall variance. Quick eateries, snacks, energy drinks, and soft drinks were concentrated in the first pattern, which is referred to as "fast food," The pattern known as the "traditional diet" contained the highest amounts of dairy, starchy foods, eggs, and meat. The highest concentrations of fruits, vegetables, and fresh fruit juice were found in the third pattern, which was categorised as "healthy," The largest loadings on protein shakes and the lowest on energy drinks were found in the fourth pattern, nicknamed "protein shake." The study found that rigorous compliance to the "fast food" choice was linked to significantly higher intakes of fast food,

snacks, soft drinks, energy drinks, and fresh fruit juice, in addition to a somewhat lower consumption of fruits and vegetables. The "traditional diet" choice is characterised by an increased consumption of veggies, dairy products, eggs, meat items, and carbohydrate meals. Fruits, vegetables, fresh fruit juice, and dairy products are connected with a significantly higher consumption of the "healthy diet" pattern. Strict adherence to the "protein shake" pattern is also linked to significantly higher consumption of vegetables, energy drinks, and protein shakes, along with a significant decrease in the consumption of snacks and a slight increase in the consumption of soft drinks.

Furthermore, the study (Cheema et al., 2021) assigned each student a dominant food pattern based on the highest-scoring pattern. There was a greater frequency of male students who had a higher prevalence of 'protein shake' and 'quick food' patterns as compared to the female students, whereas female students have a higher prevalence of 'good diet' and 'traditional diet' patterns. Students from Qatar are more likely to consume a protein drink, while students from other countries are more likely to consume a fast-food meal. When compared to students who lived off campus (possibly in their parents' houses), who were more likely to follow a "protein shake" or "fast meal" trend, the students who lived on campus were more likely to follow a "good diet" or "traditional diet" pattern. Pre-university students and first-year students were more likely to follow the "fast food" pattern, juniors were more likely to follow the "traditional diet" pattern, seniors were more likely to follow the "protein shake" pattern, and postgraduate learners have a markedly higher probability of follow the "healthy diet" pattern. The two types of food that overweight students most frequently consume are "conventional diets"

and "protein shakes." Smokers have a higher prevalence of the 'quick food' pattern, while non-smokers have a higher prevalence of the 'traditional diet' pattern.

In Ghana, not much study has been conducted in this area of international students' food patterns. However, Galbete et al. (2017) investigated dietary behaviour using culture-specific measures in a sizable sample of middle-aged Ghanaians living throughout Europe and their equivalents in Ghana, and discovered differences between research sites. While European diets tended to be less starch-based and more varied, Ghanaian diets, particularly in rural areas, appeared to be more dependent on simple carbs and traditional foods. Three distinct eating habits were found, and each was associated in a unique way with socio-demographic traits. In contrast to the "rice, pasta, meat, and fish" pattern, which was linked to female sex and residence in Europe, the "mixed" pattern was connected with male sex, younger age, higher physical activity, and living in both urban Ghana and Europe. Both changes were associated with higher education levels and a history of smoking. The "roots, tubers, and plantain" pattern was largely related to rural Ghanaian life and was only slightly correlated with older age.

Again, a study by Frank, Kroger, Schulze, Bedu-Addo, Mockenhaupt and Danquah (2014) categorized food patterns into 'purchase' and 'traditional' patterns. The first pattern, known as the "purchase" 13.7 percent of the difference in food products was explained by eating patterns. Heavy consumption of candies and sugary drinks, rice, meals high in protein (like those including red meat, chicken, eggs, and milk), plant oils (like margarine and vegetable oil), fruits and vegetables (like carrot, lettuce, and cucumber),

and low consumption of plantains were some of these. Second, a "traditional" diet that was associated positively with the consumption of plantains, green leafy vegetables, beans, garden eggs, fish, maize (banku), palm oil, okra, and fruits accounted for 8.5% of the variation. The initial pattern ('buy') remained consistent in every other solution; two patterns were only differentiated by heavy consumption of two or three foods (e.g., carrots, lettuce, and cucumber or milk and bread); and the conventional dietary pattern divided into a "starchy" foods" pattern (characterised by high intakes of plantains, cassava, garden eggs, fish, and green leafy vegetables) and a "traditional" dietary pattern (characterized by high intakes of plantains, cassava, and fish). The seven primary food categories from which meals were regularly made in Ghana, are cereals and grains, roots, tubers, and plantains, animal products, vegetables, fruits, and legumes (Agbozo, Amardi-Mfoafo, Dwase, & Ellahi, 2018).

Food Practices among International Students

Food practices are observable behaviours or eating patterns that can be categorized as either good or unhealthy dietary practices (Nana & Zema 2018). Healthy eating habits or the practice of consuming foods that are balanced in terms of the nutrients they contain to support growth and development are both considered to be good dietary practices (Aliwo et al., 2019). A tendency to consume meals that are unhealthy or do not supply all the nutrients required for growth and development is another way to define poor dietary habits (Aliwo et al., 2019).

While most students ate their regular daily meals, Tok, Ahmad, and Koh (2018) found that more than half of them skipped breakfast. Snacking was very common, along with consuming fried food at least three times per week and not getting enough fruits and vegetables each day. Fast food establishments were visited substantially more frequently by overweight and obese people. Of the students, 25.4 percent exercised at least three times each week. Nearly every student is aware of the food pyramid and the need of a balanced diet.

In Ghana, little literature exists in relation to international students' food practices. Nonetheless, according to Offei-Ansah (2013), engagement with some of the students at the University of Cape Coast (UCC) reported that they tend to cook the foods they like and avoid making the foods they dislike. Additionally, they asserted that their distinct eating practices were a result of both cultural and familial influences. Some students also said that their eating habits have altered as a result of education and peer pressure.

Consequently, because these foods are linked to status and affluence, they are now incorporated into their diets. This explains why people are drinking more tea, soft drinks, sugar, and fatty foods, which has raised the prevalence of certain health issues like obesity, diabetes, and hypertension that were not as prevalent in the past when eating habits were healthier. For instance, "fufu," which was traditionally served in "asanka" (earthenware bowls), is now served in plastic bowls or glasses and eaten with a spoon as opposed to one's fingers because students acknowledged that they had to alter the way they prepare and consume meals to fit their busy schedules. The facts and observations show that some people experience ridicule when they

consume indigenous foods like "gari and beans" with fried plantains, "kokonte," "fufu," "palm nut soup," and others (Offei-Ansah, 2013).

Additionally, most students steer clear of chop bars and eateries that serve traditional fare in favour of eating places that provide continental cuisine or contemporary versions of classic dishes with a variety of spices and other ingredients that set them apart from a normal local or traditional dish. Additionally, they are typically given in plastic bags or filthy, harmful takeaway packs. (Australia's Food & Nutrition, 2012; Larson, Neumark-Sztainer, Laska, & Story, 2011) Young folks consume more calorie-dense, nutrient-poor foods and beverages than older adults do. Beverages with added sugar, fried foods (such french fries), pizza, potato chips, and confectionary are a few examples of these foods and drinks.

Food Settings among International Students

International students' adjustment demands are also influenced by the food settings available on the host campus. The food settings are the places or location where food is purchased and consumed. A thorough search of literature on food settings of international students reveal scare information. In Ghana, as operationalized in the introductory chapter, the food settings of Ghanaians usually comprise homes, restaurants, supermarkets, chop bars, and table top food. According to a previous study which took place in the United States, university dining facilities impair students' ability to make healthy eating choices (Byrd-Bredbenner et al., 2012; Horacek et al., 2013). According to Lowe et al. (2010), altering the food environment can be a tactic for promoting healthy eating habits on college campuses.

According to studies by Byrd-Bredbenner et al., (2012) most of the foods that were offered for sale on campus included a lot of sugar, low in fibre, and high in calories and fat (2012). Additionally, most drinks have a lot of sugar and calories.. The findings of this study suggest that there are not many healthy options available at vending machines. The campus administration, health services, food service, and students can adopt policies to support healthy eating on campus with the aid of the findings from benchmark assessments of food environment components, such as the vending alternatives outlined below.

Additionally, a study by Pulz, Martins, Feldman and Veiros (2017) found the food setting to be made up of largely restaurants and snack bars. The researchers discovered a wide range of foods and drinks. One snack bar was the only one without sandwiches or packaged drinks (7.7% of all snack bar locations). Fresh whole fruit was not available at any of the snack bars. Only different beverage serving sizes were offered at 92.3 percent of the snack bars (juices, smoothies, hot or cold chocolate drinks, but not food). The counter and website of one snack bar both displayed the nutritional facts for the various products. In addition, just one snack counter provided a placard with nutritional information relating to the sandwich options. 91.3 percent of the 12 snack bars that served sandwiches did not enable customers to substitute wholegrain bread for refined bread. Customers could select the type of bread they preferred at one snack bar only, and there was no additional cost. On the other hand, no snack shop offered customers the chance to swap out the yellow cheese on sandwiches with a white cheese that contains less fat. Two slices of bread, a protein source, several cheeses, vegetables, and vinaigrette

were used to make the sandwiches. Once more, the vegetarian sandwich alternatives that were made without animal protein and with extra greens in place of the protein were advertised as such. Preserved dry tomatoes were used to make the majority of the vegetarian sandwiches.

According to Pulz et al. (2017), four eateries (66.8% of the total) offered salads with oil or olive oil. The other two contained commercially available, premade salad dressings. One establishment offered a variety of seeds, while another offered Parmesan cheese salad toppings. Banners encouraging healthy eating habits, such as "Eat more veggies" and "Drink more water," were only present in the university's own restaurant. The walls above and next to the buffet stations were covered with these notices. The components used to manufacture each dish were listed on labels that were placed in front of them at this establishment, along with explanatory symbols like "does not contain gluten" and "does not contain lactose." Because they often have smaller discretionary budgets and young individuals may want perceived value for their money, such as international students, may be subject to aspects of the eating environment, such as the pricing and portion size of meals (Strong, Parks, Anderson, Winett & Davy, 2008). Food environments function as a conduit for health promotion (World Health Organization, 2015), and colleges and universities provide chances to increase the exposure of international students to better dining surroundings.

Regarding the dietary environment that foreign students encounter in their host countries, not much research has been done, particularly in the context of Ghana. But a recent study conducted by Pradeilles et al. (2021) divided the Ghanaian food environment into four categories: the family,

workplace, school, and neighborhood. According to the study's findings, the neighborhood food environment was the most prevalent theme in the three cities, as shown by the volume of discussion and the number of photos that were taken. It was found that the home food environment and the neighborhood environment were connected and that both were important. Participants, on the other hand, talked less about the factors that influence their eating habits at work and in school.

Influence of Socio-Demographics on Eating Habits

Due to a variety of circumstances and variables, eating habits are always changing. According to Serafica (2014), one of the elements that may cause respondents' eating habits to shift is their socio-demographic make-up. As demonstrated in the literature, the following are the main socio-demographics that influence eating habits.

Age and Food Habits

The shift in eating habits is also influenced by the immigrants' ages. Delavari et al. (2015) discovered a statistically significant relationship between the eating preferences of Iranian immigrants in Australia and their age. The findings revealed that whereas older immigrants tended to utilise the integration method, younger immigrants tended to follow the assimilation and acculturation technique. The study also discovered that the cause for the move had an effect on dietary changes. Immigrants from Asia to the United States who arrived later in life and who live in cities are more likely to keep traditional eating patterns (Serafica 2014). This study also emphasises the

moderating influences of age and socioeconomic status. The majority of Iranian students engaging in a one-semester exchange programme in the United States used the integration acculturation approach (80.28 percent), followed by the assimilation strategy, according to Rafieyan et al. (2014) (76.8 percent). Marginality was used by 9.53 percent of students, whereas separation was used by 16.32 percent.

