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Research trends in unhealthy weight management behavior and social media influence among women in emerging adulthood: Systematic review

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Abstract

Background: Unhealthy Weight Management Behavior (UWMB) refers to harmful weight-control practices that can lead to physical and mental health issues, requiring intervention. This study examines how social media affects UWMB in emerging adult women (18–25 years).

Methods: A systematic review was conducted following PRISMA guidelines. Five databases (PubMed, CINAHL, EMBASE, Web of Science, and Cochrane Library) were searched for studies published between 1 January 2014 and 31 December 2023. Study quality was assessed using JBI critical appraisal tools, and the protocol was registered with PROSPERO (CRD42024542028).

Results: Nine studies were included. Social networking sites (SNS) (n = 6, 66.7%) promoted self-objectification, body comparison, and appearance-focused feedback, contributing to UWMB. Appearance comparisons on SNS triggered body dissatisfaction, exacerbating UWMB. Content communities (n = 4, 44.5%), such as diet/fitness apps, fostered competition and obsession with numbers, further aggravating UWMB. Definitions of UWMB varied across studies, encompassing behaviors like heavy exercise, substance use, surgical methods, calorie-counting obsession, and binge eating, highlighting inconsistencies.

Conclusions: Social media's diverse negative influences on UWMB in emerging adult women are highlighted with the need for clearer definitions and measurements of UWMB. Tailored interventions that address the specific impacts of different social media platforms are essential.

Keywords

Social media, health risk behaviors, body weight, body dissatisfaction, young adult

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Introduction

Globally, unhealthy weight management behaviors (UWMB) among emerging adult women have become a growing health concern. Emerging adult women, typically individuals aged 18 to 25 years,[1] are particularly susceptible to their weight and appearance due to social pressures and media influences.[2] They are more likely to develop negative body image as a result of frequently comparing their appearance to others on social media,[3,4] which increases their body dissatisfaction and desire for thinness.[4] Consequently, it increases the likelihood of engaging in UWMB,[5,6] such as fasting, restrictive dieting, consumption of meal substitutes, skipping meals, excessive smoking, consumption of diet pills, vomiting, and

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the use of laxatives or diuretics,[7] and thereby sets the stage for subsequent physical and mental health consequences.

Major physical health problems resulting from UWMB include rapid weight loss, vomiting, purging, and malnutrition, all of which can cause significant physical harm.[7] Mental health issues associated with UWMB include body-image distortion, depression, decreased quality of life, and social isolation, underscoring the need for intervention.[7–9] Given that emerging adulthood is a critical period during which health experiences and decisions have lasting implications for one's adult-life health trajectory,[1,10] the prevention of UWMB in this population is especially important.

Within this context, recent concerns have emerged that social media may influence the development and persistence of disordered eating[11] and contribute to unhealthy eating habits and distorted body image through social comparisons among users.[12] Social media can also reinforce harmful weight-related social norms by filtering content that promotes healthier standards and repeatedly exposing users to weight-stigmatizing material.[13] Social media has been defined in various ways in the literature but is generally understood as a web-based, continuous communication platform that facilitates perceived interaction.[14] It also refers to interactive platforms for creating, sharing, or exchanging information and ideas within virtual communities. Social media encompasses platforms and apps that enable users to communicate and form online communities, with Facebook, X (formerly Twitter), and YouTube among the most popular services.[15]

Although several studies have acknowledged the potential health risks of social media, they have not sufficiently developed a comprehensive understanding of its influence and the specific health outcomes experienced by emerging adults. Most existing studies have focused either on broader health outcomes or on different age groups. For instance, studies have shown that social media interventions facilitate weight loss and increase physical activity among healthy adults,[16] while they have examined the relationship between social media use, body image concerns, and eating disorders.[2,17,18] Yet, these studies do not sufficiently address the prevalence or mechanisms of UWMB. Additionally, research on UWMB among college women have not considered social media as a contributing factor.[19] This disconnect highlights a critical gap in the literature, as the intersection between social media influence and UWMB in emerging adulthood remains underexplored.

