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Analysis of Street Food Consumption Across Various Income Groups in the Kumasi Metropolis of Ghana

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Abstract

This study aimed to analyze the consumption of street food across various income groups in the Kumasi metropolis. A combination of stratified, simple and systematic random sampling technique was employed to select operational areas and respondents house respectively. Primary and cross sectional data at household level collected from three towns in the Kumasi metropolis were used to identify the factors that determine Street Food (SF) consumption by employing multiple regression model through the use of Ordinary Least Square (OLS). Further, total household food expenditure and proportion of household expenditure on SF by individuals were estimated. It was found out that: estimated average monthly household expenditure was GH₵ 476.91, GH₵ 403.3, and GH₵ 390.23 for the high, middle and low income groups respectively. However the low income groups spent 85% of their income on food compared to middle 79.99% and higher 60.09%. Likewise, 84.79, (21.73%), 68.69 (17.03%) and 45.51 (9.56%) were the estimated individual proportion of household expenditure on Street Food across the same income groups. It was empirically noted that educational level and household size were significant at 1% with negative relationship with street food consumption whilst income was also significant at 5% with a negative relationship. Gender and time spent away from home (TSAFH) also had a significant positive relationship with street food consumption at 1% level. It can therefore be concluded that low income groups spent greater portion of their income on food and individually, greater proportion of their household food expenditure on street foods than other income groups.

Key Words: *Street Food, Consumption, Income Groups, Kumasi.*

Introduction

Food and Agriculture Organization (FAO, 2009) defined street food as ready-to- eat foods and beverages that are prepared and/ or sold by itinerants or stationary vendors especially on streets in other public places. Street food trade is one of the channels through which agricultural produce finally get to consumers. Its growth in many developing countries is attributed to a number of factors by many researchers. The trade also has a large impact on agricultural production and marketing as well as on agro-food processing business operations. Small-scale farmers can find street foods to be an excellent way to diversify their income sources and especially to develop marketing skills. That is why Aidoo (2009) said that many factors are influencing the world's street food trade as well as Ghanaians and an understanding of these factors is

very essential for the assessment of the agricultural product market in Ghana and the world at large. Its expansion is connected with urban growth and the need of the urban population for employment and easy access to already prepared and convenient food (Delisle, 1990). Ghana's independence in 1957, promoted industrial development and the employment sector have caused people to seek for greener pastures. Long hours of traveling from homes to school, work places (businesses) etc. leave little time to take breakfast which contributed to the huge demand for inexpensive and convenient food near such environments (Johnson and Yawson, 2000).

As population grows, global food demand also grows. With increasing income and urbanization, demand for food not only increases drastically, but changes with shifts in consumption patterns (Delisle, 1990). The springing up of different kind of street food vendors such as fried rice, fried yam; "tuozafi" etc. in Ghana is an indication of a phenomenon.

According to Winarno & Allain, (1986) urbanization has stimulated the increase in the number of street food vendors in many towns all over the world but Van't-Riet et al., (2001) also argued that declining economies and high inflation rate have increased the cost of living which translates into intensified food insecurity in the urban areas. Delisle, (1990) further claimed that eating meals outside home is a usual characteristic of urban daily life. Long hours spent outside the home for different purposes is a factor for street food purchase (Johnson &Yawson, 2000).The urban environment involves important changes in lifestyles and economic activities and these have a bearing on social changes hence patronize of street food to increase (Delisle, 1990).
Street foods are developing changes in eating style and urban way of life affect "how" and "where" food is consumed (Delisle, 1990). Infosan, (2010) also noted that street food plays a vital role in providing low cost meals for urban dwellers particularly those in the middle income. FAO expert group indicated that street food provide inexpensive and nutritious food that benefit the urban poor (FAO, 1990). Food is the largest item in household's budget accounting for 54.5 percent of all expenditure (Maxwell et al., 2000). "Eating out" food budget is quiet high in the urban and not only among high income households but across various income groups. High income groups would rely more heavily than the poor upon the formal restaurant sector for the food eaten outside home but this is not to say exclusively that street food is for low income groups (Delisle, 1990). Whatever being the underlying reason (sheer necessity, lifestyle, convenience, pleasure, etc.) for street food consumption, it is generally observed that urbanites spend substantial amount of their food budget on street food (Delisle, 1990).
The main objective is to determine whether street foods consumption vary across various income groups in the Kumasi Metropolis of Ghana. More specifically, the study seeks to estimate the total food expenditure across various income groups, estimate the variations in the proportion of street food expenditure across various income groups, and to identify the factors that determine street food consumption across various income groups.

