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Culinary competencies and diet patterns of undergraduate students of the University of Education, Winneba, Ghana

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ABSTRACT: While substantial literature exists on the culinary competencies and diet patterns of the young adult population around the world, little is known about these variables in the Ghanaian context and much less in the university circles. In view of this dearth in literature, this study investigated the culinary competencies and diet patterns of undergraduate students of the University of Education, Winneba, Ghana, within the context of the Social Cognitive Theory. In line with the positivist paradigm, this study utilized the correlational research design, where through the quantitative approach, 3,065 students were sampled using proportionate stratified random sampling technique. After meeting validity and reliability requirements, a structured questionnaire was used to collect data for the study which was analyzed using descriptive statistics such as frequency counts, percentages, mean, standard deviation and inferential (Pearson Moment Correlation) statistics. The findings of the study revealed that the culinary competencies of undergraduate students of the University of Education, Winneba, was undesirable, even though they exhibited cooking confidence than cooking frequency and cooking attitude. Besides, the findings further disclosed that students exhibited undesired diet patterns where majority often skipped meals, occasionally ate three square meals, occasionally ate fruits and vegetables and rarely observed regularity in mealtimes. Furthermore, it was discovered that generally there was a weak but statistically significant positive relationship between undergraduate students' culinary competencies and diet patterns. Hence, the study identifies the need by way of recommendations for nutrition education programmes for students to improve their culinary competencies since it has implications on their diet patterns.

Keywords: Culinary competencies, diet patterns, food, undergraduate students.

INTRODUCTION

Extant literature has demonstrated that globally, there has been a growing concern and interest in diet and lifestyle-related challenges such as the rising patterns of weight gain, poor diets, along with the escalating levels of non-communicable diseases burden in recent years. Consequently, there has been a renewed interest to uncover culinary knowledge, attitudes, and behaviour among university students which is critical in promoting good diet patterns. In this direction, culinary competencies have received attention and becoming an increasingly important area of research among nutritional researchers and public health practitioners as a crucial indicator for promoting good diet patterns (Minkow, 2016). Reicks et al. (2014) gave credence to this view when they observed that the last decade of the twentieth century has witnessed global evolution in eating where the proportion of domestic or household money spent on food eaten outside of the home today is 47%, compared with 33% in 1970. It is also

observed that the evolution of eating over the last century has resulted in a phenomenon where most people have lost interest in the intake and consumption of homemade meals, and rather cherry-picking pre-prepared foods (Thorpe et al., 2014; Engler-Stringer, 2010a). Besides, these scholars have again observed that restaurant meals often contain excess calories, saturated fat, trans fat, sodium, sugar, artificial ingredients, and preservatives often resulting in devastating diseases, such as type 2 diabetes, stroke, cancer, and heart disease, which could be prevented through modified behaviours like proper cooking skills. It is, therefore, important that people especially adolescents and young adults eschew the consumption of processed foods from restaurants and food parlours and cultivate good cooking practices to achieve the needed dietary behaviour. In this regard, it is expected that the development of good culinary competencies among adolescents and young adults should be at the forefront of policy debates, formulation and implementation (Sprake, 2016).

However, reports have shown that culinary skills especially among adolescents and young adults have declined. Evidence gathered by Minkow (2016) and Engler-Stringer (2010b) has revealed that due to industrialization and commodification of food and food systems there has been an upsurge in the consumption of processed and ready-made foods available around the world today. Adolescents and young adults have poor culinary literacy (Sprake et al., 2018; Condrasky et al., 2011). These authors further explained that adolescents and young adults have poor cooking confidence, thus, low self-efficacy in culinary skills resulting in poor cooking attitudes, thus, the degree to which one likes cooking or finds it frustrating and time-consuming and low cooking frequency, thus, the number of homemade meals prepared per week. It is inferred from the above that the challenge in the fight against the prevalence of Non-Communicable Diseases is a lack of culinary literacy especially among adolescents and young adults to be able to gather the confidence to increase their capacity and capability to cook rather than resorting to the purchase and the consumption of processed foods. Therefore, efforts should be made to ensure that adolescents and young adults have firm grasps of culinary competencies and concepts to guarantee desirable dieting patterns.

