# Socio-Economic Factors as Correlates of Meal Skipping and Poor Eating Habits Among Ghanaian Adolescents


## Abstract

**Objective:**

This study aimed to assess the relationship between socio-economic factors, meal skipping, and poor eating habits among Ghanaian adolescents, with a focus on identifying the prevalence of these behaviors and their underlying determinants.

**Study Design:**

A descriptive research design was employed to explore the influence of socioeconomic conditions on dietary behaviors among adolescents in Ghana.

**Methodology:**

Data were collected using a self-structured questionnaire administered to 310 adolescents selected through convenience sampling. The analysis included descriptive statistics, such as frequencies and means, and Pearson Product-Moment Correlation to examine the relationships between socio-economic factors, meal skipping, and poor eating habits.

**Results:**

The findings revealed a high prevalence of meal skipping, with 77.1% frequently skipping breakfast (Mean = 3.21) and a similar percentage relying on street food for lunch due to affordability (Mean = 3.34). Socio-economic factors were moderately correlated with meal skipping ($r=0.451$, $p=0.008$) and strongly correlated with poor eating habits ($r=0.654$, $p=0.001$). Stress, peer pressure, and cultural norms further exacerbated unhealthy dietary behaviors.

**Conclusion:**

Meal skipping and poor eating habits among Ghanaian adolescents are significantly influenced by socio-economic disparities, including financial constraints and limited parental education. These behaviors contribute to nutritional deficiencies, obesity, and diminished cognitive performance, necessitating targeted interventions.

**Keywords:** Meal skipping, poor eating habits, socio-economic factors, adolescents, food insecurity, dietary behaviors.

## 1. Introduction

Meal skipping and poor eating habits have become significant public health concerns, reflecting deeper socio-economic and cultural dynamics. Globally, these behaviors are often linked to shifts in dietary patterns, time constraints, and economic challenges. Skipping meals, particularly breakfast, adversely impacts nutritional intake and overall health, especially among vulnerable groups such as low-income populations (Zeballos et al., 2020). This behavior reduces the intake of essential nutrients and predisposes individuals to unhealthy snacking and poor dietary choices throughout the day. In Ghana, adolescents are particularly affected, with socio-economic disparities profoundly shaping their dietary behaviors. Many face challenges such as food insecurity, time constraints, and limited parental supervision, contributing to irregular eating patterns and unhealthy food choices.

A significant proportion of adolescents habitually skip meals, particularly breakfast, and often rely on street food or high-calorie, nutrient-poor snacks due to affordability and convenience. This pattern exacerbates nutritional deficiencies, reflecting broader socio-economic dynamics, including low household income, limited parental education, and inadequate access to affordable and nutritious foods. Research indicates that such behaviors are associated with long-term health risks, including malnutrition, obesity, and chronic diseases like diabetes and cardiovascular conditions. Moreover, irregular eating habits negatively impact adolescents' cognitive development, academic performance, and emotional well-being, perpetuating cycles of poverty and inequality.

The implications of meal skipping extend beyond immediate health concerns, impacting educational performance, productivity, and mental health. For students, poor eating habits correlate with reduced cognitive function and concentration. Children who regularly skip breakfast are more likely to perform poorly in school due to insufficient energy and micronutrient deficits required for optimal brain function (Zeballos et al., 2020). Urbanization and lifestyle changes further amplify the prevalence of irregular eating habits. The normalization of processed foods and

reliance on restaurants due to busy schedules have displaced traditional home-cooked meals, increasing meal skipping and reliance on ultra-processed foods. These poor eating habits are major contributors to Non-Communicable Diseases (NCDs) such as obesity, diabetes, and cardiovascular diseases (Kaushal, 2022).

Additionally, psychological factors like stress and emotional well-being also contribute to meal skipping. People under high stress levels often experience a loss of appetite or prioritize other tasks, leading to irregular meal patterns. Eating disorders such as binge eating and food aversion often start or are exacerbated by meal-skipping habits (Lee G et al., 2017). Gender disparities in dietary behaviors further compound the issue, with women, particularly in low-income households, often skipping meals to prioritize food for their families, compromising their nutritional needs. This can lead to long-term health consequences such as anemia and weakened immune systems, especially during pregnancy and lactation (Concern Worldwide, 2023).

