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Impact of social media on dietary choices among university students: a cross-sectional study of peers, influencers, and food advertisements

Victoria A AGYEKUM [1], Samuel SACKAR [2], Portia NKUMSAH-RIVERSON [2], Joana AINUSON-QUAMPAH [2]*

[1]Department of Nutrition, College of Agriculture, Biotechnology, & Natural Resources, University of Nevada, Reno;
[2] Department of Dietetics, School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana

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Abstract

Background: Social media platforms are widely used by young adults and are commonly associated with dietary choices through frequent exposure to food-related content from peers, influencers, and advertisements.

Objective: This study examined the association between food-related social media exposure and perceived dietary choice tendencies among undergraduates at a public university in Ghana.

Methods: A cross-sectional survey was conducted among 947 undergraduate students at the University of Ghana using an online, semi-structured questionnaire. Primary exposures were food-related social media content by: advertisements, influencer posts, and peer posts, measured as binary perceived influence items. The primary outcome was self-reported dietary choice (junk versus healthy foods). Data were analysed using chi-square tests and multivariable binary logistic regression in SPSS.

Results: Mean age was 21.61 ± 2.73 years. Participants perceived food-related content on social media from peers (60.9%) and advertisements (58.9%) as more influential than that from influencers (38.4%). Age ($p = 0.021$) and course of study ($p < 0.001$) were associated with dietary choices on social media. Younger participants and medical students reported more junk food choices. Students who wished to taste advertised foods had about twice the odds of choosing junk foods (cOR = 2.05, 95% CI: 1.52 – 2.76, $p < 0.001$), and those who believed adverts influenced their food choices also had 1.8 times the odds of junk-food selection (cOR = 1.82, 95% CI: 1.40 – 2.36, $p < 0.001$).

Conclusion: These findings demonstrate the role of everyday social media environments in shaping perceived food choice tendencies among young adults. The results further indicate opportunities to use digital platforms to support a healthier dietary lifestyle within university settings.

Keywords: Social media, Food choices, university students, social media influencers, social media advertisements

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INTRODUCTION

Social media (SM) platforms, defined as internet-based tools that enable rapid, real-time content sharing [1], have become integral to daily life, particularly among young adults, including university students [2,3]. Most university students maintain at least one SM account [4,5], using these platforms to build and sustain relationships with friends and strangers, seek entertainment, and follow trends set by peers, Social Media Influencers (SMIs), and role models [4,6]. These interactions expose users to new dietary patterns, food products, and recipes, often influencing their lifestyle choices as they adapt to modern SM trends [6]. Food, a fundamental aspect of human life, is prominently featured on SM platforms through food images and advertisements, and recipes frequently appear in SM feeds, dietary choices

* *Corresponding author*
Email: jainuson-quampah@ug.edu.gh

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(DCs), and an increasing inclination to consume these foods [7,8]. Young adults, particularly university students, face ongoing challenges in making healthy food choices [9] as such decisions are influenced by environmental factors, including personal ideology, sensory appeal, familiarity, social interactions, and SM content, all of which can foster addictive or unconscious consumption of frequently promoted foods [8,9]. Food and beverage companies exploit poorly regulated SM content to promote unhealthy products that target young adults' social vulnerabilities through image-based marketing strategies and tactics [10,11]. Tactics such as peer ambassadors and celebrity endorsements create illusions of health, beauty, and success, driving the purchase and consumption of these products [11]. These marketing efforts have been associated with dietary habits over time [11]. Health issues, including diabetes mellitus, cardiovascular diseases, hypertension, and obesity, are increasing due to unhealthy DCs [12,13]. Dietary preferences shaped by social media content can gradually develop into long-term food habits which significantly influence health outcomes [14,15].