Meanwhile, empirical literature has documented that good culinary skills are vital in ensuring healthy diet patterns among adolescents and young adults. In line with this claim, Siu et al. (2011) posited that healthy diet patterns hinge on significant cooking skills and that lack of these skills could have dire consequences on weight control and management. Again, as indicated by Bowman and Vinyard (2013), adults who eat fast foods were reported to have a higher Body Mass Index (BMI) than those who do not regularly eat them. Higher BMI observed in those who eat processed food could be linked to the poor dietary quality of processed foods. In a study conducted by Larson et al. (2006), it was established that adolescents' frequency of preparing food is positively correlated with lower intakes of carbonated beverages and fried foods and with higher intakes of fruits, vegetables, fibre, folate, calcium, and vitamin A. These authors further disclosed that young adults who reported frequent food preparation were more likely to meet dietary objectives for fat, calcium, fruit, vegetables, and whole-grain consumption. In a similar study, Graham et al. (2013) discovered that cooking skills were inversely related to fruit and vegetable purchasing, preparation, and consumption in young adults. The findings from these studies have demonstrated that there is a link between culinary competencies and diet patterns. Therefore, these findings amplify and again reinforce the call for good cooking skills especially among adolescents and young adults which is vital for desirable diet patterns.

Nevertheless, Murray et al. (2015) found out that having a rudimentary knowledge of culinary competencies does not always translate into healthy diet patterns and good food choices. Likewise, van der Horst et al. (2014) revealed that though regular participation in home meal preparation significantly correlated with fruits and vegetable consumption, it is also strongly linked with the consumption of more calories. Literature has demonstrated that there are conflicting results on the relationship between culinary competencies and diet patterns. It is documented that majority of the studies reported a positive relationship between culinary competencies and good diet patterns. It is apparent from these studies that some good degree of culinary practice is essential for desirable diet patterns. However, some researchers reported no relationship between culinary competencies and good diet patterns (Murray et al., 2015; van der Horst et al., 2014). The existence of these inconsistent findings calls for further studies to shed more light on the linkage between culinary competencies and diet patterns in specific settings such as the adolescents and young adults in the University of Education, Winneba.

With the assurance that good culinary competencies such as having a positive attitude towards cooking, greater cooking frequency, and increased confidence in cooking enhances improved diet patterns, researchers sought to investigate inventories that could be deployed to enhance the culinary competencies of adolescents and young adults (Sprake et al., 2018). As a result of empirical studies, researchers have offered various inventories on culinary competencies. Culinary competencies as conceptualized by Condrasky et al. (2011) embrace competencies in cooking frequency, attitudes, and confidence.

Condrasky et al. (2011) used culinary competencies inventory to conduct several studies and concluded that culinary competencies variables correlated positively with desired diet patterns. Besides Condrasky et al. (2011), other researchers have employed this inventory in their

studies. The study by Minkow (2016) using Condrasky's culinary competencies model, established that young adults had more cooking confidence than cooking attitudes and cooking frequency. The findings further disclosed that all the three components of culinary competencies (cooking attitudes, cooking confidence and cooking frequency) correlated significantly to desired dietary practices such as the intake of fruits and vegetables.

In Kourajian (2015) investigation on the relationships between diet quality, BMI and cooking skills in a group of college students, Kourajian used the Condrasky et al. (2011) culinary competencies inventory, and it was discovered that 95% of the college students indicated being confident cooking whereas 80% disclosed having good attitudes with 70% cooking regularly. The findings further disclosed that cooking skills correlated with the BMI or weight status of college students. In Hartmann et al. (2013) observation, cooking delight is a significant indicator of good cooking skills and that increased cooking skill reflects an individual's ability to prepare a wider variety of dishes, such as recipes that include fruits and vegetables. Woodruff and Kirby (2013) studied the associations among family meal frequency, food preparation frequency, self-efficacy for cooking, and food preparation techniques in children and adolescents, by adopting the Condrasky et al. (2011) model of culinary competencies and the findings revealed that regular participation in home meal preparation and good cooking skills engenders healthful food choices such as fruits, vegetables, whole grains and low-fat dairy for enhanced diet quality.