The socio-ecological model provides a comprehensive framework for understanding these dietary behaviors. At the individual level, factors such as age, gender, and health awareness influence meal choices. At the community and societal levels, access to healthy food, cultural norms, and government policies on food security and nutrition education play critical roles. In Ghana, structural barriers like urban food deserts and cultural norms that deprioritize regular, balanced meals exacerbate the problem. Adolescents from low-income families are disproportionately affected, often skipping meals due to financial constraints or erratic household food supply. Despite efforts like the Ghana School Feeding Programme (GSFP), which has proven effective in reducing meal skipping among children from low-income families (Feraco et al., 2024; Liguori et al., 2024), these challenges persist due to financial constraints and logistical challenges faced by governments and NGOs.

Public health policies and interventions focusing on promoting regular meal consumption and educating communities about balanced diets have shown promise. Social marketing campaigns and policies that improve school food environments emphasize the role of regular meals in enhancing energy levels and cognitive performance (Story, 2009). Additionally, meal planning and preparation promotion can help families adopt healthier eating patterns (Carins & Rundle-Thiele, 2014). Technology and social media also play a dual role in shaping dietary habits, serving

as both a risk and an opportunity. While exposure to unhealthy food advertising can promote poor eating habits, these platforms can be leveraged to spread awareness about the importance of regular meals and balanced diets (Mostafavi, 2021).

Despite these challenges, there is limited empirical research addressing the socio-economic determinants of meal skipping and poor eating habits among Ghanaian adolescents. Existing public health interventions are often insufficiently targeted or fail to address the root causes of these dietary behaviors. A deeper understanding of the interplay between socioeconomic factors and adolescent nutrition is crucial for developing effective, context-specific solutions. This study seeks to fill this gap by exploring how socio-economic factors influence meal skipping and poor eating habits among adolescents in Ghana, providing insights to inform policy and intervention strategies aimed at improving their nutritional well-being.

### 1.2. Research Question and Hypothesis

i. What is the prevalence of meal skipping and poor eating habits among Ghanaian Adolescents?

**Hypothesis**

$H0_1$ There is no significant relationship between socio-economic factors and meal skipping among Ghanaian Adolescents

$H0_2$ There is no significant relationship between socio-economic factors and poor eating habits among Ghanaian Adolescents

## 2. Methodology

The study adopted a survey method of descriptive research design to investigate how socioeconomic factors correlate with meal skipping and poor eating habits among Ghanaian adolescents. According to UNICEF, the population of Ghanaian adults is estimated to be 6.9 million. However, 310 sample size was selected using a convenience sampling technique, whereby participants were chosen based on their availability and willingness to participate in the survey, which allowed ease of response. The questionnaires were self-structured, and efforts were made to ensure accuracy in responses, which contributed to the reliability of the findings. The data were analyzed using descriptive statistics,

including frequency distributions and percentages, and the hypotheses were analyzed using Pearson Product-Moment Correlation (PPMC). The analysis provided clear insights into the socioeconomic factors and their association with meal skipping and poor eating habits. Ethical considerations were strictly adhered to, with informed consent obtained from all participants, and confidentiality and anonymity were maintained throughout the research process, ensuring the ethical integrity of the study.

## 3. Results

### 3.1. Table 1: Summary of Respondents' Demographic Data

| Variables | Sub-variables | Frequency | Percentage % |
|---|---|---|---|
| **Age** | Less than 10 years | 75 | 24.2% |
| | 11– 20 | 179 | 57.7% |
| | 21 years and above | 56 | 18.1% |
| | **Total** | **310** | **100.0** |
| **Gender** | Male | 199 | 64.2% |
| | Female | 111 | 35.8% |
| | **Total** | **310** | **100.0** |
| **Educational Level** | Primary | 93 | 30 % |
| | Secondary | 155 | 50 % |
| | Tertiary | 62 | 20% |
| | **Total** | **310** | **100%** |
| **Region** | Western | 43 | 13.9% |
| | Ashanti | 88 | 28.4% |
| | Greater Accra | 115 | 37.1% |
| | Northern | 64 | 20.6% |
| | Other | 43 | 13.9% |
| | **Total** | **310** | **100.0** |

