Original Paper

Nutrition in the Influencer Era: Content Analysis of Nutrition Information Shared by Macro- and Mega-Influencers on Instagram and TikTok

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Abstract

Background: Nutrition misinformation on social media is a public health concern, yet its prevalence and characteristics remain underexamined. In particular, the quality and characteristics of posts by influencers with the widest reach (macro- and mega-influencers) have not been investigated.

Objective: This study aimed to quantify the prevalence of nutrition misinformation shared by popular influencers on Instagram (Meta) and TikTok (ByteDance) and describe the characteristics of posts identified as nutrition misinformation.

Methods: Apify was used to scrape 37,364 publicly available nutrition-related posts shared by 100 popular macro- and mega-influencers on Instagram and TikTok between March 2024 and March 2025. Random sampling yielded 1000 posts for quantitative assessment of nutrition misinformation prevalence and qualitative reflexive thematic analysis of content characteristics and framing.

Results: Of 1000 posts evaluated, 78.5% (785/1000) were classified as nutrition misinformation. Only 24% (24/100) of influencers had verifiable nutrition qualifications. Thematic analysis identified 5 themes: fearmongering, healthism, absolutist ideology, insufficient information, and product promotion.

Conclusions: Nutrition misinformation was highly prevalent among posts disseminated by macro- and mega-influencers on Instagram and TikTok. A substantial proportion of influencers sharing such content did not report verifiable nutrition qualifications, and many cited credentials obtained through nonaccredited or commercially operated certification programs lacking recognized professional regulation. Posts identified as nutrition misinformation used fear-based messaging, including chemophobia and conspiratorial rhetoric, alongside moralized and ideological framings such as healthism, absolutist dietary claims, and appeals to "natural" products. Collectively, the findings indicate that popular influencers on Instagram and TikTok are a major source of nutrition misinformation, with the potential to distort public understanding of food, nutrition, and health.

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KEYWORDS

nutrition misinformation; social media; Instagram; TikTok; fearmongering; chemophobia; conspiracy; healthism; naturalism; anti-intellectualism; content analysis

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Introduction

Nutrition misinformation poses a serious public health threat by eroding trust in science, distorting evidence-based dietary guidance, and creating widespread confusion about nutrition [1]. An estimated 5.7 billion people, approximately 69% of the global population, use social media [2]. While social media provides opportunities to promote health-supportive behaviors, it also creates challenges as misinformation spreads rapidly online and often reaches larger audiences than accurate information [3]. It is useful for nutrition professionals to understand the extent of nutrition misinformation shared on social media and the ways nutrition information is presented to consumers by individuals with large social media audiences.

Social media influencers (SMIs) are individuals who build and maintain an audience through content creation on social media and have the capacity to influence their followers' attitudes, perceptions, or behaviors [4]. In this study, influencer-generated content refers to content created and published by SMIs for their social media audiences. In the context of nutrition, such content can include dietary advice, nutrition claims, food recommendations, personal experiences, recipes, and promotion of nutrition-related products, including supplements. SMIs are commonly categorized according to audience size, with macro-influencers generally defined as having 100,000-1 million followers and mega-influencers as having more than 1 million followers [5].

Evidence-based nutrition refers to the use of scientific evidence to inform nutrition-related claims and recommendations [6]. In this study, evidence-based nutrition was assessed according to whether claims and recommendations were consistent with the available evidence, considering the quality and applicability of that evidence, as well as the strengths and limitations of the evidence base.

Misinformation is defined as information that asserts or implies claims inconsistent with the weight of accepted scientific evidence at the time, taking into account both the quality and quantity of that evidence [7]. This definition focuses on the content of the claim rather than the intent of the communicator. Disinformation is considered a subset of misinformation and refers specifically to false information that is knowingly shared with the intent to mislead [7]. Because intent is difficult to establish and the primary public health concern relates to the potential impact of inaccurate claims, this study focuses on misinformation rather than disinformation.

Several features of social media amplify the spread of nutrition misinformation. Algorithms foster highly curated "echo chambers" by prioritizing content aligned with users' existing beliefs and limiting exposure to diverse perspectives [8]. Such algorithmic personalization presents particular risks for individuals with low food and health literacy, who are especially vulnerable to misinformation [9]. Structural weaknesses in platform regulation further contribute to the spread of nutrition misinformation. Platforms such as Instagram and TikTok lack nutrition-specific fact-checking categories, and their verification systems do not distinguish between qualified professionals and uncredentialed individuals [10]. Verification badges, marketed as indicators of credibility, can be purchased by anyone, regardless of expertise [11,12]. These gaps enable self-proclaimed nutrition "experts" to disseminate false or misleading nutrition information and unvalidated dietary advice [13].

The emotional architecture of social media further contributes to the spread of nutrition misinformation. Content that evokes high-arousal emotions, particularly anger or moral outrage, is more likely to be shared within online networks [14]. Consistent with this, large-scale analyses show that false news spreads significantly farther and faster than true information and elicits stronger emotional reactions from users [3]. Additionally, experimental evidence demonstrates that anger can increase individuals' susceptibility to accepting misinformation as accurate [15]. These dynamics may be particularly consequential in nutrition communication, where influencer-generated content frequently attracts substantial audience engagement despite variable information quality [13].

These dynamics are further reinforced by structural weaknesses in professional regulation, which allow influencers to cite credentials from unregulated, profit-driven programs offering "pay-to-play" certifications with limited or no academic oversight [16]. Additionally, the title "nutritionist" does not consistently indicate formal professional nutrition qualifications in countries including Australia, the United Kingdom, and the United States [17-19]. The title can therefore be used by individuals with and without formal nutrition education and training. More broadly, the absence of formal qualifications does not necessarily prevent individuals from establishing themselves as sources of nutrition and health information. For example, Australian wellness influencer Belle Gibson, who had no formal qualifications in nutrition or medicine, built a substantial social media following around false claims that she had healed herself of cancer through nutrition and "holistic" medicine, positioning herself as an alternative source of nutrition and health expertise [20,21].

Collectively, these factors contribute to a misleading nutrition information environment where qualified nutrition experts are often overshadowed by more prominent, yet less credible, voices.

Despite growing concern about its impact, nutrition misinformation on social media remains notably underresearched. Much of the existing literature has focused on specific nutrition-related topics, such as chronic conditions [22] and individual diets [23], rather than examining the broader nutrition landscape. Studies often rely on hashtag-based sampling [24], which limits analysis to explicitly tagged content and overlooks posts shared without hashtags, particularly by popular influencers whose large audiences and frequent reshares facilitate widespread dissemination. Importantly, content produced by global macro- and mega-influencers has been insufficiently captured in prior research. Given their extensive reach, these influencers possess substantial capacity to shape followers' attitudes and behaviors. Evidence indicates that as follower count increases, audiences are more likely to adopt the advice and behaviors they promote [5]. Furthermore, prior analyses have concentrated predominantly on platforms such

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as X (formerly known as Twitter; X Corp) [25], Facebook (Meta) [26], and YouTube (Google LLC) [27], with comparatively limited research examining Instagram and TikTok, where nutrition-related content is highly visible and engagement-driven [13,28]. Existing Instagram-based studies are geographically limited [13,29]. Consequently, there is limited understanding of the prevalence and characteristics of nutrition misinformation spread by globally popular influencers on Instagram and TikTok.

This study aimed to quantify the prevalence of nutrition-related content classified as low quality and indicative of misinformation, based on predefined evidence-aligned criteria, posted over 12 months by macro- and mega-influencers on Instagram and TikTok. It also sought to characterize the framing and messaging strategies used within posts identified as low quality. By systematically examining cross-platform content shared by high-reach influencers who regularly produce nutrition-related material, this study provides a contemporary overview of the nutrition information environment shaped by influential global social media accounts.

