



The Role of Convenience in Fast Food Consumption in Urban Ghana

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Authors' contributions

This work was carried out in collaboration between all authors. Authors RO, JJ and GE designed the study. Author RO performed the statistical analysis and literature searches, and wrote the first draft of the manuscript. All authors including author GF and GR read and approved the final manuscript.

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ABSTRACT

Background: Although fast food has been linked to various health problems its consumption is increasing in Ghana. The objective of this study was to examine how *convenience* (a measure of *perceived product convenience*, which is a product attribute, and *convenience orientation*, a psychosocial attribute of consumers) together with demographic variables and cooking skill influence fast food consumption in urban Ghana.

Methods: A cross-sectional consumer survey was conducted among 400 fast food consumers, 15 years and older, drawn from 20 fast food restaurants in the Accra Metropolitan Area of Ghana.

Results: Firstly, findings showed that the more consumers perceived fast food as convenient (i.e. having convenience attributes such as easiness to get, easiness to eat, quickness to get, requiring little efforts to clear-up after eating) the greater the odds of eating it more frequently. Secondly, convenience orientation was measured by three components, namely consumers' inclination to

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save mental effort, physical efforts, and time however, the time component was the most significant in influencing fast food consumption. Thirdly, the predictive power of income level and cooking skill on frequency of fast food consumption could not be confirmed although positive associations were found between them. Fourthly, the findings could not show any significant association of age, gender, education level, employment status, working status, and marital status with frequency of fast food consumption.

Conclusion: The study concludes that most people eat fast food because its inherent convenience attributes as well as consumers' inclination to save mental effort, physical effort and time. Therefore, when designing nutrition and health programmes strategies should be developed to encourage and support provision of healthier options in fast-food restaurants. Alternatively, restaurants that have been identified to be offering healthier foods should be encouraged to integrate convenience attributes into their operations.

Keywords: Fast food; consumption; convenience; perceived product convenience; convenience orientation; psychosocial attribute, Ghana.

1. INTRODUCTION

Currently in Ghana, there is a gradual shift from eating typical Ghanaian foods with abundant unrefined carbohydrate, high fibre and low fat to westernised diets that are highly refined, energy-dense and sugar-based [1]. As a result, non-communicable diseases such as diabetes, kidney problems, heart disease and obesity, which were previously considered problems only in high income countries, now constitute a major development challenge in Ghana. For example, hypertension, a major risk factor for many heart diseases has been reported as the number-one killer in Ghana, accounting for about 70% of all deaths at the country's leading Korle-Bu teaching-hospital in Accra, the capital city of Ghana [2]. Cases of kidney diseases are also increasing, especially among the youth. Between January 2006 and July 2008, 558 kidney cases (143 females and 415 males) were reported at Korle-Bu teaching hospital. A recent study has also revealed that 64.9% of women in Accra are either overweight or obese [3].

Although fast food has been found to be a risk factor for these non-communicable diseases [4,5] its production and consumption are increasing in urban Ghana. In the Accra Metropolitan Area (AMA) alone, about 68% of the restaurants have been found to be offering fast food [6]. These fast foods include fried rice, French fries, pizzas, fried chicken, and burgers in order of popularity [6]. The rapid spread of fast food is a cause for concern since its frequent consumption (i.e. one or more times a week) has been found to correlate with high body mass index (BMI) of consumers [7]. An important determinant of fast food consumption is *convenience* [7,8]. Hence this study sought to explain how convenience

influences fast food consumption in Accra, Ghana and to identify strategies that may enhance the effectiveness of nutrition and health programmes such as the Regenerative Health and Nutrition (RHN) programme currently being implemented in Ghana. The RHN programme, for example, aims at reducing the incidence of preventable diseases such as cardiovascular diseases, type II diabetes, and obesity by promoting healthy eating and physical activity.

Convenience encompasses people's desire to save time and energy while engaging in the consumption process, which includes planning, shopping, storage, preparation of food, consumption, cleaning up, and disposal of leftovers and wastes [9,10,11]. It also entails the transfer of significant amount of preparation time, culinary skills, or energy inputs from the home kitchen to the food processor or distributor [12,13].

