

Influence of Social Media Food Trends on Eating Behavior and Nutrient Intake: A Cross-Sectional Study Among Young Social Media Users in Pakistan

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Abstract

Social media has become a major source of food-related information among young adults, raising concerns about its influence on eating behavior and nutrient intake, with limited evidence from South Asia. This study examined the relationship between social media food-trend exposure and eating behavior, and its association with nutrient-related dietary intake among young Pakistani social media users. A cross-sectional study of 214 social media users aged 15–35 years was conducted using convenience sampling. A structured, pre-tested questionnaire assessed demographics, social media exposure, eating behavior, and dietary intake; data were analyzed using chi-square tests and Spearman correlation. Daily social media use was reported by 91.4% of respondents, and 60.1% viewed food-related content often or very often; 55.3% agreed social media affects their food choices and 56.5% reported increased snacking. Viewing food content was associated with trending-food consumption and snacking ($p < 0.01$). Following influencers was associated with trying trending foods ($\chi^2 = 40.23$, $p < 0.001$) and preferring trendy over home-cooked food ($p = 0.012$). Overall influence correlated positively with fast-food ($r_s = 0.24$, $p = 0.001$) and sugary drink/dessert consumption ($r_s = 0.15$, $p = 0.049$) but not fruit and vegetable intake ($p = 0.565$). Fast-food consumption was significantly higher among males than females ($p = 0.008$). These findings show that social media food trends exert a measurable influence on the eating behavior of young Pakistani adults, with dietary associations skewed toward energy-dense, nutrient-poor foods rather than fruits and vegetables, underscoring the need for nutrition literacy and platform-level interventions.

1. Introduction

Eating behavior is shaped not only by hunger and biology but also by cultural tradition, food availability, family environment, and psychosocial factors. Over recent decades, urbanization, industrialization, and technological change have driven a global shift away from home-prepared, traditional foods toward convenience and ultra-processed foods, a transition implicated in the rising burden of obesity, micronutrient deficiency, and cardiovascular and other nutrition-related diseases (Monteiro *et al.*, 2019; Popkin, 2015).

Digital communication has intensified this transition. Platforms such as Instagram, TikTok, YouTube, and Facebook continuously generate and promote highly visual, emotionally engaging food content — from viral recipes and “What I Eat in a Day” videos to mukbangs, calorie-deficit challenges, and extreme diet trends (Klassen *et al.*, 2018a; Kucharczuk *et al.*, 2022). Unlike scheduled television advertising, this exposure is repetitive, personalized, and reinforced by algorithms that tend to favor engagement over nutritional value, meaning highly processed, visually striking foods routinely outperform nutritionally balanced

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meals for reach and interaction (Klassen *et al.*, 2018a, 2018b; Rini *et al.*, 2024).

Bandura's Social Cognitive Theory offers one explanation for this influence: individuals learn and imitate behaviors that appear to be socially rewarded (Heffernan, 1988). Likes, comments, and shares confer social proof on the dietary choices of influencers — a process to which adolescents and young adults, who use social media the most and are highly attuned to social approval, are particularly susceptible. Experimental evidence supports a direct behavioral pathway: exposure to food images has been shown to increase subsequent intake of the depicted foods (Hawkins *et al.*, 2021), and children exposed to influencer marketing of unhealthy snacks substantially more of those snacks than unexposed peers (Coates *et al.*, 2019). Repeated exposure to highly palatable, brightly colored food content also heightens food-cue reactivity and triggers anticipatory physiological responses, such as salivation and insulin release, independent of actual hunger — a process magnified by the high-definition, slow-motion food visualization common on social media (Power & Schulkin, 2008; Robinson *et al.*, 2013).

Not all social-media food content is nutritionally harmful; evidence-based digital interventions employing behavior-change strategies have been shown to increase fruit and vegetable intake and nutrition knowledge among adolescents (Hsu *et al.*, 2018). However, much viral dietary content originates from non-professionals with little quality control, and social platforms disproportionately amplify energy-dense, highly processed foods relative to fruits, vegetables, legumes, and whole grains (Byrne *et al.*, 2017; Kucharczuk *et al.*, 2022; Rini *et al.*, 2024). Restrictive and extreme-diet trends — prolonged fasting, whole food-group elimination, or rigid “clean eating” — are frequently promoted as healthy, yet sustained adherence without professional supervision can reduce dietary diversity and nutrient adequacy (Holland & Tiggemann, 2016; Turner & Lefevre, 2017). Heavy Instagram use, for example, has been linked to symptoms of orthorexia nervosa, an obsessive preoccupation with perceived dietary purity (Turner & Lefevre, 2017).