Literature Review

Food and Agriculture Organization (FAO, 2009) defined street food as ready-to- eat foods and beverages that are prepared and/ or sold by itinerants or stationary vendors especially on streets and in other public places. But Delisle, (1990) also defined street food as comprising both the trade and the product. According to researchers: (for example Delisle, 1990; Maxwell et al., 2000; Cohen, 1985; Draper, 1996; van't-Riet et al., 2001; Winarno & Allain, 1986) According to researchers (for example Delisle, 1990; Maxwell et al., 2000; Cohen, 1985; Draper, 1996; van't-Riet at al., 2001; Winarno & Allain, 1986), the trade has long existed due to a lot of factors: unemployment among women, little time to prepare foo before leaving for work, whether women in the house are working or not, sheer urbanites lifestyle and hours spent away from home among others. The expansion of street food trade has also been due to the substantial demand for food services not met by the formal sector of restaurants; canteens and other eating places (Delisle, 1990; Maxwell et al., 2000). According to Musaiger, (2011) large segments of the population in the Mediterranean region depend entirely on street foods. This situation is not different in the Ghanaian context since an earlier study in Accra by Maxwell et al., (2000) noted that majority of the women of the women

are petty traders and men are skilled workers. According to Cohen, (1985) consumers are faced with the increasing price and scarcity of fuel, which makes it cheaper to purchase street food meals where cost of a serving is equal to if not below the cost of home preparation. The shift towards eating meals outside the home is most clearly seen in the levels of sales and consumption of cereal based breakfast foods which take two to three hours to prepare. Global street food consumption patterns have drastically shifted in recent years.

About 2.5 billion people eat street food every day (FAO, 2007). This is evident in the growth of street food outlets (market) which have become so popular along the streets in the cities. Consumption of street food is becoming an essential component of the food market as most of the working class chooses to dine outside rather than prepare meal at home. Street food markets have really suppressed the full- service of restaurants as the main sources of food away from home (Ayo et al., 2012). This is probably because of easy accessibility, inexpensiveness, exhibition of local varieties, proximity to the consumer, convenience and way of advertisement.

It is generally observed that urbanites spends substantial amount of their food budget on street food and is quite high among the urban areas and not only among high income groups (Delisle, 1990). A study conducted in Accra revealed that almost 40 percent of the total food budget goes to purchasing street foods in the lowest expenditure quintile, 25 percent in high-income households (Maxwell et al., 2000). Similar study done in Philippines also revealed that 20-30% of household expenditure is spent on food outside the home and 20% in Columbia (Delisle, 1990). It was also estimated that 30% of household budget is spent on street food (Leonard et al., 2003).Tinker,(1993) also noted that 20% of household budget is spent on street foods.

It is important to note that desire is only the first step in the consumption process. To purchase street food one must be willing and able to pay for it. Vendors will not give you their food just because you want to satisfy your food needs. Vendors want money in exchange for their food. Income is therefore as relevant to street food consumption decisions as are basic desires and preferences (Aidoo, 2009).

The level of formal education is likely to be highly influential in either promoting traditional attitudes or introducing new attitudes towards product needs and wants. The higher the level of formal education and the more widely available it is, the more conscious one becomes in terms of what is consumed (Aidoo, 2009).