Although some studies indicate that social media platforms serve as sources of health-related information, promoting students' overall health [16] and encouraging healthier diets [17], other research highlights negative effects. For instance, individuals exposed to food-related Instagram posts have been found to consume fewer fruits and vegetables and exhibit higher body fat, cholesterol, and blood glucose levels [18]. Additionally, research revealed that food advertisements were significantly associated with students' food choices [19]. Again, individuals with poor nutritional status were more likely to choose sugar-sweetened beverages over fruits and vegetables [19]. Similarly, exposure to food-related Twitter posts has been linked to behaviours associated with obesity and type 2 diabetes [7, 20]. Consequently, social media platforms are strongly associated with many individuals' health-related decisions and behaviours [7]. However, there is limited research on the influence of social media (SM) on the dietary choices of university students in Ghana and across Africa. Given the rising prevalence of obesity and noncommunicable diseases linked to poor dietary choices, coupled with the rapid expansion of SM use over the past decade, there is an urgent need to explore this relationship. This study aimed to examine the effects of SM advertisements, peers, and influencers on the food choices of university undergraduates in Ghana.

MATERIALS AND METHODS

Study design and area

This study was a cross-sectional, descriptive online survey conducted among undergraduate students of the University of Ghana (UG), Korle-Bu campus (one of its satellite campuses). The Korle-Bu campus is based at the Korle-Bu Teaching Hospital, the country's largest referral centre. Schools on the Korle-Bu campus comprise the School of Biomedical and Allied Health Sciences (SBAHS), the University of Ghana Medical School (UGMS), and the University of Ghana Dental School (UGDS). SBAHS also houses the departments of Dietetics, Medical Laboratory, Physiotherapy, Radiotherapy, Respiratory Therapy, Occupational Therapy, and Audiology, Speech and Language Therapy (ASLT). All these schools are subsidiaries of the College of Health Sciences.

Study Population

The study population comprised all registered undergraduate students in the College of Health Sciences. Participants included enrolled undergraduate students (both male and female, residential and nonresidential) who used at least one social media platform. Students unwilling to participate, or who did not give their consent, or who had no internet connection during the study period, were excluded from this study.

Sampling Technique

The total enumeration sampling technique was employed in this study. This was appropriate due to the high attrition rate associated with online data collection. All eligible undergraduate students on the Korle-Bu campus of the College of Health Sciences were invited to participate in the study via an online survey. A total of nine hundred and forty-seven (947) students completed the survey.

Questionnaire

The questionnaire used in this study was adapted from two validated instruments: the Children's Healthy Eating Socialisation Questionnaire, developed by Ragelienė & Grønhøj [20] and the Like and Share Questionnaire developed by Baldwin et al. [21]. Both instruments have been widely applied in studies on the perceived influence of social media on food choices and have demonstrated strong internal consistency. For the study, selected items were modified to suit the context of university students in Ghana, focusing on social media platforms rather than general media perceived influences. Examples of modifications included replacing references to "children/adolescents" with "students," adapting "television and YouTube" to "social media platforms," and adding examples of relevant popular foods (e.g., fried rice, pizza). Questions were also shortened to improve clarity and completion time in the online format. A pretest was conducted among 50 undergraduate students from the School of Nursing and Midwifery, College of Health Sciences, on the Legon campus of the University of Ghana. This was done to evaluate clarity, comprehension, and cultural appropriateness. Feedback indicated that a few terms (e.g., "influencers") required short explanations, and redundant items on social media frequency were removed. Minor wording adjustments were made, but no major changes were required. The questions were then uploaded to Google Forms. The online questionnaire used in this study consisted of four sections. Section 1 collected information on sociodemographic characteristics, including age, gender, department, level of study, and course of study

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for the participants. Sections 2 and 3 consisted of closed-ended questions with "Yes" or "No" answers. The questions in these sections collected data on food-related social media exposure through advertisements, influencers, and peers, as well as on participants' perceived influence of these posts on their dietary choices. The last section collected data on the kinds of food choices made on social media when deciding to eat. These were categorised into two: healthy and junk foods. Reliability testing of the pretested instrument produced Cronbach's α values of 0.82 for the advertisement section, 0.80 for the influencer section, and 0.78 for the peer section, indicating satisfactory internal consistency across domains. The final question on food choice ("What are you likely to choose on social media?") was treated as a single outcome variable, and thus, Cronbach's α was not applicable.