Despite a growing evidence base, important gaps remain. Much existing research examines general screen time, or body image and disordered eating, rather than food-specific content exposure and its measured association with eating behavior and nutrient intake in the same sample (Holland &

Tiggemann, 2016; Parker & Harriger, 2020; Rounsefell *et al.*, 2020). Most available evidence originates in high-income countries, and comparable data from South Asia — and Pakistan specifically — are scarce (Nadeem *et al.*, 2023; Nutrition Wing, Ministry of National Health Services, 2019). This is a critical gap because Pakistan is undergoing a rapid nutrition transition, marked by rising obesity alongside persistent micronutrient deficiencies, against a backdrop of increasing smartphone and social-media penetration among young people (Nutrition Wing, Ministry of National Health Services, 2019).

This study therefore aimed to examine the relationship between exposure to social media food trends, eating behavior, and nutrient-related dietary intake among young social media users (aged 15–35 years) in Pakistan. The specific objectives were (1) to explore the relationship between exposure to social media food trends and eating behavior, and (2) to assess the association between exposure to social media food trends and nutrient intake. The corresponding research questions were: (i) does exposure to food-related social media content influence eating behavior among young adults, and (ii) is there an association between exposure to social media food trends and nutrient intake among young adults?

2. Materials and Methods

2.1 Study design and setting

This study is a cross-sectional, descriptive survey conducted among young social media users in Lahore, Pakistan, over a three-month period comprising a preparatory phase (instrument finalization, ethical approval, and pilot testing), a data-collection phase, and a data-analysis phase.

2.2 Sample size

A target sample of 214 participants was calculated using Cochran's formula for cross-sectional studies:

$$n_0 = \frac{Z^2 \times p \times (1 - p)}{e^2}$$

where $Z = 1.96$ (95% confidence level), $p = 0.5$ (maximum expected variability), and $e = 0.067$ (acceptable margin of error), giving:

$$n_0 = \frac{1.96^2 \times 0.5 \times 0.5}{0.067^2} = \frac{0.9604}{0.004489} \approx 214$$

This sample size was considered adequate to detect statistically significant associations between food-related social-media exposure and eating behavior/nutrient-related intake, allowing for a margin of incomplete responses.

2.3 Sampling technique

Because the target population was readily accessible, a non-probability convenience sampling technique was used. Convenience sampling was considered appropriate for exploratory research in a relatively new field — the influence of social media food trends on nutritional knowledge and eating behavior — while efforts were made to enhance heterogeneity by recruiting participants of varying educational background, socioeconomic class, and urban/rural residence.

2.4 Eligibility criteria

2.4.1 Inclusion criteria

- Adolescents and young adults aged 15–35 years, a demographic group with among the highest rates of social media use.
- Active social media users, operationally defined as those using social media three to four times or more per week.
- Individuals able to provide informed consent and willing to participate.

2.4.2 Exclusion criteria

- Individuals with medically diagnosed conditions require a restricted diet (e.g., chronic kidney disease, medically controlled diabetes, or gastrointestinal disorders).
- Pregnant or lactating women, owing to confounding effects on nutrient intake.
- Individuals who were not active social media users.

2.5 Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from the Institutional Ethical Review Committee of The Superior University, Lahore, prior to data collection. All participants provided written informed consent after receiving a clear explanation of the study's purpose, procedures, voluntary nature, and confidentiality safeguards. Participation was voluntary, responses were anonymized and coded, and participants could withdraw at any stage without penalty.