From the foregoing reports, it is worth noting that having confidence in food preparation affects cooking attitudes thereby resulting in interest in daily cooking, and these are critical in healthful food choices such as the consumption of fruits, vegetables, whole grains and low-fat dairy for overall improved diet quality. Accordingly, it could be expected that undergraduate students of the University of Education, Winneba, Ghana, exhibit good culinary competencies for improved and desired diet patterns.

Besides, culinary competencies and diet patterns of university students have been a perturbing issue of concern among nutritional practitioners and researchers in recent years. For instance, Stok et al. (2018) observed that for many, being university students, possibly could be the first taste of feeling independent which makes them challenged in making healthful food choices because of increased autonomy. Mahmoud and Taha (2017) also noticed that most college students do not plan, eat and follow healthy eating practices. As a result, their diets are usually characterized by the consumption of energy-dense foods, a high intake of calories while becoming physically inactive. Vilaro et al. (2017) further discovered that college students experiencing the transition to college are at peril of unwanted weight gain. Meanwhile, it is documented that diet patterns established during the early stages of life may persist into adulthood, thereby making university time of studies a prime period to launch life-long health behaviours (Stok et al., 2018; Moore and Thompson, 2015).

Students of the University of Education, Winneba, like other university students in the world fall within the age bracket of adolescents and young adults. With the earlier revelation that college and university students often do not comply with recommended dietary patterns (Minkow, 2016), one is likely to admit same for students of the University of Education, Winneba, because they share similar characteristics of students who do not comply with recommended dietary patterns even though there is no empirical evidence to support this allegation. Indeed, informal discussions and cursory observation have disclosed a very worrying trend in relation to students culinary competencies and diet patterns. With the proliferation and accessibility of food joints and supermarkets in and around campus, students are increasingly eating fewer homemade meals due to tight lecture schedules and times, the demand to leave their hostels early enough to meet the day's requirements and the demand to attend multiple lectures within the day. They resort to choosing pre-prepared "convenience" foods and meals from food joints, making them less engaged in preparing their own meals. Therefore, research into the culinary competencies and diet patterns of university students offers a cardinal field of study. Nevertheless, previous studies have established a link between culinary competencies and diet patterns of university students (Minkow, 2016; van der Horst, et al., 2014; Thorpe et al., 2014). The question, therefore, arise "Does the culinary competencies of students in the University of Education, Winneba have any link with their diet patterns?" Hence, this study aimed to gather empirical evidence to ascertain whether culinary competencies of students has any relationship with their diet patterns.

Research questions

The following research questions guided the study:

1. What are the culinary competencies of undergraduate students of the University of Education, Winneba?
2. What are the diet patterns of undergraduate students of the University of Education, Winneba?
3. What is the relationship between the culinary competencies and diet patterns of undergraduate students of the University of Education, Winneba?

The study hopes to make significant contributions to the culinary competencies and diet patterns of young adults in the University of Education, Winneba. It is anticipated that the results of the study would inform students about their cookery practices, and the degree to which such practices influence their diet patterns. This awareness would make students hone and intensify their cookery practices to

boost good dietary patterns and lead to desirable healthful choices among students. Besides, the results of the study would be beneficial to students by helping them to receive appropriate support from university management through the health directorate to design and carry out sensitization workshops for students on food preparations. This support would help the students to sharpen their culinary competencies that would permit and engender quality and desirable diet patterns. Finally, the findings of the study would throw more light on the theories and practices of cooking by linking theory to practice and contributing to the culinary practice discourse in contemporary times.

