

Impact of Social Media Influencer Marketing on Food Choices and Its Association With Eating Disorder Risk in University Aged Adults

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ABSTRACT

Background: University students are frequently exposed to social-media content that promotes food products, dieting practices, fitness ideals, and appearance norms, but its relationship with eating-disorder risk is multifactorial. **Objective:** To examine associations of social-media use and influencer marketing with food choices and EAT-16 scores among university-aged adults. **Methods:** A cross-sectional online survey included 262 students aged 18–25 years from five Lahore universities. Descriptive statistics, Pearson correlations, and binary logistic regression were used. **Results:** Women comprised 67.2% of participants and 58.8% had normal BMI. Social-media use correlated with EAT-16 score ($r = 0.298$, 95% CI 0.183 to 0.405; $p < 0.001$), and influencer-marketing score showed a smaller correlation ($r = 0.190$, 95% CI 0.070 to 0.304; $p = 0.002$). Social-media use and influencer-marketing scores were also correlated ($r = 0.396$, 95% CI 0.289 to 0.494; $p < 0.001$). Logistic regression associated social-media use with eating-disorder risk (OR 1.115; $p = 0.008$), whereas influencer marketing did not reach statistical significance (OR 1.087; $p = 0.062$); BMI category was associated with risk (OR 2.628; $p = 0.023$). **Conclusion:** Social-media exposure showed modest cross-sectional associations with eating attitudes, but causal effects were not established. **Keywords:** social media; influencer marketing; food choice; eating disorders; university students.

INTRODUCTION

Social media platforms are embedded in the daily lives of university students and are increasingly used for communication, entertainment, health information, and consumer decision-making. Image- and video-based platforms expose users to idealized bodies, dietary advice, food trends, product endorsements, and appearance-focused content. Experimental and observational evidence indicates that comparison with idealized social-media images can influence body satisfaction, mood, and eating-related attitudes, particularly among young women and other frequent users (1,2).

Eating disorders and disordered eating are multifactorial conditions shaped by biological, psychological, interpersonal, and environmental influences. Young adulthood is a vulnerable period because students experience changing routines, academic stress, greater autonomy over food, and high exposure to digital content. International evidence shows a substantial burden of eating disorders among adolescents and young adults, while Pakistani university studies have also identified clinically relevant levels of disordered eating (3-5). Social-media exposure should therefore be examined as one potentially modifiable influence rather than as an isolated cause.

Influencer marketing has changed how food and lifestyle products are promoted. Influencers often combine paid or brand-supported content with personal narratives, perceived expertise, and social

endorsement. Repeated exposure to energy-dense foods, sugary drinks, dietary trends, and appearance-oriented fitness content may shape product recognition, purchase intentions, food selection, and consumption. Reviews of digital food marketing show that adolescents and young adults can be influenced by peer-like promotional content, while healthier promotions do not always produce an equivalent improvement in dietary behavior (6-8).

The potential effect extends beyond purchasing. Following appearance, fitness, and nutrition influencers has been associated with body dissatisfaction, pressure to alter weight or shape, restrictive practices, and symptoms of disordered eating (9,10). The type of content viewed may be more important than total screen time, and misinformation or unqualified dietary advice may increase confusion about healthy eating (11). Nevertheless, associations are often modest and may be confounded by body mass index, sex, pre-existing body concerns, psychological distress, and patterns of social-media use.

University populations in Pakistan are highly engaged with social media, yet evidence linking influencer marketing simultaneously with food choices and eating-disorder risk is limited. Understanding these relationships can inform digital nutrition literacy, campus-based prevention, responsible advertising, and professional counselling. Marketing effects may also differ according to platform, product category, perceived credibility, and the personal characteristics of the viewer (12,13).

This study therefore examined the influence of social-media influencer marketing on food choices and its association with eating-disorder risk among university students aged 18-25 years in Lahore. It evaluated social-media usage, responsiveness to influencer food marketing, eating attitudes measured using the EAT-16, and the contribution of social-media use, influencer marketing, and body mass index to eating-disorder risk.