Thus, individuals with higher education (tertiary) spend less on consumption of street food (Ayo et al., 2012). Because they become more conscious that a better standard of living is possible hence they are circumspect in dieting practices (Aidoo, 2009). A study by Ayo et al., (2012) in Uganda noted that those who are highly educated are less likely to consume street food because they understand the importance of healthy living and are more likely to obtain, process, interpret, and apply knowledge that shapes nutritional or dieting practices.
According to Wendt and Kinsey, (2007) one often finds that income rises from the early twenties into late fifties and then declines as people retire and live on reduced incomes. Likewise, food consumption patterns can be explained based on age effect. Consumption decisions are normally shaped by the age of the consumer (Aidoo, 2009).

As consumers migrate from one age bracket to another, their dieting pattern changes due to factors such as food availability, new information, new cumulative experiences, and physiological changes as one grows (Wendt and Kinsey, 2007). According to Jerome and Perreault, (1991) the youth spend more on foods items than the aged who spends more on durable consumer goods. Based on a study conducted by Blisard, (2001) he noted that the youth spends less on food at home than the older generations. Most of them depend on street food as that is the lifestyle of many urbanites but these declines as they grow. This is consistent with a revelation in recent study that an increase in consumer's age by one year would decrease the probability of consuming street food (Ayo et al., 2012) and earlier study by Kearney et al., 1998)

also reported that the proportion of meal one take outside the home decline with age. This could be due to a high preference for healthier foods as consumers grow older.

According to Prattala et al., (2006) Finish women consume more fruits, fish, chicken sweets, cheese and vegetables but less meat than men who consume more meat, potatoes, bread and alcohol. In the western countries gender difference in food consumption, nutrient intake and attitudes towards foods is as result of concern for healthy diets (Prattala et al., 2006). Females are not only careful about their dietary habit but the motivation for the consumption of healthier food among women is a reflection of carefulness of self-image and physical appearance and avoidance of fatness (Malinauskas et al., 2006; Satia et al., 2001; Anderson, 1992). Such motivations have been the consumption of less fatty foods such as fruits and vegetables (Trudeau et al., 1998). According to Paeratalaul et al., (2003) males consume more street food (44%) than female (40.2%) and this is because mostly men prefer to dine in the traditional restaurants as compared with the women who have more preference for the western restaurants.

Within each food groups, certain food items more are consumed than others from the same food groups. The observed higher consumption of certain food items among the food groups is consistent with the estimate of food availability within the Ghanaian food supply and consumer demand (Nesbittet al., 2008). Musaiger, (2011) claimed that globally livestock production is growing rapidly, which is interpreted as a result of the increasing demand for animal products but the pattern of consumption is very uneven, mostly less consumed in African countries and Asia. According to Paeratalaul et al., (2003) there is variation in the type of street food consume across age groups. Children and adolescent consumed less cereals and bread but significantly high fruits, fried potato, juice, milk, legumes, chicken, meat and carbonated drinks. The adults too consume less cereals, grains, milk, legumes but more fruits and vegetables. Paertalaul et al., (2003) study is consistent with Wendt and Kinsey, (2007) positing that older cohorts spends more on meat, poultry, fish, eggs, dairy products fruits fats and oils but less on cereals, bakery goods and miscellaneous prepared foods.

Methodology

The target population was street food consumers in the Kumasi metropolis. Combinations of stratified, systematic and simple random sampling technique were used to select the study areas (Ayeduase, Pankrono and Bomso) and respondent households. The study area was stratified into three based on income status thus high, medium and low areas. Sample sizes of seventy (70) households for each of the three selected towns were taken, making total of two hundred and ten (210) households. A pilot survey was conducted to test the viability and lapses in the questionnaire. The necessary corrections and adjustment were made before the final survey was conducted.The data was collected through personal interview through administration of questionnaires on February, 2013.

Descriptive statistical tools such as frequencies tables, graphs and tabulations were used to summarize and organize the data**.** To address objective one, household total food expenditure per month was calculated. To address objective two, individual street food expenditure as a proportion of household total food expenditure was calculated and t-test was used to test the significant difference thus testing hypothesis one. To address objective three, multiple regression model was used to estimate the factors that determined street food consumption with ordinary least square (OLS) method. To address objective four, percentages were calculated for the variation in the type of street food consumed.