Convenience has often been assessed in terms of the *perceived product convenience*, which refers to how consumers evaluate convenience attributes associated with planning, purchasing, preparing, serving, and eating a particular food product [14,15,16]. Another dominant theoretical approach used to explain the increasing importance of convenience is *convenience orientation* [11], which refers to 'the degree to which a consumer is inclined to save time, mental effort, and physical effort with regard to consumption' [12].

Both perceived product convenience and convenience orientation have been found to have an association with food consumption [11,14,15,17]. They have also been influenced by social, economic, demographic or lifestyle

variables, and cooking skills [10,12,18]. Some authors [11,19] found perceived product convenience and convenience orientation to be positively related and have therefore proposed that both constructs should be combined in order to have a comprehensive measure of convenience.

Although convenience is an important factor associated with fast food consumption, limited scientific studies have examined convenience in terms of the perceived product convenience and convenience orientation. The importance of attitude on fast food consumption was examined by [17] and they considered factors such as 'perceived product convenience' and aspects related to cooking but called for further research to elucidate the potential associations of fast food intake with some important psychosocial and attitudinal aspects of an individual. The association of convenience with fast food consumption was examined by [20] where factors such as perception of meal preparation effort, time scarcity and cooking skills were considered. Several studies have also found a relationship between demographic variables and fast food consumption. For examples, some researchers in developed countries [7,17,21] have found that youth, males, employed, and singles have greater odds of eating fast food more frequently than their counterparts. Research conducted in South Africa and Switzerland respectively by [8,20] found a positive relationship between income level and frequency fast food consumption. In a study to assess the relationship between income level and fast food consumption among USA adults an overall no difference in income status and the amount of fast food consumed was found [22]. The findings on the relationships between income level and fast food consumption are inconsistent and therefore need to be explored further in a developing country such as Ghana.

In view of these gaps in various studies and referring to the conceptual background, this study seeks to explain how (i) perceived product convenience (a product attribute), (ii) convenience orientation (a psychosocial attribute of an individual), (iii) cooking skills, and (iv) demographic variables (i.e. age, gender, marital status, education level, employment status, working status, and income level) influence fast-food consumption in Accra, Ghana. Furthermore, unlike other studies [e.g. 19] that examined convenience orientation as one whole variable, this study examines convenience orientation in

relation to i) consumers' inclination to save mental effort, (ii) consumers' inclination to save physical effort, and (iii) consumers' inclination to save time to determine their relative importance in influencing fast food consumption.

2. METHODS

2.1 Study Participants and Procedure

The study was conducted in fast food restaurants and it was part of a larger study that assessed the prevalence, characteristics and relevance of fast food in urban Ghana. The larger study examined both the benefits and anxieties consumers associate with fast food but this paper focuses on convenience as one of the benefits. In Ghana, fast food can be obtained from formal restaurants and informal street food outlets but this study examined only formal fast food outlets, which have been understudied.

A cross-sectional consumer survey was conducted in 20 fast-food restaurants that were systematically sampled from the four zones of the AMA (Accra East, West, Central and North). Before the consumer survey, willing consumers were selected from some of the 20 fast food restaurants for focus group discussions in order to collate broad views and inputs for the construction of the consumer survey questionnaire. In total, three focus groups were held with students and persons in employment who happened to be the majority of persons found in the restaurants.

In total, 425 respondents, 15 years and older, selected by convenience sampling technique participated in the survey. This sampling technique was chosen because of the expectation that participation would be based on a self-selection of individuals willing to participate in the survey [23]. The questionnaires were administered face-to-face so field assistants were available to help explain the questions and write out responses (in a language of mutual understanding) as accurately as possible. Self-administration of the questionnaire was allowed, at the request of respondents, who filled them out independently. This reduced potential interviewer bias. To ensure that respondents had a common understanding of what constituted fast food, they were asked to state whether they had ever eaten any of the foods generally regarded as fast food worldwide such as French fries, burgers, fried chicken, fried rice, and pizzas from a fast food restaurant. Only respondents who

indicated having eaten at least one of these foods were allowed to complete the questionnaire. The data was collected on Mondays to Sundays from 11.00 a.m. to 12.00 midnight over a period of sixteen weeks with the purpose of sampling consumers with various demographic characteristics.