2.6 Data collection instrument and procedure

Following ethical approval, data were collected using a structured, content-validated, pre-tested, self-administered questionnaire comprising four sections: (i) socio-demographic characteristics (age, gender, education level, occupation, and residence); (ii) social media usage patterns and exposure to food-related content, including platform use, frequency, daily time spent, and following of food influencers; (iii) eating-behavior items covering trend-

driven food consumption, snacking, meal patterns, and preference for trendy versus home-cooked food; and (iv) dietary intake, assessed through a 24-hour dietary recall and a food-frequency questionnaire covering fast food, fruit and vegetable intake, and sugary drinks/desserts, alongside items assessing nutrition literacy and trust in influencer-provided nutrition information. The questionnaire was adapted from validated instruments used in comparable social-media and dietary-behavior research (Patwardhan *et al.*, 2024), with wording modified for cultural and linguistic relevance to the study population. Eligible participants were recruited from academic and community settings and through controlled online dissemination. Questionnaires were self-completed to minimize interviewer bias; incomplete or internally inconsistent responses were excluded prior to analysis. Of the questionnaires distributed, 214 were retained as valid for analysis.

2.7 Statistical analysis

Data were entered, cleaned, and analyzed using IBM SPSS Statistics version 26. Internal consistency of the multi-item Likert-type scales was assessed using Cronbach's alpha. Descriptive statistics (frequencies, percentages, means, and standard deviations) were computed for demographic variables, social media exposure, eating-behavior items, and dietary intake variables. Pearson chi-square tests of independence (with Cramer's V as the effect-size measure) were used to examine associations between categorical exposure/demographic variables and categorical behavioral and dietary outcomes. Spearman's rank correlation coefficient was used to examine associations between ordinal exposure/behavior composite scores and nutrient-related intake frequencies. Statistical significance was set at $p < 0.05$ for all analyses.

3. Results and Discussion

3.1 Reliability of the measurement instrument

Before substantive analysis, the internal consistency of the multi-item Likert-type scales was evaluated using Cronbach's alpha. The four-item Purchasing/*Behavioral* Influence subscale — covering the influence of viral foods on food choice, purchase behavior, online ordering, and willingness to pay more for viral foods — showed good internal consistency ($\alpha = 0.836$). The Trust and Critical-Evaluation subscale, which combines items answered on different response formats (agreement versus frequency), showed acceptable but comparatively lower internal consistency ($\alpha = 0.623$). The overall 10-item scale showed

Table 1. Socio-demographic characteristics of study participants (N = 214)

Variable	Category	n	%
Gender	Female	136	64.8
	Male	74	35.2
Age group (years)	≤20	55	25.7
	21–23	42	19.6
	24–26	63	29.4
	27+	54	25.2
Education level	Graduate	79	36.9
	Undergraduate	62	29.0
	Postgraduate	46	21.5
	Intermediate	27	12.6
Occupation	Student	113	52.8
	Employed	68	31.8
	Unemployed	33	15.4
Residence	Urban	135	63.1
	Rural	79	36.9

good reliability ($\alpha = 0.817$), exceeding the conventional 0.70 threshold and supporting the use of composite scores in the correlational analyses that follow.

3.2 Socio-Demographic characteristics of respondents

The final sample comprised 214 respondents (Table 1). The sample was predominantly female (64.8%), aged between 16 and 45 years (mean age 24.2 ± 4.8 years), with the largest age band being 24–26 years (29.4%). Most respondents held a graduate-level qualification (36.9%), were students by occupation (52.8%), and resided in urban areas (63.1%).

3.3 Social media usage patterns and exposure to food-related content

Almost all respondents (91.4%) were daily social media users, and 63.2% used social media platforms for three or more hours per day (Table 2,). Instagram was the most widely used platform (67.5%), followed by TikTok (47.8%) and YouTube (41.1%). Regarding exposure to food-related content specifically, 60.1% of respondents reported viewing such content “often” or “very often,” and exactly half of the sample (50.7%) actively followed food influencers, while just over half (52.4%) reported having “sometimes” tried a food after seeing it online, and a further 19.5% reported doing so “always” (Table 2).