Methods

Study Design

An explanatory, sequential mixed methods approach was used to analyze nutrition-related posts shared by macro- and mega-influencers on Instagram and TikTok [30]. A quantitative approach was used initially to classify a sample of posts into poor quality (misinformation) or high quality. This allowed the prevalence of posts identified as misinformation to be quantified. A qualitative approach was then used to examine the characteristics of posts identified as misinformation. The quantitative classification informed the selection of content for the subsequent reflexive thematic analysis. Integration occurred at the interpretation level, with an integrated narrative discussion linking the quantitative and qualitative findings to provide insight into the prevalence and characteristics of nutrition misinformation within the sampled content. This study was conducted and reported according to GRAMMS (Guidelines for Reporting Mixed Methods Research [31]; see Multimedia Appendix 1).

Sample of Influencers

Macro- and mega-influencers were identified using a combination of consumer survey nominations and structured desktop searches. Social media users were recruited using online convenience sampling via the chief investigator's (DS) Instagram account. Recruitment comprised 1 static Instagram post and a daily Instagram Story, each available for 24 hours, during the 1-week recruitment (April 10-17, 2024). The static recruitment post was also shared by other social media users. Interested individuals were invited to complete an online survey in which they were asked to nominate up to 5 influencers who regularly shared nutrition-related content and had >100,000 followers. To complete the survey, participants had to be aged ≥18 years, English-speaking, and active Instagram and/or TikTok users.

A total of 174 participants responded to the survey and collectively nominated 433 SMI accounts. After consolidating duplicate nominations and variations in account names and handles, 222 unique influencer accounts were identified. Influencers were considered for analysis if they maintained a publicly accessible account, had >100,000 followers, regularly posted nutrition-related content in English, and were active during the 12-month study period. Accounts representing organizations, institutions, media brands, or other entities rather than an individual influencer were excluded, as were accounts that primarily shared recipes, cooking, or fitness content. Eligibility was assessed through manual review of account profiles and posts published during the 12-month study period. Application of these eligibility criteria resulted in 92 eligible influencers from the consumer survey.

To supplement survey nominations and enhance sample comprehensiveness, DS conducted structured searches on Instagram and TikTok using relevant hashtags (eg, #nutrition and #diet), together with Google searches to identify additional prominent influencers in the online nutrition space. The same eligibility criteria were applied to accounts identified through these searches. Eligible influencers identified through the consumer survey and structured searches were combined, with duplicate accounts consolidated. This resulted in a pool of 162 unique eligible influencers. Follower counts were recorded for all 162 influencers, who were ranked in descending order of follower count. The 100 influencers with the highest follower counts were selected as the final sample of macro- and mega-influencers. Of the final 100 influencers, 60 had been identified through the consumer survey, and 40 had been identified through the structured search strategy but had not been nominated in the survey.

Data Collection

Publicly available content and associated metadata for 100 influencers were retrospectively scraped from Instagram and TikTok using the third-party data extraction tool Apify [32], covering the 12 months from March 2024 to March 2025. Of the 100 influencers, 98% (98/100) had active accounts on both Instagram and TikTok. Where an influencer had accounts on both platforms, the account with the highest follower count was selected as the primary account for content analysis. Across the 100 eligible influencers, 37,364 posts were identified during the study period. Ten posts per account were randomly selected using a computer-generated random number procedure, resulting in a final analytic dataset of 1000 posts. The dataset included user profiles (including self-reported qualifications listed in account biographies), content (eg, captions, static content, and videos), hashtags, and engagement metrics (eg, likes, comments, and views) as recorded at the time of data extraction. Only publicly available posts were included. Instagram Stories were not accessible and therefore were excluded. No private or personally identifying information, such as email addresses, was collected. Data scraping complied with the California Consumer Privacy Act and the General Data Protection Regulation [33].

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Data Analysis

Stage One: Identification of Misinformation

Overview

Content quality was assessed using three predefined criteria developed to evaluate alignment with evidence-based nutrition standards and potential misinformation risk: (1) Are the messages or information consistent with evidence-based nutrition practice? (2) Does the content contribute to a positive and useful understanding of food/nutrition and its impacts on health? (3) Are the messages contributing to the propagation of misinformation?

For criterion one, content was assessed against the available body of scientific evidence relevant to the claim, with consideration of the quality and applicability of that evidence and, where relevant, whether the claim appropriately reflected the strength and limitations of the evidence. Relevant dietary guidelines and other established nutrition guidance were considered alongside the scientific evidence when applicable to the claim but were not treated as the sole or definitive basis for determining whether content was evidence-based. Thus, agreement with a particular guideline or individual study was not, in itself, sufficient to establish that a claim was evidence-based. For example, a claim that a specific ingredient, food, or broad food group universally causes inflammation would be assessed against the body of evidence relevant to the claim, taking into account the strengths and limitations of that evidence, rather than based on a single study or guideline.

For criterion two, content was assessed holistically against predefined considerations of whether it contributed to a balanced, constructive, and useful understanding of food and nutrition and their impacts on health. Considerations included whether the content avoided unnecessary fear, alarm, or moralization of food; did not promote unnecessary restriction or avoidance; and provided information that could assist audiences in understanding and navigating nutrition and health. These considerations were applied to the content as a whole rather than based on whether the coder agreed with a particular food choice, dietary pattern, or health outcome. For example, content promoting unnecessary avoidance of an ingredient, food, or broad food group through fear-based claims would be considered less likely to provide a positive and useful understanding of nutrition.

Responses to each criterion were rated using a 5-point Likert scale. A total score between 3 and 15 was generated. Scores ≤7 were categorized as low quality (“nutrition misinformation”), scores ≥9 were categorized as high quality, and a score of 8 was categorized as neutral, neither low nor high quality.

Reliability Testing

Before full coding, reliability testing was conducted to assess agreement in applying the criteria. Ten credentialed nutritionists and/or dietitians independently evaluated a pilot sample of 20 Instagram posts using the scoring framework. Inter-rater reliability was assessed using Fleiss κ, demonstrating substantial agreement ($\kappa=0.62$, $P<.001$).

Coding Procedure

Two researchers (DS and MM) independently evaluated all 1000 posts using the scoring criteria. Following independent coding, discrepancies were discussed to reach consensus. A third researcher (CK-A) adjudicated cases where consensus could not be achieved. The proportion of posts classified as low quality (misinformation) and high quality was calculated and reported descriptively.

Coding of Influencer Qualifications

Influencer qualifications were coded based on qualifications, credentials, and professional titles self-reported in publicly accessible profile biographies and linked websites, where available. Qualifications were not mutually exclusive, and influencers were coded across multiple categories where applicable. Verifiable nutrition qualifications were defined as tertiary-level degrees in nutrition or dietetics and/or recognized professional credentials issued or conferred by a recognized professional accreditation or regulatory body (eg, the Commission on Dietetic Registration, Dietitians Australia, Health and Care Professions Council, or Association for Nutrition). This category also included verified medical credentials with additional specialized nutrition certification and related scientific qualifications for which a professional nutrition or dietetics credential was not applicable. Nonrecognized or nonverifiable nutrition qualifications were defined as nutrition-related qualifications, credentials, or professional titles reported by influencers that either could not be independently verified or, where verifiable, did not meet the study criteria for a recognized professional nutrition or dietetics qualification or credential. Influencers for whom no tertiary qualification could be identified were classified as having no known tertiary qualification. Vocational qualifications and qualifications that could not be independently verified were not classified as tertiary qualifications.

Stage Two: Reflexive Thematic Analysis

Overview

All content classified as low quality (misinformation) during stage one was analyzed using reflexive thematic analysis [34]. This method was selected for its flexibility and capacity to generate insight into how meaning is actively constructed and communicated. Analysis was conducted within a constructionist epistemology, acknowledging that meaning is shaped both by individual perspectives and broader sociocultural narratives [35]. The purpose of this analysis was to explore the ways nutrition misinformation was framed and presented by influencers.

Researchers (DS, MM, and CK-A) reviewed the dataset multiple times to support immersive engagement with the material. Codes were generated inductively and iteratively, with coding conducted primarily at the semantic level to capture explicit claims, messages, and communication strategies within the content. Latent meanings were considered during interpretation and theme development, particularly where explicit messages reflected underlying assumptions, beliefs, or broader sociocultural narratives. The analysis accounted for the multimodal nature of social media content, including visual,

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textual, and auditory components. Themes were constructed through a critically reflexive and interpretive process and refined through multiple iterations, with attention to their internal coherence, distinctiveness, and alignment with the research aims. Ongoing discussions between DS, MM, and CK-A supported critical interrogation of interpretations, including consideration of assumptions and alternative understandings of the data.