Ethical approval for the survey was not sought because the study design complied with the 2002 guidelines of American Psychological Association and the WMA Helsinki Declaration guidelines confirming that the research would not be assumed to create distress or harm to the participants. Individuals were told that the survey was being conducted by the Science and Technology Policy Research Institute to examine their concerns about health and food safety issues and come up with strategies to address them. Thus, participants gave their non-written consent by willingly completing the questionnaires. For individuals who were 15 to 17 years old, only those in the company of adults were involved in the study and non-written consent was obtained from these adults.

2.2 Item Generation and Measures

The items used to measure the constructs are presented in Table 1. *Perceived product convenience* was measured by five items, three of which were adapted from [14,15,17] and the other two derived from the three focus group discussions. These two items were “I eat fast food because it is easy to get”, which is an indication of its availability and accessibility, and “I eat fast food because it is easy to eat”.

Convenience orientation was measured by 14 items (five each for the *inclination to save mental effort* and *inclination to save physical effort*; and four for the *inclination to save time*), which were derived from [12,20]. Based on earlier theoretical discussions and the food under discussion (i.e. fast food), the items were slightly modified to emphasise buying, eating, and clearing-up so as to include all the stages of the overall meal process. Each of the items measuring perceived product convenience and convenience orientation was rated on a five-point Likert scale.

Cooking skill was assessed by one question “I can prepare a lot of meals even without a recipe”, which was adapted from [20] and was answered by either ‘yes’ or ‘no’. *Demographic information*, which includes age, gender, education level, marital status, employment

status/occupation, working status (full time, part-time) and average monthly income, was self-reported by the participants.

Finally, *frequency of fast food consumption* was measured by one item, “how often do you eat fast food such as French fries, burgers, fried chicken, fried rice, and pizza from a fast-food restaurant?” and was answered on a five-point frequency scale ranging from 1 (‘1-5 times each six months’) to 5 (‘every day or almost every day’).

2.3 Statistical Analysis

Out of the 425 questionnaires administered, 419 were retrieved of which 19 were discarded because not more than 30% of the questions had been answered. Therefore, in total, 400 valid questionnaires with no missing values were analysed using Statistical Package for Social Sciences (SPSS, version 20). Initial data analysis included descriptive statistics and reliability and factor analysis. Categorical variables were summarized by frequencies and percentages, and quantitative variables were summarized by mean and standard deviation. Frequency of fast food consumption was dichotomised by distinguishing persons consuming fast food one or more times per week (frequenters) [7] from those consuming fast food at most three times per month (non-frequenters: reference group). Spearman’s correlation coefficients were calculated to determine the unadjusted associations of different demographic variables with convenience factors and frequency of fast food consumption. Logistic regression analysis was used to determine the multivariate relationships of fast food consumption with perceived products convenience, convenience orientation (inclination to save mental and physical efforts and time), cooking skills and demographic variables. Nagelkerke’s R^2 was used to evaluate the proportion of variance explained by the model. Odds ratios (OR), P values and confidence intervals were reported for each level of the variables.

2.4 Psychometric Properties of Convenience Scale

As shown in Table 1, factor analysis on the convenience scale yielded four distinct factors (i.e. Eigen value>1). *Perceived product convenience* originally had five items however reliability analysis yielded Cronbach’s $\alpha=0.64$, which fell below the acceptable Cronbach’s α of

0.7-0.8. Of the five items, four had acceptable 'Cronbach's α if Item Deleted', which were below overall Cronbach's α of 0.64 whereas the fifth item "I eat fast food because it is inexpensive" had its 'Cronbach's α if Item Deleted' as 0.86, which is greater than the 0.64. This fifth item was deleted from the list of items and hence perceived product convenience ultimately had four items, which demonstrated an internal consistency reliability of Cronbach's $\alpha=0.86$ (mean= 3.23 ± 1.16 ; 1-5). Consumers' inclination to save mental effort, which demonstrated an internal consistency reliability of