Menigoz, et al. (2016) found that men who entered the country as teenagers and both men and women who entered as children had higher BMIs than the other participant categories. This discovery also shown how age changes people's eating patterns upon migration and how acculturation and health are related. While she always attempts to balance these foods with native African dishes, one of the participants in a qualitative study by Turk, Fapohunda, and Zoucha (2015) claimed that her children frequently favour unhealthy American cuisine. This finding also suggested that ageing could have a moderating effect on changes in eating habits.

According to Jonson et al. (2013)'s study, women who immigrated to Sweden while they were younger (18–34 years) were more likely to engage in physical activity than those who immigrated when they were older (35-65 years). The study also showed that language competence and physical activity engagement among immigrants were both highly correlated with their country of origin. This study demonstrates that the relationship between eating habits and health behaviours may be influenced by immigrant ethnicity and cultural background.

Chapter Summary

In summary, this chapter includes the conceptual framework, theoretical framework, and empirical review that supported this study. The main theory applied in this study is the dietary acculturation theory. The primary ideas examined in this study include international students' eating behaviours, eating patterns, eating behaviours, and eating behaviours in connection with food. The goals of the study served as the foundation for the empirical review.

CHAPTER THREE

METHODOLOGY

Introduction

The many systematic methods and strategies that were used to collect data to address the research topics were described in this chapter. The research design, study area, population, sampling strategy, data collection instruments, data gathering strategy, data processing, and data analysis were all covered.

Research Philosophy

Philosophy of research is interested in the sources, nature, and development of knowledge (Bajpai, 2011). A research philosophy is a set of guidelines that direct the collecting, analysis, and use of data on a certain topic. In the Western tradition of science, there exist two primary research philosophies: positivist (scientific) and interpretivist (subjective) (Galliers, 1991). Consideration of the significant disparities between research paradigms as well as issues of ontology and epistemology is a crucial component of social scientific research (Flowers, 2009). The research framework used for this study is positivism. The positivist viewpoint, which derives from natural science, is characterized by the deductive or theory testing of hypotheses obtained from existing theory through observation of social realities. According to the positivist ontology, objective knowledge is theoretically feasible since inquiry can be accurately reached and drawn from a stable, unchanging reality. Thus, positivism's core tenet is that social phenomena should be studied using the same methods, ideas, and procedural standards employed in the natural sciences (Bryman, 2002; Grix, 2004).

Therefore, the researcher's use of quantitative techniques to examine the changes in eating behaviors of international students is justified by the positivist ideology. In this research philosophy, the scientist is an objective analyst; as such, he dissociates himself from personal ideals and works independently (ukauskas, Vveinhardt & Andriukaitien, 2018). Because the research strategy is based on data collection and hypothesis building, this research philosophy is used. Future studies will make use of the findings from the investigation and confirmation of these hypotheses. The positivist researcher's dedication to a very specific methodology in order to validate the assumption is another aspect of this worldview. Additionally, positivism may be statistically analysed because it is founded on quantitative observations (Thakurta & Chetty, 2015). These justifications support the positivist research philosophy's choice.

Research Design

A researcher's design refers to the entire plan they employ to answer their research questions or test their research hypotheses. Consequently, the researcher has control over how data will be collected and analysed because to the procedures' blueprint (Amedahe & Gyimah, 2019). The study employed cross-sectional survey design. Cross-sectional surveys are designed to study some phenomenon by taking a cross-section of it at one time (Creswell, 2017). Cross-sectional designs are particularly useful when one seeks to establish the presence of a phenomenon within a given population (Sedgwick, 2014). It is premised on the assumption that the characteristics of a cross-section of the population are representative of the entire population; therefore, inferences

can be made on the population based on the sample. The adoption of the cross-sectional survey design was important because data were collected just once from the sample on their well-being and organizational safety culture and will be representative of what exists at the time of conducting the study. This kind of design, according to Creswell (2014), allows the researcher to examine attitudes, behaviours, and beliefs that are prevalent at a particular moment in time. The results of a cross-sectional study can readily give an overview of the current issue.

Study Area

The study involved international students at the University of Ghana. This study covered every international student at the University of Ghana. The University of Ghana (UG) is particularly significant among Ghana's fifty (50) universities because it is the oldest and has the most international students (University of Ghana Basic Statistics, 2018). It is regarded as one of the best in West Africa. It was formerly affiliated with the University of London, which regulated its academic programmes and conferred degrees. The university is located in Accra, the capital city of Ghana. It achieved institutional autonomy in 1962. Its goal is to establish an atmosphere via cutting-edge research, excellent teaching, and learning that makes the university more and more relevant to regional, national, and international development. Over the next ten years, it aspires to become a top-tier, research-focused university that attracts students from around the world.

The University of Ghana is located in Legon, which is 12 kilometres northeast of Accra's central business district. The medical school is situated in

Korle-Bu and also has a secondary campus and a teaching hospital in Accra. One of the few universities in Africa offering studies in nuclear sciences is the Ghana Atomic Energy Commission, which also includes a graduate school of nuclear and allied sciences. Additionally, it has resources including the Balme, the International Programs Office, and the Institute of African Studies. Beginning with the academic year 2014–2015, the University of Ghana adopted the collegiate system and organised all schools and departments into four colleges: the College of Basic and Applied Sciences, College of Humanities, College of Education, and College of Health Science.

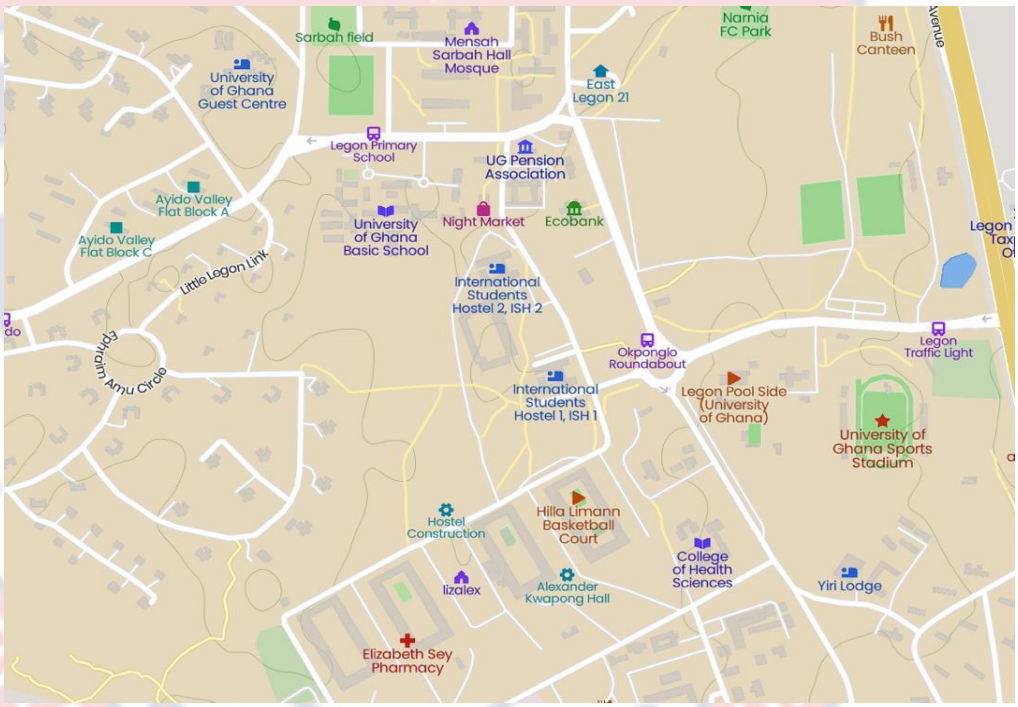

Figure 3: Map of University of Ghana

Source: University of Ghana Library (2023)

The university is home to students from across the continents. At the moment, the institution is associated with numerous worldwide and Ghanaian institutions, in addition to relationships with universities in Africa, Europe, and North America for student exchange, teacher and staff involvement, and

cooperative research (University of Ghana, 2018). Due to the institution's large number of international students, the University of Ghana was chosen. It draws a considerable number of students from many continents and neighbouring nations. There are 984 foreign students registered at the University of Ghana as of the 2021/2022 academic year (UG Basic Statistics, 2021).

Population

A research population is a clearly defined group of people or things that have common traits. The population is the total number of units for which survey data are utilised to draw conclusions (Lavrankas, 2008). Fraenkel and Wallen (2003) defined a population as a group to which the study's findings are to be generalised. The target population for the study included both graduates and undergraduates' international students who had studied for at least one semester at the University of Ghana. The study employed a proportionate number of both male and female international students of various ages, educational backgrounds, and work positions. In this study, 984 international students were the target population. The international students in the University of Ghana are largely Africans, with majority originating from Nigeria. They mostly study international relations, African studies, Business and languages.

Data and Sources

The study used two sources of data which were primary and secondary data. The primary data were collected from the international students in the

University of Ghana-Legon during the field survey. Secondary data were obtained from the UG Basic Statistics (2021), specifically, data on international students were obtained for sampling purposes. Additionally, articles from journals relating to the topic were consulted extensively.

Sample Size and Sampling Procedure

The University of Ghana's, as of 2022, had 984 international students enrolled overall (UG Basic Statistics, 2021). The Krejcie and Morgan sampling table was used to determine the sample size for this study. According to this table, the sample size for this study is 278, which is the appropriate sample size for a population of 984. The table was constructed using the formula below:

$s=X^2NP\ (1-P)\ +d^2\ (N-1)\ +X^2P\ (1-P).$

The question of what the appropriate sample size should be is still open to debate. Nonetheless, Hair, Tatham, Anderson, and Black (1998) believed, based on a large distribution theory, a sample of 100 to 150 respondents will produce accurate and reliable results estimates.

To be able to reach out to the respondents, the multi-stage sampling method was used. This is where more than one sampling technique are employed in the sampling process. Three sampling technique were used; the stratified sampling, proportional allocation sampling and simple random sampling technique.

In this sense, international students were first stratified into two groups: undergraduates and postgraduates. The undergraduate strata consisted of students enrolled in various undergraduate programs, while the

postgraduate strata included those pursuing master's and doctoral degrees. The stratified random sample technique was used to avoid bias in the selection of respondents, since the study involved both graduate and undergraduate students. This is so that every respondent in every stratum will have a chance of getting chosen for the study thanks to the technique.

Second, to determine the precise number of participants, the proportionate sampling strategy was used by the researcher to determine the appropriate sample size for each level (undergraduate and graduate). The proportionate sampling technique is given by P= (target population) / (population of a stratum) × sample size (Table 1). Lastly, the simple random sampling technique was used to select the respondents. With this technique, each respondent had an equal chance of being selected. Here, a list of the students was generated to form the sample frame. Also, numbers were assigned to these names, these numbers were written on papers differently, the papers were placed in a bowl, and the researcher picked the papers randomly till the sample for each stratum was reached.

Table 1: Distribution of Sample Based on Respondents Degree

Degree type	Population	Proportional allocation	Sample size
Graduate	331	984/331*278	94
Undergraduate	653	984/653*278	184
Total	984		278

Source: UG Basic Statistics (2021)

Data Collection Instrument

Data collection is an important aspect of any type of study. Inaccurate data collection can significantly affect the results of a study and ultimately

lead to misleading results and conclusions (Yin, 2011). This section explains the data collection methods that were employed in the study along with solid and convincing arguments for the decisions made. The structured questionnaire was utilized to gather data for the analysis. A questionnaire was used because, according to Creswell (2012), it is the most efficient way to collect quantitative data while guaranteeing the privacy and confidentiality of respondents. Apart from the above mentioned benefits, self-administered questionnaires are quicker, less expensive, and provide respondents more autonomy. The questionnaire was designed according to the study questions that were formulated to guide the study.