Researcher Positionality and Reflexivity

The research team's professional backgrounds and differing relationships with social media informed analysis. DS is an Accredited Practicing Dietitian (APD) and PhD candidate with qualitative research experience and is an active Instagram user who regularly shares evidence-based nutrition content. CK-A is an advanced APD who engages with social media primarily as a consumer, while MM is an APD with limited engagement with social media. MM and CK-A each have more than 25 years of experience in qualitative research.

The researchers' professional training shaped how claims within the content were interpreted. DS's experience creating nutrition-related content provided firsthand familiarity with how nutrition information is communicated on social media and informed her recognition of language and communication tactics commonly associated with nutrition misinformation. The researchers' differing levels of social media engagement also brought different perspectives to discussions about how content may be interpreted.

Discussions between DS, MM, and CK-A were used to critically examine interpretations, question assumptions, and consider alternative understandings of the data. For example, the researchers interpreted a post differently in which an influencer discouraged consumption of a tinned food. DS's familiarity with nutrition misinformation and experience creating nutrition content on social media informed her interpretation of the statement as an alarmist generalization that overlooked the nutritional value and practical benefits of other tinned foods. MM's interpretation focused more on the nutritional characteristics of the specific ultraprocessed tinned food depicted. Discussion between the researchers explored the distinction between the nutritional characteristics of the specific product and the influencer's broader statement that encouraged avoidance of all tinned foods, as well as how the language used shaped the message. CK-A also examined the post and contributed to the interpretation and final ranking. This early discussion helped the researchers examine how their professional knowledge and experiences shaped the aspects of the content they foregrounded and how these perspectives informed their interpretations. It also helped refine their interpretations of subsequent content by encouraging greater consideration of both the nutritional claims being made and the language and communication tactics used to convey them.

Ethical Considerations

This study was approved by the University of Canberra Human Research Ethics Committee (HREC-13755). Survey participants provided informed consent electronically before participation. The analysis was restricted to publicly accessible social media content. No private accounts, direct messages, or personally identifying information were accessed or retained. Participants did not receive any financial or other compensation for their participation.

Results

Main Findings

Of 1000 posts analyzed, 81.5% (815/1000) were videos and 18.5% (185/1000) were static posts. A very high proportion of posts (785/1000, 78.5%) were categorized as nutrition misinformation. The distribution of quality scores assigned to Instagram and TikTok posts is presented in Table 1.

Characteristics of the influencers included in this sample are shown in Table 2.

The sample included a range of nonnutrition qualifications in medicine (n=14) with specializations in pediatrics (n=2), gastroenterology (n=1), psychiatry (n=1), and surgery (n=1); pharmacy (n=2); physiotherapy (n=2); osteopathic medicine (n=1); biochemistry (n=1); psychology (n=1); biomedical science (n=1); chiropractic (n=6); and naturopathy (n=4). Other tertiary qualifications were held by 18 influencers and included qualifications in science, business administration, finance, anthropology, computer science, film, communication, education, political science, and musical theatre. Thirty-four influencers had no known tertiary qualifications (Table 2).

Nonrecognized or nonverifiable nutrition qualifications, credentials, or professional titles were reported by 23 influencers, including those with and without tertiary qualifications. Reported titles and credentials included "functional diagnostic nutrition practitioner," "functional nutrition therapy practitioner," "certified nutritionist," "holistic health and nutrition coach," "certified functional nutritionist," "board certified holistic nutritionist," "certified functional medicine nutritionist," "nutrition coach," "holistic nutritionist," "certified fitness nutritionist," "registered holistic nutritionist," and "holistic health coach and nutritionist."

Functional medicine was reported among influencers with and without formal qualifications, with 29 identifying as functional medicine practitioners, claiming functional medicine expertise, offering functional medicine services, or endorsing a functional medicine approach. Additional unregulated titles and self-descriptors were also common across both groups, including "human biologist," "holistic health coach," "cancer coach," "testosterone coach," "carnivore diet coach," "holistic health practitioner," "certified health coach," "food ingredients detective," "food activist," "holistic wellness advocate," "clean eating expert," "crunchy mom," and "biohacker."

Of the 100 influencers, 24% (24/100) had a verifiable nutrition qualification. Within this group, 37.5% (9/24) had an independently verifiable dietitian credential and 8.3% (2/24) had an independently verifiable nutritionist credential. A further 45.8% (11/24) had a tertiary nutrition-related qualification but no identified professional nutrition or dietetics credential. One (4.2%) influencer held a verified medical credential with additional specialized nutrition certification, and another (4.2%)

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influencer held a related scientific qualification in chemistry and food science, for which a professional nutrition or dietetics credential was not applicable. (Table 3).

Table 1. Distribution of quality scores assigned to Instagram and TikTok posts (n=1000) from macro- and mega-influencers sampled between March 2024 and March 2025.

Categorization, n (%) and score	Posts, n (%)
Low quality, 785 (78.5)	
1	0 (0)
2	0 (0)
3	315 (31.5)
4	86 (8.6)
5	24 (2.4)
6	242 (24.2)
7	118 (11.8)
Neutral, 47 (4.7)	
8	47 (4.7)
High quality, 168 (16.8)	
9	59 (5.9)
10	28 (2.8)
11	26 (2.6)
12	46 (4.6)
13	6 (0.6)
14	2 (0.2)
15	1 (0.1)

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Table 2. Characteristics of macro- and mega-influencers (n=100) on Instagram and/or TikTok selected for inclusion in the study by gender, location, follower count, and qualification status[a].

Characteristic and category	Values, n (%)
Gender	
Male	52 (52)
Female	48 (48)
Location	
United States	83 (83)
United Kingdom	13 (13)
Australia	3 (3)
Germany	1 (1)
Follower count	
250,000-499,000	31 (31)
500,000-999,000	25 (25)
1.0-2.9 million	30 (30)
≥3.0 million	14 (14)
Qualification	
Verifiable nutrition qualification	24 (24)
Nonrecognized or nonverifiable nutrition qualification, credential, or professional title	23 (23)
Nonnutrition qualification	42 (42)
Medicine	14 (14)
Pediatrics	2 (2)
Gastroenterology	1 (1)
Psychiatry	1 (1)
Surgery	1 (1)
Pharmacy	2 (2)
Physiotherapy	2 (2)
Osteopathic medicine	1 (1)
Biochemistry	1 (1)
Psychology	1 (1)
Biomedical science	1 (1)
Chiropractic	6 (6)
Naturopathy	4 (4)
Other tertiary qualifications (eg, qualifications in science, business administration, finance, anthropology, computer science, film, communication, education, political science, and musical theatre)	18 (18)
No known tertiary qualification	34 (34)

[a]Qualification categories are not mutually exclusive because some influencers reported more than one qualification, credential, or professional title in their social media bios; therefore, percentages do not sum to 100%.

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Table 3. Nutrition-related qualification and credential status among social media influencers (n=24) selected for inclusion with verifiable nutrition qualifications.

Qualification or credential status	Values, n (%)
Professional dietitian credential verified	9 (37.5)
Professional nutritionist credential verified	2 (8.3)
Medical credential with additional specialized nutrition certification	1 (4.2)
Tertiary nutrition-related qualification identified; professional nutrition or dietetics credential not identified	11 (45.8)
Related scientific qualification (chemistry and food science); nutrition or dietetics credential not applicable	1 (4.2)

Thematic Analysis Results

Reflexive thematic analysis identified 5 main themes: fearmongering, healthism, absolutist ideology, insufficient information, and product promotion.

Theme 1. Fearmongering

Fearmongering was a dominant strategy throughout the content sampled. Influencers consistently used alarmist and emotionally charged language such as "toxic," "bioengineered trash," "garbage," and "poison," with the potential to provoke anxiety around food and nutrition. Health risks were frequently exaggerated and presented without reference to credible scientific evidence. When citations were provided, they commonly pointed to low-quality materials, such as outdated studies, animal research, nonpeer-reviewed papers, or opinion pieces from activist organizations. Information was consistently misrepresented or presented in ways that did not accurately reflect the original findings. Despite the lack of substantiation, these claims were commonly conveyed with a high degree of certainty and authority.