Results And Discussions

Socio-Demographic Characteristics of Respondents

As shown in table 1: about, 43% of all consumers interviewed were males and 57% were females. Also, the respondents for this study have been categorized into groups by the authors. In all the studied communities,

majority of respondents (45.7%) fall within the age bracket of 31-45 years, followed by 46-60 age brackets and less than 30 years and greater than 60 years constituting smaller percentage. Those less than 30 years, 46-60 years and greater than 60 years constitute about 22%, 23% and 9% respectively. As shown in the table 4: for the pooled majority of the respondents were single (42%), followed by married (36%), separated or widowed (17%) and the least is divorced (4%). Table 1 shows the distribution of respondents according to their level of formal education. Thirty-five percent(35%) of the pooled samples have attained basic/middle education. Generally, the respondents were evenly distributed across the four categories of educational level. Consumers considered in the study fell within different monthly income groups as shown in table. It can be seen that the pooled sample that consumers in the middle income group (GH¢101 – 500) formed majority (43%); 39% were in the high income (> GH¢500) group and low income (< GH¢100) consumers formed about 4%. Although preponderance ($> 50\%$) of the consumers were in the middle income bracket across all the consumer locations, 26%, 43% and 47% of consumers fall within the high income group in Ayeduase, Pankrono and Bomso respectively.

Table 1: Demographic Characteristics of Respondents by all the selected communities

	Ayeduase		Pankrono		Bomso		Pooled	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Age (years)								
≤30	23	32.9	10	14.3	13	18.6	46	21.9
31-45	29	41.4	35	50	32	45.7	96	45.7
46-60	12	17.1	18	25.7	19	27.1	49	23.3
>60	6	8.6	7	10	6	8.6	19	9.1
Gender								
Male	35	50	25	35.7	31	44.3	91	43.3
Female	35	50	45	64.3	39	55.7	119	56.7
Marital status								
Single	21	30	39	55.7	29	41.4	89	42.4
Married	32	45.7	21	30	24	34.3	77	36.7
Divorced	3	4.3	2	2.9	3	4.3	8	3.8
Separated/ Widowed	14	20.0	8	11.4	14	20.0	36	17.1
Level of formal education								
No formal education	13	18.6	12	12.1	11	15.7	36	17.1
Basic/middle	32	45.7	21	30	20	28.6	73	34.8
Secondary	18	25.7	21	30	8	11.4	47	22.4
Tertiary	7	10	16	22.9	31	44.3	54	25.7
Income (GH₵)								
≤100	4	5.8	4	5.8	1	1.4	9	4.3
101-500	47	68.1	36	51.4	36	51.4	119	43.1
501-100	18	26.1	29	41.4	21	30	68	32.5
>1000	0	0	1	1.4	12	17.1	13	6.2

Source: Field survey (2013).

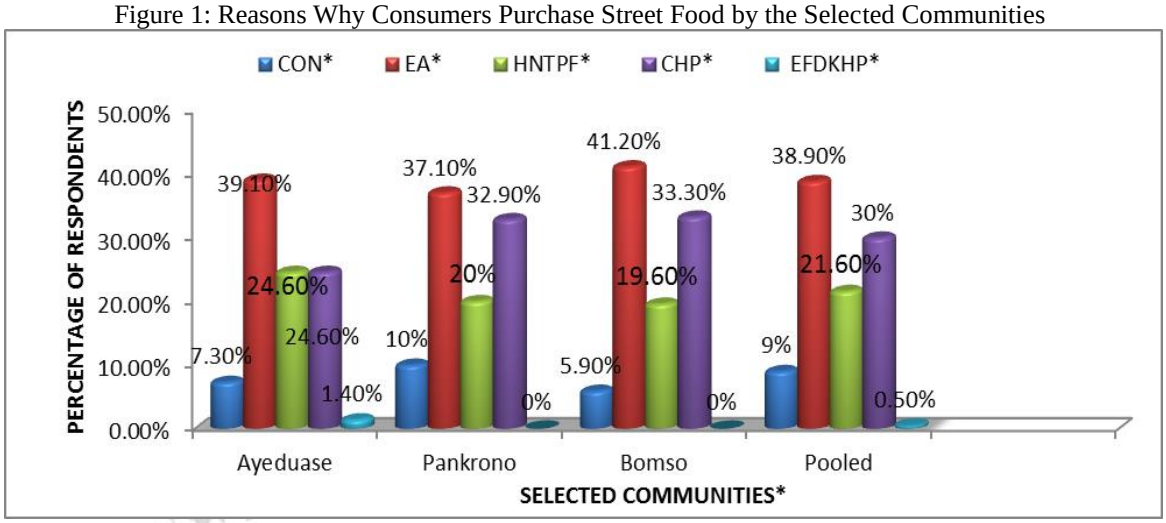
Consumer Perception and Behavior towards Street Food Trade and Consumption