Cronbach's $\alpha=0.94$ (mean= 3.70 ± 1.18 ; 1-5), originally had five items but one item was discarded because it loaded on factors 2 and 3 (see Table 1). Consumers' inclination to save physical effort demonstrated an internal consistency reliability of Cronbach's $\alpha=0.91$ (mean= 3.84 ± 0.96 ; 1-5). Consumers' inclination to save time demonstrated an internal consistency reliability of Cronbach's $\alpha=0.87$ (mean= 3.26 ± 1.13 ; 1-5). The means for the items on each of the factors were calculated and each factor was treated as a separate scale for further analyses.

Table 1. Factor analysis of convenience orientation and perceived product convenience measure in relation to fast food consumption in 400 respondents

Construct and indicators	Factor loadings	Cronbach's alpha	Eigen value	% variance
Factor 1: Perceived convenience of fast food		.86	1.60	7.39
1 I eat fast food because it is easy to get	.51			
2 I eat fast food because it is quick to get	.51			
3 I eat fast food because it requires little effort to clear-up after eating	.90			
4 I eat fast food because it is easy to eat	.91			
Factor 2: Consumers' inclination to save mental effort		.94	6.41	33.77
1 I don't want to think about what to buy, cook or eat for a long time	.85			
2 Cooking means mental effort, which I try to avoid if possible	.82			
3 After a busy day, I don't like to worry mentally about cooking or what to eat	.81			
4 I try to minimise the mental effort for preparing (DELETED)	.82			
5 The less I have to think about preparing a meal, the better	.80			
Factor 3: Consumers' inclination to save physical effort		.91	3.69	18.16
1 The less physical energy I need to prepare a meal, the better'	.71			
2 After a busy day, I find it physically very exhausting to prepare a meal	.69			
3 Cooking and clearing up means physical effort that I try to avoid if possible	.94			
4 I try to minimise the physical effort of preparing meals	.75			
5 I'm often physically tired, and that's why I don't feel like preparing a meal	.87			
Factor 4: Consumers' inclination to save time		.87	2.01	9.89
1 The less time I need to buy, prepare and eat a meal the better	.59			
2 I prefer foods that are quick to get	.91			
3 I prefer foods that can be prepared or eaten quickly	.88			
4 I prefer foods that are readily available	.67			

Only significant item loadings are shown here. An item is considered on a factor at loading score >0.35

3. RESULTS

3.1 Sample Description

The characteristics of respondents in this study as shown in Table 2 are a reflection of the type of persons who largely visit fast-food restaurants in the AMA in Ghana. The mean age of the respondents was 25.9±7.63 years with majority being youthful (88.5%) – the National Youth Policy of Ghana defines the youth as persons in the 15-35 years age range. Male respondents constituted 61% of the sample, 84.5% were single, 60.0% had tertiary level education (e.g., university, polytechnic), 49.0% were employed, and 41.3% were students mostly in tertiary education. It is remarkable that 68.8% of the respondents indicated they have cooking skills while 41% (mostly students in tertiary education) had no monthly income. In total, 65.8% of respondents reported eating fast food from a fast food restaurant at least once a week (i.e. 16.5% Daily + 38.3% 2-4 times a week + 11.0% Once a week) and were thus classified as fast food restaurant frequenters based on the classification of [7] in which a frequenter is one who eat fast food one or more times a week. The non-frequenters constituted 34.2% of the respondents. About 58.3% of consumers ate fast food only at lunchtime, 30.7% ate at supertime, 11% between 8.00 p.m. and midnight.