There were both open-ended and closed-ended questions in each of the five sections of the surveys. Parts (1) eating settings, (2) eating practices, (3) eating patterns, (4) factors enabled the change, and respondents' socio-demographic traits were examined in the final module. The introduction part included information on how long the questionnaire should take to complete as well as ethical considerations. The consent form, which requested the respondent's permission to participate or not, was also included in this section. With the assumption that most of the international students in Legon can converse, read, and write in English (Amuquandoh, 2011); the questions were recorded in that language as well.

In part 1, nominal variables were used to measure respondents' food settings. Four settings were presented to the international students to indicate where they used to eat in their home and whiles on campus. In part 2, the respondents were posed with eight questions to examine their food practices. In part 3, ration variables were used, where the foreign students were asked to

indicate their meal pattern by providing the quantity of food consumed i.e., before and after coming to Ghana.

In part 4, the international students were asked to indicate their disagreement or agreement on eating habit changes using a five-point Likert scale, with 1 denoting strongly disagree and 5 strongly agree. In all, thirteen (13) statements were used under three main dimensions. Six statements on environmental factors, thirteen on food related factors, and thirteen statements on individual factors.

Part 5 concluded with a discussion of the sociodemographic traits of the respondents. Respondents were asked six questions. These inquiries centered on the age of the responders, origin, degree type, religion, residential status, monthly stipends. The respondents had two options: they could either check the relevant answers or indicate their choices in writing.

Pre-Testing of Instrument

International students at the University of Cape Coast pretested the questionnaire to ensure its dependability, clarity, and consistency. The University of Cape Coast was chosen for the preliminary testing since it is a reputable public university with a substantial international student population. It is also expected that the participants will have similar characteristics because the University of Cape Coast is located geographically closer to the University of Ghana. English was used in the instrument's design. Twenty (20) foreign students in all were simply picked for the pre-test study. The purpose of the pre-test was to assess the suitability and reliability of the instrument. The researcher was able to identify any pointless or poorly worded questions

in the instrument during pre-testing, and the appropriate revisions were subsequently implemented.

A Cronbach Alpha reliability test was performed on the data to evaluate the scale's reliability; the estimated result of 0.857 showed a high level of dependability (Field, 2005). Using the pre-test, the appropriateness and reliability of the instrument were assessed. Through the pre-tests, the researcher was able to make the required corrections to the inadequacies found in order to improve the fieldwork survey (Kvale, 1996; Smith, 2012).

Data Collection Procedure

To gain access to the participants, the researcher needed an introduction from the Department of Hospitality and Tourism Management at the University of Cape Coast. The researcher was given access to this document to assist in acquiring data. The study's purpose and objectives were explained to the international students before the questionnaires were given to them. Respondents were asked to give their informed consent. Respondents in the study were chosen through international student affairs offices, student organizations, and snowballing. The international student offices served as the initial point of contact for visiting foreign students on campus. In other words, such offices assisted the researcher in making initial contact with the students. International student groups also serve as a social gathering place for students, which aided in respondents recruitment. The questionnaire was only made available to those who gave their permission to take part in the study.

Data Processing and Analysis

According to Patton (2002), "analysis of any kind of data" refers to a systematic review of the data to determine its components, their relationships, and their relationship to the whole. The main aim of data analysis, according to Blanch & Durrheim (2001), is to turn data into a meaningful form to address the original research query (s). The analysis made use of both descriptive and inferential statistics. The completed questionnaires were edited to check for inconsistencies, the open-ended questions coded and analysed. IBM Statistical Product for Service Solution (SPSS) version 25 was used to process the survey data. Tables and charts were employed to characterize, give a brief overview of the topic's components. To ensure that the results were legitimate, the data was carefully cleansed to eliminate any anomalies or high numbers. At the International Students Hostel - ISH 1&2 and the Department of African Studies, 150 questionnaires were distributed using the simple random sampling method. However, only 122 questionnaires were deemed suitable for the study after the data cleaning.

All of the variables had descriptive statistics produced for them, including means, frequencies, percentages, and standard deviations. Tables and charts were utilized to describe, show, and summarize the data as well as other aspects of the topic. In order to present a summary of the sample characteristics and data distribution, these descriptive statistics were carried out.

Regarding the quantitative analysis's inferential statistics, the exploratory factor analysis (EFA), specifically the varimax method, was used to examine how well the measurements fitted the dataset. The EFA was also

used to assess the underlying structure and factorability of the measurement scaled on factors enabling eating habit changes. In addition, the EFA was used to reduce the measured scale and to establish the total variance explained. Furthermore, the chi-square test of independence was used to explore the relationship Ghanaian food consumed and international students' socio-demographics, which served as independent variables.

Again, the independent t-test and one way analysis of variance were used to examine the differences in eating habit change factors across respondents' socio-demographics. As well as the paired t-test, which was also used to analysis the difference between food pattern changes among international students.

Ethical Consideration

Study ethics support the legitimacy of the study while also defending the rights of research participants (Israel & Hay, 2006). When gathering data, the following moral considerations were taken into account: privacy, confidentiality, anonymity, and the rights to free and informed consent.

Before distributing the questionnaires, the respondents' permission was requested. Since it was challenging to locate them at first, their consent was requested during the time of data collection. They were questioned and asked if they would be willing to take part in the research. Their roles and the aim of the study were described. Additionally, it was made clear to them that their involvement was voluntary.

Anonymity for respondents was properly protected. Respondents were therefore requested to exclude their names and phone numbers. Their

identities were kept a secret in order to gain their trust when answering the questionnaire, some of which involved the disclosure of sensitive personal data. Concerns about respondents' anonymity were seen as crucial while using, storing, and exchanging data. As a result, all information was used for its intended (academic) use and was securely stored electronically for the study, future use, and secondary data collection by other researchers.

Fieldwork and Related Challenges

In October 2020, this investigation got underway. Nevertheless, the real fieldwork was conducted between June and July 2022. Originally, the responders were courteously approached and informed of the purpose of the study before the questionnaires were given to them to complete. Some of the international students completed the questionnaire in their classrooms, while others did it in their hostels. The data was collected personally by the researcher due to certain challenges which are as follows:

First of all, international students' unwillingness to fill the questionnaire due to their busy schedules, they hardly come out from their hostels. Getting their attention alone was a difficult task and when he or she agrees to fill the questionnaire after seeing the volume, some decides to opt out. More so, those who agreed to fill it at their convenient time and submit it when they are done also did not return it. For the first fifty questionnaire distributed, only eight (8) returned it and out of the eight, five was valid for analysis.

A strategy was adopted where the researcher took their contact numbers to check on them whether they are done filling it and this time the

number who return their questionnaires was a bit encouraging. Notwithstanding, some international students immediately decline when you ask for their contact to check whether they are done to return the questionnaire.

At the international student's hostel, porters did not allow the researcher entry claiming it is due to security reasons so I had to sit at the porters lodge until someone comes out from his room. Some of the days you get there and the whole day no respondent. At their classroom and their departments too, I spoke to their lecturers and informs them to stay over after class if they are willing to fill the questionnaire but after the class, they are either going for another class or are starving and want to go and get something to eat so they all get dispersed and can only get two respondents or at times one person. The two assistants recruited to help in the data collection were stressed and decided to back out. The researcher finally sought for annual leave to single handedly collect the data, which prolonged the proposed date.

Chapter Summary

The research design, location, and methods for the study was described in full in this chapter. The study was conducted at University of Ghana, Legon in the Greater Accra Region. The study was intended to gather data on multiple cases simultaneously in accordance with Bryman's guidelines in order to create a corpus of quantitative data containing a variety of features (2008). Approximately 122 international students provided survey responses, which yielded primarily primary data (both undergraduates and post-graduates) who were selected, using a multi-staged sampling approach, within

the study setting. IBM SPSS version 25 was used to evaluate the data using both descriptive and inferential statistical techniques. Consent, anonymity, and confidentiality were among the main social research ethics factors to take into account.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

This chapter reviews and summarizes the results in light of the objectives of the study. The study commences by providing an overview of the socio-demographic characteristics of the international students who participated. It also describes the international students' food settings and practices. Lastly, the chapter discusses international students' food patterns and the factors that enable/constraint change in their diet.

Socio-Demographic Characteristics of Respondents

The background features of the foreign students who participated in the research are described in this section. The sociodemographic characteristics covered included age, continent of origin, degree, religion, place of residence and monthly stipends/income. More than half of the respondents were between the ages 18-24 (54.1%), and those who were between 25-34 years constituted 41.8 percent (Table 2). This was followed by those who were 35 or more (4.1%). The results indicated that the respondents were relatively young people between age 18 and 35, and this is the actual

school going age, perhaps the reason why the majority of responders were situated within this age bracket. The result shows that more undergraduate students (59.0%) than post-graduate (41.0%) participated in the study.

Table 2: International Students' Background Characteristics

Background Characteristics	Frequency	Percentage
Age		
18-24	66	54.1
25-34	51	41.8
35 and above	5	4.1
Continent of origin		
Africa	62	50.8
Australia	23	18.9
South/North America	15	12.3
Asia	14	11.5
Europe	8	6.6
Degree		
Undergraduate	72	59.0
Post-graduate	50	41.0
Religion		
Christianity	97	79.5
Islam	13	10.7
Others	12	9.8
Place of Residence		
Residence hall	53	43.4
University apartment	33	27.0
Off-campus	36	29.5
Monthly stipends		
GH 100 - GH 1000.00	48	39.3
GH 1100.00 - GH 1500.00	36	29.5
GH 1600.00 - GH 2000.00	22	18.1
GH 2100.00 and above	16	13.1

*N=122

Source: Field survey, Matey (2022)

Regarding the continent from whence international students, the result shows that majority of them originated from Africa (50.8%), and 18.9 percent of them came from Australia. The rest were from South/North America (12.3%), Asia (11.5%), and Europe (6.6%). Table 1 shows that the majority of the students professed Christianity (79.5%), followed by Islam (10.7%).

The respondents were requested to provide their address and it was observed that majority (43.4%) resided in the University's Hall of residence, with 29.5 percent staying outside of the campus (off-campus). Those who resided in University's apartment constituted 27.0 percent. The respondents were further asked to state the amount they receive every month as stipends or income. Their responses revealed that the majority (39.3%) of the students receive between GH₵100 - GH₵1000.00 every month. This was followed by those who receive GH₵1100.00 - GH₵1500.00 (29.5%), GH₵1600.00 - GH₵2000.00 (18.1%) and GH₵2100.00 and above (13.1) every month.

Food Settings used by International Students at the University of Ghana, Legon

This objective sought to examine the food settings used by foreign students at University of Ghana, specifically, before and after arriving in Ghana. The results were presented using percentages and ranks. The participants were requested to specify their dining environments (where they eat). Table 3 shows the description of the scores (in percentages) of international students' food settings before and after they came to Ghana.

The results revealed four main food settings, that is, home, restaurant, chop bar and canteen. It was established that the majority of overseas students were eating at home. (70.9%), followed by restaurant (17.7%), chop bar (7.6%) and bush canteen (3.8%) before coming to Ghana. With this, it can be said that home emerged as the most used food setting among international students whenever they were in their home country. However, looking at the Table 3, it was observed that there were some disparities because restaurant

(35.7%) emerged the frequently used food settings after the international students came to Ghana. This was closely followed by home (26.7%), chop bar (21.0%) and bush canteen (16.6).