Theoretical framework of the study

Albert Bandura's Social Cognitive Theory developed in 1986 and further refined by Henningsen in 2011 was the theoretical lens for the study. The theory operates on the assumptions that there are individual, behavioural and environmental influences underlying food selection and dietary behaviour. The environment, behaviour and the person, according to this theory, interact with each other. First, the individual has personal and cognitive characteristics (self-efficacy) that influence his/her behaviour. As a theoretical lens of the study, the theory argues that when a person is executing certain habits and behaviours, he or she estimates that the behaviour will lead to specific outcomes. The social cognitive theory maintains that an individual lives in an environment social in nature, this environment to a very large extent influences the individual's behaviour with respect to our diet patterns and food selection. However, the willingness of an individual to accept what is available in the environment is contingent on the individual's cognitive prowess.

Hence, the theory takes into account factors regarding behaviour that generates habits. Based on these explanations, the social cognitive theory was utilized in comprehending the culinary behaviour and practices which encompasses the cooking attitudes, cooking frequency and cooking confidence. Social Cognitive Theory was adopted as the theoretical framework of the study based on the notion that diet patterns are complex endeavours demanding contributions from multiple levels of influence from the individual and the environment. The impact from the individual and the social environment such as the school setting is critical in determining the diet patterns of an individual. Therefore, to attain optimal diet patterns, it is expected that there is a synergistic relationship between social and ecological factors as an antecedent to healthful diet patterns are understood. Juxtaposing the tenets of social cognitive theory and the diet patterns, the social cognitive theory is a framework that will ensure, sustain and help in understanding diet patterns. It is based on this premise that Social Cognitive Theory was deemed relevant for the study.

MATETRIALS AND METHODS

In line with the positivist paradigm of generating knowledge, this study utilized the correlational research design, where through the quantitative approach, proportionate stratified random sampling technique was used in selecting 3,065 students constituting 11% of the target population of 27,862 undergraduate students from six faculties on Winneba campus of the University of Education, Winneba, Ghana. This proportion of students who were selected and participated in the study resonates with Braun and Clarke (2013) suggestion that the sample size in quantitative studies should not be less than 5% of the target population. The proportionate stratified random sampling technique which was employed in getting the sample was done where the proportion of students in the six faculties to the target population, departments in the faculties to the target population, male and female students in the departments to the target population were all equally represented in the sample population.

The main instrument for data collection was a structured questionnaire whose face validation was ensured when the questionnaire was given to some colleague lecturers to peruse with respect to typographical and grammatical mistakes. The required content validation procedure was satisfied to scrutinized the instrument to ensure it measures the various constructs and variables outlined in the study. The structured questionnaire was closed-ended in nature, containing items on the culinary competencies and diet patterns of the students which was measured on a 5-point Likert scale. For reliability, the internal consistency of the various constructs in the instrument was checked by Cronbach alpha where a coefficient of greater than 0.70 is deemed acceptable (Polit and Beck, 2010). In this study, the Cronbach alpha coefficients of 0.84, 0.87, 0.79 and 0.89 were obtained for cooking frequency, cooking confidence, cooking attitude and diet patterns, which are all above the 0.70 thresholds and an indication that the questionnaire was reliable. After meeting validity and reliability requirements, ethical considerations such as informed consent, anonymity, confidentiality and the right to participate or withdraw were also satisfied in the study.

Data collected was analyzed using descriptive statistics such as frequency counts, percentages, mean, standard deviation and inferential (Pearson Moment Correlation) statistics all with the aid of version 22 of the Statistical Product for Service Solution after satisfying assumptions such as normality and homogeneity of data.

RESULTS AND DISCUSSION

This section of the study begins with a discussion on the response rate as well as the analysis and discussion of research questions as outlined in the study. On the response rate, out of the 3,065 questionnaires distributed,

2,649 questionnaires were correctly filled and returned and therefore involved in the analysis, representing a response rate of 86.45%. This response rate was considered acceptable based on the suggestion of Saunders et al. (2012) that a response rate of 30% to 40% response rate is adequate in qualitative studies. The research questions are discussed below:

Research question one: What are the culinary competencies of Undergraduate Students of the University of Education, Winneba?

