



Research Paper

Influence of Social Media on Nutritional Knowledge and Eating Habits Among College Students: A Cross-Sectional Study from Kota, India

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ABSTRACT

Background: Social media platforms are an increasingly influential source of food-related information for young adults, shaping both nutritional knowledge and everyday eating behaviour. Evidence on this relationship among Indian college students remains limited.

Objective: To assess the influence of social media on nutritional knowledge and eating habits among college students, and to evaluate how social media content shapes their dietary choices, behaviours, and perceptions of healthy nutrition.

Methods: A cross-sectional, descriptive survey was conducted among 104 college students (aged 18–30 years) in Kota, Rajasthan, recruited by convenience sampling. Data were collected over a three-month period (February–April 2025) using a structured, self-administered Social Media and Food Consumption Habits Questionnaire (22 items, five-point agreement scale), distributed via Google Forms. Responses were coded and analysed descriptively (frequencies, percentages, mean, median, mode, and standard deviation) in Microsoft Excel.

Results: Of 104 respondents, 33 (31.73%) were neutral, 25 (24.04%) disagreed, 22 (21.15%) agreed, 19 (18.27%) strongly disagreed, and 5 (4.81%) strongly agreed that social media had changed their eating habits. Overall, 71 students (68.27%) expressed a definite view (agreement or disagreement) on social media's influence on their nutritional habits, indicating a substantial, though heterogeneous, perceived effect across the sample.

Conclusion: Social media exerts a measurable, mixed influence on the nutritional knowledge and eating habits of college students, simultaneously offering a channel for nutrition education and a source of unhealthy dietary trends and misinformation. Campus-based digital health literacy programmes are recommended to help students critically evaluate food-related content online.

Keywords: Social media; Nutritional knowledge; Eating habits; College students; Cross-sectional study; Digital health literacy; India

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I. INTRODUCTION

Social media has become deeply embedded in daily life worldwide, with an estimated 5.4–5.7 billion people using social networking platforms globally in 2025 — roughly two-thirds of the world's population [1]. Alongside entertainment and communication, these platforms have become a major conduit for food-related news, advertisements, and influencer content that actively shapes how people think about and choose food [1].

Social media influencers — content creators who build large, engaged followings and use that reach to promote products, services, and lifestyles — occupy a particularly powerful position in this ecosystem. Because information on these platforms can reach billions of people almost instantly, and because anyone can create or share content regardless of its accuracy, social media is also a fertile channel for the spread of nutrition misinformation, compounding the pressure that many young people, especially on university campuses, already feel around body image and food choices.

Healthy eating is a cornerstone of individual and population health: sustained healthy dietary patterns protect against malnutrition and diet-related chronic disease, whereas poor diet quality contributes substantially to reduced quality of life and long-term morbidity [8]. Guidance for young adults specifically emphasises adequate, balanced nutrition during a life stage marked by growing independence and shifting routines [9]. Yet

the ease of access afforded by modern technology has a dual character: social media offers unprecedented access to information, networking, and entertainment, but also carries risks of misinformation, privacy erosion, and problematic or addictive use, with 'always-on' mobile access further increasing daily exposure [10].

The transition to university — typically occurring between the ages of 18 and 25 — is itself a formative period for eating behaviour, as students gain independence and must navigate new environments, food beliefs, taste preferences, time pressures, social influences, and environmental factors that together shape their dietary habits. Research on the health effects of heavy social media use in this age group points in multiple directions: increased use has been associated with more sedentary time and higher body mass index [11], and with disrupted sleep and poorer mental health [12], both of which can indirectly affect eating patterns. At the same time, nutrition-focused content on social media has been shown to improve some eating behaviours, such as increasing fruit consumption, although such beneficial content often suffers from weaker engagement and higher attrition than more visually striking, less healthy food content.