Data collection procedure

The questionnaire was administered in English, as all students are proficient in the language. The validated and modified questionnaire was used to collect data from participants via Google Forms. The various course representatives of the target population were contacted to make questionnaires available to students via WhatsApp class pages and/or class emails. Informed consent was obtained electronically before the start of filling out the questionnaire. Participants were informed that the study was voluntary and that they could withdraw at any time. No personally identifiable information was collected, and responses were recorded anonymously. Ethical approval for the study was obtained from the University of Ghana, Ethical and Protocol Review Committee of the School of Biomedical and Allied Health Sciences (EPRC-SBAHS) with reference number SBAHS/AA/DIET/10731 531/2021-2022

Exposure and outcome measurements

We measured three primary exposure constructs related to food-related social media use: a) exposure to food-related advertisements, b) exposure to food-related influencer posts, and c) exposure to food-related peer posts. Each construct included two items; one assessed exposure (e.g., seeing or following food content), and the other assessed perceived influence on food decisions. These items included "Do you see food and/or drink products shown in advertisements on social media?" and "Do you believe social media adverts influence your dietary choices?" (food-related advert exposure and influence); "Do you follow social media influencers?" and "Do influencer posts influence your dietary choices?" (food-related influencer exposure and influence); and "Are you exposed to food-related posts shared by your peers on social media?" and "Do foods posted by your peers influence your dietary choices?" (food-related peer exposure and influence). For regression modelling, the perceived-influence items (one for each source: adverts, influencers, peers) served as the primary exposure variables, as they most closely reflect the behavioural pathway of interest. The primary outcome variable was dietary choice. Dietary choice was measured using a single categorical item presented after the exposure questions: "Which type of food are you most likely to choose on social media when deciding what to eat?" Respondents selected either healthy foods or junk foods, and examples for each category were provided in the questionnaire. Healthy foods were defined as nutrient-dense items commonly promoted in dietary guidelines (fruits, vegetables, whole grains, legumes, lean proteins, and home-cooked meals). Junk foods (energy-dense, nutrient-poor) included fried fast foods, pastries and confectionery, ultraprocessed foods, fried snacks, and sugar-sweetened beverages. The responses were in a binary format, as the study aimed to determine whether perceived social media influence students' food choices.

Data analysis

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 27.0. Sociodemographic characteristics were analysed with descriptive statistics and presented as percentages and frequencies in tables. Chi-square analysis was used to assess the bivariate associations between social media use and dietary choices. Statistical significance was set at a p-value < 0.05. Cramer's V was used to quantify the strength of the significant associations. Multivariable binary logistic regression was then used to assess whether food-related social media exposures predicted choices of junk food or healthy food. Two models were analysed to produce the odds ratios (ORs) with 95% confidence interval (CI); model 1, that is, the crude odds ratio was unadjusted, and model 2, that is, the adjusted odds ratio (AOR) was adjusted for age group, sex, course of study, and living situation. These covariates were selected a priori based on theoretical relevance and prior literature on dietary behaviours. Model discrimination was assessed using receiver operating characteristic (ROC) analysis based on predicted probabilities from the fully adjusted logistic regression model. Model fit was assessed using the Hosmer–Lemeshow goodness-of-fit test.

RESULTS

Sociodemographic characteristics of participants

Sociodemographic characteristics of the study participants are shown in Table 1. The study involved 947 undergraduate students at the Korle-Bu campus of the University of Ghana. The average age was 21.61 ± 2.73 years. There were more males (56.6%) than females (43.4%) in the study, with nearly all participants (90.2%) aged between fifteen and twenty-four. Most participants were single (98.7%), from the medical school (45.9%), at level 300 (21.9%), and lived in campus hall rooms, either alone or with others (75%).