Reasons why consumers buy (or do not buy) street food

As showed in the figure 1, majority (about 39%) of consumers in the pooled sample buy street food simply because it is easily accessible and the least were (0.5%) of their reason been that they enjoy the particular menu but do not know how to prepare it. However, the price of the street food played significant role in consumers' purchasing decision as evident from the fact that about 30% of all the sampled consumers buy

street food due to the fact that it is relatively cheaper. This trend cuts across all the selected communities. However, significant percentage (about 22%), of all the sampled consumers also take such decisions because they have no time to prepare food at home.

Figure 1: Reasons Why Consumers Purchase Street Food by the Selected Communities

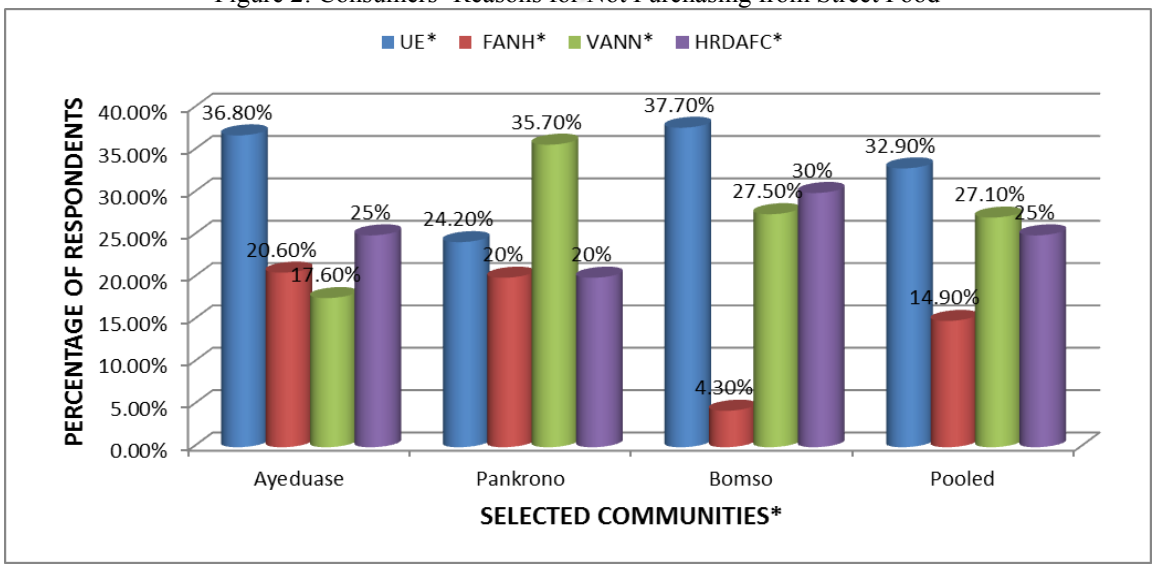


Source: Fieldsurvey (2013).