The first research question examined the perception of the students on their culinary competencies. In this study, the culinary competencies of the students involved their attitude towards cooking, the frequency of cooking and their confidence towards cooking. The mean and standard deviation were calculated to determine the nature of students' culinary competencies such that mean<2.50 indicated undesirable, 2.50≤mean<3.50 showed desirable, and mean≥3.50 indicated very desirable. The results of the analysis are presented in Table 1.

The data in Table 1 reveal that undergraduate students rated highest on cooking confidence (M=3.31, SD=0.72) which was found to be desirable than their cooking frequency (M=2.04, SD=0.58), and cooking attitude (M=2.03, SD=0.73) which were found to be undesirable. Collectively, all the culinary competencies yielded a mean of 2.46 (SD=0.44) which was found to be undesirable. The findings implied that the undergraduate students engaged themselves in diverse culinary competencies. However, the information disclosed that even though the students indicated being confident with respect to cooking, their frequency of cooking and attitudes towards cooking did not match their confidence level.

However, based on the 5-point Likert scale used in the questionnaire where the mean score is 3.0, it could be deduced from the table that cooking confidence is the only culinary practice rated as desirable while cooking attitudes and cooking frequency were deemed to be undesirable. This finding reinforces the ubiquitous evidence which suggests that the world's population spend less time cooking home meals than in the past and rather opting for pre-prepared foods from restaurant meals (Smith et al., 2013; Thorpe et al., 2014) which often contains excess calories, saturated fat, trans fat, sodium, sugar, artificial ingredients, and preservatives often resulting in devastating diseases, such as type 2 diabetes, stroke, cancer, and heart disease, which could be prevented through modified behaviours like proper cooking skills (Engler-Stringer, 2010a). Besides, the findings are consistent with the observation made by Simmons (2010) that currently, the world's population is in an era where pre-prepared meals and convenience foods are readily available and relatively affordable. In this study, it was disclosed that university students exhibited cooking confidence than cooking frequency while cooking attitude was rated the least. This finding corroborates that of Minkow (2016) who found that young adults in colleges had cooking confidence, than cooking attitudes and cooking frequency. This finding surprisingly suggests that even though students agreed feeling confident using basic cooking techniques such as steaming, sautéing, roasting etc., they find it too much work to cook because cooking takes too much time could be frustrating.

Research question two: What are the diet patterns of undergraduate students of the University of Education, Winneba?

This research question aimed to investigate the diet patterns of undergraduate students of the University of Education, Winneba. In soliciting information on their diet patterns on all the food nutrients, regular intake of fruits and vegetables, and intake of soda and sugared drinks were asked. The respondents were required to indicate their diet patterns on a 5-point Likert scale such that 1= never, 2=rarely, 3=occasionally, 4=often, and 5=repeatedly. However, never and rarely were interpreted as rarely whilst often and repeatedly were considered as often to the statements and variables. Besides, based on the 5-point Likert scale used where the average mean score is 3.0, in analyzing the diet patterns, a mean score of <2.50 indicated rarely, 2.50≤mean<3.50 showed occasionally, and mean≥3.50 indicated often. Generally, the perception of the respondents on their diet patterns is presented in Table 2.

From the data in Table 2, it could be realized that the students rarely eat the three square meals every day (M=2.90, SD=1.18), occasionally eat meals containing all the food nutrients (M=3.12, SD=1.10), rarely eat breakfast every morning (M=2.43, SD=1.51) while often eating more convenient foods because of tight schedules (M=3.62, SD=1.01). Additionally, the results on students diet patterns have disclosed that students often take snack during the day due to lecture intervals (M=3.53, SD=1.23), they also often skipped meals (M=3.55, SD=1.13) and also rarely observe much regularity in their meal timing (M=2.44, SD=1.15). The findings further discovered that students occasionally eat one fruit a day (M=2.80, SD=1.13), occasionally include vegetables in their diet every day (M=2.75, SD=1.21), and often consume their daily meals from the university's canteen (M=3.55, SD=1.19).