Table 2. Social media usage patterns and exposure to food-related content

Variable	Response	n	%
Platform used — Instagram*	—	141	67.5
Platform used — TikTok*	—	100	47.8
Platform used — YouTube*	—	86	41.1
Platform used — Facebook*	—	60	28.7
Frequency of use	Daily	191	91.4
	4–6 times/week	14	6.7
	1–3 times/week	4	1.9
	Less than 1 hour	10	4.8
Time spent/day	3–4 hours	71	34.0
	1–2 hours	67	32.1
	More than 4 hours	61	29.2
	Less than 1 hour	10	4.8
Frequency of viewing food content	Sometimes	73	34.3
	Often	69	32.4
	Very often	59	27.7
	Rarely	12	5.6
Follow food influencers	Yes	108	50.7
	No	105	49.3
Tried food after seeing it online	Sometimes	110	52.4
	Rarely	44	21.0
	Always	41	19.5
	Never	15	7.1

*Multiple-response item: percentages do not sum to 100%.

Table 3. Self-reported eating behavior and attitudinal/behavioral responses to food-related content

Variable	Response	n	%
Consumption of trending foods	Occasionally	81	38.0
	Rarely	64	30.0
	Frequently	53	24.9
	Never	15	7.0
Preference for trendy over home-cooked food	No	81	37.9
	Yes	70	32.7
	Maybe	63	29.4
Increased snacking due to social media	Yes	122	57.0
	No	92	43.0
Attitudinal and behavioral items (1 = Strongly Disagree/Never to 5 = Strongly Agree/Always)			
Statement	N	Mean	SD
Social media influences my food choices	214	3.55	0.98
I purchase food products after seeing them on social media	209	3.42	1.08
I order food online because it is trending	213	3.18	1.15
I am willing to spend extra to try viral foods	211	3.00	1.16
I trust nutrition information from food influencers	213	3.22	1.06
I check nutritional information before trying a trend	212	2.62	1.07
Social media has improved my nutrition knowledge	213	3.58	0.85
Social media helps me identify nutritious choices	212	3.50	0.92
I can distinguish reliability from misleading information	213	3.33	0.93
I verify advice with healthcare professionals	212	3.42	1.02

3.4 Self-Reported eating behaviour and attitudinal/Behavioural responses

Table 3 summarizes self-reported eating-behavior outcomes linked to social media food trends. A little under two-fifths of respondents (38.0%) reported consuming trending foods “occasionally” and roughly a quarter (24.9%) did so “frequently,” with only 7.0% reporting never trying such foods. Preference for trendy over-cooked food was fairly evenly split, with 37.9% disagreeing, 32.7% agreeing, and 29.4% uncertain. More than half of respondents (57.0%) indicated that social media use had increased their snacking behavior.

Mean scores (1 = Strongly Disagree/Never to 5 = Strongly Agree/Always) for the ten attitudinal and behavioral items are also presented in Table 3 (Figure 2). The highest-rated statements concerned the perceived educational value of social media: “Social media has improved my nutrition knowledge” (M = 3.58, SD = 0.85) and “Social media influences my food choices” (M = 3.55, SD = 0.98), both

above the scale midpoint of 3.0. The lowest-rated item was “I check nutritional information before trying a trending

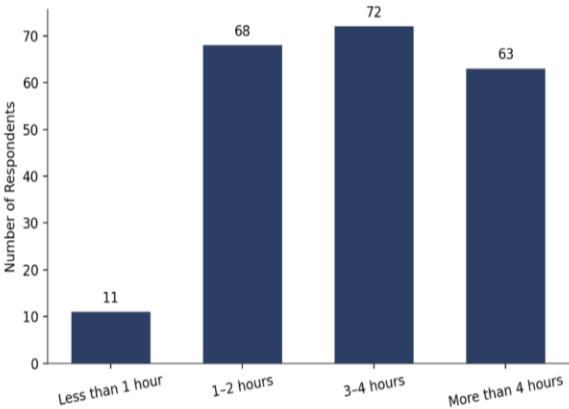


Figure 1. Daily time spent on social media by respondents.