CON*= *Convenient,* **EA***= *easily accessible,***HNPF***= *have no time to prepare food,* **CHP***= *Cheap and* **EFDKHP***= *enjoys food but do not know how to prepare it*

On the contrary, figure 2 illustrates the key influence of consumers' decision not to purchase street food. As showed from the pooled sample, preponderance (33%) of them would not buy if vendors operate in an unhealthy environment. Other reasons were rated as follows: 15%, 27% and 25% if street foods were not hygienic, vendors too not abiding to hygiene issues (neatness) and health risks/ diseases associated with street food consumption respectively.

Figure 2: Consumers' Reasons for Not Purchasing from Street Food



Source: Field survey (2013).

UE*= *Unhealthy Environment,* **FANH***= *Foods Are Not Hygienic,* **VANN*** = *Vendors Are Not Neat,* **HRDAFC*** = *Health Risk/ Diseases Associated with Street Food consumption*

Consumer Expenditure on Food

Estimated Household Food Expenditure (GH₵) per Month

It can be deduced from table 2 that on the average consumers spent GH₵ 423.25 on food monthly from the pooled sample. However, consumers in the high income groups spent more (GH₵ 476.21) on food compared to the other income groups middle (GH ₵403.03) and low (GH₵ 390.23). However, food expenditure as a proportion of household income is lowest for the high income groups (60.09%) followed by middle (79.99%) and low income groups (85.00%). This trend is consistence with Frazo et al., (2007); SSA, (2008) and Engels' law which state that as income increases, food spending also increases but the proportion devoted to food declines. According to Kaufman et al., (1997) the difference in food expenditure across various income groups were due to several factors. Firstly, low income households spent less in supermarkets. Secondly, low income households live in sub-urban location where food prices are typically lower. Thirdly, supermarkets in low-income neighbourhoods may charge higher prices than those in higher income neighbourhoods. Lastly, typically low-income groups spent less on food than high income groups because they are more economical and by buying low quality item as compared to high income groups. Aidoo, (2009) also attributed this to the fact that low income groups have less monthly income as result of the type of jobs they engage in as well as engaging in less purchase in bulk which is more expensive.

Table 2: Estimated Household Food Expenditure (GH₵) per Month

Consumer location	N	Minimum	Maximum	Mean	Food expenditure as a % of total household income	St. Deviation
Ayeduase	70	112.00	600	**390.23**	85.00	233.95534
Pankrono	70	145.00	716	**403.03**	79.99	128.6604
Bomso	70	240.00	980	**476.21**	60.09	170.13591

Source: Field survey (2013).

Estimated individual Street Food expenditure (GH₵) as a proportion of total household food expenditure per month

From table 3 those in low income groups spent more (GH₵ 84.78) on street food than those in the middle (GH₵ 68.69) and high (GH₵ 45.51) income groups on the average. This may be a confirmation that low income groups spend greater portion of their income on food rather than other items in the household expenditure basket. High income groups spent 9.56% of their total food expenditure on street food as compared to those in the middle (17.03%) and low (21.73%) income groups. The percentage for low income groups is somewhat comparable with other works: 20% in Columbia, 20-30% in Philippines (Delisle, 1990); 30% by Leonard et al., (2003); and 20% by Tinker (1993) and 25% - 47% in Bongor (Thailand) by Draper, (1996.

Table 3: Estimated Street Food Expenditure (GH₵) as a Proportion of Total Household Food Expenditure per Month

Community	N	Minimum	Maximum	Mean	St. Dev.	SF as a % of total food expenditure
Ayeduase	70	10.00	200.00	**84.79**	49.79	21.73
Pankrono	70	12.00	144.00	**68.69**	33.92	17.03
Bomso	70	0.00	120.00	**45.51**	32.40	9.56

Source: Field survey (2013).

Table 4: also depicts the significant difference between the selected communities. As shown, there is a significant difference in the consumption of street food between the selected communities at 1% and 5%. This implies that there is variation in the consumption of street food among the selected communities.

Table 4: Variations among income groups on street food consumption (t-test)

Consumer location	MEAN	t	df	Sign.(2.tailed)
Ayeduase- Pankrono	16.61	2.579**	69	0.012
Pankrono-Bomso	23.93	4.451***	69	0.000
Ayeduse-Bomso	40.20	5.585***	69	0.000

Source: Field survey (2013).