Table 3: Food settings used by International Students

Statements	N	Percentage	Rank
I usually eat at... (Before)			
Home	112	70.9	1
Restaurant	28	17.7	2
Chop bar	12	7.6	3
Bush canteen	6	3.8	4
Overall	18[a]	100	
I usually eat at… (After)			
Restaurant	56	35.7	1
Home	42	26.7	2
Chop bar	33	21.0	3
Bush canteen	26	16.6	4
Overall	157[a]	100	

Source: Field survey, Matey (2022)

Note: [a] Multiple Response

This result indicated that there had been a form of change in relation to the food settings of international students. This could be because of many factors; one of these could have been that most of them were eating from restaurant because they did not have time to cook or did not have the cooking skill and some thought cooking yourself was more expensive that buying the food.

In addition, home was dominant because it is the primary food environment for every family staying together. This explained why most of them indicated eating at home while in their home countries. The revelation of restaurant as a food setting of international students prior to coming to Ghana is consistent with the results of Pulz, et al, (2017) who found the food setting to be made up of largely restaurants in a Brazilian university. Chop bar and bush canteen food settings appeared to be less patronized by international students in their home countries largely because they were not part of their food culture. By theoretical implication, the theory of acculturation (Serafica 2013), which explains how people are likely to lose touch of their own culture due to their interaction with people of different cultures underpin the change in the food setting of the international students after coming to Ghana. That is, while they were in their host country, they mostly eat at home and with their families sometimes but upon arriving in Ghana in the absence of their families, they mostly eat with their friends at restaurants.

International Students' Favorite Ghanaian Foods

In furtherance, the international students were asked to indicate their favorite Ghanaian foods since, it was revealed that majority of them had tasted Ghanaian food before. Here, the objective was to identify or find out which of the Ghanaian foods were their favorite. In all, thirty-eight Ghanaian dishes, beverages and snacks emerged and Table 4 contains all foods that have been tasted by respondents ever since they came to Ghana, with their corresponding frequency (N) and percentages scores.

The foods were grouped under four main types (main dish [protein], accompaniment/carbohydrate, snacks and drinks). A review of the results revealed that beans stew [red red] (5.85%) came top as the most consumed protein, for carbohydrates, banku (6.84%) emerged as the most consumed accompaniment, followed by jollof (6.27%). With respect to snacks, plantain/cocoyam chips (3.54%), roasted corn with coconut (2.89%) and kelewele (2.89%) became apparent as the first three Ghanaian snacks, whiles sobolo (3.71%) came into view as the most consumed Ghanaian indigenous drink (Table 5).

Overall, banku (6.84%), turned up to be the food that international students mostly eat, followed by jollof rice (6.27%), beans stew [red red] (5.85%). Foods such as fufu (4.86%), waakye (4.62%), kenkey (3.79), ampesi (3.71%), sobolo (3.54%), okro stew (2.80%) and gari (2.64%) were among the Ghanaian foods which the responders brought up.

Table 4: Favourite Ghanaian Foods

Food	N	Percentage	Rank
Banku	83	6.84	1
Ghana jollof	76	6.27	2
Red Red	71	5.85	3
Meat (fried/grilled/roasted)	61	5.03	4
Fufu	59	4.86	5
Waakye	56	4.62	6
Light soup	47	3.87	7
Kenkey	46	3.79	8
Ampesi (boiled yam/ plantain/cocoyam)	45	3.71	9
Sobolo	45	3.71	10
Plantain/cocoyam chips	43	3.54	11
Knotonmire stew/palava sauce	42	3.46	12
Palmnut soup	37	3.05	13
Groundnut soup (fish/meat)	35	2.89	14
Hausa koko	35	2.89	15
Kelewele	35	2.89	16
Roasted corn with coconut	35	2.89	17

Table 4 cont'd

Okro stew/soup	34	2.80	18
Gari	32	2.64	19
Garden egg stew	27	2.23	20
Bofrot/tobge	24	1.98	21
Zonkom	24	1.98	22
Ebunebun (kontonmire soup)	21	1.73	23
Rice balls	21	1.73	24
Asana	21	1.73	25
Koose	20	1.65	26
Apketeshie	19	1.57	27
Kokonte	18	1.48	28
Lamugin	16	1.32	29
Akple	15	1.24	30
Brukina	14	1.15	31
Daakoa/Zowey (Spicy Peanut Balls)	13	1.07	32
Tuo- zafi	12	0.99	33
Palmwine	12	0.99	34
Pito	7	0.58	35
Ayigbe biscuit	7	0.58	36
Agbeli kaklo	5	0.41	37
Overall	1213[a]	100	

Source: Field survey, Matey (2022)

Note: [a] Multiple Response

International Students' Food Practices at the University of Ghana, Legon

With this research question (2), the researcher wanted to know which of the meals time did international students skipped either before or after arriving in Ghana. As known, there are about five different type of meals one can have, these include, breakfast (what we eat in the morning), brunch (early lunch, late breakfast), snacks (consumed between main meals to satisfy hunger or cravings), lunch (what we eat in the afternoon) and dinner (what we eat in the evening) (Nana & Zema, 2018). With this, the intention was to understand what percentage of international students skipped any of these meals and

which one they never skipped before coming to Ghana as opposed to after coming to Ghana.

Table 5 indicated that 36.1 percent of the respondents skipped breakfast in their home country, while 63.9 percent never skipped. However, the results showed that 58.2 percent skipped breakfast after coming to Ghana, with about 42 percent never skipping. This suggest that the number of international students who were skipping breakfast in Ghana was higher than before coming to Ghana. An informal conversation with some of the respondents indicated that, they have early morning (as early at 7:00am) lectures, therefore, their lecture schedules could be one of the major reasons why international students skip breakfast in Ghana as oppose their home countries.

This outcome is consistent with the discoveries of Yun, Ahmad, and Quee (2018) who indicated that most students consumed their normal daily meals, although more than half of them skipped breakfast. About 49.2 percent of the respondent skipped brunch, while 50.8 percent never skipped before coming to Ghana. When it comes to the after arriving in Ghana, the number of students who skipped brunch reduced to 45.1 percent, while 54.9 percent never skipped. This is so because most students eat their first meal of the day after they are done with their first lecture, especially with those who have early morning lectures.

On snack, it was observed that, 39.7 percent skipped whiles 60.3 percent never skipped (Table 5). Meanwhile, majority (52.5%) skipped snack after coming to Ghana as compared to those who never skipped (47.5%). This however, contradict the findings of Yun, Ahmad, and Quee (2018), who

revealed that snacking, was common among students, including international students. Moreover, this may be attributed to the economic difficulties in the country, which has inflated the prices of almost everything; therefore, international students would prefer to consume snacks as economic strategy.

Table 5: Food practices among International Students

Variables	Before (%)	After (%)
Breakfast		
Skipped	36.1	58.2
Never skipped	63.9	41.8
Brunch		
Skipped	49.2	45.1
Never skipped	50.8	54.9
Snack		
Skipped	39.7	52.5
Never skipped	60.3	47.5
Lunch		
Skipped	20.5	23.0
Never skipped	79.5	77.0
Dinner		
Skipped	23.8	28.7
Never skipped	76.2	71.3

Source: Field survey, Matey (2022)

With respect to lunch, few of the respondents skipped for both before (20.5%) and after (23.0%), majority (79.5% and 77.0% respectively) never skipped. However, a review of the results indicated that those who skipped lunch in Ghana (23.0%) were relatively higher than those who skipped before coming to Ghana. This was as a result of time factor and financial management. For dinner, 23.8 percent skipped in their home country, whiles 76.2 percent never skipped. After coming to Ghana, 28.7 percent of the

respondents skipped, while 71.3 percent never skipped. This can be related since majority skipped lunch, they will definitely not skip dinner. Same as lunch, the number of international students who skipped dinner increased from 23.8 percent to 28.7 percent after coming to Ghana, and this could be because of many factors, including time, cooking abilities, resources, laziness and others.

In applying the theory of acculturation to this finding, it can be deduced that the changes in the food practices of international students with respect to their skipping or not skipping breakfast, brunch, snacks, lunch, and dinner, is because of them losing touch of their own culture due to their interaction with people of the Ghanaian culture. That is, while they were in their host country, they less skipped breakfast, brunch, snacks, lunch, and dinner, but upon arriving in Ghana they increased the way they skip such meals.

International Students' Food Practices at the University of Ghana

Again, the researcher delved more to ascertain some other food practices among international students. These included things like what to eat, when to eat it, how much to eat, and where to consume it (MacNicol, Murray & Austin, 2003). By this, the focus was geared towards what they eat with, whom they eat with and where they obtain their foods. Table 6 shows the food practices of the international students before coming to Ghana.

With respect to what they eat with, hand (42.2%) emerged as what international students were eating with before coming to Ghana, followed by spoon (36.6%), fork and knife (16.1%) and chopsticks (5.1%) came last. This

indicated that international students were using their hands to eat more in their respective countries, chopsticks coming at last. This could be that most of the respondents originated from Africa and Europe and people from these continents are not known to be using chopstick, unlike those from the Asia. In addition, most of the Africans being Nigerians said they eat more 'swallows' in their home country so they use their hands to eat.

On whom they eat with, the result shows that, alone (49.3%) was dominant, family (28.5%), and friends (22.2%) followed this. It was therefore, established that international students were eating alone before coming to Ghana. Again, "preparing it myself" (62.5%) emerged as the leading food source of international students before coming to Ghana. The next was buying from open market (17.5%), followed by ordering from restaurant (10.6%) and buying from supermarket (9.4%) came last.

Table 6: Food Practices of International Students in Home Country

Statement	N	Percentage	Rank
I eat with my…			
Hand	68	42.2	1
Spoon	59	36.6	2
Fork and knife	26	16.1	3
Chopsticks	8	5.1	4
Overall	161[a]	100	
I usually eat… or with			
Alone	71	49.3	1
Family	41	28.5	2
Friends	32	22.2	3
Overall	144[a]	100	
I obtained my food by…			
Preparing it myself	100	62.5	1
Buying from open market	28	17.5	2
Ordering from restaurant	17	10.6	3
Buying from supermarket	15	9.4	4
Overall	160[a]	100	

Source: Field survey, Matey (2022)

Note: [a] Multiple Response

To be able to understand the changes in food practices, international students were again, given the opportunity to indicate their food or eating practices after coming to Ghana. As shown in Table 7, spoon (49.7%) emerged as what international students used mostly to eat after they had come to Ghana. Fork and knife (23.0%), hand (21.1) and chopsticks (6.2%) followed this.

Table 7: Food Practices of International Students in Ghana

Statement	N	Percentage	Rank
I eat with my…			
Spoon	80	49.7	1
Fork and knife	37	23.0	2
Hand	34	21.1	3
Chopsticks	10	6.2	4
Overall	161[a]	100	
I usually eat… or with			
Friends	73	48.7	1
Alone	66	44.0	2
Family	11	7.3	3
Overall	150[a]	100	
I obtained my food by…			
Ordering from restaurant	51	32.5	1
Preparing it myself	41	26.1	2
Buying from open market	35	22.3	3
Buying from supermarket	30	19.1	4
Overall	157[a]	100	

Source: Field survey, Matey (2022)
Note: [a] Multiple Response

On whom they eat with, majority of them said they ate with their friends (48.7%) and alone (44.0%) with only 7 percent of them eating with their family. This was probably because, majority of the international students were in Ghana to school and did not have their families with them here, hence

the reason why family is coming last in terms of whom they eat with after coming to Ghana.