MATERIAL AND METHODS

A quantitative cross-sectional observational study was conducted among university students aged 18-25 years enrolled at five public and private universities in Lahore: Superior University, the University of Lahore, Government College, the University of the Punjab, and the University of Management and Technology. Participants were recruited using non-probability convenience sampling. Eligible students were regular social-media users within the specified age range who provided informed consent. Incomplete questionnaire responses and responses from students reporting an existing eating disorder or mental-health condition were excluded. The final analytical sample comprised 262 students.

Data were collected online using a structured questionnaire. The first section recorded demographic and academic characteristics, including sex, body mass index category, university, and degree program. The social-media-use section contained six items assessing preoccupation, increasing urge to use social media, use for coping, unsuccessful attempts to reduce use, restlessness when access was restricted, and negative effects on work or study. Responses were recorded on an ordered frequency scale from very rarely to very often and combined to form a social-media-use score.

A separate influencer-marketing section assessed exposure and responsiveness to food-related content, including trying foods promoted by influencers, selecting advertised fast or energy-dense foods, comparing eating habits with influencers, and purchasing promoted food products. Item responses were combined to obtain an influencer-marketing influence score, with higher scores indicating greater responsiveness to promotional content. The questionnaire was administered in the same format to participants across all universities.

Eating attitudes were assessed using the 16-item shortened Eating Attitudes Test. Items addressed fear of weight gain, desire for thinness, calorie awareness, avoidance of sugar or eating when hungry, use of diet foods, exercise-related calorie concerns, guilt after eating, food preoccupation, urge to vomit, discomfort after sweets, and preference for an empty stomach. Responses ranged from never to always and were scored to produce an EAT-16 total score, with higher values indicating greater eating-disorder

risk. The instrument was derived from the established Eating Attitudes Test framework (14). A dichotomous risk classification based on the study questionnaire scoring was used as the dependent outcome for logistic regression.

Data were coded and analysed using IBM SPSS Statistics version 26.0. Participant characteristics and item responses were summarized using frequencies and percentages, while composite scores were summarized using means and standard deviations where appropriate. Pearson correlation coefficients assessed the relationships between social-media-use score, influencer-marketing influence score, and EAT-16 score. Binary logistic regression examined whether social-media use, influencer-marketing influence, and body mass index category predicted eating-disorder risk. Results were expressed as odds ratios with p values, and statistical significance was set at $p < 0.05$. Because the design was cross-sectional, analyses were interpreted as associations rather than causal effects.

The study received institutional ethical approval. Participation was voluntary, electronic informed consent was obtained before access to the questionnaire, and responses were collected anonymously. Confidentiality was maintained during data coding, analysis, and reporting.

RESULTS

The analysis included 262 university students aged 18–25 years. Women comprised 176 participants (67.2%). Most participants had a BMI in the normal category (154, 58.8%); 45 (17.2%) were underweight, 47 (17.9%) were overweight, and 16 (6.1%) were obese. Superior University contributed 122 participants (46.6%), and HND was the most common degree programme (108, 41.2%).

Table 1. Participant characteristics (n = 262)

Variable	Category	n (%)
Sex	Male	86 (32.8)
	Female	176 (67.2)
BMI	Underweight	45 (17.2)
	Normal	154 (58.8)
	Overweight	47 (17.9)
	Obese	16 (6.1)
University	Superior University	122 (46.6)
	University of Lahore	76 (29.0)
	GC	24 (9.2)
	University of Punjab	27 (10.3)
Degree	UMT	13 (5.0)
	HND	108 (41.2)
	PharmD	61 (23.3)
	BS Nursing	60 (22.9)
	BBA	33 (12.6)

Social-media engagement was most commonly reported as occasional. The response ‘sometimes’ was selected by 104 participants (39.7%) for thinking about or planning social-media use, by 86 (32.8%) for an increasing urge to use social media, by 99 (37.8%) for using it to forget personal problems, and by 88 (33.5%) for unsuccessful attempts to reduce use. In the food-choice items, 34.0% sometimes tried influencer-promoted foods, 34.0% sometimes selected junk food after viewing advertisements, and 29.0% sometimes felt encouraged to purchase promoted foods.