Food and ingredients were causally linked to an array of health conditions, including cancer, obesity, neurodevelopmental disorders such as attention-deficit/hyperactivity disorder (ADHD), dementia, and mental health conditions. Fearmongering content frequently used conspiratorial rhetoric, characterized by beliefs that powerful, hidden groups manipulate the public for malicious or profit-driven purposes [36]. This framing was evident in emotionally charged statements such as "It's all a deception," "You've been lied to," and "They don't want you to know this."

A prominent feature of fearmongering content was chemophobia, an irrational fear of chemicals and synthetic substances in food [37]. Synthetic ingredients, additives, and preservatives were portrayed as inherently harmful to human health: "…we let all these chemicals come into our food system without proper testing… these foods should have health warnings on them." The term "chemical" was frequently used pejoratively to imply hidden toxicity and danger:

> *What's the difference between a food chemical and a drug? They're all just synthetic molecules that are made in factories, in labs by scientists… We are being mass drugged and poisoned in our food system with 10,000 virtually unregulated chemicals.*

Pesticide exposure was frequently depicted as inherently harmful and linked to health risks, including endocrine disruption and cancer: "Pesticide exposure can lead to estrogen-driven cancers such as breast cancer." Specific herbicides, such as glyphosate, were frequently singled out as disruptive to biological processes, with claims that they are "toxic" and linked to Parkinson disease, miscarriages, birth defects, mitochondrial dysfunction, neurological damage, and gut microbiome alterations. One post stated: "The more glyphosate, the more autism rates we see," while another linked it to depression and anxiety. Ingredients, notably seed oils, were prominent targets within fear-based narratives, described as "toxic," "inflammatory," and capable of accumulating in tissues with detrimental health effects:

> *Seed oils create inflammation, which turns into scar tissue fibrosis. Seed oils get lodged into our tissues, not just in our liver, but throughout the nervous system and brain.*

Food dyes and fluoride also featured heavily. Food dyes were described as "cytotoxic and genotoxic," with causal links to hormone disruption and conditions such as ADHD and cancer. Fluoride was claimed to reduce IQ.

A high proportion of posts categorized as fearmongering targeted parents, implying that any choice other than a narrowly defined "natural" diet was harmful to children. These types of posts admonished parents to "stop poisoning" their children. Content typically incorporated rhetoric suggesting that nutrition professionals cannot be trusted, with statements such as "Most nutritionists don't know anything about nutrition," and "[Food Company] has bribed nutritionists to say cereal is healthier than bacon and eggs." Influencers also claimed that cigarette companies have moved "addiction specialists to the food department by the thousands" to "weaponize ultra-processed food." Unverifiable statistics were common, for example, "Ultra processed foods are why 93% of Americans are metabolically unhealthy… these foods are the main driver of chronic disease."

Fearmongering content used multimodal elements such as dramatic or ominous music, visual imagery (including anatomical illustrations, pesticide spraying, and depictions of distress), emphatic speech featuring ideologically charged wellness language, and serious or angry facial expressions that heightened the presence of fearmongering.

Theme 2. Healthism

A substantial portion of the analyzed content reflected moralized and ideological concepts of health consistent with the theme of healthism, defined as a belief system attributing individual responsibility and moral value to health outcomes, often through dietary and lifestyle choices [38]. Influencers framed health as an individual responsibility and presented dietary choices as moral imperatives: "Your health is your responsibility … if

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you're not reading ingredient labels you are choosing chronic disease." Illness and disease were depicted as consequences of personal failings such as laziness, ignorance, or lack of discipline. This was reflected in claims such as "If you ate real food, 99% of your problems would improve," and "Remember, it's your plate, your health, and your choice!"

A prominent aspect of the healthism theme was the pervasive use of naturalism rhetoric, in which "natural" foods, remedies, and lifestyles were presented as inherently superior, safer, and more morally virtuous than conventional or "artificial" options. This narrative reinforced the moral dimension of dietary choices, implying that consuming "real," "natural," "organic," and "non-GMO" foods was not only healthier but also indicative of discipline and personal virtue. Conversely, processed or "unnatural" foods were associated with neglect or moral failure. The term "clean" was heavily used to describe and recommend foods; many influencers advocated eating food "made with clean ingredients," portraying such foods as pure, safe, and essential for health. Conversely, "toxic" foods and ingredients were linked to impurity and harm. The gut was described as a system that could be "healed" and "detoxed" through nonpersonalized dietary protocols.

Natural approaches were frequently framed as essential for preventing or managing serious diseases, with the avoidance of synthetic or processed substances positioned as central to health maintenance. Many posts promoted food as medicine, often presenting it as a preferable alternative to conventional medical treatments. Dietary choices and lifestyle factors were commonly described as equally or more effective than pharmaceutical or clinical interventions. For example, one influencer claimed, "This is medicine … lifting weights, steak, sunlight, omega 3s and gut health are more effective than anti-depressants." Another post contrasted "jabs and pokes to keep you healthy" with the use of "herbs, plants, and nature's medicine of heat, sound, and light" to "boost" the immune system.

Cancer was a common condition targeted by influencers who presented themselves as proponents of alternative medicine. For example, one influencer promoting functional medicine approaches stated that, if diagnosed with cancer, they would aim to "transform the body into a hostile environment" by "reducing inflammation, boosting immunity and rebalancing metabolism" through strategies such as fasting, "superfoods," herbs, supplements, and visualization techniques. Another influencer promoted apricot seeds as an alternative cancer treatment, stating, "They really want us AFRAID to take these … it's evident THEY WANT US TO FEAR WHAT HEALS."

More broadly, a range of foods, herbs, and fungi-based products were promoted for specific therapeutic effects, often without scientific evidence. For example, cucumber juice was described as able to "cleanse the urinary tract," apple cider vinegar was claimed to "slow ageing," and raw dairy products, including raw milk, were promoted as beneficial for children with autism, as well as for neuroinflammatory disorders, allergies, and digestive issues. Similarly, lemon balm was said to "stabilize brain function," ashwagandha and astragalus were described as "natural healing solutions" for thyroid conditions, and Lion's Mane was claimed to "lower inflammation" and "reduce the risk of Alzheimer's disease."

Theme 3. Absolutist Ideology

Absolutist ideology, characterized by rigid, black-and-white views on food and nutrition, was pervasive in the sampled content. Influencers framed foods as either entirely "good" or entirely "bad," and labeled individuals who did not follow specific dietary rules in negative terms, for example, "dumb" or "clowns." Rigid dietary instructions were common. Many influencers instructed their audiences to "never" consume certain foods: "Never drink regular milk… your stomach can't process the protein." Influencers also commonly made categorical claims recommending specific ingredients as universally necessary: "Everyone should be supplementing with sodium."

Absolutist content often included reductionist statements about health risks or benefits associated with specific foods: "If you want guaranteed diabetes, follow this diet: veg, fruit, carbs, lean protein, dairy," and "You have to eat an ample amount of cholesterol before bed… eggs or beef… cholesterol is the precursor to testosterone." Promotion of specific dietary patterns, such as carnivore and ketogenic diets, as universally superior was widespread, with these approaches often described as the only correct way to eat. One proponent of the ketogenic diet claimed that consuming carbohydrates produces "cellular smoke" similar to a truck's exhaust, which was said to accelerate aging. Carnivore diet advocates made statements such as "plants want to kill you" and "lectins can kill you." Similarly, statements demonizing particular foods or ingredients were common. For example, "Sugar is a drug," "Ultra-processed foods are the number one killer," and eating half an apple per day would result in "putting on visceral fat… because our bodies weren't designed for that much of a glucose hit." In contrast, other food was overly glorified, with claims such as "eating organic drastically decreases your body's toxic load" and butter "massively improves" health when consumed more regularly.