Lastly, international students were asked to indicate where they buy their foods from or how they get their foods in Ghana. It was observed that majority (32.5%) of international students were ordering their food from the restaurants. Perhaps, they were busy because of lectures and other academic activities; therefore, they did not have the time or skills to prepare the food themselves. This was closely followed by preparing it myself (26.1%), buying from open market (22.3%) and buying from supermarket (19.1%).

These results support the findings of Edwards and Meiselman (2003); Perez-Cueto, et al. (2009) who found that the majority (85%) of international students had changed their food practices since arriving. This however, sharply contradict the findings of Tomé et al. (2011) who indicated difficulty in changing food practices among international students in his study. Tomé et al. (2011), indicated that modifications in their food practices happened late in the assimilation process because international students adopted the host country's language and media first before they ever started to change their food practices. In addition, in some situations, a shift in religious beliefs came first before a shift in eating practices.

International Students' Food Setting by their Food Practices whiles in Ghana

This section of the study examined whether or not the food setting was related to food practices of international students. For this, the Chi-square of independence was chosen and applied.

The result suggested that four food practices variables namely fork and knife, chopstick, family and alone were significantly related to the meal settings of international students. Specifically, the results showed that eating at restaurants and the use of fork and knife among international students was significantly related (χ^2 (1) = 8.68, p= 0.003), with 43.6% of them making use of Fork and Knife, whereas 56.4% of them did not. A significant relationship was similarly observed between eating at the restaurant and the use of chopsticks among international students (χ^2 (1) = 8.41, p= 0.004), with the results indicating that about 16.3% of those who ate at restaurants using chopstick, and the remaining 83.7% did not. Likewise, a noteworthy correlation was observed between dining at the chop bar and the use of fork and knife among international students (χ^2 (1) = 6.53, p= 0.011), the result indicated that about 12.5 percent of the respondents who eat the chop bar use fork and knife, and the remaining 87.5 percent did not. Again, the result indicated that for those who eat at the bush canteen, 46.1 percent of them eat with fork and knife while 53.9 percent did not, with a noteworthy relationship occurring between bush canteen and the use of fork and knife (χ^2 (1) =3.98, p=0.046).

No further significant relationships were observed (Table 8), among the variables, however, a review of the results showed that only majority of those who eat at home mostly eat with spoon and hand (69.1% and 47.8% respectively).

Table 8: Food Setting by International Students' Food Practices*After

Food Setting	N	Hands %		X^2 statistic *p-value*	Spoon %		X^2 statistic *p-value*	Fork and Knife %		X^2 statistic *p-value*	Chopstick %		X^2 statistic *p-value*
		Yes	No		Yes	No		Yes	No		Yes	No	
Home	42	47.8	52.2	1.62 0.203	69.1	30.9	0.20 0.650	38.1	61.9	1.89 0.169	2.3	97.7	3.05 0.080
Restaurants	55	34.5	65.5	1.78 0.181	61.8	38.2	0.95 0.328	43.6	56.4	8.68 *0.003	16.3	83.7	8.41 *0.004
Chop Bar	32	40.6	59.4	3.11 0.078	78.1	21.9	2.70 0.100	12.5	87.5	6.53 *0.011	2.3	97.7	1.58 0.208
Bush Canteen	26	26.9	73.1	0.44 0.833	80.8	19.2	3.08 0.079	46.1	53.9	3.98 *0.046	7.6	92.4	0.02 0.882

Source: Field survey, Matey (2022); Degree of freedom =1; *Significant level exist at $p \leq 0.05$

This indicated that most people did not eat with neither, fork and knife nor chop stick while eating at home after coming to Ghana. For eating at the chop bar, it also had no significant relationship with eating with the hands, eating with the spoon or eating with a chopstick. No significant relationships also occurred between eating at bush canteen and the use of one's hand, use of the spoon or use of chopstick.

From the Table 9, no other significant relationships were as well observed between eating at home and eating alone, eating at home and eating with friends, and eating at home and eating with family. No significant relationship was observed with respect to eating at the restaurants and eating with friend, as well as eating at the restaurants and eating with family. Regarding eating at the chop bar, it also had no significant relationship with eating with alone, eating with the friends or eating with family. No significant relationships also occurred between eating at bush canteen and eating alone, eating with friends or eating with family.

Based on the outcome of the analysis, the null hypothesis, according to the researcher, is that there is no statistically significant correlation between food settings and international students' food practices. The implication of this is that international students' food settings relate with their food practices. In order words, where international students at the University of Ghana eats shape what they eat, who they eat with and the tool they eat with. This is explainable that, food settings are one of the factors that account for the changes in international students' food practices whiles in Ghana.

Table 9: Food Setting by International Students' Food Practices *After

Food Setting	N	Alone %		X^2 statistic *p-value*	Friends %		X^2 statistic *p-value*	Family %		X^2 statistic *p-value*
		Yes	No		Yes	No		Yes	No	
Home	42	59.5	40.5	0.06 0.801	42.8	47.2	0.00 1.00	78.5	21.5	11.48 *0.001
Restaurants	55	74.5	25.5	11.51 *0.001	40.0	60.0	0.34 0.559	7.2	92.8	0.47 0.491
Chop Bar	32	50.0	50.0	1.45 0.285	46.8	53.2	0.28 0.591	15.6	84.4	0.001 0.976
Bush Canteen	26	57.6	42.4	0.001 0.973	57.6	42.4	2.99 0.084	2.3	97.7	1.15 0.282

Source: Field survey, Matey (2022); Degree of freedom =1; *Significant level exist at $p \leq 0.05$

International Students' Food Patterns at the University of Ghana, Legon

There has been a steady change in the dietary habits of international students, according to research done by Almohanna, Conforti, Eigel, and Barbeau (2015) at Virginia Tech to ascertain the impact of eating behaviour modifications on the health condition of recently arrived international students. Based on some of these assertions, this section of the study examined the eating habits of the foreign students. Here, respondents were asked to indicate how much (quantity) of food, they consumed before Ghana and after coming to Ghana. The foods were grouped under eleven different food dimensions, namely, milk and dairy, beverages, fruits, vegetables, cereals, bread, spread, fats and oils, snacks foods and desserts, starches and proteins.

Table 10 contains the average quantity of food consumed by international students, before and after coming to Ghana. It was observed that, on average, international students at the University of Ghana consumes 9,970ml (9.97 liters) of milk and dairy products monthly before coming to Ghana and 8,615ml (8.62 liters) monthly after arriving in Ghana. The economic management of their monthly stipends could be the reason for this change. This is because when they are at home everything is provided for them and its being consumed anyhow without managing. For beverages, it was observed that 206,850ml (206.85 liters) was consumed monthly before and 201,025ml (201.03 liters) monthly after. With respect to fruits, on average respondents indicated to have consumed 82,550g (82.550kg) of fruits monthly before and 65,300g (65.30kg) after. These differences could be due to factors

such as availability, accessibility and affordability of those products in the home countries as against Ghana.

It is established that 130,850g (130.85kg) of vegetable was consumed monthly before coming to Ghana and 97,850g (97.85kg) after coming to Ghana. In addition, the table indicates that international students consumed 31,725g (31.73kg) of cereal, 9,033.3g (9.033kg) of bread, 1,770g (1.77) of spread averagely every month before coming to Ghana and 34,500g (34.50kg), 11,855.6g (11.856kg), and 5,012.5g (5.013kg) respectively, after coming to Ghana. Again, on average 1,871.1ml (1.87 liters) of fats and oils were consumed the by the respondents before coming to Ghana, with 5,833.3ml (5.83 liters) been consumed monthly after coming to Ghana.

Table 10: Food Patterns of International Students

Dimensions	Before	After
Milk and Dairy	9970	8615
Beverages	206850	201025
Fruits	82550	65300
Vegetables	130850	97850
Cereal	31725	34500
Bread	9033.3	11855.6
Spread	1770	5012.5
Fats and oils	1871.7	5833.3
Snacks Food and Desserts	7562	7752
Starches	114475	108425
Protein	86190	71850

Source: Field survey, Matey (2022).

Note: monthly averages, measurement scales: milliliters and grams

It was revealed that the respondents consumed 7,562g (7.65kg) of snacks and dessert, 114,475g (114.48kg) of starches and 86,190g (86.19kg) of proteins every month before Ghana and 7,752g (7.75kg), 108,425g (108.43) and 71,850g (71.85kg) respectively, after coming to Ghana. The consumption of protein reduced after coming to Ghana, and could be associated with the economic management strategies of students considering the inflation rate in Ghana. Students tend to spend more on accompaniments than the main dishes while on campus and this could be one of the reasons why protein in-take will reduce as compare to when they are at their home.

In estimating these results regarding international students' food patterns to determine if changes had taken place or not, it was revealed that there was a change in the food patterns of international students across all the food dimensions; however, the test revealed that only three were statistically significant, these are bread, spread, and fats and oils. The results also suggest that a change has taken place with respect to the food patterns of international students, because at all food category or dimension there was a change.

The theory of acculturation confirms why there were alterations in the foreign students' eating habits after arriving in Ghana. This is because it explains how people are likely to lose touch of their own culture due to their interaction with people of different cultures. That is, whilst they were in their host country, they mostly consume milk and dairy products, beverages, and vegetables. Yet, after arriving in Ghana, a significant change was observed where most of them now consume more bread, spread, and fats and oils. This

finding is in line with what was found by Neuhouser, Thompson, Coronado and Solomon (2004). They concluded that highly acculturated individuals eat few fruits and vegetables than those who are less acculturated.

Food Pattern Changes among International Students at the University of Ghana

After describing the quantity of food consumed by international students that is before and after in Table 11, there was the need to estimate the changes that occurred in respect to respondents' food patterns. The difference between before and after determines the change in food pattern from international students' perspective. Table 11 shows the average differences or mean gaps of the before and after for each of the eleven food dimensions.

The paired t-test was used to test the significant mean difference (change) between international students' food pattern before and after. Generally, there was a change in the food patterns of international students across all the food dimensions; however, the test revealed that only three were statistically significant, these are bread, spread, and fats and oils. From Table 11, bread had a significant paired difference of -23.13, with a p-value of 0.03. Spread also had a significant paired difference of -26.58 with a p-value of 0.00 and lastly, fats and oils had a significant paired difference of -32.47 (p=0.00).

A review of Table 11 indicates that international students before coming to Ghana consumed more bread, spreads, and fats and oils as compared to after coming to Ghana. Meanwhile, the results generally suggest that change has taken place with respect to the eating or food patterns of international students, this is because, at all food category or dimension there

was a change. To be able to know and understand the size of the change, the eta square formula was used to calculate and determine the change (effect) size, and that was done among the food dimensions that were significant at a $p \leq 0.05$ (bread, spread, and fat and oils). The eta square statistic of bread (0.04) indicates small effect or change, eta square statistic of spread (0.13) indicates moderate effect (change) and, lastly eta square statistic of fats and oils (0.14) indicates large effect (change).

Table 11: Food Patterns Changes among International Students

Dimensions	Paired difference	t-value	p-value	eta square
Milk and Dairy	11.12	0.76	0.45	
Beverages	47.75	0.77	0.44	
Fruits	141.39	1.23	0.22	
Vegetables	270.49	1.84	0.07	
Cereal	-22.75	-1.92	0.06	
Bread	-23.13	-2.19	0.03*	0.04
Spread	-26.58	-4.26	0.00*	0.13
Fats and oils	-32.47	-4.35	0.00*	0.14
Snacks Food and Desserts	-1.56	-0.16	0.87	
Starches	49.59	0.38	0.70	
Protein	117.54	1.49	0.14	

Source: Field survey, Matey (2022). eta square= t^2/t^2+df.
Eta square value of 0.01=small effect; 0.06=moderate effect and 0.14=large effect (Cohen, 1988). A negative gap indicates that consumption before exceeds consumption after; a positive gap indicates that consumption after exceeds consumption before.