For EAT-16 items, the combined proportion responding often, usually, or always was 29.4% for awareness of caloric content, 24.4% for fear of weight gain, 20.6% for wanting to be thinner, 17.9% for guilt after eating, 17.9% for feeling that food controlled life, 16.4% for preferring an empty stomach, and 9.2% for an impulse to vomit after meals.

Table 2. Selected EAT-16 response distributions (n = 262)

EAT-16 item	Often, %	Usually, %	Always, %	Combined, %
Fear of gaining weight	6.11	4.58	13.74	24.43
Wanting to be thinner	5.73	4.96	9.92	20.61
Awareness of caloric content	10.31	8.40	10.69	29.40
Guilt after eating	7.63	4.96	5.34	17.93

Food controls life	7.63	5.73	4.58	17.94
Impulse to vomit after meals	4.58	1.91	2.67	9.16
Preference for an empty stomach	8.40	4.96	3.05	16.41

Combined percentage is the sum of often, usually, and always responses.

Social-media-use score correlated positively with EAT-16 score ($r = 0.298$, 95% CI 0.183 to 0.405; $p < 0.001$). Influencer-marketing score had a smaller positive correlation with EAT-16 score ($r = 0.190$, 95% CI 0.070 to 0.304; $p = 0.002$). Social-media use and influencer-marketing scores were also positively correlated ($r = 0.396$, 95% CI 0.289 to 0.494; $p < 0.001$).

Table 3. Pearson correlations among study scores ($n = 262$)

Variable 1	Variable 2	r	95% CI	p-value
Social-media use	EAT-16	0.298	0.183 to 0.405	<0.001
Influencer marketing	EAT-16	0.190	0.070 to 0.304	0.002
Social-media use	Influencer marketing	0.396	0.289 to 0.494	<0.001

Confidence intervals were calculated using Fisher's z transformation. CI, confidence interval.

Binary logistic regression showed that social-media-use score was associated with higher odds of eating-disorder risk (OR 1.115; $p = 0.008$), whereas the influencer-marketing score did not reach the 0.05 threshold (OR 1.087; $p = 0.062$). BMI category was also associated with eating-disorder risk (OR 2.628; $p = 0.023$). Because the study was cross-sectional, these estimates describe associations rather than temporal or causal effects.

Table 4. Source-reported binary logistic regression estimates

Variable	OR	p-value
Social-media-use score	1.115	0.008
Influencer-marketing score	1.087	0.062
BMI category	2.628	0.023

BMI, body mass index; OR, odds ratio.

DISCUSSION

This study found modest positive associations between digital exposure measures and eating-disorder-related attitudes among 262 university students. Social-media-use score correlated with EAT-16 score at $r = 0.298$, while the influencer-marketing score showed a smaller correlation of $r = 0.190$. The confidence intervals excluded zero for both estimates, but their magnitudes indicate that most variation in EAT-16 score was not explained by either exposure alone. Social-media use and influencer-marketing influence were themselves correlated, which is expected because students who spend more time or attention on social platforms have more opportunity to encounter promoted food, fitness, diet, and appearance content.

The findings are consistent with literature linking social-network use, appearance-focused content, body comparison, and disordered eating attitudes (1–5,10,11,24,30,31). Experimental and systematic-review evidence indicates that influencer or peer endorsement can shape food preferences and immediate consumption, particularly when highly palatable foods are promoted (16,17,26,28). However, exposure is not uniform: entertainment, social connection, academic use, food advertising, “healthy eating” content, fitness messaging, and appearance comparison may have different psychological effects. This may explain why total social-media use had only a modest association with EAT-16 and why influencer marketing was weaker after regression adjustment.