Comparative studies of university students' eating behaviour across countries — including Malaysia, Greece, Germany, and Nigeria — consistently describe irregular meal patterns, skipped meals, and diets shaped as much by convenience, cost, and social context as by nutritional knowledge [13–16]. Theoretical work on self-regulation suggests that eating intentions are frequently overridden by situational and habitual cues [17], which may help explain why exposure to appealing food imagery on social media — for example, curated 'foodstagram' content or restaurant recommendations from food bloggers — can shift behaviour even among students who are nutritionally literate [18,19]. Broader work on social media and body image further suggests that appearance-focused content can shape food-related self-perception and choices independently of nutrition knowledge [20], while peer and psychosocial influences transmitted through social platforms shape related health behaviours such as physical activity and screen time [21]. Structural and economic barriers — including the cost and availability of healthy food and competing time pressures — compound these psychological influences and can limit young people's ability to act on nutrition knowledge even when they possess it [22–24].

Although a growing body of international literature has examined food-related social media content and its influence on student eating behaviour (Section 3), Indian-specific evidence — particularly from mid-sized academic hubs such as Kota, Rajasthan — remains limited. This study therefore aimed to assess the influence of social media on the nutritional knowledge and eating habits of college students in Kota, and to evaluate how social media content shapes their dietary choices, behaviours, and perceptions of healthy nutrition.

II. AIM, OBJECTIVES, AND HYPOTHESES

Need for the study: Social media has become a major source of nutrition-related information for college students, yet much of this content is unverified or misleading, with the potential to distort both nutritional knowledge and everyday eating behaviour.

Aim: To assess the influence of social media on nutritional knowledge and eating habits among college students, and to evaluate how social media content impacts their dietary choices, behaviours, and perceptions regarding healthy nutrition.

Null hypothesis (H^0): There is no significant influence of social media on the nutritional knowledge and eating habits of college students. **Alternate hypothesis (H^1):** There is a significant influence of social media on the nutritional knowledge and eating habits of college students.

III. REVIEW OF RELATED LITERATURE

Pereira examined college students' exposure to and understanding of food-related social media content and found that food advertising/promotions, cooking tutorials, and nutrition information were the content types most likely to engage students and shape their food-related decisions, with promotional content especially effective at capturing attention and influencing choice [2].

Alanazi reported a consistent association between social media use and children's eating habits, particularly fast-food consumption: exposure to food videos, advertisements, and influencer-driven food challenges on platforms such as Instagram, YouTube, and TikTok increased preference for calorie-dense foods and encouraged impulsive eating, independent of hunger [3].

Tan, Pereira, and Yusoff investigated food-related social media content among undergraduates and found that frequent interaction with such content was associated with higher consumption of fast food, snacks, and sugary beverages, alongside idealised food imagery that shifted students' perceptions of acceptable or desirable food choices [4].

Ahmad and Bruno reported that social media influencers meaningfully shaped university students' food-related decisions around fast food, dieting trends, and nutrition, particularly when students regarded influencers as trustworthy sources; influencers with larger followings or greater perceived credibility had a correspondingly stronger effect, sometimes encouraging binge eating or preference for processed foods [5].

Ahmad, studying final-year students at Career Point University, Kota, found that students' attitudes toward, and behavioural intentions around, food-related choices were significantly shaped by their exposure to and perceptions of social media influencers, underscoring the relevance of influencer-driven content to real-world dietary decision-making in this specific student population [6].

Akyakar, Hasde, and Karaismailoğlu, examining health-sciences students, found that higher social media addiction was associated with poorer nutritional choices, including a greater tendency to skip meals, snack on unhealthy foods, and eat irregularly — particularly among students who frequently followed food-related content that glamorised unhealthy eating [7].

Taken together, this literature indicates that food-related social media content exerts a measurable, and often dual-edged, influence on student eating behaviour: it can raise nutritional awareness and introduce healthier options, but more commonly appears associated with increased fast-food consumption, irregular eating patterns, and susceptibility to unverified dietary trends promoted by influencers.

IV. MATERIALS AND METHODS

Study Design and Setting

A cross-sectional, descriptive survey employing a mixed quantitative–qualitative approach was conducted among college students in Kota, Rajasthan, India, combining structured questionnaire responses with social media content-related items to provide a comprehensive picture of how social media shapes students' nutritional knowledge and eating habits.