Theme 4. Insufficient Information

Content also contained insufficient information, characterized by a lack of depth, explanation, or nuance. In some posts, content was partially accurate but often lacked the necessary detail or context to provide a fully informed understanding of food, nutrition, and health. Arguably, this contributes to a confused understanding about food and nutrition.

Insufficient information typically occurred when influencers described their personal dietary practices without providing supporting evidence or broader context. For example, one influencer shared that they snack frequently throughout the day and suggested that achieving fitness goals does not require restriction or guilt, promoting the idea of "snacking smart" without further explanation. Others shared personal approaches to weight management that partially aligned with evidence-based practice but did not give sufficient explanation to support listeners in making informed, personalized choices. For example, water was described as helpful for metabolism and appetite regulation because it "fills up some empty space in your stomach," and "People don't need to worry about the sugar in

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fruit … nobody's getting fat from eating too many apples," and "skipping breakfast is trash."

Insufficient information was also evident in content aimed at countering nutrition misinformation. While influencers often attempted to clarify inaccurate posts shared by others, their explanations sometimes risked creating additional confusion or concern. For example, one influencer who attempted to correct misinformation comparing citric acid in a nonorganic baby food product to lemon juice in an organic alternative noted that lemon juice also contained citric acid and "could potentially be even more acidic," without further clarification.

Theme 5. Product Promotion

Product promotion was dominant throughout the dataset. Of the 100 influencers included in this study, 76% (76/100) promoted dietary supplements, 71% (71/100) marketed food-related items, 63% (63/100) sold books they had authored, 46% (46/100) provided paid advisory services, and 22% (22/100) featured products associated with biohacking. Additionally, 17% (17/100) operated Amazon storefronts offering a broad range of consumer goods, including items related to health and wellness, nutrition, home, kitchen, personal care, and family life. Within social media posts, most products promoted were not disclosed as advertisements, despite having characteristics that would require disclosure under regulatory bodies such as the Federal Trade Commission. Influencers frequently tagged the companies they were promoting, shared affiliate links and discount codes, and provided personal endorsements of brands without using clear or conspicuous language to indicate that the posts were advertisements. Common tactics included positioning products as their "favorite brand(s)," for example, "Some of my favorite brands for protein powders are [Brand] and [Brand] My code is [redacted] for both to save $$!"

Warning audiences about certain foods and promoting "healthier" alternatives was another common marketing tactic. This content characteristically featured static carousel posts displaying multiple images of familiar food items alongside their purportedly healthier counterparts. Captions typically included tags of recommended brands and messages reinforcing why the recommended products were considered superior. For example:

> *Stay away from [Product] … They pack it with bad ingredients like seed oils, sugar, GMO corn starch, and more … Instead, swap it out for [Product Brand Name] —a grain-free, organic cereal made with the best ingredients for your body!*

Another popular tactic involved publicly thanking and tagging brands, for example:

> *I've recently been rounding out my homemade vinaigrette with a touch of honey or maple syrup. My CGM [thanks, [CGM Brand Name]] confirms the minimal effect it's had on post-meal blood sugar.*

It was also common for influencers to instruct their followers to include a specific word in the comments section to receive an automated link to the products they were promoting and selling. For example, "The gelatine we use is almost 40% off… It's super clean and free from glyphosate... The sale ends today… Comment "gummy" and I can send you the link and recipes."

Extensive product promotion occurred in supermarket settings, with influencers filming content inside named supermarket chains to showcase a wide variety of products they endorsed and discouraged. Notably, no explicit disclosures were identified in the dataset to confirm whether these supermarket-based posts were part of paid collaborations. However, the frequent use of supermarket names and promotional-style captions suggests a commercial tone. For example: "[Supermarket Chain] Deals! Get 30% off your first [Supermarket Chain] order & a free gift at www.[redacted].com."

Product promotion was observed across both Instagram and TikTok, with no notable differences in its presentation or context. On both platforms, captions accompanying video content often provided additional information about the content topic or products promoted and sometimes included hashtags.

Discussion

Interpretation of Main Findings

This study quantified the prevalence of nutrition misinformation among high-reach influencers on Instagram and TikTok and examined the characteristics of content classified as nutrition misinformation. To our knowledge, this is the first study to systematically examine cross-platform nutrition content shared by a purposively selected sample of macro- and mega-influencers who regularly produce nutrition-related content. Given the substantial reach of these individuals, this study addresses a significant gap in the literature and offers a contemporary overview of the nutrition misinformation landscape shaped by popular influencers on social media.

The high proportion of posts classified as nutrition misinformation is concerning but not unexpected. Other research has similarly documented the widespread dissemination of inaccurate nutrition advice on Instagram by individuals without legitimate professional credentials in Australia [13]. Only 24% (24/100) of the influencers in our sample had verifiable nutrition credentials. These findings add to concerns raised by social media researchers about unregulated actors disseminating misleading content. As Baker and Rojek [39] demonstrate, lifestyle influencers routinely use vague or nonaccredited credentials in tandem with strategic personal branding to obscure their lack of formal training. Merkley [40] argues that interweaving nutrition misinformation with broader antiscientific narratives, underpinned by anti-intellectualism, undermines public trust in scientific and professional expertise. Influencers commonly adopted a "truth-teller" persona, presenting themselves as rebellious figures exposing hidden dangers or corruption. Ekinci et al [41] describe this as an epistemic transformation, in which digital charisma displaces scientific evidence, reframing misinformation as credible advocacy. This rhetorical positioning can enhance perceived authenticity and trust, particularly when framed as countering mainstream narratives. It erodes trust in scientific and regulatory bodies,

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undermines public health messaging, and facilitates the continued spread of misinformation [42].

Posts classified as nutrition misinformation largely included fearmongering content with heavy use of chemophobia and conspiratorial messaging. Risk was exaggerated in relation to typical trace exposures, with messages omitting key contextual factors such as regulatory safety thresholds and risk assessments integral to food safety policy. Fear-based narratives were often intensified through conspiratorial rhetoric, which framed regulatory agencies, public health institutions, and the food and pharmaceutical industries as corrupt or deliberately deceptive. These dynamics align with research showing that alternative influencers often build credibility through emotional performance, a communicative style that emphasizes perceived authenticity and affective intensity over empirical accuracy [43]. Emotional appeals, particularly fear and anger, are known to influence how individuals attend to, process, and share information. Lühring et al [44] found that high-arousal emotions such as fear and anger promote heuristic over systematic processing, diminishing critical evaluation. Sharma et al [45] similarly reported that negative emotional states narrow attentional focus, increasing susceptibility to misinformation.

Multimodal cues enhanced the presence of fearmongering in posts. These tactics are well known to support emotional engagement. Kamiyama et al [46] found that pairing emotional music with expressive faces heightens emotional intensity at the neural level. Joffe [47] demonstrated that emotionally salient visuals foster emotional identification with the message. Brady et al [14] further observed that social media content containing moral-emotional language, particularly that which evokes emotions such as anger, was more likely to be shared, highlighting the role of moral salience in content diffusion.

Healthism featured strongly in posts classified as misinformation. Influencers overinflated the health effects of "natural" foods and ingredients, commonly framed as "organic" or "non-GMO," portraying them as inherently medicinal. This reflects the naturalness bias, a cognitive tendency to view natural substances as inherently safer, healthier, and morally superior while undervaluing conventional or manufactured alternatives [48]. Research consistently shows how powerful this bias is. For example, Li and Chapman [49] found that participants strongly preferred a "natural" version of vitamin C over a synthetic one, even when told both were chemically identical. Rozin et al [48] showed that people value "natural" foods for both instrumental reasons, such as perceived health benefits, and ideational reasons, such as moral purity or closeness to nature. Román et al [50] found that naturalness is a powerful driver of food choice across cultures, particularly among health-conscious consumers who routinely associate "natural" labels with healthfulness.