A cursory look at the student diet patterns shows that the following were usually adopted: meal skipping, not keeping track of the food nutrient they consume, occasionally eating fruits, occasionally including vegetables in their diet and rarely observed regularity in their meal timing. These findings resonate with Hanson (2017) who discovered that the diet patterns of young adults in universities and colleges are characterized by increased consumption of of snacks and fast food, sweets, cakes, energy-dense foods

Table 1. Descriptive statistics on the nature of culinary competencies.

Levels of culinary competencies	Min.	Max.	Mean	Std. Dev.	Nature of culinary competencies
Cooking Confidence	1	5	3.31	0.72	Desirable
Cooking Frequency	1	5	2.04	0.58	Undesirable
Cooking Attitude	1	5	2.03	0.73	Undesirable
Overall Culinary competencies	1	5	2.46	0.44	Undesirable

Table 2. Descriptive statistics on diet patterns of undergraduate students of the University of Education, Winneba.

No.	Statements	Diet patterns						Mean	Std. Dev.	Interpretation of diet Pattern
		Rarely		Occasionally		Often				
		No.	%	No.	%	No.	%			
1.	I eat three square meals every day	860	32.5	1099	41.5	690	26.0	2.90	1.18	Occasionally
2.	I eat meals containing all required food nutrients everyday	899	34.0	1260	48.0	490	18.0	3.12	1.10	Occasionally
3.	I eat breakfast every morning	1316	50.0	814	31.0	519	19.6	2.43	1.54	Rarely
4.	I consume convenience foods (such as sugary drinks, bread, biscuits, canned products etc.) because of my busy schedules	464	17.5	590	22.2	11595	60.2	3.62	1.01	often
5.	I mainly snack during the day because of my lecture intervals	163	6.2	684	25.8	11802	68.0	3.53	1.23	Often
6.	Skipping of meals is very usual of me	385	14.5	913	34.5	11351	51.0	3.55	1.13	Often
7.	I observe much regularity in my meal timing	1420	53.6	838	31.6	3 391	14.8	2.44	1.15	Rarely
8.	I eat at least one fruits a day	828	31.3	1088	41.0	733	27.7	2.80	1.13	Occasionally
9.	I include vegetables in my diet everyday	658	24.8	1510	57.0	481	18.2	2.75	1.21	Occasionally
10.	I mainly consume my daily meals from the University's canteen	303	11.5	994	37.5	11352	51.0	3.55	1.19	Often

and a reduced intake of the recommended serving of fruits and vegetables. Further, in support of the current findings by way of justifying the undesirable diet patterns among university students, Murray et al. (2015) maintain that the barriers to healthful diet patterns especially among university and college students include all but not limited to lack of time, money and knowledge about cooking skills and how to prepare their food; lack of space and kitchen utensils and equipment; living away from parents home; and availability and access to unhealthy and convenience foods.

Research question three: What is the relationship between the culinary competencies and diet patterns of undergraduate students of the University of Education, Winneba?

This research question aimed to investigate the relationship between culinary competencies and students' diet patterns in the University of Education, Winneba. Pearson Moment Correlation was used to provide answers to this research question, and the interpretation of the correlation coefficients was based on Devore and Peck (1993) view which indicated that coefficients less than 0.50 represent a weak relationship, coefficients greater than 0.50 but less than 0.80 represent a moderate relationship, and coefficients greater than 0.80 represent a strong relationship. The results of the analysis were presented in Table 3.

The Pearson correlation results in Table 3 reveal that generally, there was a weak but statistically significant positive relationship between undergraduate students' culinary competencies and diet patterns ($r=0.298$, $p=0.000$, 2-tailed) at 0.05 alpha

Table 3. Pearson Correlation Matrix for culinary competencies and diet patterns (N=2649).