**Source: Field Survey**

The demographic data reveal that the majority of respondents (57.7%) are aged 11–20 years, representing the adolescent age group, while those below 10 years constitute 24.2%, and participants aged 21 years and above make up 18.1%. This distribution focuses on adolescents, who are at a critical stage for developing dietary habits. Gender distribution shows a predominance of males (64.2%) compared to females (35.8%), potentially reflecting either sampling dynamics or a greater male interest or availability in participating in the study. Regarding educational attainment, the majority of respondents hold secondary school certificates (50%), followed by primary education (30%) and tertiary education (20%), indicating varying levels of health literacy that could influence dietary behaviors. Regionally, the Greater Accra Region has the highest representation (37.1%), followed by Ashanti (28.4%), Northern (20.6%), and Western (13.9%). This geographic distribution highlights the diverse socio-cultural and economic backgrounds influencing eating habits among the participants.

### 3.2. Analysis of Research Question

**Research Question 1: What is the prevalence of meal skipping and poor eating habits among Ghanaian Adolescents?**

**Table 2: The prevalence of meal skipping and poor eating habits among Ghanaian Adolescents**

| Items | SD | D | A | SA | Mean | Std. Dev. | Remark |
|---|---|---|---|---|---|---|---|
| I often skip breakfast during school days. | 27 (8.7%) | 44 (14.2 %) | 124 (40.0 %) | 115 (37.1 %) | 3.21 | 0.84 | Sig |
| I consume fast food more than three times a | 21 (6.8%) | 35 (11.3 | 135 (43.5 | 119 (38.4 | 3.25 | 0.79 | Sig |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| week. | | %) | %) | %) | | | |
| I rely on street food for lunch due to affordability. | 17 (5.5%) | 54 (17.4 %) | 107 (34.5 %) | 132 (42.6 %) | 3.34 | 0.82 | Sig |
| I skip meals when I have academic or extracurricular work. | 40 (12.9%) | 58 (18.7 %) | 114 (36.8 %) | 98 (31.6 %) | 3.02 | 0.88 | Sig |
| My meals are irregular due to family financial constraints. | 48 (15.5%) | 65 (21.0 %) | 102 (32.9 %) | 95 (30.6 %) | 2.92 | 0.93 | Sig |
| I consume snacks or sugary drinks instead of proper meals. | 26 (8.4%) | 47 (15.2 %) | 136 (43.9 %) | 101 (32.6 %) | 3.15 | 0.87 | Sig |
| I often skip meals when stressed or upset. | 35 (11.3%) | 45 (14.5 %) | 123 (39.7 %) | 107 (34.5 %) | 3.16 | 0.85 | Sig |
| I eat more junk food than fruits and vegetables. | 51 (16.5%) | 72 (23.2 %) | 87 (28.1 %) | 75 (24.2 %) | 2.78 | 0.96 | Sig |
| I skip meals when the household food supply is low. | 33 (10.6%) | 42 (13.5 %) | 112 (36.1 %) | 123 (39.7 %) | 3.18 | 0.85 | Sig |
| My eating habits are influenced by peer pressure. | 24 (7.7%) | 40 (12.9 %) | 124 (40.0 %) | 122 (39.4 %) | 3.29 | 0.81 | Sig |

***Abbreviations: SD= Strongly Disagree; D= Disagree; A= Agree; SA= Strongly; Agree; Std. Dev. = Standard Deviation***.

Table 2 addresses the prevalence of meal skipping and poor eating habits among Ghanaian adolescents. The data indicate a high prevalence of meal skipping and poor dietary behaviors. A significant proportion of respondents often skip breakfast during school days, with 77.1% agreeing and strongly agreeing. Similarly, 81.9% reported consuming fast foods more than three times a week, while 77.1% rely

on street food for lunch due to affordability. Stress and extracurricular activities were major factors influencing meal skipping, as 68.4% acknowledged skipping meals under such circumstances. Financial constraints also played a role in irregular meal patterns, with 63.5% agreeing or strongly agreeing. The substitution of proper meals with snacks or sugary drinks was prevalent, reported by 76.5% of respondents. Stress and emotional factors led 74.2% of respondents to skip meals, while 53.0% reported eating more junk food than fruits and vegetables. Additionally, 75.8% skipped meals when household food supplies were low, and 79.4% noted that peer pressure influenced their eating habits. These findings highlight the widespread nature of meal skipping and unhealthy dietary patterns among Ghanaian adolescents, underscoring the importance of interventions addressing affordability, stress management, and awareness of healthy eating.