Content appealing to the naturalness bias often promoted claims with unverifiable statistics, anecdotal testimony, and personal conviction—strategies known to bypass analytical reasoning [51] and reinforce identity-consistent narratives [52]. Influencers frequently relied on personal stories and emotional testimony lacking empirical support. Freling et al [53] found that anecdotes often outweigh factual evidence by engaging memory and emotion more effectively than abstract data. Lee and Eastin [54] demonstrated that the perceived sincerity of SMIs can enhance persuasive impact. Ekinci et al [41] argue these deceptive practices exploit regulatory gaps and undermine enforcement. In the present analysis, influencers leveraged these tactics to craft content that positioned "natural" ingredients, foods, and commercial products, including dietary supplements, as superior to conventional alternatives. They also commonly promoted "clean" foods and eating, despite the term being unregulated and lacking a clear scientific definition [55]. By framing certain foods as inherently pure or essential for health, influencers reinforce moralized and fear-based narratives around eating. Research indicates that adherence to clean eating principles can contribute to restrictive dietary patterns, heightened dietary restraint, and an increased risk of disordered eating behaviors [56].

Product promotion was pervasive in our sample. Despite clear disclosure requirements from regulatory bodies such as the US Federal Trade Commission and UK Advertising Standards Authority [57,58], transparency was rare. Promotions were frequently framed as organic recommendations, presented as personal "favorites," and embedded within content resembling nutrition education, health advice, or investigative reporting. These tactics reduce recognition of commercial intent, eroding transparency and enhancing persuasive impact [59]. Lee and Eastin [54] describe this as a "credibility halo" that diminishes critical evaluation. Additionally, parasocial bonds strengthen trust [60] and can drive purchase intentions [61]. Additional tactics, such as prompting comments to trigger direct-to-consumer links, offering discount codes, tagging brands with gratitude, and using nonvalidated food-rating apps to support claims about favored or disparaged foods, further contributed to blurring the line between personal narrative and promotion.

Currently, no regulatory frameworks adequately address nutrition misinformation on social media. Advertising regulations tend to focus narrowly on disclosure rather than content accuracy, and enforcement is inconsistent and limited worldwide. Many influencers exploit credential ambiguity, particularly the lack of regulation surrounding nutrition-related titles, enabling them to gain public influence without the necessary expertise and accountability. These gaps create a fertile environment for nutrition misinformation to thrive. Addressing these challenges requires more than voluntary actions by social media companies, whose commercial interests often conflict with meaningful enforcement.

These findings have implications for government, regulatory bodies, social media platforms, and the nutrition profession. Government intervention is needed to strengthen consumer protections, advertising oversight, and safeguards around professional nutrition titles. In the United States, the Federal Trade Commission Endorsement Guides provide guidance on the disclosure of material connections between endorsers and brands and advertisers' responsibilities when working with influencers [62]. The guidance recommends that advertisers train and monitor influencers, periodically review their content, and take appropriate action when questionable practices are identified; it also emphasizes the need for advertisers to

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substantiate objective product claims [62]. The low level of disclosure observed in our sample, despite the existence of established regulatory requirements, highlights a gap between formal disclosure obligations and compliance in practice.

Evidence from other jurisdictions also illustrates challenges in achieving consistent compliance. In Australia, an Australian Competition and Consumer Commission (ACCC) internet sweep of 118 SMIs found that 81% had posts that raised concerns under the Australian Consumer Law, including failure to disclose brand relationships among those identified [63]. The ACCC noted that the sweep was informed by consumer tip-offs and was not designed to estimate the prevalence of noncompliance among influencers generally [63]. Nevertheless, the findings illustrate documented compliance concerns despite an established consumer protection framework, highlighting the importance of active monitoring and enforcement.

Importantly, the commercial practices identified in this study cannot be understood solely through the lens of influencer-brand relationships. Influencers in our sample also operated their own businesses and promoted and sold products directly, including supplements, foods, books, and paid advisory services. In these circumstances, the commercial interest may arise from the influencer's own business activities rather than a relationship with a third-party brand. Disclosure requirements alone may therefore not address other potential sources of consumer risk, including the evidentiary basis for nutrition claims made in connection with products or the commercial incentives created when influencers profit directly from products they recommend. Regulatory approaches should consequently consider both disclosure of commercial relationships and the broader commercial practices through which nutrition information and products are promoted.

Additionally, regulatory responses should consider the role of social media platforms and other commercial actors, rather than focusing exclusively on individual influencers. Platforms influence how commercial content is disclosed, distributed, and presented to users and can provide mechanisms for identifying and reporting commercial content. In the European Union, the Digital Services Act (DSA) provides an example of government intervention that places transparency and accountability obligations on online platforms, including requirements relating to advertising and recommender systems [64]. These obligations have been subject to active regulatory oversight. For example, in 2025, the European Commission found that TikTok's advertising repository did not comply with DSA transparency requirements and subsequently accepted binding commitments from TikTok to improve its advertising transparency [65,66]. In December 2025, the Commission also fined X €120 million (a currency exchange rate of €1=US $1.16 was applicable) for breaches, including deficiencies in its advertising repository [67]. These actions illustrate how platform-level regulation can extend beyond individual content creators to the systems through which commercial content is disseminated, while also highlighting the continuing need for monitoring and enforcement.

Alongside regulatory and platform-level measures, investment in public media literacy remains important, particularly for people who may be frequently exposed to persuasive commercial nutrition content. Qualified nutrition professionals also have a critical role in actively engaging online and providing accessible, evidence-based information and counternarratives that can help the public evaluate nutrition claims and discern credible expertise from nutrition misinformation. Coordinated action across regulation, platform governance, commercial practices, and public education is warranted to address nutrition misinformation and undisclosed commercial content on social media.

Limitations

This study has several key strengths. The combined use of a consumer survey and systematic desktop searches enabled the compilation of a comprehensive and diverse sample across 2 major social media platforms, Instagram and TikTok. Data collection spanned a full 12-month period, enhancing the temporal representativeness of the analyzed content. Involving multiple accredited dietitians in the content analysis, supported by interrater reliability testing, strengthened the rigor and consistency of the evaluation process. Additionally, reflexive thematic analysis allowed for a nuanced exploration of how nutrition misinformation was framed and presented, capturing both explicit and implicit messaging across multimodal content.

Some limitations warrant consideration. The sample focused exclusively on influencers with over 100,000 followers, thereby excluding microinfluencers who may also contribute significantly to nutrition misinformation. Analysis was limited to publicly available posts, omitting ephemeral content such as Stories, and confined to Instagram and TikTok, which may affect generalizability across other social media platforms. The mixed methods design restricted qualitative analysis to posts classified as misinformation during quantitative analysis, preventing comparison with high-quality or neutral posts. Despite these limitations, this study fills a critical gap in the literature by delivering a systematic, cross-platform analysis of nutrition misinformation disseminated by a purposively selected sample of high-reach macro- and mega-influencers on Instagram and TikTok.

Conclusions

This study reveals the scale and characteristics of nutrition misinformation on social media, predominantly driven by unqualified influencers operating outside established professional and regulatory frameworks. Exploiting platform features, emotional appeals, and marketing loopholes, these actors blur the boundaries between education, opinion, and advertising, often framing commercial content as personal insight or public advocacy. The heavy presence of fearmongering, healthism, absolutist ideology, insufficient information, and product promotion has the potential to distort public understanding of food and health and weaken the influence of professional expertise. Further research is needed to assess the real-world impacts of nutrition misinformation exposure.

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Data Availability

The data for this study are not publicly available because it was not possible to completely deidentify the content of the Instagram and TikTok posts. Data can be made available upon reasonable request to the corresponding author.

Generative AI Use

The authors declare that generative AI was not used in the preparation of this manuscript.

Authors' Contributions

DS, MM, CK-A, MO, and MF made substantial contributions to conception, design, and data acquisition. DS (the chief investigator) collected the data. DS and MM independently assessed the data. CK-A acted to resolve any conflict in categorization. DS prepared the final paper with support from all authors. All parties agree with this paper presented below and confirm that the content has not been published elsewhere.

Conflicts of Interest

None declared.