Participants and Sampling

A total of 104 college students who met the eligibility criteria completed the survey. Participants were recruited by convenience sampling from various colleges and universities in Kota; each participant was sent the survey link directly, and the researcher confirmed that respondents met the inclusion criteria before responses were included in analysis. The study was conducted over a three-month period, from February to April 2025.

Inclusion and Exclusion Criteria

- Inclusion: currently enrolled university students, of either sex, aged 18–30 years, who use social media platforms (e.g., Instagram, YouTube, Facebook) and were willing to provide informed consent.
- Exclusion: age below 18 or above 30 years, non-use of social media, or unwillingness to provide consent.

Instrumentation and Data Collection

Data were collected using a structured, self-administered Social Media and Food Consumption Habits Questionnaire, distributed via Google Forms (with pen-and-paper administration available where needed). The instrument comprised 22 items exploring social media usage patterns and their perceived influence on food-related attitudes and behaviours, each rated on a five-point agreement scale (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree). A written consent form, outlining the purpose of the study, voluntary participation, and confidentiality of responses, was provided to all participants before data collection.

Ethical Considerations

Participation was entirely voluntary, and informed consent was obtained from all respondents prior to data collection. Confidentiality and anonymity were maintained by assigning each participant a subject code rather than recording identifying information, and all data were stored securely and accessible only to the research team. Participants retained the right to withdraw at any stage. The study protocol was reviewed and approved by the Department of Physiotherapy, Career Point University, Kota, as part of the requirements for the degree of Bachelor of Physiotherapy.

Statistical Analysis

Data were coded and entered into Microsoft Excel. Descriptive statistics — frequencies, percentages, mean, median, mode, and standard deviation — were calculated for the overall sample and for age-based subgroups. Prevalence of a given response category was calculated as the number of respondents in that category divided by the total sample ($n = 104$), multiplied by 100.

V. RESULTS

A total of 104 college students in Kota completed the questionnaire. Table 1 summarises the overall distribution of responses to the survey's agreement items regarding the influence of social media on eating habits.

Table 1. Overall distribution of student responses on the influence of social media on eating habits (n = 104)

Response Category	No. of Students (n)	Percentage (%)
Strongly disagree	19	18.27
Disagree	25	24.04
Neutral	33	31.73
Agree	22	21.15
Strongly agree	5	4.81
Total	104	100.00

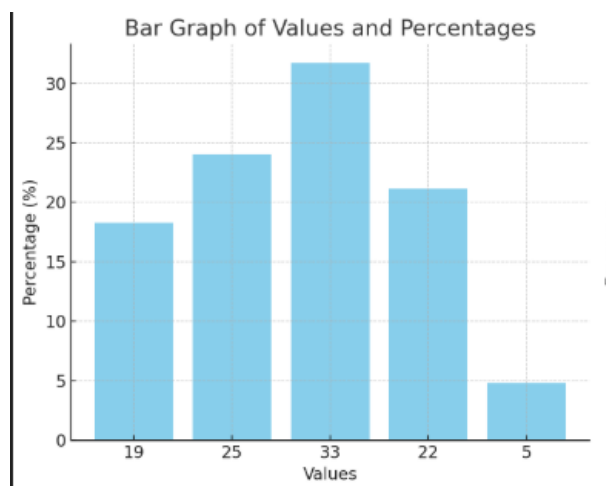


Figure 1. Bar graph of response values and percentages across agreement categories (n = 104).

Thirty-three students (31.73%) were neutral regarding social media's influence on their eating habits, while the remaining 71 (68.27%) expressed a definite view — 25 (24.04%) disagreed, 22 (21.15%) agreed, 19 (18.27%) strongly disagreed, and 5 (4.81%) strongly agreed. Taken together, 27 students (25.96%) agreed or strongly agreed that social media had influenced their eating habits, while 44 (42.31%) disagreed or strongly disagreed, indicating a genuinely mixed effect across the sample rather than a uniform trend in either direction.