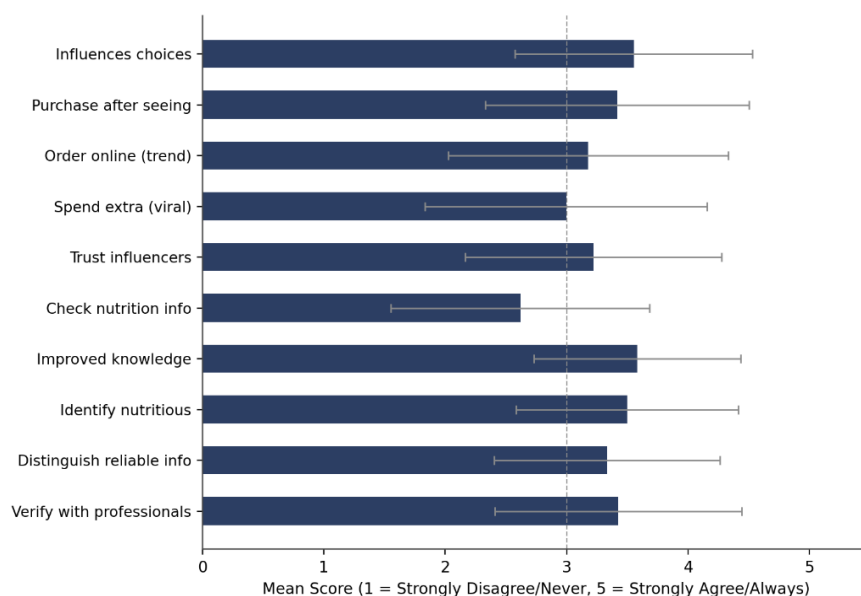


Figure 2. Mean scores of attitudinal and behavioral statements.

food” ($M = 2.62$, $SD = 1.07$), indicating that verification behavior lagged exposure and susceptibility to influence.

3.5 Overall perceived influence of social media on eating behavior and nutrient intake

Respondents most reported a “moderate” perceived overall influence of social media on their eating behavior (51.7%), followed by “very strong” (24.2%) and “mild” (23.0%) (Figure 3); in total, 75.9% reported a moderate or very strong influence. Regarding perceived nutritional harm, more than one-third of respondents (37.6%) were “not sure” whether social media negatively affects nutrient intake, 33.8% believed that it does, and 28.6% believed that it does not, indicating genuine ambivalence about the dietary impact of social media (Table 4).

3.6 Tests of association: chi-square and spearman correlation analyses

Pearson chi-square tests of independence identified several significant associations between exposure and behavioral variables (Table 5). The strongest association was between following food influencers and having tried food after seeing it online, with a medium-to-large effect size (χ^2 (3, $N = 212$) = 40.23, $p < .001$, Cramer’s $V = 0.44$); a substantially higher proportion of influencer-followers reported “always” trying trending foods compared with non-followers (Figure 4). Following influencers was also significantly associated with a stated preference for trendy

over home-cooked food ($\chi^2 = 8.89$, $p = .012$, $V = 0.20$). Education level was significantly associated with the belief that social media negatively affects nutrient intake ($\chi^2 = 16.24$, $p = .013$, $V = 0.20$), with postgraduate respondents most likely to hold this view. No statistically significant associations were observed between the outcome measures and gender, residence, or occupation (all $p > .05$).

Selected Spearman correlations between exposure/behavior scores and dietary intake frequencies are also shown in

Table 4. Perceived overall influence of social media on eating behavior and its perceived effect on nutrient intake

Variable	Response	n	%
Overall perceived influence of social media	Moderate	n/a*	51.7
	Very strong	n/a*	24.2
	Mild	n/a*	23.0
Belief that social media negatively affects nutrient intake	Not sure	80	37.6
	Yes	72	33.8
	No	61	28.6

*Category-level n not separately reported in the source dataset; percentages are of valid responses.

Table 5. Overall perceived social media influence was significantly and positively correlated with fast-food consumption frequency ($r_s = 0.24$, $p = .001$) and, more weakly, with sugary drink/dessert consumption ($r_s = 0.15$, $p = .049$), but was not significantly correlated with fruit and vegetable intake ($r_s = 0.04$, $p = .565$). Daily time spent on social media was significantly and negatively correlated with fruit and vegetable consumption frequency ($r_s = -0.15$, $p = .025$). Frequency of viewing food-related content was significantly and positively correlated with trending-food consumption frequency ($r_s = 0.19$, $p = .007$), directly linking exposure to trend-driven consumption behavior. Overall, social media’s association with dietary intake in this sample was considerably stronger for energy-dense, discretionary food groups than for protective, nutrient-dense food groups.