Determinants of Street Food Consumption

Results from the regression model in table 5 indicate that educational level and household size were significant at 1% with negative relationship with street food consumption whilst income was also significant at 5% with a negative relationship. The educational level effect is consistence with Ayo et al., (2012) and Paeratalaul et al., (2003) who found that the higher the educational level of consumer the less street food consumed. This might be due to increase in knowledge on food hygiene issues. Income finding is also consistence with economic theories positing that when consumer income increase they can afford to switch to more expensive and superior substitutes of street foods (Baker, 1981). Also, according to Stanlake (1989), rise in income can cause the proportion of income spent on street food to shift downwards while the proportion on durable, luxurious goods and services to shift upwards.

Gender and time spent away from home (TSAFH) also had a significant positive relationship with street food consumption at 1% level. Similar results were found by Styn et al. (2011), Prattala et al. (2006), Paeratalaul et al. (2003), Anderson (1992) and Malinaukas et al. (2006).The reasons may be that males (especially the unmarried) are less likely to cook at home either because they lack the culinary skills or simply do not have the time. Also, females are more careful about their dietary habit due to self-image, physical appearance and avoidance of fatness hence consumes more fruits and vegetables. The finding on TSAFH is consistence with Ayo et al., (2012) and Wendt and Kinsey, (2007) who asserted that street foods were saviour to time-starved working cohorts. Thus, the more the time one spent outside the home the higher probability of consuming street food.

Though marital status, age and occupation were not significant, they had a negative relationship with street food consumption. The coefficient posits that those who are married are less likely to consume street food which means that singles consume more street food but McDaniel (1985) noted working wives are either time constrained or dislike cooking almost all the time but rather buy food from outside. The coefficient of occupation also suggests that the employed are less likely to consume street food. This implies that the unemployed consume more street food. This is in consonance with Wendt & Kinsey, (2007) and McDaniel, (1985). The coefficient of age also suggests that an increase in age decrease consumption of street food. This is consistent with Ayo et al., (2012); Blisard (2001) and Kearney et al., (1998). This implies that younger generation consumes more street food.

Table 5: Determinants of Street Food Consumption

Independent Variables	Coefficient	Standard Error.	P-values
Age (in years)	-0.0610738	0.0771595	0.430
Gender (1=male, 0= otherwise)	**4.357713*** **	1.185536	**0.000**
Edu. (Number of years of formal edu.)	**-1.977949*** **	0.7127412	**0.006**
Income (GH₵)	**-2.590451** **	1.287086	**0.045**
Marital status (1=married,0=otherwise)	-0.92345	0.6493582	0.157
Occu. (1=employed, 0 otherwise)	-2.434727	2.481176	0.328
TSAFH (in hours)	**0.5973776*** **	.218095	**0.007**
Household size (number)	**-2.540828*** **	.62777586	**0.000**
Constant	34.92362	3.374194	0.000
Prob> F =0.0000, R- squared = 0.6807, *** and ** represent significant @ 1% and 5% respectively			

Source: Field survey (2013).

Conclusion

In the light of the above findings, it can be concluded that higher income groups spends (in absolute term) more on food than the other income groups. However, those in the low income groups spent higher proportion of their monthly income on food expenditure compared to those in the middle and high income groups. Lower income groups spend more on street food as compared to the other income groups and there were variation in street food consumption across various income groups. Gender, educational level, household size, income and TSAFH influence street food consumption. Consumers purchased street food due to its easily accessibility. However, they would not purchase street food sold in an unhygienic environment. Majority of consumers agreed that street food vending environment was not hygienic enough and nature of vending environment therefore affected purchasing decision.

Based on the reasons why consumers to not patronize street foods, it would be recommended that vendors should pay attention to personal appearance during sale of food, cleanliness of the vending environment as well as maintain high food hygiene. This will give consumers confidence regarding the safety of the foods they consume from the street.

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