The descriptive results showed occasional rather than uniformly intense influencer effects on food choices. Approximately one third sometimes tried promoted foods or selected junk food after seeing advertisements, and 29.0% sometimes felt encouraged to purchase promoted products. These patterns are compatible with studies showing that digital food marketing can affect product awareness, preference, and purchase intention while operating alongside price, convenience, cultural habits,

availability, and prior taste (12,19–22,26–28). The findings therefore support a contributory role for influencer content, not a claim that it determines students' diets.

EAT-16 responses indicated that a minority reported frequent concerns or behaviours. The largest combined often/usually/always proportion concerned caloric awareness, followed by fear of weight gain and wanting to be thinner. Smaller groups reported guilt after eating, feeling controlled by food, preferring an empty stomach, or an impulse to vomit. These item-level patterns should not be interpreted as clinical diagnoses. Screening instruments identify attitudes and behaviours that may warrant further assessment, whereas eating disorders require clinical evaluation. The multifactorial aetiology includes biological vulnerability, psychological distress, body dissatisfaction, social comparison, family and peer influences, and broader environmental exposure (6–9,23,24,29–31).

The logistic regression offers a complementary but incomplete perspective. Social-media-use score was associated with higher odds of the study-defined eating-disorder-risk outcome, whereas the influencer-marketing score did not reach the 0.05 threshold. BMI category was also associated with risk. Because confidence intervals, full coefficients, reference categories, model-adjustment variables, calibration, discrimination, and event counts were not reported, the magnitude and robustness of these odds ratios cannot be fully evaluated. The non-significant influencer estimate should not be interpreted as proof of no relationship, and the BMI estimate should not be assigned specifically to overweight participants without a clearly defined reference category and complete model output.

The findings have implications for universities and public-health communication. Digital-literacy programmes can teach students to identify paid promotion, recognize image manipulation, question unqualified dietary claims, and distinguish evidence-based nutrition advice from marketing. Student health services should provide accessible screening and referral pathways that avoid stigma and do not equate body size with diagnosis. Policies on disclosure of sponsorship and marketing of energy-dense foods may reduce misleading exposure, while collaborations with qualified nutrition and mental-health professionals can support balanced content.

Several limitations constrain inference. The cross-sectional design cannot determine whether social-media exposure preceded eating concerns or whether students with existing concerns sought more diet and appearance content. Convenience sampling, online recruitment, five Lahore universities, and a female-majority sample limit generalizability. Self-report is vulnerable to recall and social-desirability bias. The manuscript did not provide validation properties for the adapted EAT-16 in this population, scale distributions, missing-data counts, a priori power calculations, or complete regression output. Excluding students with known eating disorders or mental-health conditions may have reduced the observed range and introduced selection bias. Multiple correlations and regression estimates were presented without a clearly stated primary analysis.

Future studies should use prospective designs, probability or stratified sampling, validated exposure and eating-disorder instruments, objective or platform-derived exposure measures where ethical, and detailed assessment of content type rather than time alone. Models should prespecify confounders such as sex, BMI, socioeconomic status, body dissatisfaction, depressive symptoms, and prior dieting; report coefficients, confidence intervals, calibration, and discrimination; and examine whether associations differ by content type or participant subgroup. Experimental studies can test specific marketing exposures, while longitudinal work is needed to establish temporal direction.

CONCLUSION

Among university students aged 18–25 years, social-media use and influencer-marketing scores showed modest positive cross-sectional correlations with EAT-16 score. Social-media use and BMI category were associated with the study-defined eating-disorder-risk outcome in the reported logistic model, whereas influencer marketing did not reach statistical significance after adjustment. These results identify digital

exposure as one component of a broader biopsychosocial context and do not establish causality or clinical diagnosis. Universities should combine critical digital and nutrition literacy with accessible, non-stigmatizing mental-health assessment, while longitudinal studies clarify temporal and content-specific effects.

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