3.7 Food consumption frequency, overall and by gender

Table 6 presents the frequency of consumption of key food/nutrient categories and its breakdown by gender. A statistically significant association was observed between gender and fast-food consumption frequency ($\chi^2 = 11.84$, $df = 3$, $p = .008$, $n = 201$). Combining the “daily” and “3–4 times/week” categories, 46.9% of male respondents consumed fast food at this frequency compared with 25.9% of female respondents, while a larger proportion of females (36.3%) reported eating fast food only “rarely” compared

with males (18.2%). No significant gender differences were found for snacking behavior ($p = .479$), preference for trendy food ($p = .238$), or frequency of viewing food-related content ($p = .754$).

3.8 Discussion

Principal findings

This study examined the association between exposure to social media food trends, eating behavior, and nutrient-related dietary intake among 214 young social media users in Pakistan. Nearly universal daily social media use (91.4%) and frequent exposure to food-related content (60.1% “often” or “very often”) in this sample mirror international observations that food and nutrition content has become a pervasive, largely unavoidable component of everyday social media browsing among young adults (Kucharczuk *et al.*, 2022; Tang *et al.*, 2024). Half of the participants actively followed food influencers, and viewing frequency was significantly correlated with consumption of trending foods, supporting the view that repeated passive exposure — rather than deliberate information-seeking alone — is itself a meaningful pathway through which social media shapes food choice (Klassen *et al.*, 2018a, 2018b).

Behavioral and purchasing impact of trend-driven content

Beyond attitudes, social media exposure in this sample was linked to actual purchasing and consumption behavior. The

Table 5. Statistical tests of association between exposure and eating-behavior/dietary variables

(a) Chi-square tests of association				
Association	χ^2	df	p	Cramer's V
Follow influencers × Tried food online	40.23	3	< .001	0.439
Follow influencers × Prefer trendy food	8.89	2	= .012	0.204
Education × SM negatively affects nutrient intake	16.24	6	= .013	0.195
Gender × Overall SM influence	3.19	2	= .203	0.135
Gender × Increased snacking	0.31	1	= .576	0.039
Residence × Fruit/vegetable frequency	5.36	3	= .147	0.159
Occupation × Fast-food frequency	1.34	6	= .970	0.056
(b) Spearman correlations				
Variable pair	ρ	p	n	
Overall SM influence ↔ Fast-food frequency	0.239	= .001	178	
Overall SM influence ↔ Sugary drinks/desserts frequency	0.148	= .049	178	
Overall SM influence ↔ Fruit/vegetable frequency	0.043	= .565	178	
Food-content viewing frequency ↔ Trending-food consumption	0.185	= .007	212	
Daily SM time ↔ Fruit/vegetable frequency	-0.154	= .025	213	
Purchasing-influence composite ↔ Sugary drinks/desserts frequency	0.088	= .200	213	

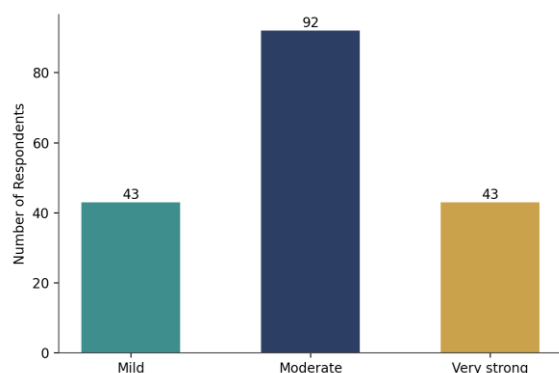


Figure 3. Overall perceived influence of social media on eating behavior.

Purchasing/*Behavioral* Influence composite demonstrated good internal reliability ($\alpha = 0.84$) and correlated strongly with respondents' overall self-rated influence score; following food influencers was significantly associated with actually trying foods seen online and with preferring trendy over home-cooked food. These findings align with, and quantitatively extend, scale-development research identifying exposure to, and endorsement by, high-follower accounts as a key driver of social-media-influenced food consumption behavior (Patwardhan *et al.*, 2024); the medium-to-large effect size observed here (Cramer's $V = 0.44$) suggests this driver operates with particular strength in the present, largely student-aged Pakistani sample.