Social media food-related exposure and perceived influence by adverts

Table 2 presents the association between dietary choices and SM food-related exposure and perceived influence. Among the 947 participants, less than half (45.6%) reported following food or drink brand accounts on social media, yet

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a large majority of the participants (83.3%), including those who do not follow food brand accounts on SM, indicated that they still encountered food products through online advertisements. More than half of the participants (62.5%) reported exposure to healthy foods through these adverts. Furthermore, nearly three-quarters (74.3%) expressed a desire to try the foods or drinks promoted ($p = < 0.001$, Cramer's V = 0.154). Notably, over half of the students (58.9%) acknowledged that social media advertising influenced their dietary choices ($p = < 0.001$, Cramer's V = 0.146).

Social media food-related exposure and perceived influence by SMIs

About half (50.1%) reported following social media influencers (SMIs); however, most students (59.9%) indicated they were not exposed to food or drink products on influencers' pages (Table 2). Only one-third (33.1%) perceived SMI food-related posts as healthy, and 38.4% reported that these posts influenced their dietary choices. No significant associations were observed between food-related exposure and participants' perceived influence on dietary choices.

Social media food-related exposure and perceived influence by peers

Compared with SMIs, the perceived influence of peers' food-related posts was stronger. More than half (55.5%) reported exposure to food-related posts from peers ($p = <0.001$, Cramer's V = 0.119), and while the majority (70.5%) believed these posts were unhealthy, many still engaged with them. Notably, 60.9% of students reported that peer-posted food content influenced their decisions to try or purchase foods ($p = <0.001$, Cramer's V = 0.178), highlighting the stronger role of peers compared to SMIs in influencing eating behaviours.

Multivariable logistic regression on the association between food-related SM exposure and dietary choices

The crude ORs and adjusted ORs of food-related SM exposure and dietary choices are shown in Table 3. Significant associations were observed between certain food-related exposure variables and adverts and peers in the crude OR model. In crude models, wishing to eat foods shown in social media adverts and perceiving adverts as influential were associated with higher odds of junk-food choice. Students who wished to taste advertised foods had about twice the odds of choosing junk foods (cOR = 2.05, 95% CI: 1.52 – 2.76, $p < 0.001$), and those who believed adverts influenced their food choices also had 1.8 times the odds of junk-food selection (cOR = 1.82, 95% CI: 1.40 – 2.36, $p < 0.001$). However, in the adjusted models, only the desire to try foods shown in adverts remained a significant independent predictor (aOR = 1.90, 95% CI: 1.27 – 2.83, $p = 0.002$). Exposure to healthy foods in adverts showed no crude association with junk-food choice (cOR = 0.93, 95% CI: 0.71 – 1.21, $p = 0.580$), but in adjusted models was associated with lower odds of junk-food choice (aOR = 0.71, 95% CI: 0.50 – 0.99, $p = 0.046$).

Peer-related food exposure showed crude associations with junk-food choice. Students who saw food-related posts from peers (cOR = 1.62, $p < 0.001$) or felt influenced by peer posts (cOR = 2.05, $p < 0.001$) had higher odds of choosing junk foods. However, these associations were attenuated in adjusted models and were no longer statistically significant (seeing posts: aOR = 1.33, $p = 0.070$; perceived influence: aOR = 1.25, $p = 0.244$). The fully adjusted model demonstrated fair discriminatory ability (area under the curve [AUC] = 0.69). The Hosmer–Lemeshow goodness-of-fit test indicated no evidence of poor model fit ($\chi^2 = 14.6$, $df = 8$, $p = 0.067$).