Age-wise Response Patterns

Table 2 presents the mean, median, mode, and standard deviation of agreement scores by participant age. Mean scores ranged from 2.42 (age 18) to 3.31 (age 27), with most age groups clustering between 2.5 and 2.9 on the five-point scale — consistent with a broadly neutral-to-mild-agreement pattern across the sample, and showing a modest upward trend in agreement with increasing age.

Table 2. Mean, median, mode, and standard deviation of agreement scores by age (n = 104)

Age (years)	Mean	Median	Mode	SD
18	2.42	2.70	1.00	0.91
19	2.77	2.95	2.95	0.85
20	2.76	2.86	2.36	0.71
21	2.93	2.93	2.77	0.63
22	2.47	2.73	2.77	0.79
23	2.75	2.70	2.27	0.49
24	2.86	3.13	1.68	0.89
25	2.61	2.89	1.59	0.69
26	2.86	2.86	2.86	1.00

27	3.31	3.31	2.90	0.58
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Illustrative Item-Level Responses

Several individual questionnaire items illustrate specific mechanisms through which social media appears to shape eating behaviour. When asked whether the inclusion of a food item on social media influenced their view of that food, 40.4% of students agreed or strongly agreed, 35.6% were neutral, and 24.1% disagreed or strongly disagreed (Figure 2) — indicating that food imagery on social media measurably shapes food perception for a substantial minority of students.

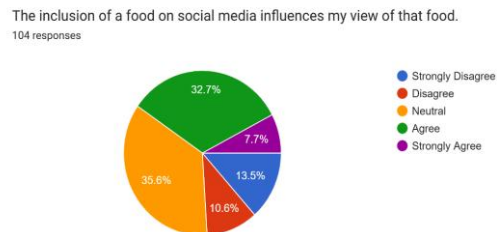


Figure 2. Student responses: “The inclusion of a food on social media influences my view of that food” (n = 104).

By contrast, when asked whether using social media caused them to forget hunger cues, most students disagreed or were neutral (Figure 3), suggesting that appetite awareness itself was less affected than food preference and choice.

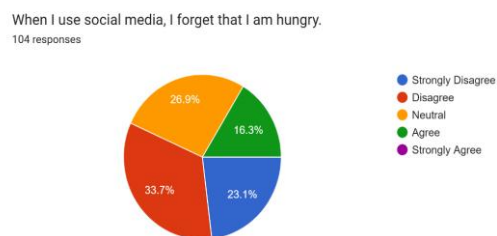


Figure 3. Student responses: “When I use social media, I forget that I am hungry” (n = 104).

Notably, when asked whether they ate a food or dish seen on social media even when already full, 37.5% of students remained neutral, but a combined 41.4% disagreed or strongly disagreed and only 21.2% agreed or strongly agreed (Figure 4) — suggesting that while social media strongly shapes food preference and attention, it translates into overriding satiety cues for only a minority of students.

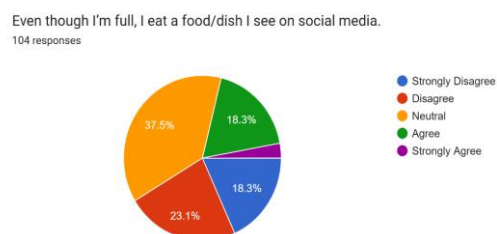


Figure 4. Student responses: “Even though I'm full, I eat a food/dish I see on social media” (n = 104).

VI. DISCUSSION

This study assessed the influence of social media on the nutritional knowledge and eating habits of 104 college students in Kota, Rajasthan. Overall, social media's effect on eating habits was best characterised as mixed and heterogeneous: nearly one-third of students were neutral, and definite opinions were almost evenly split between agreement and disagreement, with somewhat more students disagreeing than agreeing that social media had changed their eating habits. Item-level results nonetheless showed that food imagery on social media measurably shapes food preference and perception (Figure 2) more strongly than it overrides physiological hunger or satiety cues (Figures 3–4), suggesting the primary pathway of influence is attentional and preference-based rather than purely appetite-driven.