Trust, misinformation, and nutrition literacy

Although respondents rated social media favorably as a source of nutrition knowledge, they expressed only moderate trust in influencers' nutrition advice and infrequently verified nutritional claims before trying a trending food. This gap between perceived educational value and actual verification behavior is consistent with concerns raised in the nutrition-communication literature that social media's engagement-driven reward structure can favor confident, entertaining presentation over factual accuracy, allowing non-expert communicators to appear credible (Klassen *et al.*, 2018a; Kucharczuk *et al.*, 2022). The comparatively lower internal reliability of the Trust and Critical-Evaluation subscale ($\alpha = 0.62$) may itself reflect this ambivalence, with respondents holding mixed and only moderately confident views regarding influencer credibility.

Social media use and nutrient-related intake

The most policy-relevant finding of this study was the asymmetry in nutritional associations: perceived social

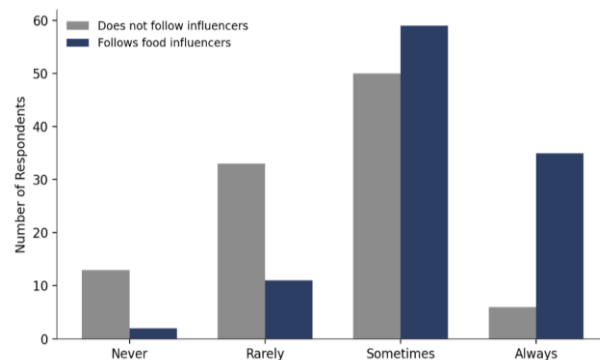


Figure 4. Frequency of trying food seen online, by influencer-following status.

media influence was significantly correlated with fast-food consumption and, more weakly, with sugary drink/dessert consumption, but was not significantly correlated with fruit and vegetable intake. Daily time spent on social media was, moreover, significantly and negatively correlated with fruit and vegetable consumption frequency. This pattern is consistent with systematic-review evidence indicating that, while social media can occasionally support healthier eating through nutrition-education content, it more consistently amplifies consumption of energy-dense, nutrient-poor foods and snacking behavior among young users (Klassen *et al.*, 2018a; Kucharczuk *et al.*, 2022; Rini *et al.*, 2024); the correlation strength observed here for fast-food consumption ($r_s = 0.24$) is broadly comparable in magnitude to associations reported in these prior reviews, reinforcing that this asymmetric, discretionary-food-skewed pattern is not unique to the Pakistani context but recurs across settings with markedly different food environments.

Consistency of effects across demographic subgroups

With the exception of a significant association between education level and the belief that social media negatively affects nutrient intake (more common among postgraduate respondents, likely reflecting greater nutrition literacy or critical awareness), no other significant differences emerged by gender, occupation, or education for the exposure and behavior measures examined. This suggests that susceptibility to social media food trends is a broadly shared feature of contemporary digital food culture in this population, rather than one confined to a narrowly defined subgroup, echoing calls in the literature for platform-level rather than narrowly targeted interventions (Tang *et al.*, 2024). A notable exception was fast-food consumption

Table 6. Frequency of consumption of key food/nutrient categories, (a) overall and by (b)gender

Variable	Response	n	%
Fast-food consumption frequency	1–2 times/week	78	36.6
	Rarely	69	32.4
	3–4 times/week	38	17.8
	Daily	28	13.1
Fruit and vegetable consumption frequency	Daily	88	41.3
	3–4 times/week	61	28.6
	1–2 times/week	39	18.3
	Rarely	25	11.7
Sugary drink/dessert consumption frequency	Frequently	82	38.5
	Occasionally	71	33.3
	Rarely	54	25.4
	Never	6	2.8

(b) Fast-food consumption frequency by gender		
Fast-food frequency	Female n (%)	Male n (%)
Daily	13 (9.6)	15 (22.7)
3–4 times/week	22 (16.3)	16 (24.2)
1–2 times/week	51 (37.8)	23 (34.8)
Rarely	49 (36.3)	12 (18.2)

itself, which was significantly higher among males; this sex difference did not extend to snacking, trendy-food preference, or food-content viewing, suggesting it reflects a specific dietary pattern rather than a broader difference in susceptibility to social media food trends.