Sociodemographic indices and dietary choices

Table 4 presents participants' dietary choices in relation to demographic and academic variables. Gender, marital status, level of study, and living situation were not significantly associated with dietary choice ($p > 0.05$). In contrast, age group and course of study showed significant differences. Younger participants (15 – 24 years) reported more junk food choices (52.8%) than healthy foods (47.2%), whereas those aged 25 – 43 years reported more healthy foods (62.4%) than junk foods (37.6%) ($p = 0.021$). Course of study was also strongly associated with dietary choices ($p < 0.001$): students in dietetics (65.6%), respiratory therapy (72.0%), occupational therapy (66.7%),

Table 1. Socio-demographic characteristics of study participants (n = 947)

Variable	Frequency (n)	Percentage (%)
Sex		
Female	411	43.4
Male	536	56.6
Age groups (yrs)		
15-24	854	90.2
25-44	93	9.8
Marital Status		
Single	935	98.7
Married	12	1.3
Level of Study		
100	156	16.5
200	194	20.5
300	207	21.9
400	176	18.6
500*	105	11.1
600*	109	11.5
Course of Study		
Dietetics	64	6.8
Medical Laboratory Science	134	14.1
Occupational therapy	21	2.2
Physiotherapy	60	6.3
Radiography	101	10.7
Respiratory therapy	25	2.6
Dental school	107	11.3
Medical school	435	45.9
Living Situation		
Apartment alone	37	3.9
Apartment with others	58	6.1
Hall alone	42	4.4
Hall with others	672	71.0
With Parents	138	14.6

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and dental school (57.9%) reported a higher proportion of healthy food choices, while medical students reported more junk food choices (58.4%). Other academic programmes, such as medical laboratory sciences, radiography, and physiotherapy, showed nearly equal distributions. Overall, age and program of study emerged as the key factors associated with dietary choices.

DISCUSSION

Scocial media has become a critical environment shaping dietary behaviours in young adults, often through advertising, influencer promotion, and peer interactions [19, 21–23]. In the present study, a substantial proportion of participants reported that social media involving food and drink advertisements influenced their dietary choices.

Table 2. Association between dietary choices and the exposure to and perceived influence of social media food-related posts by adverts, influencers, and peers (N=947)

Variable	Total n(%)	Junk foods	Healthy foods	p-value	Cramer's V
Social media food-related exposure by adverts					
Do you follow food and drink brand accounts on SM					
Yes	432 (45.6)	229 (48.2)	203 (43.0)		
No	515 (54.4)	246 (51.8)	269 (57.0)	0.116	0.051
Do you see food and/or drink products shown in adverts on SM					
Yes	789 (83.3)	395 (83.2)	394 (83.5)		
No	158 (16.7)	80 (16.8)	78 (16.5)	0.931	0.154
Do you wish to eat/taste the food/drinks shown on SM					
Yes	704 (74.3)	385 (81.1)	319 (67.6)		
No	243 (25.7)	90 (18.9)	153 (32.4)	< 0.001	0.154
Are you exposed to healthy foods via SM adverts					
Yes	592 (62.5)	293 (61.7)	299 (63.3)		
No	355 (37.5)	182 (38.3)	173 (36.7)	0.592	0.018
Do you believe SM adverts influence your food choices					
Yes	557 (58.9)	314 (66.1)	244 (51.7)		
No	389 (41.1)	161 (33.9)	228 (48.3)	< 0.001	0.146
Social media food-related exposure by influencers					
Do you follow SMIs on SM					
Yes	474 (50.1)	244 (51.4)	230 (48.7)		
No	473 (49.9)	231 (48.6)	242 (51.3)	0.474	0.025
Do you see food and/or drink products shown on the SM pages of SMIs					
Yes	380 (40.1)	158 (33.3)	143 (30.0)		
No	567 (59.9)	317 (66.7)	329 (69.70)	0.364	0.030
Do you believe SMIs post healthy food choices on their SM pages					
Yes	313 (33.1)	157 (33.1)	157 (33.3)		
No	634 (66.9)	318 (66.9)	318 (66.7)	0.945	0.004
Do you believe SMIs influence your food choices					
Yes	364 (38.4)	194 (40.8)	170 (36.0)		
No	583 (61.6)	281 (59.2)	302 (64.0)	0.142	0.048
Social media food-related exposure by peers					
Do you see food-related posts by your peers on SM					
Yes	526 (55.5)	292 (61.5)	234 (29.7)		
No	421 (44.5)	183 (38.5)	238 (70.3)	< 0.001	0.119
Are the foods posted by your peers on SM healthy					
Yes	279 (29.5)	139 (29.1)	140 (29.7)		
No	668 (70.5)	336 (70.9)	332 (70.3)	0.887	0.006
Do foods posted by your peers influence you to try out or purchase such foods					
Yes	577 (60.9)	332 (69.9)	245 (51.9)		
No	370 (39.1)	143 (30.1)	227 (48.1)	< 0.001	0.178