Multimedia Appendix 1

GRAMMS checklist.
[DOCX File , 28 KB-Multimedia Appendix 1]

References

1. Horsburgh H, Barron D. Who Are the Experts? Examining the Online Promotion of Misleading and Harmful Nutrition Information. In: Medical Misinformation and Social Harm in Non-Science Based Health Practices: A Multidisciplinary Perspective. United Kingdom. Routledge; 2019.
2. Global social media statistics. DataReportal. URL: https://datareportal.com/social-media-users [accessed 2026-10-31]
3. Vosoughi S, Roy D, Aral S. The spread of true and false news online. Science. 2018;359(6380):1146-1151. [doi: 10.1126/science.aap9559] [Medline: 29590045]
4. Vrontis D, Makrides A, Christofi M, Thrassou A. Social media influencer marketing: a systematic review, integrative framework and future research agenda. Int J Consum Stud. 2021;45(4):617-644. [doi: 10.1111/ijcs.12647]
5. Conde R, Casais B. Micro, macro and mega-influencers on Instagram: the power of persuasion via the parasocial relationship. J Bus Res. 2023;158:113708. [doi: 10.1016/j.jbusres.2023.113708]
6. Pérez-Escamilla R, King J. Evidence-based public nutrition: an evolving concept. J Nutr. 2007;137(2):478-479. [FREE Full text] [doi: 10.1093/jn/137.2.478] [Medline: 17237330]
7. Viswanath K, Taylor T, Rhodes H. Understanding and Addressing Misinformation About Science. In: National Academies of Sciences, Engineering, and Medicine. Washington, DC. The National Academies Press; 2025.
8. Cinelli M, De Francisci Morales G, Galeazzi A, Quattrociocchi W, Starnini M. The echo chamber effect on social media. Proc Natl Acad Sci USA. 2021;118(9):e2023301118. [FREE Full text] [doi: 10.1073/pnas.2023301118] [Medline: 33622786]
9. Nan X, Wang Y, Thier K. Why do people believe health misinformation and who is at risk? A systematic review of individual differences in susceptibility to health misinformation. Soc Sci Med. 2022;314:115398. [doi: 10.1016/j.socscimed.2022.115398] [Medline: 36327631]
10. Denniss E, Lindberg R. Social media and the spread of misinformation: infectious and a threat to public health. Health Promot Int. 2025;40(2):daaf023. [FREE Full text] [doi: 10.1093/heapro/daaf023] [Medline: 40159949]
11. Verified badges on Instagram. Instagram. URL: https://help.instagram.com/733907830039577 [accessed 2026-10-31]
12. TikTok. TikTok Verification: How to Get a Blue Check. 2025. URL: https://www.tiktok.com/creator-academy/en/article/Account-verification-101 [accessed 2026-03-10]
13. Denniss E, Lindberg R, Marchese LE, McNaughton SA. #Fail: the quality and accuracy of nutrition-related information by influential Australian Instagram accounts. Int J Behav Nutr Phys Act. 2024;21(1):16. [FREE Full text] [doi: 10.1186/s12966-024-01565-y] [Medline: 38355567]
14. Brady WJ, Wills JA, Jost JT, Tucker JA, Van Bavel JJ. Emotion shapes the diffusion of moralized content in social networks. Proc Natl Acad Sci USA. 2017;114(28):7313-7318. [FREE Full text] [doi: 10.1073/pnas.1618923114] [Medline: 28652356]
15. Chuai Y, Zhao J. Anger can make fake news viral online. Front Phys. 2022;10:970174. [doi: 10.3389/fphy.2022.970174]
16. Hardy A. Unpacking non-dietitian nutrition credentials. Today's Dietitian. Jan 1, 2025. URL: https://www.todaysdietitian.com/newarchives/0125p20.shtml [accessed 2026-10-31]

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RenderX

17. Dietitian or nutritionist. Dietitians Australia. 2026. URL: https://dietitiansaustralia.org.au/seeing-dietitian/what-expect/dietitian-or-nutritionist [accessed 2026-10-31]
18. What are the differences between dietitians and nutritionists? The Association of UK Dietitians. 2026. URL: https://www.bda.uk.com/about-dietetics/what-is-dietitian/dietitian-or-nutritionist.html [accessed 2026-10-31]
19. About RDNs and NDTRs. eatrightPRO. 2026. URL: https://www.eatrightpro.org/about-us/our-members/about-rdns-and-ndtrs [accessed 2026-10-31]
20. Baker SA, Rojek C. The Belle Gibson scandal: the rise of lifestyle gurus as micro-celebrities in low-trust societies. J Sociol. 2019;56(3):388-404. [doi: 10.1177/1440783319846188]
21. Annabelle (Belle) Gibson and Inkerman Road Nominees Pty Ltd - court action. Consumer Affairs Victoria. Sep 28, 2017. URL: https://www.consumer.vic.gov.au/latest-news/annabelle-gibson-and-inkerman-road-nominees-pty-ltd-court-action [accessed 2026-10-31]
22. Warner EL, Basen-Engquist KM, Badger TA, Crane TE, Raber-Ramsey M. The online cancer nutrition misinformation: a framework of behavior change based on exposure to cancer nutrition misinformation. Cancer. 2022;128(13):2540-2548. [FREE Full text] [doi: 10.1002/cncr.34218] [Medline: 35383913]
23. Benajiba N, Alhomidi M, Alsunaid F, Alabdulkarim A, Dodge E, Chavarria EA, et al. Video clips of the Mediterranean diet on YouTube: a social media content analysis. Am J Health Promot. 2023;37(3):366-374. [FREE Full text] [doi: 10.1177/08901171221132113] [Medline: 36191140]
24. Kabata P, Winniczuk-Kabata D, Kabata PM, Jaśkiewicz J, Połom K. Can social media profiles be a reliable source of information on nutrition and dietetics? Healthcare (Basel). 2022;10(2):397. [FREE Full text] [doi: 10.3390/healthcare10020397] [Medline: 35207010]
25. Lynn T, Rosati P, Santos GL, Endo PT. Sorting the healthy diet signal from the social media expert noise: preliminary evidence from the healthy diet discourse on Twitter. Int J Environ Res Public Health. 2020;17(22):8557. [FREE Full text] [doi: 10.3390/ijerph17228557] [Medline: 33218105]
26. Koball AM, Jester DJ, Pruitt MA, Cripe RV, Henschied JJ, Domoff S. Content and accuracy of nutrition-related posts in bariatric surgery Facebook support groups. Surg Obes Relat Dis. 2018;14(12):1897-1902. [doi: 10.1016/j.soard.2018.08.017] [Medline: 30274739]
27. Leong AY, Sanghera R, Jhajj J, Desai N, Jammu BS, Makowsky MJ. Is YouTube useful as a source of health information for adults with type 2 diabetes? A South Asian perspective. Can J Diabetes. 2018;42(4):395-403.e4. [doi: 10.1016/j.jcjd.2017.10.056] [Medline: 29282200]
28. Minadeo M, Pope L. Weight-normative messaging predominates on TikTok—a qualitative content analysis. PLoS One. 2022;17(11):e0267997. [FREE Full text] [doi: 10.1371/journal.pone.0267997] [Medline: 36318532]
29. Tricas-Vidal HJ, Vidal-Peracho MC, Lucha-López MO, Hidalgo-García C, Lucha-López AC, Monti-Ballano S, et al. Nutrition-related content on Instagram in the United States of America: analytical cross-sectional study. Foods. 2022;11(2):239. [FREE Full text] [doi: 10.3390/foods11020239] [Medline: 35053971]
30. Creswell JW, Creswell JD. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Sixth Edition. Los Angeles. SAGE Publications; 2022.
31. O'Cathain A, Murphy E, Nicholl J. The quality of mixed methods studies in health services research. J Health Serv Res Policy. 2008;13(2):92-98. [doi: 10.1258/jhsrp.2007.007074] [Medline: 18416914]
32. Apify. 2026. URL: https://apify.com [accessed 2026-10-31]
33. Apify Data Processing Addendum. Apify. Jul 8, 2026. URL: https://docs.apify.com/legal/data-processing-addendum [accessed 2026-10-31]
34. Braun V, Clarke V. Thematic Analysis: A Practical Guide. London. SAGE Publications Ltd; 2021.
35. Ichikawa J. Epistemic contextualism and the sociality of knowledge. In: The Oxford Handbook of Social Epistemology. Oxford. Oxford University Press; Apr 22, 2025:802-819.
36. Conspiracy theories and their believers in an era of misinformation. Misinformation Review. Dec 12, 2024. URL: https://misinforeview.hks.harvard.edu/article/conspiracy-theories-and-their-believers-in-an-era-of-misinformation [accessed 2026-10-31]
37. Chemophobia. Merriam-Webster Medical Dictionary. 2026. URL: https://www.merriam-webster.com/medical/chemophobia [accessed 2026-10-31]
38. Crawford R. Healthism and the medicalization of everyday life. Int J Health Serv. 1980;10(3):365-388. [doi: 10.2190/3H2H-3XJN-3KAY-G9NY] [Medline: 7419309]
39. Baker SA, Rojek C. "Don't eat that!": lifestyle gurus as unregulated advisers. In: Lifestyle Gurus: Constructing Authority and Influence Online. Cambridge. Polity; Jan 2020.
40. Merkley E. Anti-intellectualism, populism, and motivated resistance to expert consensus. Public Opin Q. 2020;84(1):24-48. [doi: 10.1093/poq/nfz053]
41. Ekinci Y, Dam S, Buckle G. The dark side of social media influencers: a research agenda for analysing deceptive practices and regulatory challenges. Psychol Mark. 2025;42(4):1201-1214. [doi: 10.1002/mar.22173]