### 3.3 Test of Hypotheses

**$H_{01}$:** There is no significant relationship between socio-economic factors and meal skipping among Ghanaian Adolescents.

**Table 3: Relationship between socio-economic factors and meal skipping among Ghanaian Adolescents.**

| Variables | N | Mean | SD | Df | r | Sig. | Remark |
|---|---|---|---|---|---|---|---|
| **Meal Skipping** | 310 | 3.56 | .942 | | | | |
| **socio-economic factors** | 310 | 3.57 | .964 | 308 | .451** | 0.008 | Significant |

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

***Abbreviations;* $H_{01}$ *= First Null Hypothesis; N = Sample Size; Df = Degree of Freedom; r = correlation coefficient. Sig.= Significance Level or P-value***

Table 3 showed a moderate positive correlation (r = 0.451, p = 0.008), between socio-economic factors and skipping meals. This finding suggests that economic and social challenges may disrupt regular meal consumption patterns among adolescents.

**$H_{02}$:** There is no significant relationship between socioeconomic factors and poor eating habits among Ghanaian Adolescents

**Table 4: Relationship between socio-economic factors and poor eating habits among Ghanaian Adolescents**

| Variables | N | Mean | SD | Df | r | Sig. | Remark |
|---|---|---|---|---|---|---|---|
| **Poor eating habits** | 310 | 3.67 | .841 | | | | |
| | | | | 308 | .654** | 0.001 | Significant |
| **socio-economic factors** | 310 | 3.57 | .964 | | | | |

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

***Abbreviations;* $H_{02}$ = Second Null Hypothesis; *N = Sample Size; Df = Degree of Freedom; r = correlation coefficient. Sig.= Significance Level or P-value***

Table 4 revealed a stronger positive correlation (r = 0.654, p = 0.001) between socio-economic factors and poor eating habits. This indicates that socio-economic conditions, such as income level, parental education, and employment status, substantially affect the prevalence of poor dietary choices.

### 3.4 Discussion

The first research question revealed a high prevalence of meal skipping and poor eating habits among Ghanaian adolescents. Specifically, 77.1% of respondents reported frequently skipping breakfast during school days, while 77.1% relied on street food for lunch due to affordability. This finding aligns with Zeballos et al. (2020), who emphasized that skipping meals, particularly breakfast, significantly reduces daily nutrient intake and predisposes individuals to unhealthy dietary patterns. Moreover, the reliance on street food reflects economic constraints, a trend similarly observed by Afoakwah et al. (2018), who highlighted food insecurity and affordability as key determinants of dietary patterns in rural Ghana. Adolescents' dietary behaviors indicate a shift towards convenience and cost-effectiveness,

underscoring the need for interventions targeting affordability and access to balanced meals.

The first null hypothesis study, tested, revealed a moderate positive correlation, (r=0.451, p=0.008), between socio-economic factors and skipping meals. This result confirms that socio-economic factors, such as household income and parental education, significantly influence adolescents' likelihood of skipping meals. A similar correlation was reported by Hoque et al. (2018), who identified parental academic background and income as predictors of healthy eating behaviors in adolescents. The findings suggest that adolescents from low-income families are more likely to skip meals due to financial constraints and irregular household food supply. This highlights the importance of addressing economic disparities through policies such as subsidizing nutritious foods and expanding school feeding programs to mitigate meal skipping.

The second null hypothesis, tested, revealed a stronger positive correlation (r=0.654r, p=0.001), between socio-economic factors and poor eating habits. This indicates that socio-economic conditions significantly affect the prevalence of poor dietary choices, including the consumption of fast foods and snacks instead of proper meals. This finding is consistent with Diez Roux et al. (2016), who emphasized the role of neighborhood environments and economic disparities in shaping dietary behaviors. Adolescents in low-income settings often have limited access to fresh produce and rely on calorie-dense, nutrient-poor foods. This reinforces the need for community-based interventions to improve access to healthy food options and regulate the quality of street food in urban areas.