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Although nearly all respondents reported exposure to food-related adverts, many reported greater exposure to healthy than unhealthy foods. This contrasts with existing literature [22,24,25], which has consistently shown that food promotions on SM platforms predominantly feature unhealthy, energy-dense, and nutrient-poor products. One possible explanation is that participants, being health students, may have curated their feeds to align with their academic and personal health interests, leading to algorithmic reinforcement of healthier food content [26]. SM adverts were significantly associated with participants' desire to taste or consume advertised foods. Notably, this association was of moderate magnitude: students who reported a desire to try foods shown in social media adverts had nearly twice the odds of choosing junk foods compared with those who did not (aOR = 1.90, 95% CI: 1.27 – 2.83). However, despite this moderate effect size, adverts may not directly translate into actual dietary behaviour in all contexts. This suggests that while social media adverts can meaningfully increase the likelihood of unhealthy food choices, they may primarily capture attention and stimulate intention rather than act as sole determinants of behaviour. This observed gap between intention and behaviour may reflect contextual barriers such as affordability, cultural preferences, or nutritional awareness. This study demonstrates that adverts may function more as cues to interest than as direct drivers of dietary decisions, consistent with findings that young adults often recognise but selectively resist overt marketing attempts [27]. From a public health perspective, the magnitude of this association

Table 3. Multivariable binary logistic regression on the association between food-related SM exposure and dietary choices

Variable	cOR (95% CI)	p-value	aOR (95% CI)	p-value
Social media food-related exposure by adverts				
Do you follow food and drink brand accounts on SM				
Yes				
No (referent)	1.23 (0.95–1.59)	0.116	0.95 (0.70–1.35)	0.849
Do you see food and/or drink products shown in adverts on SM				
Yes				
No	0.98 (0.69–1.37)	0.885	0.66 (0.43–1.02)	0.061
Do you wish to eat/taste the food/drinks shown on SM				
Yes				
No	2.05 (1.52–2.76)	< 0.001	1.90 (1.27–2.83)	0.002
Are you exposed to healthy foods via SM adverts				
Yes				
No	0.93 (0.71–1.21)	0.580	0.71 (0.50–0.99)	0.046
Do you believe SM adverts influence your food choices				
Yes				
No	1.82 (1.40–2.36)	< 0.001	1.31 (0.92–1.86)	0.129
Social media food-related exposure by influencers				
Do you follow SMIs on SM				
Yes				
No	1.11 (0.86–1.43)	0.435	1.01 (0.74–1.38)	0.971
Do you see food and/or drink products shown on the SM pages of SMIs				
Yes				
No	1.14 (0.87–1.50)	0.351	0.82 (0.55–1.23)	0.340
Do you believe SMIs post healthy food choices on their SM pages				
Yes				
No	0.98 (0.75–1.29)	0.909	0.94 (0.67–1.34)	0.744
Do you believe SMIs influence your food choices				
Yes				
No	1.22 (0.94–1.59)	0.137	0.84 (0.57–1.26)	0.403
Social media food-related exposure by peers				
Do you see food-related posts by your peers on SM				
Yes				
No	1.62 (1.25–2.09)	< 0.001	1.33 (0.98–1.82)	0.070
Are the foods posted by your peers on SM healthy				
Yes				
No	0.97 (0.74–1.29)	0.853	0.80 (0.57–1.12)	0.189
Do foods posted by your peers influence you to try out or purchase such foods				
Yes				
No	2.05 (1.58–2.66)	< 0.001	1.25 (0.86–1.81)	0.244