Based on this result, the researcher disproves the theory that there isn't any statistically significant difference in international students' food patterns. The findings established that changes in bread have a statistically significant

impact, spread, and fats and oils, which indicates that there is some form of change in relation to international students' food pattern.

Factors that Enabled or Constrained Change in the Eating Habits of International Students

Food is a very vital product to everyone; however, it is understood that individual food habits, practices and patterns are not static, therefore, can change depending on situations and other circumstances. Consequently, this section of the study examined the factors that enable and or constraint food change among international students. Factors for food change were measured under three different dimensions (environmental, individual and food-related) based on the literature. On a five-point Likert scale, with 1 being strongly agreed, 2 disagree, 3 being neither disagree nor agree, 4 being agreed, and 5 being strongly agree, respondents were asked to indicate whether or not they agreed with each of the statements under the various aspects by picking one of the scale's alternatives as a response.

The result (Table 12) shows that about half of the international students (49.75%) admitted that their eating habits have, greatly, been affected by environmental. This was closely followed by food related factors (48.74%) and individual factors (41.68%). Under environmental factors, the results indicate that about 65.6 percent of the respondents said that food could be bought close to where they stay. Majority (51.7%) of the respondents admitted that they could get food easily; food is abundant in Ghana (54.1%), also with more than half agreeing that food is cheaper (53.3%). This result supports the findings of Dean (2021); Pilli and Slater, (2021); Alakaam (2015); Yan and FitzPatrick (2016) who revealed that People are limited to eating the range of foods they can afford that is available and that certain diets were adopted due

to affordability, accessibility dictating intake, less options for recognizable cuisine and fast-food settings.

Table 12: Factors Enabling/Constraining Food Change among International Students at the University of Ghana

Statements	Agree (%)	Mean	SD
Environmental Factors	*49.75*	*2.77*	*1.28*
Food is cheaper here	53.3	2.71	1.35
I get any food I want easily	51.7	2.69	1.26
Everyone who sells understands the language I speak	30.4	2.69	1.26
Food is in abundant in Ghana	54.1	2.69	1.26
Food can be bought close to where I stay	65.6	2.69	1.26
Easily available at the supermarkets	43.4	2.69	1.26
Individual factors	*41.68*	*2.87*	*1.23*
Eat because the cost my country food is expensive	31.1	3.14	1.32
Always have appetite for my home country food	54.1	2.45	1.21
Eat because I cannot find my home country food	36.9	2.98	1.32
Ghanaian culture positively affects the way I eat here	28.7	3.11	1.17
Relatives influenced my liking for Ghanaian food	53.3	2.52	1.30
Health issues prevent the changes in the way I eat	42.6	2.93	1.27
Travelling has not affected the way I eat	55.7	2.59	1.16
I am familiar with most of the foods in Ghana	43.4	2.89	1.32
I can prepare the foods easily	28.7	3.31	1.19
It takes a short period to prepare Ghanaian foods	26.2	3.17	1.13
My level of income has an impact on what I eat here	52.5	2.66	1.13
Inability to prepare Ghana food affected eating habits	40.2	2.98	1.34
Ghanaian food cheers me up and makes me feel good	48.4	2.63	1.23
Food Related Factors	*48.74*	*2.63*	*1.54*
The food I eat here tastes good	60.7	2.34	1.11
The food smells good	59.0	2.35	0.99
The food has a good texture	52.5	2.43	1.07
It looks nice, appealing to the eye	54.9	2.43	1.00
The aroma of the foods is pleasant	59.0	2.38	1.15
The size/portion of food served me is enough	59.0	2.69	3.04
It contains natural ingredients, no additives	33.6	2.84	1.11
It does not contain harmful substances	37.7	2.81	1.14
The food I eat is organic	33.6	2.89	1.13
It is packaged in an environmentally friendly way	32.8	2.94	1.21
The food is permissible by my religion	59.0	2.36	1.06
The food is healthy and nutritious	46.7	2.57	1.07
There are variety of food for me to choose from	45.1	3.24	4.91

Source: Field survey, Matey (2022).

Scale: 1-1.49 = strongly disagreed, 1.50-2.49 = disagreed, 2.50-3.49 = neutral, 3.50-4.49 = agreed, 4.50-5.0 = strongly agreed.

With respect to food related factors, majority of the international students agreed to all the individual items. For instance, 60.7 percent reported that the food they eat tastes good. Again, about half of the respondents were pleased with the smile of the food (59.0%), the texture (52.5%), and the aroma (59.0%). In addition, about 54.9 percent of the international students said the food looks nice and appealing to their eyes.

With respect to food related factors, majority of the international students agreed to all the individual items. This implies that the food related factors such as good taste of food eaten, 'the food smells good', the food has a good texture, the food looks nice and appealing to my eyes, the aroma of the food is pleasant, that and the portion/size of the food served is enough were the factors that mostly affected changes in their food. Additionally, this outcome supports the findings of Ihekeronye and Ngoddey (1985) who indicated that the desire to eat is influenced by some aspects of food such as its sensory appeal, which refers to how it initially awakens the senses through its appearance and odor and later through its flavor.

Factors that Account for Eating Habit Changes of International Students

After the analysis of respondents' responses to specific variables on enablers and limitations on dietary change afterwards, it was vital to investigate the essential underlying factors that affect international students' dietary changes using elementary descriptive statistics. In order to determine how specific food change enablers combined interact to have an impact

change in international students' food habits, practices and patterns, consequently, factor analysis (FA) must be done. 'Data reduction' is what Pallant (2005) refers to as FA. It uses a reduced number of parts or components to try and minimize or summarize a big amount of data.

The FA was therefore performed on thirty-two (32) variables, and Table 13 displays the outcomes. Before using FA in this work, the sample size and data factorability were checked to make sure all of the assumptions made by FA were met.

Both the Kaiser-Meyer-Olkin (KMO) criterion of sample adequacy and Bartlett's test of sphericity indicated that the data was factorable. Tabachnick and Fidell (2001) state that even though the KMO index has a range of 0 to 1, with 0.6 being the minimal value for a decent FA, Bartlett's test of sphericity must be significant (p=0.05) for the FA to be deemed adequate. Bartlett's test of sphericity (1155.729) in this analysis was found to be very significant (p=0.00), and the data's eligibility for FA was validated by the KMO score of 0.764. Table 13 also lists the factor loadings and eigenvalues. While factors or components with an eigenvalue of 1.0 or above are retained for closer examination, a correlation matrix with a factor loading of 0.5 or higher is advised for further investigation (Pallant, 2005).

More significantly, the reliability of the scale and the degree to which the variables added to the factor's explanation were assessed using Cronbach's alpha. Pallant (2005) suggests using the Cronbach's alpha coefficient to assess how well each of the individual questions under the concept measures it. Pallant states that a Cronbach's alpha value of more than 0.7 indicates suitability.

Table 13: Structure of Factors for Eating Habit Change of International Students

Factor and observed variables		FL	EV	VE (%)	Alpha
I	Food related factors		8.54	24.83	0.890
	It contains natural ingredients, no additives	0.79			
	The food I eat here is organic	0.75			
	It does not contain harmful substances	0.75			
	The food is healthy and nutritious	0.72			
	The food smells good	0.72			
	The food has a good texture	0.73			
	Packaged in environmentally friendly way	0.71			
	It looks nice, appealing to the eye	0.67			
	The aroma of the foods is pleasant	0.60			
	The food I eat here tastes good	0.60			
	The food is permissible by my religion	0.56			
	Ghanaian food makes me feel good	0.54			
II	Environmental factors		4.37	11.56	0.841
	Food can be bought close to where I stay	0.77			
	I get any food I want easily	0.69			
	Food is in abundance in Ghana	0.69			
	Sellers understand the language I speak	0.58			
	Food I eat are at the supermarkets/shops	0.57			
	My travelling experience has not affected the way I way eat in the host country	0.53			
III	Individual or personal factors		3.95	8.87	0.702
	I can prepare the foods easily	0.69			
	Takes short time to prepare Ghanaian foods	0.62			
	Familiar with most of the foods in Ghana	0.53			
	Total variance explained			45.26	

Source: Field survey, Matey (2022).

Bartlett's Test of Sphericity (Approx. Chi-square) = 1355.729, p-value=0.00.

Kaiser-Mayer-Olkin Measure of Sampling Adequacy = 0.764.

To make the results easier to understand, the factors were additionally rotated so that components were represented by many highly loaded variables. The Principal Component Analysis (PCA) decreased the thirty-two (32) variables to three (3) important fundamental characteristics that explained food change among international students using the varimax rotation. However, eleven (11) variables (my level of income has impact on what I eat, food is cheaper here, always have appetite for my home country food, health issues prevent me from changing the way I eat here, and I eat because the cost of my home country food is expensive here. As well as, my friends/family have influenced my liking for Ghanaian food, the Ghanaian culture positively affects the way I eat here, I eat because I cannot find my home country food, and lack of skills in preparing the Ghana food has affected my eating habits. The size/ portion of food served me is enough, and there are variety of food for me to choose from) were excluded since the loading fell short of the suggested matrix.

Together, the three uncorrelated factor-solutions explained 45.26 percent of the variations in total. According to this result, the variance may be explained by 54.74 percent of other factors. Conversely, the components made varying contributions to the explanation of the total variation.

Thirteen variables made up factor one (1), which was classified as food-related factors. This factor explained 8.54 (24.83%) of the total variance. This suggests that food-related factors, which accounted for 25% of the changes in eating habits of the foreign students involved in the study, were the main cause of the dietary changes.

Factor two (2) labelled as environmental factors formed part of the factors or dimensions that influence food change. It comprised of seven individual variables. Altogether explained 4.37 (11.56%) of the total variances. The results suggest that environmental factors, which emerged as the second factor causes 11.6 percent, change in international students' food habits. Factor three (3), individual factors comprising of five items. These explained 3.87 (8.87%) of the total variances. It is explainable that, individual factors made a significant contribution in change to international students' food. That is, individual factors accounted for 9 percent of shift in the eating routine of foreign students at the University of Ghana.

In addition, based on the factor analysis conducted by the Principal Component Analysis (PCA), food related factors, environmental factors and individual factors emerged as the three factors that influence international students' change in diet. Among these, the PCA indicated that food related factors explains or influence changes in diet among international students more than environmental and individual factors.

Factors for Food Change by International Students' Socio-demographics

There was the need to examine the variations among the factors that account for food change across the socio-demographics of the international students. In view of that, Table 14 explains how factor for food change differ across international students' socio-demographics. A three-point Likert scale (agree, disagree, and neutral) replaced the original five-point scale. As a result, the terms "strongly disagree" and "disagree" were replaced with the terms "strongly agree" and "agree," respectively. It was necessary to collapse the

scale into three parts since this reclassification will improve and make it easier to understand the averages that are produced. Once more, using the five-point Likert scale, additional researchers (Amuquandoh, 2010; Adam & Amuquandoh, 2013) condensed the response categories into a three-point Likert scale without sacrificing the quality of the data.

To determine how the factors influencing dietary change varied across the respondents' diverse sociodemographic attributes, two statistical methods were employed. This includes the one-way analysis of variance (ANOVA) and the independent samples t-test. Using either the post-hoc or posterior Tukey HSD approach, it was possible to identify any differences between the groups (Pallant, 2005).