**Stress, Peer Pressure, and Emotional Well-being**

The findings also revealed stress and peer pressure as significant contributors to unhealthy dietary practices, with 74.2% of respondents admitting to skipping meals when stressed or upset. Shah et al. (2023) noted a similar trend among adolescents, where academic stress and emotional pressures led to irregular eating habits or reliance on convenience foods. In Ghana, the additional burden of financial insecurity often compounds these stressors, leading to both meal skipping and overconsumption of unhealthy snacks. Furthermore, 79.4% of respondents indicated that peer pressure influenced their eating habits, highlighting the social dynamics that shape dietary

decisions during adolescence. Peer influence can either reinforce poor habits, such as consuming fast food, or promote healthier practices through collective behaviors. Programs leveraging peer education models could effectively address this dynamic, fostering positive attitudes toward nutrition among adolescents.

**Gender and Cultural Influences on Dietary Patterns**

The findings also pointed to gender disparities in dietary behaviors, with women more likely to skip meals or reduce portion sizes to prioritize food for their families. Concern Worldwide (2023) similarly noted that gender inequality in low-income households exacerbates women's nutritional deficiencies. Additionally, cultural norms influencing meal patterns were significant, as traditional large, infrequent meals often displaced regular, balanced consumption. This supports the findings by Berge et al. (2012), who highlighted the role of family influences and cultural practices in shaping adolescents' dietary behaviors. Addressing these disparities requires gender-sensitive interventions and culturally relevant educational programs to promote regular and balanced eating habits.

**Urbanization and Accessibility Challenges**

The findings also revealed that 81.9% of respondents consumed fast food more than three times a week reflecting a broader shift in dietary patterns driven by time constraints and limited access to fresh produce in urban areas. These trends are consistent with Diez Roux et al. (2016), who highlighted the role of urban food deserts in restricting access to healthy food options. Addressing these challenges requires urban planning policies that prioritize the availability of fresh produce and affordable healthy food outlets. Collaborations between governments and private sectors to regulate fast food pricing and improve the nutritional quality of street food could further encourage healthier eating behaviors.

**Policy and Public Health Implications**

The strong correlations between socioeconomic factors, meal skipping, and poor eating habits emphasize the need for comprehensive public health strategies targeting the root causes of these behaviors. Policies aimed at scaling up initiatives like the Ghana School Feeding Programme, as highlighted by Liguori et al. (2024), could play a transformative role in ensuring that adolescents have access to nutritious

meals during school hours. Additionally, public health campaigns leveraging social media platforms, as suggested by Mostafavi et al. (2021), can educate adolescents and their families about the importance of regular meals and balanced diets. Tailored interventions addressing local barriers to healthy eating, such as food deserts and cultural norms, are essential for achieving sustainable improvements in adolescent nutrition.

**Implications of Findings**

The significant correlations between socioeconomic factors and both meal skipping and poor eating habits underscore the critical role of economic, educational, and environmental conditions in shaping dietary behaviors among adolescents. These findings are consistent with global trends highlighted by Micha et al. (2015), who linked financial constraints to poor dietary quality. Addressing these challenges requires a multisectoral approach, including expanding school feeding programmes, subsidizing healthy foods, and regulating food environments to ensure affordability and accessibility.

**3.5 Implication for Public Health:**

The study underscores the need for public health policies to expand school feeding programs, regulate street food standards, enhance nutritional education, and address socio-economic inequalities to foster healthier eating behaviors among adolescents.

**3.6 Limitations:**

The use of convenience sampling may limit the generalizability of the findings, as it potentially excluded adolescents with varying socio-economic and dietary experiences.