3.2 Correlates of Frequency of Fast Food Consumption

Table 3 shows the unadjusted associations of the variables with frequency of fast food consumption. Perceived product convenience ($r=0.65$, $p=0.00$), consumers' inclination to save time ($r=0.56$, $p=0.00$), income ($r=0.14$, $p=0.01$), and cooking skill ($r=0.14$, $p=0.00$) had significant positive associations with frequency of fast food consumption. Negative but non-significant correlations were found between frequency of fast food consumption and age, gender, and working status while positive non-significant associations were found between frequency of fast food consumption and marital status, and employment status. Consumers' inclination to save time had significant positive correlations with inclination to save mental effort ($r=0.17$, $p=0.00$), inclination to save physical effort ($r=0.11$, $p=0.03$), perceived product convenience ($r=0.46$, $p=0.00$), employment status ($r=0.15$, $p=0.00$) and working status ($r=0.11$, $p=0.04$). Consumers' inclination to save mental effort had

significant positive association with consumers' inclination to save physical effort ($r=0.42$, $p=0.00$) and perceived product convenience ($r=0.10$, $p=0.05$).

Table 2. Characteristics of survey respondents (n = 400)

Characteristics of study population		%
Age	15-35 years	88.5
	>35 years	11.5
Mean age	25.9±7.63 years	
Gender	Male	61.0
	Female	39.0
Marital status	Married	15.5
	Single	84.5
Education level	Tertiary	60.0
	Senior High School	36.5
	Basic	3.0
	None	.50
Occupation	Employed	49.0
	Student	41.3
	Unemployed	9.7
Work status (employed & students)	Full time	61.0
	Part-time	39.0
Monthly income	<100 GHS	4.8
	100 – 500 GHS	28.7
	501 – 1,000 GHS	14.0
	1001 – 1,500 GHS	5.5
	1,501 – 2,000 GHS	3.0
	>2,000 GHS	3.0
Cooking skill	None	41.0
	Yes	68.8
Gender*Cooking skill	No	31.2
	Males with cooking skill	60.7
Frequency of fast food intake	Female with cooking skill	82.7
	Daily	16.5
Time of consumption	2-4 times a week	38.3
	Once a week	11.0
	1-3 times a month	18.2
	1-5 times each six months	16.0
	Lunchtime	58.3
	Supertime	30.7
	8.00 p.m. - midnight	11.0
GHS = Ghana Cedis		

Table 3. Spearman rank correlations among the variables and frequency of fast food consumption

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Age	1.00												
2 Gender	-.20**	1.00											
3 Marital status	-.47**	.02	1.00										
4 Education	-.32**	.02**	.03**	1.00									
5 Employment	-.64**	.18**	.35**	.17**	1.00								
6 Work status	.03	-.14**	.05	.07	-.03	1.00							
7 Income	-.40**	.14**	.17**	.20**	.64**	-.02	1.000						
8 Cooking skill	-.01	-.24**	.02	.02	.07	-.01	-.01	1.00					
9 TIME	-.06	-.03	.07	-.02	.15**	.11*	.07	.08	1.00				
10 MENTAL	-.03	.11*	-.05	-.05	.06	-.08	.07	-.05	.17**	1.00			
11 PHYSICAL	-.03	.08	-.04	-.04	-.01	-.09	.02	-.06	.11*	.42**	1.00		
12 Perceived Con	.10*	-.07	.02	.04	.03	-.03	.13*	.08	.46**	.10*	.04	1.00	
13 Frequency	-.01	-.02	.08	.01	.09	-.03	.14**	.14*	.56**	.10	.06	.65**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Table 4. Logistic regression for predicting frequency of fast food intake

Variable	Category	Odd ratio	95% CI	P value
Age	Older respondents	Ref*		
	Youth	1.284	.405 – 4.066	.671
Gender	Female	Ref		
	Male	1.296	.669 – 2.513	.442
Marital status	Single	Ref		
	Married	.632	.240 – 1.659	.351
Education level	-	.929	.561 – 1.539	.776
Employment status	Unemployed	Ref		
	Students	2.030	.548 – 7.528	.289
	Employed	1.498	.394 – 5.706	.553
Working status	Part-time	Ref		
	Full time	.653	.247 – 1.724	.390
Average monthly income	-	1.027	.743 – 1.421	.870
Cooking skill	No	Ref		
	Yes	1.024	.520 – 2.019	.945
Mental effort	-	.934	.668 – 1.268	.662
Physical effort	-	.989	.708 – 1.382	.949
Time	-	<i>2.541</i>	1.859 – 3.473	.000
Perceived convenience	-	<i>4.477</i>	3.223 – 6.217	.000