No.	Parameters	Mean	Std. Dev.	1	2	3	4	5
1.	Overall culinary competencies	2.46	0.44	1				
2.	Cooking Frequency	2.04	0.58	0.656* (0.000)	1			
3.	Cooking Attitude	2.03	0.73	0.690* (0.000)	0.272* (0.000)	1		
4.	Cooking Confidence	3.31	0.72	0.621* (0.000)	0.131* (0.000)	0.043* (0.028)	1	
5.	Overall Diet Patterns	3.07	0.70	0.298* (0.000)	0.263* (0.000)	0.170* (0.657)	0.405* (0.000)	1

*Correlation is significant at p<0.05 (2-tailed).
Note: p-values are in parentheses.

level. This finding implies that culinary competencies have the potential to translate into optimal diet patterns. The findings of this study agree with the results of earlier studies like Minkow (2016), van der Horst et al. (2014) and Thorpe et al. (2014). Researchers (Bowen et al., 2014; Hartmann et al., 2013) have indicated that cooking confidence and positive attitudes towards cooking are central and crucial determinants of culinary behaviour, perhaps even more so than specific cooking skills. Additionally, it has been observed that persons who disclosed confidence about their cooking are more likely to enjoy cooking, try to cook a different variety of foods and try out new foods (Stead et al., 2004). This finding shows that good culinary competencies would boost the diet patterns of the students. Conversely, inappropriate culinary competencies would negatively hinder optimal diet patterns. It is, therefore, expected that efforts are made by university management to look out for nutrition education programmes that are most likely to engender healthy diet patterns among students.

The results further indicate that there was a statistically significant relationship between cooking frequency and diet patterns (r=0.263, p=0.000, 2-tailed). In addition, there was a weak but statistically significant positive relationship between cooking attitude and diet patterns (r=0.170, p=0.000, 2-tailed); and there was a weak but statistically significant relationship between cooking confidence and diet patterns (r=0.405, p=0.000, 2-tailed). Hanson (2017) uncovered that highly active individuals reported significantly greater fruits and vegetable consumption than moderately active or inactive individuals. Hanson (2017) further disclosed that fruits and vegetable consumption was reported to be greater among those who prepared meals 4-7 times weekly compared to 1-3 or zero and that consuming convenience and ready-made meals were associated with significantly lower fruits and vegetable intake compared to cooking from basic ingredients or not cooking. Finally, preparing meals from basic ingredients was associated with a lower BMI than consuming mostly convenience and ready-made meals or not cooking. Based on these results, it is proven that culinary competencies are essential in promoting healthy diet patterns among undergraduate students at the University of Education, Winneba.

Conclusions and Recommendations

The study has provided evidence to conclude that appropriate and desirable culinary competencies of students are vital and required to stimulate good diet patterns. The results of this study implied that culinary competencies are directly and positively linked to students' diet patterns. Again, these culinary competencies are capable of either strengthening or weakening appropriate diet patterns among the students. Consequently, it is anticipated that the students would practice satisfactory culinary competencies that are capable of engendering good diet patterns. Interestingly, all the culinary competencies outlined in the study related significantly to students diet patterns. Literature demonstrates undesirable diet patterns especially among young adults when there is autonomy and away from home. Likewise, this study has confirmed that even though students had the confidence to cook, they exhibited undesired diet patterns as majority skipped meals, occasionally ate fruits and rarely observed regularity in mealtimes. It is, therefore, pertinent that measures are taken and certain strategies implemented to heighten good diet patterns among students. Accordingly, it is recommended that, the university through its health directorate should organize symposia and forums to inform and educate students with relevant culinary skills and knowledge that is most likely to boost good diet patterns among students. Special attention should be paid to their cooking attitude since the students recorded the lowest level on the indicators of culinary competencies.

Again, the University through the Department of Food

and Nutrition Education should disseminate nutrition information on healthy diet patterns and behaviours through the campus radio station, student notice boards and students social media platforms aimed at creating serious awareness among the students on the consequences of not ensuring good diet pattern. Besides, in view of the essential role of culinary competencies in promoting good diet patterns, the academic board, through various departments in the university, should introduce nutrition education courses to assist students in developing desirable diet patterns.

CONFLICT OF INTERESTS

The author declares no conflict of interest.

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