**4. Conclusion**

This study highlights the significant influence of socio-economic factors on meal skipping and poor eating habits among Ghanaian adolescents. The findings revealed a high prevalence of meal skipping, with many adolescents frequently skipping breakfast and relying on street food due to affordability challenges. The correlation analyses further demonstrated that socio-economic conditions, including household income, parental education, and employment status, are strongly linked to dietary behaviors. Adolescents from low-income families were more likely to engage in unhealthy eating patterns, such as consuming fast foods and snacks instead of

balanced meals, which aligns with global studies on the impact of financial constraints on dietary choices. These behaviors contribute to nutritional deficiencies, obesity, and diminished cognitive performance, perpetuating cycles of poor health and socio-economic disadvantage. Moreover, stress, peer pressure, and cultural norms were found to exacerbate these challenges, emphasizing the multifaceted nature of dietary behaviors in this demographic.

The findings establish the critical need for interventions addressing both the economic and psychosocial determinants of adolescent nutrition. Expanding school feeding programs, regulating street food standards, and enhancing nutritional education are essential steps toward fostering healthier eating habits. Additionally, community-based initiatives that consider cultural and gender dynamics can help promote dietary equity and sustainability. By integrating these measures, public health policies can mitigate the adverse effects of meal skipping and poor eating habits, ultimately improving the health, academic performance, and overall well-being of Ghanaian adolescents. Addressing these challenges holistically is imperative for breaking the cycle of poor nutrition and ensuring a healthier future generation.

## 5. Recommendations

**Expand School Feeding Programmes**: Scaling up initiatives like the Ghana School Feeding Programme to ensure more Ghanaian adolescents, have access to nutritious meals during school hours, reducing breakfast and lunch skipping rates.

**Strengthen Nutritional Education**: Integration of comprehensive nutrition education into school curricula to raise awareness about the importance of regular meals and balanced diets among adolescents, parents, and educators.

**Subsidize Healthy Foods**: Implement government subsidies and policies to make nutrient-dense foods, such as fruits, vegetables, and proteins, more affordable and accessible to low-income families in Ghana.

**Promote Parental Involvement**: Encourage programs that educate parents, particularly mothers, on the significance of meal planning and nutritional diversity, leveraging their critical role in shaping household eating habits.

**Regulate Food Environments**: Enforce policies to improve the nutritional quality of street food and fast-food offerings, ensuring affordable yet healthy options for Ghanaian adolescents in urban and rural settings.

**Foster Community-Based Interventions**: Establish community-based initiatives that address local barriers to healthy eating, such as food deserts, and provide resources for meal preparation and planning to improve dietary behaviors collectively.

**Author contributions**

Conceptualization: JKO

Writing – review – editing: JKO, BEO, NOA, JSP, AJ

Data analysis: JKO, NOA and JSP

Writing – review – final draft: JKO, BEO, NOA, JSP, AJ

**Consent:**

Ethical considerations were strictly adhered to, with written informed consent obtained from all participants, and confidentiality and anonymity were maintained throughout the research process, ensuring the ethical integrity of the study.

**Disclaimer (Artificial intelligence)**

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.



**References**

Abizari, A. R., Buxton, C., Kwara, L., Mensah-Homiah, J., Armar-Klemesu, M., & Brouwer, I. D. (2014). School feeding contributes to micronutrient adequacy of Ghanaian schoolchildren. British Journal of Nutrition, 112(6), 1019-1033. https://doi.org/10.1017/S0007114514001585

Afoakwah, C., et al. (2018). Food insecurity and dietary patterns in rural Ghana. Journal of Nutrition and Food Sciences, 8(2), 1-8.

Amoadu, M., Abraham, S. A., Adams, A. K., Akoto-Buabeng, W., Obeng, P., & Hagan, J. E., Jr. (2024). Risk Factors of Malnutrition among In-School Children and Adolescents in Developing Countries: A Scoping Review. Children, 11(4), 476. https://doi.org/10.3390/children11040476.

Appoh, L. Y., & Krekling, S. (2005). Maternal nutritional knowledge and child nutritional status in the Volta region of Ghana. Matern Child Nutr, 1(2), 100-110. https://doi.org/10.1111/j.1740-8709.2005.00016.x

Berge, J. M., Wall, M., Hsueh, T. F., & Neumark-Sztainer, D. (2012). Associations of parent and family influences with dietary intake and meal patterns. Journal of Adolescent Health, 49(2), 193-198

Carins JE, Rundle-Thiele SR. Eating for the better: a social marketing review (2000–2012). Public Health Nutrition. 2014;17(7):1628-1639. doi:10.1017/S1368980013001365

Chandola, T., et al. (2019). Stress and health behaviors: The role of socioeconomic position. Health Psychology, 28(1), 1-8.