A t-test for independent samples was used to compare the food change factors scores for undergraduate and post-graduate students (Table 14). The t-test indicates that there were no statistically significant differences between undergraduate and post-graduate students on food related factors (p=0.58; t=0.55), environmental factors (p=0.41; t=0.82) and individual factors (p=0.049; t=0.68). Looking at the mean scores, both undergraduates (mean=1.72) and post-graduates (mean=1.67) could not admit that food related factors influence the changes in their diet, same for environmental factors (1.85 and 1.77 respectively) and individual factors (2.05 and 2.00 respectively). This is an indication that both undergraduate and post-graduate international students are neutral with respect to the factors that influence the changes in the diets.

Table 14: Difference in Factors for Change by Students' Demographics

Variables	Food related factors	Environmental factors	Individual factors
Degree			
Undergraduate	1.72	1.85	2.05
Post-graduate	1.67	1.77	2.00
	p=0.58	p=0.41	p=0.49
	t= 0.55	t=0.82	t=0.68
Age			
18-24	1.73	1.89*	2.07
25-34	1.73	1.80	1.95
35 +	1.52	1.20*	2.16
	p=0.51	p=0.03	p=0.49
	F=0.78	F=3.06	F=0.81
Continent of origin			
Africa	1.76	1.91	2.04
Europe	1.74	1.79	1.80
Asia	1.57	1.74	2.14
Australia	1.62	1.73	2.07
America	1.81	1.69	1.88
	p=0.45	p=0.44	p=0.33
	F=0.92	F=0.95	F=1.16
Residential status			
Resident hall	1.67	1.80	2.02
University apartment	1.85	2.51*	1.99
Off-campus	1.67	1.68*	2.05
	p=0.16	p=0.02	p=0.88
	F=1.89	F=3.89	F=0.13
Religion			
Christianity	1.70	1.82	2.02
Islam	1.91	1.86	2.09
Others	1.60	1.77	1.98
	p=0.23	p=0.92	p=0.82
	F=1.50	F=0.08	F=0.20
Monthly stipends/income			
GH₵100- GH₵1000	1.64	1.72*	2.00
GH₵1001- GH₵1500	1.81	1.92	2.11
GH₵1501- GH₵2000	1.74	2.08*	2.00
GH₵2001+	1.70	1.45*	1.93
	p=0.45	p=0.00	p=0.56
	F=0.88	F=4.67	F=0.68

Scale: 1-1.49 =disagree, 1.50-2.49 = neutral, 2.50-3.0 = agree. Post-hoc *

Source: Field survey, Matey (2022)

An analysis of variance with a one-way between-groups design was done to investigate the effect of age on the food change factors. International students were divided into four (4) groups according to their age (Group 1: 18-24; Group 2: 25-34; Group 3: 35 and above). There was a statistically significant difference at $p \leq 0.05$ level in environmental factors for the four age groups [$F(3, 122) = 3.06$, $p=0.01$]. The post-hoc comparison using Tukey HSD test indicated that the mean scores for Group 1 (M=1.89, SD=0.52) was significantly different from Group 3 (M=1.20, SD=0.43), however, Group 2 (M=1.80, SD=0.45) did not show any significant differences. This means that those who are aged 35 and more reported that environmental factors did not cause changes in their food habits, practices and patterns, meanwhile, those who were between 18-24 years were indecisive. Contrary to that, food related factors ($p=0.51$, $F=0.78$), and individual factors ($p=0.49$, $F=0.81$) did not differ among the age groupings. This means that, international students, irrespective of their age groups were indifferent as far as food related and individual factors were concerned as determinants of food changes.

Concerning continent of origin (Group 1: Africa; Group 2: Europe; Group 3: Asia; Group 4: Australia; Group 5: America), it was observed that food related factors ($p=0.45$, $F=0.92$), environmental factors ($p=0.44$, $F=0.95$) and individual factors ($p=0.33$, $F=1.16$) did not differ significantly among international students' continent of origin. A review of the mean scores indicated that international students' food practices and patterns were not influenced by the three factors. It is therefore, explicable that where the students originated from did not in any way influence the changes in their food habits, practices and patterns.

With respect to the students' residential status (Group 1: Resident Hall; Group 2: University apartment; Group 3: Off-campus) on food change factors. There was a statistically significant difference, according to the test at $p \leq 0.05$ level in environmental factors [$F(3,122) = 3.89$, $p=0.02$]. The post-hoc comparison using Tukey HSD test indicated that the mean scores for Group 2 (M=2.51, SD=0.46) was significantly different from Group 3 (M=1.68, SD=0.44). This is to indicate that students who stayed at university apartment admitted to environmental factors as the cause of food changes, whiles those who stayed out of the main campus did not. Meanwhile, there were no statistically significant difference on food related factors (M=0.16, SD=1.89) and individual factors (M=0.88, SD=0.13) across international students' residential status.

As regards international students' religious affiliation, (Group 1: Christianity; Group 2: Islam; Group 3: Others) on food change, no statistically significant variation was found. Food related factors (M=0.23, SD=1.50), environmental factors (M= 0.92, SD =0.08) and individual factors (M=0.82, SD=0.20) did not differ across the religion the students professed.

On monthly stipends or income, subjects were grouped into four (Group 1: GH₵100- GH₵1000; Group 2: GH₵1001- GH₵1500; Group 3: GH₵1501- GH₵2000; Group 4: GH ₵2001+). A statistically significant difference was observed at $p \leq 0.05$ level in environmental factors [$F(3,122) = 4.67$, $p=0.00$]. On environmental factors, the results of the post-hoc analysis showed that the average scores for Group 1 (M=1.82, SD=0.65) and Group 3 (M=2.08, SD=0.57) was significantly different from Group 4 (M=1.45, SD=0.54). The review of the post-hoc indicated that students who received

2,001 cedis and more as monthly stipends or income were not influenced by environmental factors, whiles those who received between 100-1000 cedis and 1501-2000 cedis could not decide. However, food related factors (P=0.45, F=0.88) and individual factors (P=0.56, F=0.68) did not significantly differed by international students' monthly stipends or income.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

Introduction

The summary, conclusions, and recommendation obtained from the study are all included in this chapter. Conclusions were drawn based on the main findings. In addition, the chapter included recommendations based on the significant facts and conclusions reached.

Summary

The primary goal of the study was to investigate the eating patterns of international students enrolled at the University of Ghana, Legon. The following research questions served as a guide for the study.

1. Where are the international students' food settings at the University of Ghana, Legon?
2. does international students' food practice at the University of Ghana differ from the host country?
3. What are the international students' food patterns at the University of Ghana, Legon?
4. Which factors account for the change in food Habits of the international students at the University of Ghana?

Social ecological system theory served as the study's guiding theory. The investigation employed a quantitative method and a cross-sectional survey design. All of the international students at the University of Ghana, Legon (984), made up the study's target population. A total of 122 international students were selected at random to be part of the research.

The instrument used to collect the data was a questionnaire, and SPSS 25 was used to analyse it. The following sections were created from the questionnaire. A) Food Setting; B) Food Patterns; C) Food Practice; D) Change-Enabling/Change-Restraining Factors; E) Demographic Factors. Frequency, means, standard deviations, and percentages were used to analyse the study questions, along with chi-square, fisher's exact score, t-test, ANOVA, paired t-tests, factor analysis, and frequency tables to depict the demographic features of the respondents.

Main Findings

The key findings were summarized based on the research topics and hypotheses of the study.

The first research question sought to examine the food settings or the environment within which international students buy and consume food at the university. Four main food settings; home, restaurant, chop bar and canteen were used to measure international students' food setting. A change was established in international students' eating settings. The findings showed that the majority of overseas students (70.9%) were consuming food from the home before coming to Ghana, restaurant (35.7%) emerged the frequently used food settings after the international students came to Ghana.

Again, a change was observed, with respect to international students' food practices. For instance, the results showed that four in every ten international students will skip breakfast whiles in their home country, however, six in every ten international students will skip breakfast whiles in

Ghana. In furtherance, a change was observed in what international students eat with for both before (hand) and after (spoon) coming to Ghana.

Research question three also aimed at analysing the food patterns of international students before and after arriving in Ghana. Generally, the dietary habits of overseas students underwent changes in every culinary aspect; however, the test revealed that only three (bread, spread, and fats and oils) were statistically significant with eta statistics of 0.04, 0.13 and 0.14 respectively.

The fourth research questions sought to explore the factors that enabled or constrained changes in the diets of international students. The result showed that international students' diets are mostly affected by environmental factors (49.75%, mean=2.77; SD=1.28) as far as their food change was concerned. In addition, there were differences in food change factors across respondents' socio-demographics.

Conclusions

With reference to the first research question, only few of the international students (4) reported eating at home after arriving in Ghana. However, majority of them, compared to before coming to Ghana, reported eating at restaurants, chop bars, and bush canteens only after arriving in Ghana. This means that they made changes in their preference for the food environment only after arriving in the Ghanaian environment. Therefore, it can be concluded from the study that changes occurred in the food setting of international students after arriving in Ghana.

Furthermore, with reference to food practices results, it can be concluded that international students skip meals, specifically breakfast and lunch due to their lecture schedule. It can also be concluded that, there are changes in what they eat with, whom they eat with and where they obtained their food from after arriving in Ghana. Again, it can be said that what and whom international students eat with is shaped by where they are eating.

Based on the findings on international students' food patterns, conclusions can be drawn that changes occurred in food patterns, particularly international students have significantly increased their consumption on bread, spread, and fats and oils.

Finally, it is concluded that environmental, individual, and food related factors enabled the changes in international students eating habits after arriving in Ghana. Again, it can be concluded that these factors differed by international students' socio-demographic characteristics.

Recommendations

It was recommended that:

1. Since it was revealed that international students prefer to eat at a restaurant, it is therefore recommended that restaurant operators should invest more by putting up standard restaurant on campus that will appeal to international students. In addition, bush canteen operators should also know what the international students need to be able attract them to their facilities.
2. It is also recommended to management of the University of Ghana to adjust their lecture schedules, especially the early morning ones to be

able to allow students eat their breakfast. This adjustment should be for all student, but not just international students, since breakfast is the most important meal of the day.

3. International students should significantly increase the consumption of indigenous Ghanaian foods, such as fufu, banku, solobo, waakye, local soups etc. and less of fats and oil, spread and bread. These local foods are nutritious and organic, which is good for their body and adaptation process.
4. Lastly, caterers and those who prepare foods for the University community should take the international students into consideration and prepare continental dishes in addition to the Ghanaian foods, which would be appealing and affordable to international students.

Suggestions for Future Research

Since the study focused on only the University of Ghana international students, it can be worked on by changing the location in other to ensure a wider generalization. In addition, qualitative research should be done to examine the individual reactions of international students to the Ghanaian food culture.

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APPENDIX

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF HOSPITALITY AND TOURISM MANAGEMENT

QUESTIONNAIRE FOR INTERNATIONAL STUDENTS

Dear Respondent,

My name is Eunice Matey, an MPhil Hospitality Management student at the University of Cape Coast. I am conducting this research for a Masters in Hospitality Management at the University of Cape Coast. The study is entitled *Food Habits among International Students at the University of Ghana."* I would be grateful if you could participate in this study. Data obtained will be kept confidential and will only be reported in an aggregate format. Participation in this research is completely voluntary. You can withdraw at any time or refuse to participate entirely.

Thank you very much for your help.

SECTION A: Food Practices

Below is a series of questions asking about your food practices. You will be asked to respond to each question twice: once **before** you came to Ghana, and then **after** you arrived in Ghana.