Summary, strengths, and limitations

Taken together, these findings indicate a high level of daily engagement with social media and food-related content in this sample, with over half of respondents reporting that social media affects their food choices. Exposure to food content was significantly related to trending food consumption and snacking, and, through following influencers, to trust in non-expert nutrition information. Trend-driven eating behavior was significantly and positively correlated with fast-food consumption, whereas fruit and vegetable intake showed no significant association with exposure or behavior measures. Males consumed significantly more fast food than females, with no other significant gender differences observed. These results are consistent with both research questions guiding the study: social media food-trend exposure was associated with eating behavior, and this exposure/behavior pattern was, in turn, associated with nutrient-related dietary intake. Overall,

these findings indicate that social media food trends exert a real, measurable influence on the eating behavior of this sample, and are consistent with, and extend, the international evidence base on social media and youth dietary behavior to a Pakistani population undergoing rapid nutrition transition (Nadeem *et al.*, 2023; Nutrition Wing, Ministry of National Health Services, 2019). Strengths of this study include a reasonably large sample size (n = 214), a multi-section structured and validated questionnaire assessing exposure, behavior, and dietary outcomes within a single instrument — an integrated approach noted to be lacking in prior literature (Wu *et al.*, 2024) — and the use of both descriptive and inferential statistics aligned with pre-specified objectives. Several limitations should nonetheless be noted. The non-probability convenience sampling strategy limits the generalizability of findings to the wider population of young social media users in Pakistan. The cross-sectional design precludes causal inference; the significant associations observed here (for example, between behavior scores and fast-food consumption) are consistent with, but do not establish, the causal pathways demonstrated experimentally elsewhere (Coates *et al.*, 2019; Robinson *et al.*, 2013).

Dietary intake was assessed through frequency-based responses rather than quantified nutrient values, limiting precision regarding actual nutrient adequacy. Finally, as with all self-reported surveys, findings may be subject to self-selection and social-desirability bias (Adiba *et al.*, 2020; Alwafi *et al.*, 2022).

4. Conclusion

This study examined how exposure to social media food trends relates to the eating behavior and dietary intake of 214 young social media users in Pakistan. Social media use, and exposure to food-related content specifically, was a near-universal and behaviorally consequential feature of participants' daily lives: almost all respondents used social media daily, half followed food influencers, and three-quarters reported a moderate-to-very-strong influence of social media on their eating behavior. This influence extended beyond attitudes to actual behavior, as influencer-followers were significantly more likely to try trending foods and to prefer them over home-cooked meals. Critically, the nutritional implications of this influence were asymmetric: social media use was positively associated with fast-food and sugar-sweetened food consumption but showed no protective association with fruit and vegetable intake, and greater social media use was, if anything, associated with lower fruit and vegetable consumption. Trust in influencer-provided nutrition information was only moderate, and verification behavior was inconsistent, pointing to a nutrition-literacy gap. These patterns were broadly consistent across gender, occupation, and education groups, suggesting a widespread phenomenon rather than one limited to a specific subgroup. Collectively, these findings support the view that social media food trends meaningfully shape both food-related beliefs and eating behavior among young adults, with a greater influence on energy-dense, nutrient-poor food consumption than on nutrient-dense alternatives. Future research should employ longitudinal or experimental designs to clarify the direction of these associations and should quantify nutrient intake using validated dietary-assessment tools rather than consumption-frequency measures alone.

Declarations

Ethical Approval

This study was approved by the Institutional Ethical Review Committee, The Superior University, Lahore, and was conducted in accordance with the Declaration of Helsinki.

Written informed consent was obtained from all participants prior to enrolment.

Conflict of Interest

The authors declare no conflict of interest.

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Author Contributions

Shanza Azmat: conceptualization, data collection, formal analysis, writing – original draft. Muhammad Adnan Hafeez: supervision, methodology, writing – review and editing. Both authors read and approved the final manuscript.

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