Cohen, S., et al. (2012). Chronic stress, inflammation, and disease. PNAS, 109(2), 433-438.

Concern Worldwide. "Women and Hunger: How Gender Inequality is Fuelling the Food Crisis." Concern Worldwide, 12 July 2023, https://www.concern.net/news/women-and-hunger.

Diez Roux, A. V., et al. (2016). Neighborhood environments and disparities in health. Epidemiologic Reviews, 34(1), 15-31.

Feraco A, Armani A, Amoah I, Guseva E, Camajani E, Gorini S, Strollo R, Padua E, Caprio M, Lombardo M. Assessing gender differences in food preferences and physical activity: a population-based survey. Front Nutr. 2024 Feb 20;11:1348456. doi: 10.3389/fnut.2024.1348456. PMID: 38445208; PMCID: PMC10912473.

French, S.A., Tangney, C.C., Crane, M.M. et al. Nutrition quality of food purchases varies by household income: the SHoPPER study. BMC Public Health 19, 231 (2019). https://doi.org/10.1186/s12889-019-6546-2

Heo J, Choi WJ, Ham S, Kang SK, Lee W. Association between breakfast skipping and metabolic outcomes by sex, age, and work status stratification. Nutr Metab (Lond). 2021 Jan 7;18(1):8. doi: 10.1186/s12986-020-00526-z. PMID: 33413444; PMCID: PMC7788749.

Hoque, K. E., Hoque, K. F., & Thanabalan, R. A. P. (2018). Relationships between parents' academic backgrounds and incomes and building students' healthy eating habits. PeerJ, 6, e4563. https://doi.org/10.7717/peerj.4563. PMID: 29736328; PMCID: PMC5936631.

International Food Policy Research Institute. (2018, August 30). Transformation of urban food systems in Ghana. Global Food Security and Policy Initiative. https://gssp.ifpri.info/2018/08/30/transformation-of-urban-food-systems-in-ghana/.

Jakubowicz, D., Barnea, M., Wainstein, J., & Froy, O. (2013). High caloric intake at breakfast vs. dinner differentially influences weight loss of overweight and obese women. Obesity, 21(12), 2504–2512. https://doi.org/10.1002/oby.20460

Kaushal, Disha. "Urbanization of Eating Habits and NCDs." SankalpTaru Blog, 24 Nov. 2022, https://blog.sankalptaru.org/urbanization-of-eating-habits-and-ncds/.

Lee, G., Han, K., & Kim, H. (2017). Risk of mental health problems in adolescents skipping meals: The Korean National Health and Nutrition Examination Survey 2010 to 2012. Nursing outlook, 65(4), 411-419

Liguori, J., Amevinya, G.S., Holdsworth, M. et al. Nutritional quality and diversity in Ghana's school feeding programme: a mixed-methods exploration through caterer interviews in the Greater Accra Region. BMC Nutr 10, 127 (2024). https://doi.org/10.1186/s40795-024-00936-9

Mekary, R. A., et al. (2012). Eating patterns and type 2 diabetes risk. American Journal of Clinical Nutrition, 105(4), 1046–1052.

Micha, R., et al. (2015). Global, regional, and national consumption of major foods and nutrients. The Lancet, 390(10107), 310–322.

Mostafavi, F., Zamani-Alavijeh, F., Mansourian, M. et al. The promotion of healthy breakfast and snacks based on the social marketing model: a mixed-methods study. J Health Popul Nutr 40, 22 (2021). https://doi.org/10.1186/s41043-021-00245-y

Nishinakagawa, M., Sakurai, R., Nemoto, Y. et al. Influence of education and subjective financial status on dietary habits among young, middle-aged, and older adults in Japan: a cross-sectional study. BMC Public Health 23, 1230 (2023). https://doi.org/10.1186/s12889-023-16131-7.