These findings are broadly consistent with, though somewhat more conservative than, the international literature. Pereira found that advertising, promotional content, and cooking tutorials strongly captured student attention and shaped food-related decisions [2], a pattern mirrored in the present sample's clear response to food-imagery items even where overall agreement scores were moderate. Tan, Pereira, and Yusoff similarly found that frequent engagement with food-related content was associated with higher fast-food and snack consumption and with idealised perceptions of desirable food [4], while Ahmad and Bruno demonstrated that student trust in influencers amplified this effect, particularly for accounts with large followings or perceived credibility [5]. Ahmad's Kota-specific study of final-year students at the same university found that attitudes toward, and behavioural intentions around, influencer-endorsed food content significantly shaped real dietary decisions [6], lending local support to the broader international pattern observed here.

The relatively large neutral and disagreement responses observed in this study may partly reflect the dual nature of social media's influence described by Akyakar, Hasde, and Karaismailoğlu, who found that heavier and more addictive use was associated with poorer nutritional choices, while lighter or more selective use was not [7] — implying that aggregate, whole-sample estimates of influence may understate the effect within heavy-use subgroups. Similarly, Alanazi's finding that food videos and influencer endorsements particularly affect impulsive, calorie-dense food choices [3] suggests that the present study's item-level findings on food preference (Figure 2) may better capture social media's true behavioural footprint than single-item, aggregate questions about 'changed eating habits.'

Several broader mechanisms proposed in the literature help contextualise these results. Nutrition misinformation spreads easily given the scale and speed of social platforms, and content quality is not curated, meaning students are exposed to both credible nutrition education and unverified diet trends promoted by unqualified sources. Body-image-related content on social media has also been shown to shape food-related self-perception independently of nutrition knowledge [20], while psychosocial and peer influences transmitted through social platforms affect related health behaviours such as physical activity and screen time [21]. At the same time, structural and economic barriers — the cost and availability of healthy food, canteen options, and time pressures — can limit students' ability to act on nutrition knowledge even where social media has raised awareness [22–24], which may help explain why greater knowledge exposure does not straightforwardly translate into healthier eating in every case.

Implications for Practice

These findings support the case for campus-based digital health literacy initiatives that go beyond simply providing nutrition information, and instead actively teach students to critically evaluate the credibility of food-related content, recognise promotional and influencer-driven material, and distinguish evidence-based nutrition guidance from unverified trends. Given the Kota-specific evidence of influencer impact on student behaviour [6], locally tailored campaigns — potentially co-developed with credible student or faculty voices on social platforms — may be more effective than generic nutrition education alone.

Limitations

- The sample (n = 104) was drawn by convenience sampling from a single city, limiting generalisability to other student populations or regions.
- All measures were self-reported, based on a five-point agreement scale, without objective verification of actual dietary intake or corroborating clinical/nutritional assessment.
- The cross-sectional design captures a snapshot of attitudes and cannot establish causal or temporal relationships between social media exposure and eating-behaviour change.
- The questionnaire's 22 items and single-item summary measures may not fully capture the multidimensional nature of social media influence; validated, multidimensional instruments would strengthen future work.
- Data collection relied on Google Forms distribution, which may have underrepresented students with limited digital access, and did not formally assess platform-specific effects (e.g., Instagram versus YouTube versus Facebook).

VII. CONCLUSION

Social media exerts a real but heterogeneous influence on the nutritional knowledge and eating habits of college students in Kota, shaping food preference and attention more consistently than it overrides physiological hunger and satiety cues. While platforms such as Instagram and YouTube can serve as valuable channels for nutrition education and healthy recipe-sharing, they simultaneously expose students to unhealthy dietary trends, fast-food promotion, and unverified nutrition claims from influencers and other unqualified sources. These findings support the alternate hypothesis that social media significantly influences student nutritional knowledge and eating habits, while highlighting that this influence is neither uniform nor uniformly negative. Universities,

health authorities, and social media platforms should collaborate to promote accurate nutrition content and to equip students — through targeted digital and nutrition literacy programmes — with the skills needed to critically evaluate the food-related information they encounter online.

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