Variable	BEFORE	AFTER
1. I eat with……		
a. My hands		
b. Spoon		
c. Fork and knife		
d. Chop sticks		
2. I usually eat……. or with…….		
a. Alone		
b. Friends		
c. Family		
3. I obtain my food by …….		
a. Preparing it myself		
b. Buying from supermarket		
c. Buying from open market		
d. Ordering from restaurant		
4. I usually eat at…….		
a. Home		
b. Restaurant		
c. Chop bar		
d. Bush canteen		

Please, select the option that best describes your meal practices. Kindly indicate by ticking your consumption of the following foods in your home country **(Before)** and now in Ghana **(After)**, where **D = Daily, W = Weekly and M = Monthly**

	BEFORE			AFTER		
	D	W	M	D	W	M
1. Milk and Dairy						
a. Milk, flavoured milk and Soya milk						
b. Yogurt/ice cream						
c. Milk products (yoghurt, sweetened yoghurt)						
d. Sweetened milk						
2. Beverages						
a. Tea/iced tea						
b. Coffee						
c. Alcohol/ beer						
d. Fruit juices						
e. Soft drinks						
f. Light soft drinks						
g. Water						
3. Fruits						
a. Fresh fruits						
b. Fruit juices/drinks						
c. Stewed fruits						
4. Vegetable						
a. Fresh vegetables						
b. Frozen vegetables						
5. Cereals						
a. Breakfast cereals (milled/whole)						
b. Sweetened breakfast cereal						
6. Bread						
a. Toast bread						
b. Sugar/butter/tea bread						
c. Cake/coconut/banana bread						
d. Wheat bread						
e. White bread						

f.	Whole meal bread						
g.	Pizza						
h.	Burger						
i.	Sandwich						
7.	Spreads						
a.	Chocolate/ nut- based spread						
b.	Butter/margarine/ cheese						
c.	Jam						
d.	Honey						
8.	Fats and Oils						
e.	Butter, cream						
f.	Vegetable oils						
g.	Mayonnaise/ mustard/salad dressing						
9.	Snack Food and Desserts						
e.	Peanut bristle						
f.	Pan Cake						
g.	Fish turnover						
h.	Popcorn/ potato chips						
i.	Nuts/seeds						
10.	Starches						
a.	Rice						
b.	Cassava/plantain						
c.	Pasta (macaroni/noodles)						
d.	Potatoes						
11.	Proteins						
a.	Fish (fried)						
b.	Meat						
c.	Cold cuts						
d.	Eggs (boiled, fried, poached)						

Have you consumed any Ghanaian food since arriving in the country? Yes [ ]

No [ ]

If yes, please, indicate by writing the number of times (0-9) you eat Ghanaian meals, **D=Daily, W=Weekly and M=Monthly**

Frequency	D	W	M
Ghanaian foods			
1. Main Dish (Protein)			
a. Fish (fried/grilled)			
b. Meat (fried/grilled/roasted)			
c. Groundnut soup (fish/meat)			
d. Palmnut soup			
e. Light soup			
f. Ebunebun (kontonmire soup)			
g. Okro stew/soup			
h. Garden egg stew			
i. Knotonmire stew/palava sauce			
j. Beans stew (Red Red)			
2. Accompaniment/Carbohydrate			
k. Fried Ripped Plantain			
l. Banku			
m. Kenkey			
n. Fufu			
o. Waakye			
p. Ampesi (boiled yam/ plantain/cocoyam)			
q. Kokonte			
r. Tuo- zafi			
s. Rice balls			
t. Ghana jollof			
u. Hausa koko			
v. Gari			
3. snacks			
a. Ayigbe biscuit			

b.	Plantain/cocoyam chips			
c.	Nkatie boga			
d.	Koose			
e.	Nkate cake			
f.	Kelewele			
g.	Bofrot/tobge			
h.	Agbeli kaklo			
i.	Condensed milk toffee			
j.	Kuli kuli			
k.	Roasted corn with coconut			
l.	Poloo (coconut biscuit)			
m.	Daakoa/Zowey (Spicy Peanut Balls)			
4. Drinks				
a.	Asana			
b.	Lamugin			
c.	Zonkom			
d.	Palmwine			
e.	Pito			
f.	Sobolo			
g.	Brukina			
h.	Apketeshie			

SECTION B: Food Patterns

Please tick (√) to indicate your average daily, weekly and monthly consumption of the following products **before** and **after** arriving in Ghana: (Note:kindly use grams(g) or kilograms(kg))

	BEFORE			AFTER		
	k/kg daily	k/kg weekly	k/kg monthly	k/kg daily	k/kg weekly	k/kg monthly
1. Milk and Dairy						
Milk, flavoured milk and Soya milk						
Yogurt/ice cream						
Milk products (yoghurt, sweetened yoghurt)						
Sweetened milk						
2. Beverages						
Tea/iced tea						
Coffee						
Alcohol/ beer						
Fruit juices						
Soft drinks						
Light soft drinks						
Water						
3. Fruits						
fresh fruits						
fruit juices/drinks						
stewed fruits						
4.Vegetable						
fresh vegetables						
frozen vegetables						
5. Cereals						
Breakfast cereals						

(milled/whole)						
Sweetened breakfast cereal						
6. Bread						
Toast bread						
Sugar/butter/tea bread						
Cake/coconut/banana bread						
Wheat bread						
White bread						
Whole meal bread						
Pizza						
Burger						
Sandwich						
7. Spreads						
Chocolate/ nut- based spread						
Butter/margarine/ cheese						
Jam						
Honey						
8. Fats and Oils						
Butter, cream						
Vegetable oils						
Mayonnaise/ mustard/salad dressing						
9. Snack Food and Desserts						
Peanut bristle						
Pan Cake						
Fish turnover						
Popcorn/ potato chips						
Nuts/seeds						

10. Starches						
Rice						
Cassava/plantain						
Pasta (macaroni/noodles)						
Potatoes						
11 Proteins						
Fish (fried)						
Meat						
cold cuts						
chicken (grilled/fried/roasted/steamed)						
eggs (boiled, fried, poached)						

Portion	k/kg Daily	k/kg weekly	k/kg monthly
Ghanaian foods			
1. main dish(protein)			
a. Fish (fried/grilled)			
b. Meat (fried/grilled/roasted)			
c. Groundnut soup (fish/meat)			
d. Palmnut soup			
e. Light soup			
f. Ebunebun (kontonmire soup)			
g. Okro stew/soup			
h. Garden egg stew			
i. Knotonmire stew/palava sauce			
j. Beans stew			
2. Accompaniment/Carbohydrate			
a. Red Red (fried ripped plantain)			
b. Banku			
c. Kenkey			
d. Fufu			
e. Waakye			
f. Ampesi (boiled yam/			

plantain/cocoyam)			
g. Kokonte			
h. Tuo-zafi			
i. Rice balls			
j. Ghana Jollof			
k. Hausa koko			
3. Snacks			
a. Ayigbe biscuit			
b. Plantain/cocoyam chips			
c. Nkatie boga			
d. Koose			
e. Nkate cake			
f. Kelewele			
g. Bofrot/tobge			
h. Agbeli kaklo			
i. Condensed milk toffee			
j. Kuli kuli			
k. Roasted corn with coconut			
l. Poloo (coconut biscuit)			
m. Daakoa/zowey (spicy peanut balls)			
4. drinks			
a. Asana			
b. Lamugin			
c. Zonkom			
d. Palmwine			
e. Pito			
f. Sobolo			
g. Brukina			
h. Apketeshie			

SECTION C: Food Practices:

Kindly indicate by ticking whether you always skip or never skip the following meals before and after arriving in Ghana

	BEFORE		AFTER	
	Skipped	Never skipped	Skips	Never skipped
1. Breakfast				
2. Brunch				
3. Snack				
4. Lunch				
5. Dinner				

Please select how often you ate/eat the following foods of yours before and after arriving in Ghana: (please write the number of times (0-9) in one bracket for each category)

	BEFORE				AFTER			
	Daily	Weekly	Monthly	Never	Daily	Weekly	Monthly	Never
Beef burger	( )	( )	( )	( )	( )	( )	( )	( )
Chicken burger	( )	( )	( )	( )	( )	( )	( )	( )
Fish/shrimp	( )	( )	( )	( )	( )	( )	( )	( )
Sandwiches	( )	( )	( )	( )	( )	( )	( )	( )
Pizza	( )	( )	( )	( )	( )	( )	( )	( )
Snacks	( )	( )	( )	( )	( )	( )	( )	( )
Cereals	( )	( )	( )	( )	( )	( )	( )	( )
Bread	( )	( )	( )	( )	( )	( )	( )	( )
Cereal and milk	( )	( )	( )	( )	( )	( )	( )	( )
Vegetables	( )	( )	( )	( )	( )	( )	( )	( )
Fruits	( )	( )	( )	( )	( )	( )	( )	( )
Sweets	( )	( )	( )	( )	( )	( )	( )	( )
Beverages	( )	( )	( )	( )	( )	( )	( )	( )
Pasta	( )	( )	( )	( )	( )	( )	( )	( )

Rice		( )	( )	( )	( )	( )	( )	( )
Potatoes								( )
Spreads(margar	( )			( )	( )	( )	( )	( )
ine)		( )	( )					
Egg dishes				( )	( )	( )	( )	
	( )		( )					

SECTION D: Factors Enabling/Constraining Change

Please select which factors accounted for your 'change' or 'No change' by ticking the appropriate box, where **A=Agree, SA=Strongly Agree, D=Disagree, and SD Strongly Disagree**

Factors/Responses	A	SA	D	SD
Environmental Factors				
Food is cheaper in Ghana				
I get any food I want easily				
Everyone who sells understands the language I speak				
Food is in abundant in Ghana				
Food can be bought close to where I stay				
Easily available at the supermarkets/ shops				
Individual factors				
I eat because the cost of my home country food is expensive				
I always have appetite for my home country food				
I eat because I cannot find my home country food				
The Ghanaian culture positively affects the way I eat here				
My friends/family have influenced my liking for Ghanaian food				
Health issues prevent me from has changing the way I eat here				
My travelling experience has not affected the way I eat in the host country?				
I am familiar with most of the foods in Ghana				

I can prepare the foods easily				
It takes a short period of time to prepare Ghanaian foods				
My level of income has an impact on what I eat here				
Lack of skills in preparing the Ghana food has affected my eating habits				
The Ghanaian food cheers me up and makes me feel good				
Food Related Factors				
The food I eat here tastes good				
The food smells good				
The food has a good texture				
It looks nice, appealing to the eye				
The aroma of the foods is pleasant				
The size/ portion of food served me is enough				
It contains natural ingredients, no additives				
It does not contain harmful substances e.g., pesticide, pollutants or antibiotics				
The food I eat is organic				
It is packaged in an environmentally friendly way				
The food is Permissible by my religion				
The food is healthy and nutritious				
There are variety of food for me to choose from				

SECTION E: DEMOGRAPHIC QUESTIONS

1. What is your geographical region of origin based on continent? Please choose one. 1. Africa [ ] 2. Asia [ ] 3. Australia [ ] 4. Europe [ ] 5. North America [ ] 6. South America [ ]

2. What is your age? 1. Under 18 years [ ] 2. 18 to 24 years [ ] 3. 25 to 34 years [ ] 4. 35 to 44 years [ ] 5. 45 to 54 years [ ] 6. Age 55 or older [ ].

3. What is the level of your current degree programme?

(1) Undergraduate [ ] (2) Postgraduate

4. How long have you been at this university (indicate by the number of months) ……

5. What is your religion? 1. Christian [ ] 2. Muslim [ ] 3. Other [ ]

6. Which best describes where you currently live? 1. Residence hall [ ] 2. University apartment [ ] 3. Off-campus [ ] 4. Other …….. (Specify)

7. How much stipend do you receive in a month? ……..

8. How much stipend do you spend on food in a week? ……