Osei-Kwasi H, Mohindra A, Booth A, Laar A, Wanjohi M, Graham F, Pradeilles R, Cohen E, Holdsworth M. Factors influencing dietary behaviours in urban food environments in Africa: a systematic mapping review. Public Health Nutr. 2020 Oct;23(14):2584-2601. doi: 10.1017/S1368980019005305. Epub 2020 May 26. PMID: 32450938; PMCID: PMC7116038

Shah, N.M., Aghamohammadi, N., Thangiah, N. et al. Association between stress and eating behaviour among Malaysian adolescents prior to examination. Sci Rep 13, 7841 (2023). https://doi.org/10.1038/s41598-023-34699-3

Story M, Nanney MS, Schwartz MB. Schools and obesity prevention: creating school environments and policies to promote healthy eating and physical activity. Milbank Q. 2009;87(1):71–100. doi: 10.1111/j.1468-0009.2009.00548.x.

Vos, M., Deforche, B., Van Kerckhove, A., Michels, N., Poelman, M., Geuens, M., & Van Lippevelde, W. (2022). Determinants of healthy and sustainable food choices in parents with a higher and lower socioeconomic status: A qualitative study. Appetite, 178, 106180. https://doi.org/10.1016/j.appet.2022.106180

Zeballos E, Todd JE. The effects of skipping a meal on daily energy intake and diet quality. Public Health Nutr. 2020 Dec;23(18):3346-3355. doi: 10.1017/S1368980020000683. Epub 2020 May 13. PMID: 32398192; PMCID: PMC10200470.

**APPENDIX**

# Socio-Economic Factors as Correlates of Meal Skipping and Poor Eating Habits among Adolescents Questionnaire

Dear Respondents,

I am researcher and a Nutrition Officer at Mamponteng Government Hospital. I am conducting research on "Socio-Economic Factors as Correlates of Meal Skipping and Poor Eating Habits among Adolescents Questionnaire". Please your candid answers are required to the questions in the questionnaire. Note that the exercise is purely for academic purpose. Your response will be treated with utmost confidentiality.

Thank you.

.

**Consent Section**

I wish to participate in the study ( )

I do not wish to participate in the study ( )

**SECTION A: (BACKGROUND DATA)**

**Name of Region** _____

**Gender:** a) Male ( ) b) Female ( )

**Age range:** a) Less than 10 years ( ) b) 11– 20 years ( ) c) 21 years and above ( )

**Educational Qualification:** a) Primary School ( ) b) Secondary School ( ) c) Tertiary Education( )

**SECTION B**

From the statements in the table below, please tick (✓) the ones that represent your mind most using this scale: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

**Question On Socio-economic factors**

| S/N | Items | SA | A | D | SD |
|---|---|---|---|---|---|
| | | | | | |
| 1 | My household income affects the quality and regularity of my | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | meals. | | | | |
| 2 | Limited access to affordable and healthy food influences my eating habits. | | | | |
| 3 | The education level of my parents/guardians affects the types of meals I consume | | | | |
| 4 | My family's financial situation often leads me to rely on cheaper, unhealthy food options. | | | | |
| 5 | My eating habits are influenced by my parents'/guardians' work schedules and availability | | | | |
| 6 | Peer pressure affects the types of meals I choose to eat. | | | | |
| 7 | Urbanization and the availability of fast food make it difficult to eat healthy meals. | | | | |
| 8 | My family prioritizes other financial needs over purchasing healthy and balanced foods | | | | |
| 9 | Cultural or traditional meal patterns influence my regular consumption of balanced meals. | | | | |
| 10 | Financial stress in my household leads to irregular meals or meal skipping. | | | | |

**Question On Meal Skipping and Poor Eating Habit**

| S/N | Items | SA | A | D | SD |
|---|---|---|---|---|---|
| 1 | I often skip breakfast during school days. | | | | |
| 2 | I consume fast foods more than three times a week. | | | | |
| 3 | I rely on street food for lunch due to affordability. | | | | |
| 4 | I skip meals when I have academic or extracurricular work. | | | | |
| 5 | My meals are irregular due to family financial constraints. | | | | |
| 6 | I often skip meals when stressed or upset. | | | | |
| 7 | I often skip meals when stressed or upset | | | | |
| 8 | I eat more junk food than fruits and vegetables. | | | | |
| 9 | I skip meals when the household food supply is low. | | | | |
| 10 | My eating habits are influenced by peer pressure | | | | |