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Table 4. Socio-demographic indices and dietary choices of participants (n = 947)

Variables	Junk foods n (%)	Healthy foods n (%)	p-value
Gender			
Female	205 (49.9)	206 (50.1)	597
Male	281 (52.4)	255 (47.6)	
Age Groups			
15-24	451 (52.8)	403 (47.2)	0.021
25-43	35 (37.6)	58 (62.4)	
Marital status			
Married	3 (25)	9 (75)	0.174
Single	483 (51.7)	452 (48.3)	
Level of study			
100	76 (48.7)	80 (51.3)	0.326
200	92 (47.2)	102 (52.8)	
300	114 (55.1)	93 (44.9)	
400	86 (48.9)	90 (51.1)	
500	56 (53.3)	49 (46.7)	
600	62 (56.9)	47 (43.1)	
Course of study			
Dietetics	22 (34.3)	42 (65.6)	< 0.001
Medical Laboratory Science	67 (50)	67 (50)	
Occupational therapy	7 (33.3)	14 (66.7)	
Physiotherapy	32 (53.3)	28 (46.7)	
Radiography	52 (51.5)	49 (48.5)	
Respiratory therapy	7 (28)	18 (72)	
Dental school	45 (42.1)	62 (57.9)	
Medical school	254 (58.4)	181 (41.6)	
Living situation			
Apartment alone	15 (40.5)	22 (59.5)	0.450
Apartment with others	25 (43.1)	33 (56.9)	
Hall alone	21 (50)	21 (50)	
Hall with others	359 (53.4)	313 (46.6)	
With Parents	66 (47.8)	72 (52.2)	

is significant, particularly given widespread exposure to food advertising among young adults. Interestingly, the perceived influence of social media influencers (SMIs) showed weak and non-significant associations with participants' dietary behaviours. This contrasts with global studies reporting significant associations between influencer marketing and dietary intake [28–30], often leading to an increase in the consumption of calorie-dense, nutrient-poor foods among young people [8,31]. The discrepancy may be attributed to the participants' demographic and educational profiles. Health students may have higher nutritional literacy, making them more sceptical of influencers' endorsements. Additionally, SMIs are often associated with overt, commercialised marketing, which this group may consciously resist, unlike peer- or advert-driven influences, which appear more authentic [20–22]. These findings suggest that influencer strategies may be less effective in populations with heightened awareness of food marketing tactics. Although peer-related variables showed strong crude associations with dietary choices, these effects did not remain significant after adjusting for sociodemographic factors. Participants reported frequently seeing unhealthy food posts shared by their peers, and at the crude level, this exposure was associated with a greater likelihood of trying or purchasing junk foods, consistent with the idea that peer content feels more authentic and relatable than influencer or advert content. Social comparison theory suggests that individuals are more inclined to adopt behaviours modelled by close social ties than by distant figures [20–22], which was initially reflected in the higher crude odds observed for perceived peer influence compared with influencer or advert exposure. However, when age, sex, course of study, and living situation were accounted for, these associations attenuated, indicating that the apparent peer effect was largely driven by demographic differences rather than by peer posts acting as independent predictors. Thus, students who reported a stronger perceived peer-related influence

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tended to belong to groups already more likely to choose junk foods, which explains why the relationship weakened in adjusted models.