Values in italics indicate that odds ratio is significant at the 0.05 level. CI= Confidence interval. Ref= Reference group. Reference = Non-frequenters i.e. fast food intake 3 times or less per month; N=400

3.3 Logistic Regression Analyses

The logistic regression model (Table 4 above) yielded Nagelkerke's $R^2=0.614$ implying that 61.40% of the variance was explained. Perceived convenience of fast food (OR=4.477, $p=0.00$) and consumers' inclination to save time (OR=2.541, $p=0.000$) were significant predictors of frequent fast food intake, when adjusted for other variables in the model. Thus, for every one unit increase in the consumers' inclination to save time and perceived convenience of fast food (as measured on a 5-point Likert scale), the likelihood of eating fast food frequently increased by 2.541 and 4.477 times respectively, after controlling for the other factors in the model. All the other variables were non-significant in predicting frequency of fast food consumption. For example, income and cooking skill were positively associated with fast food consumption in the correlations but they were not significant in the logistic model where (OR=1.027, $p=.870$) and (OR=1.024, $p=.945$) respectively.

4. DISCUSSION

This study examined the associations of perceived product convenience, convenience

orientation, demographic variables (i.e. age, gender, marital status, education level, employment status, working status and income level), and cooking skills with frequency of fast-food consumption. Firstly, findings indicated a significant positive association of *perceived product convenience* with *frequency of fast-food consumption*. This suggests that the more consumers perceive fast food to be convenient (i.e. having convenience attributes such as easiness to get due to its availability and accessibility, quickness to get and easiness to clear-up after eating) the more likely they are to eat it more frequently. The realization that consumers can get fast food to buy even up to midnight further demonstrates its convenience attributes in terms of availability and accessibility, which also relates to the ease with which the food is obtained. Similar findings have also been reported by [17]. Remarkably, one of the items used to measure perceived product convenience in earlier studies, which is "I eat fast food because it is inexpensive", was found to be non-significant to the measurement of the construct. The probable reason is that fast food especially those obtained from restaurants in developing countries including Ghana are relatively more expensive [24,25] than in developed countries

where the perceived convenience subscale was developed.

Secondly, consumers' *inclination to save time* at various stages of the consumption process had a significant positive association with *frequency of fast food consumption*. However, consumers' inclination to save mental and physical efforts were each not significantly associated with frequency of fast food consumption. The finding suggests that consumers who are inclined to save time (e.g. have preference for food that requires less time to purchase, prepare, or eat; foods that are readily available and accessible) are more likely to consume fast food more frequently. Also, parents who have demanding work conditions or limited time were found to often use fast food as one of the coping strategies [26]. The correlations showed that all the three components of convenience orientation (i.e. consumers' inclination to save mental and physical efforts, and time) had significant positive association with one another. This suggests that consumers who have positive inclination toward the saving of time are most likely to have a preference for meals that require less mental and physical efforts during their planning, purchasing, preparation, eating, and clearing up. A positive relationship was found between convenience orientation and food consumption [12,19]. The finding also implies that all the three components of convenience orientation are important in the meal process however, the time component is the most significant.

Thirdly, the correlations showed a positive relationship between *income level* and *frequency of fast food consumption* however the logistic model could not confirm the ability of income level to predict frequency of fast food consumption. This could be due to the fact that 41% of respondents (Table 2) indicated they earned no income, which might have influenced the overall effect of income on fast food consumption. According to the Oxford Dictionary, income refers to money received, especially on a regular basis, for work or through investments. Hence, the non-income earners, who were mostly students, might not be receiving any income yet by virtue of their status may be getting money from various sources such as parents, relatives, bursaries, and stipends. In future studies one needs to differentiate between having no income and still having access to money.

The result of the correlations however supports [8,20] who found a positive relationship between

income level and frequency fast food consumption. This finding is important because Ghana is currently experiencing rapid urbanization, economic development, and income improvements. Therefore, there is the tendency for urban dwellers to experience nutrition transition and the adoption of global urban eating pattern such as consumption of fast food [27,28]. Moreover, as economic activities increase many urban dwellers are increasingly experiencing time-constraint and therefore are likely to resort to fast food consumption as a coping strategy. Consequently, interventions are critical to protect these consumers against adverse health effects of fast food.