XSL•FO
RenderX

42. Baker SA. Alt. health influencers: how wellness culture and web culture have been weaponised to promote conspiracy theories and far-right extremism during the COVID-19 pandemic. Eur J Cult Stud. 2022;25(1):3-24. [doi: 10.1177/13675494211062623]
43. Liu Y. True feelings but false meanings: emotional performance and individual confrontation in the dissemination of misinformation. BCP Educ Psychol. 2022;4:296-308. [doi: 10.54691/bcpep.v4i.805]
44. Lühring J, Shetty A, Koschmieder C, Garcia D, Waldherr A, Metzler H. Emotions in misinformation studies: distinguishing affective state from emotional response and misinformation recognition from acceptance. Cogn Res Princ Implic. 2024;9(1):82. [doi: 10.1186/s41235-024-00607-0] [Medline: 39692779]
45. Sharma PR, Wade KA, Jobson L. A systematic review of the relationship between emotion and susceptibility to misinformation. Memory. 2023;31(1):1-21. [doi: 10.1080/09658211.2022.2120623] [Medline: 36093958]
46. Kamiyama KS, Abla D, Iwanaga K, Okanoya K. Interaction between musical emotion and facial expression as measured by event-related potentials. Neuropsychologia. 2013;51(3):500-505. [doi: 10.1016/j.neuropsychologia.2012.11.031] [Medline: 23220447]
47. Joffe H. The power of visual material: persuasion, emotion and identification. Diogenes. 2008;55(1):84-93. [doi: 10.1177/0392192107087919]
48. Rozin P, Spranca M, Krieger Z, Neuhaus R, Surillo D, Swerdlin A, et al. Preference for natural: instrumental and ideational/moral motivations, and the contrast between foods and medicines. Appetite. 2004;43(2):147-154. [doi: 10.1016/j.appet.2004.03.005] [Medline: 15458801]
49. Li M, Chapman GB. Why do people like natural? Instrumental and ideational bases for the naturalness preference. J Appl Soc Psychol. 2012;42(12):2859-2878. [doi: 10.1111/j.1559-1816.2012.00964.x]
50. Román S, Sánchez-Siles LM, Siegrist M. The importance of food naturalness for consumers: results of a systematic review. Trends Food Sci Technol. 2017;67:44-57. [doi: 10.1016/j.tifs.2017.06.010]
51. Berinsky AJ. Rumors and health care reform: experiments in political misinformation. Br J Polit Sci. 2015;47(2):241-262. [doi: 10.1017/s0007123415000186]
52. Martel C, Pennycook G, Rand DG. Reliance on emotion promotes belief in fake news. Cogn Res Princ Implic. 2020;5(1):1-20. [FREE Full text] [doi: 10.1186/s41235-020-00252-3] [Medline: 33026546]
53. Freling TH, Yang Z, Saini R, Itani OS, Abualsamh RR. When poignant stories outweigh cold hard facts: a meta-analysis of the anecdotal bias. Organ Behav Hum Decis Process. 2020;160:51-67. [doi: 10.1016/j.obhdp.2020.01.006]
54. Lee JA, Eastin MS. I like what she's #endorsing: the impact of female social media influencers' perceived sincerity, consumer envy, and product type. J Interact Advert. 2020;20(1):76-91. [doi: 10.1080/15252019.2020.1737849]
55. Negowetti N, Ambwani S, Karr S, Rodgers RF, Austin SB. Digging up the dirt on "clean" dietary labels: public health considerations and opportunities for increased federal oversight. Int J Eat Disord. 2022;55(1):39-48. [doi: 10.1002/eat.23585] [Medline: 34312898]
56. Allen M, Dickinson KM, Prichard I. The dirt on clean eating: a cross sectional analysis of dietary intake, restrained eating and opinions about clean eating among women. Nutrients. 2018;10(9):1266. [FREE Full text] [doi: 10.3390/nu10091266] [Medline: 30205540]
57. Disclosures 101: new FTC resources for social media influencers. Federal Trade Commission. Nov 5, 2019. URL: https://www.ftc.gov/business-guidance/blog/2019/11/disclosures-101-new-ftc-resources-social-media-influencers [accessed 2026-10-31]
58. Content creators and social media endorsements. GOV.UK. Jan 23, 2019. URL: https://www.gov.uk/government/publications/social-media-endorsements-guidance-for-content-creators [accessed 2026-10-31]
59. Boerman SC, Willemsen LM, Van Der Aa EP. "This post is sponsored" effects of sponsorship disclosure on persuasion knowledge and electronic word of mouth in the context of Facebook. J Interact Mark. 2017;38(1):82-92. [doi: 10.1016/j.intmar.2016.12.002]
60. Yuan S, Lou C. How social media influencers foster relationships with followers: the roles of source credibility and fairness in parasocial relationship and product interest. J Interact Advert. 2020;20(2):133-147. [doi: 10.1080/15252019.2020.1769514]
61. Breves P, Amrehn J, Heidenreich A, Liebers N, Schramm H. Blind trust? The importance and interplay of parasocial relationships and advertising disclosures in explaining influencers' persuasive effects on their followers. Int J Advert. 2021;40(7):1209-1229. [doi: 10.1080/02650487.2021.1881237]
62. Endorsements, Influencers, and Reviews. Federal Trade Commission. 2026. URL: https://www.ftc.gov/business-guidance/advertising-marketing/endorsements-influencers-reviews [accessed 2026-10-31]
63. Social media influencer testimonials and endorsements. The Australian Competition and Consumer Commission. Dec 7, 2023. URL: https://www.accc.gov.au/about-us/publications/social-media-influencer-testimonials-and-endorsements [accessed 2026-10-31]
64. Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act). European Union. Oct 19, 2022. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022R2065 [accessed 2026-10-31]

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65. Commission preliminarily finds TikTok's ad repository in breach of the Digital Services Act. European Commission. May 15, 2025. URL: https://digital-strategy.ec.europa.eu/en/news/commission-preliminarily-finds-tiktoks-ad-repository-breach-digital-services-act [accessed 2026-10-31]
66. Commission accepts TikTok's commitments on advertising transparency under the Digital Services Act. European Commission. Dec 5, 2025. URL: https://digital-strategy.ec.europa.eu/en/news/commission-accepts-tiktoks-commitments-advertising-transparency-under-digital-services-act [accessed 2026-10-31]
67. Commission fines X €120 million under the Digital Services Act. European Commission. Dec 5, 2025. URL: https://digital-strategy.ec.europa.eu/en/news/commission-fines-x-eu120-million-under-digital-services-act [accessed 2026-10-31]

Abbreviations

ACCC: Australian Competition and Consumer Commission
ADHD: attention-deficit/hyperactivity disorder
APD: Accredited Practising Dietitian
DSA: Digital Services Act
GRAMMS: Guidelines for Reporting Mixed Methods Research
SMI: social media influencer

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