Undergraduate students are usually young adults ranging in years from 15 to 24. A higher percentage of this age group in the study agreed that they would choose fast food as they see it on social media; in other words, their food choices were influenced by social media. This may be attributed to the transition from secondary school to university; as independence increases, students are continually challenged to make healthy dietary choices [32,33] and thus resort to fast food [34], which is generally considered unhealthy [35]. Additionally, younger adults reported greater perceived influence of social media advertisements, social media influencers, and peer food posts on their food choices compared with middle-aged adults (25 – 44 years). These findings are consistent with those of [36], who reported that young adults had low intake of fruits and vegetables (fibre) and poor dietary choices. In this study, males reported a slightly higher proportion of unhealthy dietary choices than females, consistent with findings from some studies [37-40]. A greater proportion of female participants reported the perceived influence of social media advertisements, influencers, and peer food posts on their food choices compared to males, as the latter have been reported to be more likely to rate unhealthy foods as healthy and to make unhealthy dietary choices [8]. Furthermore, males are less likely to make dietary changes when needed, as compared to females, and have a lower tendency to cook their own meals [8], even though the availability of preparation methods for simple yet healthy meals on social media may increase the tendency of males to cook their own meals [36]. More frequent exposure to healthy meal content on social media was associated with healthier dietary choices among both males and females.

Emerging evidence, including reports from the World Health Organisation on digital health interventions, suggests that well-designed social media–based campaigns can improve nutrition knowledge and health-related behaviours among young people. To enhance the positive potential of social media for improving dietary choices, particularly among young adults, stakeholders such as governmental education and health agencies, universities, public health organisations, and health professionals (including dietitians, nutritionists, and physicians) could strengthen the integration of social media into nutrition education strategies. Health professionals should also establish a stronger online presence, using verified accounts or partnerships with credible influencers to provide accurate, accessible, and culturally sensitive dietary guidance. For example, collaboration among peer ambassadors should be encouraged to create and promote evidence-based content on widely used platforms such as Instagram, TikTok, and Facebook, using short videos, infographics, and interactive posts that highlight the importance of balanced diets featuring culturally relevant, locally available foods. In addition, awareness initiatives led by educational institutions, governments, and global health organisations may help equip students with media literacy skills to critically evaluate online nutrition content, such as verifying professional credentials or cross-referencing information with reputable health organisations. Regulatory bodies may further support these efforts by monitoring and addressing misleading or harmful dietary content online. These approaches could help counter nutrition misinformation and reinforce science-based guidance, including national food-based dietary guidelines.

The study has provided baseline data on the impact of social media use on the dietary choices of undergraduate students. To the best of our knowledge, it is one of the few studies to explore the perceived influence of food-related exposures by adverts, peers, and influencers on the dietary choices of university students in Africa and Ghana. This can help develop nutritional education that targets social media as a potent tool for guiding informed dietary choices. Some limitations could have influenced this study. Self-administered questionnaires were subject to recall and reporting biases common to behavioural research; however, the anonymous online format employed in this study may mitigate social desirability pressures. Finally, although the models were adjusted for key demographic factors, residual confounders from unmeasured variables, such as food affordability, cannot be entirely ruled out.

Conclusion

Social media food-related exposure was associated with perceived dietary choice tendencies among participants, with advertisements and peer food posts emerging as more salient sources of perceived influence than social media influencers. These findings indicate that social media contexts, particularly advertising and peer-generated content, may influence perceived food choice tendencies among adults. This observation offers opportunities to use digital platforms to support healthier dietary messaging within university settings. Future research would benefit from including non-health student populations and incorporating objective measures, such as digital tracking, to assess longer-term dietary patterns.

DECLARATIONS

Ethical consideration

This study received approval from the School of Biomedical and Allied Health Sciences Ethics and Protocol Review Committee under approval number SBAHS/AA/DIET/10731531/2021-2022. Informed consent was obtained electronically, and participants were informed of their liberty to withdraw from the study at any point.

Consent to publish

All authors agreed on the content of the final paper.

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Competing Interest
The authors declare no conflict of interest.

Author contribution
JAQ and VAA designed and conducted the research. VAA, JAQ, SS, and PNR analysed the data. VAA, SS, and JAQ drafted the manuscript. VAA, JAQ, SS, and PNR had primary responsibility for the final content. All authors read and approved the final manuscript.

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Availability of data
Data is available upon request to the corresponding author.

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