Fourthly, unlike other studies [e.g. 7,17,21], this study found no significant relationship between *demographic variables* (i.e. age, gender, marital status, education level, employment status, and working status) and *frequency of fast food consumption*. This might be due to differences in study locations (in terms of developed and developing countries), the types of respondents (who might have different socio-economic status and lifestyle in developed and developing countries) or other factors that must be investigated in future studies. Significant positive relationships were however found between employment status, working status, and the inclination to save time. This implies that full-time employees and students, most of whom are likely to be time-constrained, are likely to have a preference for meals that require less time to plan, prepare, purchase, eat, and clear-up. Therefore, in designing nutrition interventions, it is important to target these groups of persons. Similarly, significant positive association was found between age and perceived convenience of fast food implying that as a person grows older, his/her perception of the convenience attributes of fast food becomes more positive. However, this did not result in a corresponding increase in the frequency of fast food consumption indicating that there could be other contexts and factors such as marriage that influence fast food consumption as people advance in age [20].

Fifthly and finally, this study found a significant positive relationship between cooking skill and frequency of fast food consumption but this could not be confirmed in the regression model. The correlation results therefore contradict earlier findings by [20,29], which showed that persons who spend time cooking, who like to cook, feel confident cooking, and have good cooking skills

are less likely to consume fast food. In this present study, majority of the respondents (69%) reported having good cooking skills yet about 66% are fast food restaurants frequenters. This suggests that the positive association of cooking skill with frequent fast food consumption might be due to various other factors that must be further investigated.

5. CONCLUSION

This study is unique because it simultaneously examined the associations of perceived product convenience, convenience orientation, demographic variables, and cooking skills with frequency of fast food consumption. Moreover, unlike others, this study examined convenience orientation in terms of its three components namely, consumers' inclination to save mental effort, physical effort, and time.

The study has shown that the more consumers perceive fast food as convenient (i.e. having convenience attributes) the greater the odds of eating it more frequently. Secondly, all the three components of convenience orientation are important in influencing fast food consumption but it is the time component that is the most significant. Thirdly, the predictive power of income level and cooking skill on frequency of fast food consumption could not be confirmed although positive associations were found between them. Fourthly, the findings could not show any significant association of age, gender, education level, employment status, working status, and marital status with frequency of fast food consumption. Thus, further studies are required to confirm the relationship between demographic variables and frequency of fast food consumption in the context of Ghana.

The study has some policy implications for Ghana's foodservice, nutrition and health sectors. The findings showed that most people eat fast food because of their inclination to save mental and physical efforts and time as well as the inherent convenience attributes of fast food. Therefore, rather than focussing on the negative aspects of fast food consumption, Ghana's nutrition and health programmes should focus on encouraging and supporting restaurants to provide healthier option since studies by [11,30] have shown this is possible. Alternatively, restaurants that have been identified to be offering healthier foods can be encouraged the by government to integrate convenience attributes into their operations. This implies that

the food should, for example, be quick to get, easy to get (available and accessible), and should require little effort to clear-up after eating. Furthermore, the physical effort and time required for home food preparation can be reduced when groceries make it a policy to sell fruits and vegetables that are minimally processed (i.e. sorted, washed, peeled, chopped, or cut). Mental effort required in the meal process can also be reduced by the government by developing and providing menu and recipe guides and encouraging compliance. This way, the amount of thinking an individual has to do vis a vis what to eat, where to eat, what to cook, and how to cook can be reduced. The high percentage of student and people in employment found in the study sample indicates that these persons mostly visit fast food restaurants. Therefore, nutrition interventions from government, non-governmental organizations, and health and nutrition professionals may target students in particular and develop strategies to reduce the physical and mental efforts and time required to get healthy meals at school campuses and work places. This can be done by ensuring that schools have canteens that are regulated to ensure the healthiness of foods offered.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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