Consequently, this study aimed to examine the impact of social media use on UWMB among emerging adult women, thereby extending existing knowledge and informing the development of targeted health promotion strategies for this vulnerable population.

Methods

Design

The study followed the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).[20] Detailed methods are outlined in the study protocol, which is registered with the International Prospective Register of Systematic Reviews (PROSPERO)[21] under ID: CRD42024542028.

Search methods

The PubMed, CINAHL, Embase, Web of Science, and Cochrane Library databases were searched to locate studies published between January 2014 and December 2023. The searches were conducted from 2 to 3 April 2024. The search terms used included "young adult," "early adult," "emerging adult," "post-adolescent," "late adolescent," "transition to adult," "young person," "college," "university," "student," "women," "female," "unhealthy weight management behavior," "unhealthy weight control behavior," "UWMB," "unhealthy," "extreme," "risky," "weight," "management," "lose," "control," and "behavior," combined using AND/OR operators. The full database search strings are provided in Supplemental File 1. Additionally, a secondary search was performed by reviewing the reference lists of published studies to identify further relevant sources.

Inclusion and exclusion criteria

To achieve this study's aim, the key question was set according to the PECO (Population–Exposure–Comparator–Outcome) framework.[22] Participants (P) were women aged 18 to 25 years (emerging adults); the exposure (E) was the use of social media; and the outcome (O) was UWMB. No restrictions were placed on comparisons (C) to ensure a comprehensive search. Eligibility was limited to studies published in English.

We excluded studies if they (1) focused on obesity and overweight; (2) focused on diseases such as diabetes, hypertension, and cancer; (3) did not include women in emerging adulthood; (4) were treatment trials or intervention studies; (5) were animal studies; or (6) if their full text was not available.

The retrieved literature was systematically organized using EndNote X7 (Clarivate). All studies were screened by title, and duplicates were removed. Titles and abstracts were reviewed to eliminate irrelevant articles. To ensure thoroughness, researchers manually searched for additional relevant studies not indexed in electronic databases using article references. Four researchers independently selected the literature based on the key question and inclusion/

exclusion criteria. In cases of disagreement, the principal investigator made the final decision.

Search outcomes

A total of 2389 studies were retrieved from the databases, including 1132 from PubMed, 422 from Embase, 212 from CINAHL, 328 from Web of Science, and 295 from the Cochrane Library. After removing 720 duplicates and excluding 597 studies published before the past 10 years, we screened 1072 studies. Four researchers reviewed titles and abstracts according to the exclusion criteria, resulting in the exclusion of 1030 studies. Two researchers reviewed the full texts of the remaining 42 studies and excluded 31. Researchers identified an additional three studies through manual search. Of the 14 studies considered, 5 were excluded following author consensus, leaving 9 studies for analysis (Figure 1).

Data extraction and synthesis

The researchers extracted data on general characteristics (author name and year of publication), study population (number of participants and age), and study results (measurement instruments and statistical findings). As part of the review, we conducted a detailed analysis of how each study defined and measured social media and UWMB. We also examined other key variables commonly studied alongside social media and UWMB. Two researchers independently extracted and synthesized data using a predefined data-extraction form. We resolved disagreements by consensus with the principal investigator.

Quality appraisal

Literature quality was critically evaluated using the Joanna Briggs Institute (JBI) critical appraisal checklist.[23] Two researchers independently conducted assessments and resolved discrepancies through a consensus meeting (Table 1).

For the seven quantitative studies, the JBI quality assessment tool included nine criteria: clarity of inclusion criteria; description of the study population and setting; validity of variable measurement; objective measurement standards; identification of confounding variables; description of control strategies for confounders; reliability and validity of results; and appropriateness of statistical analysis.

For the two qualitative studies, the JBI tool included 10 criteria: congruence between philosophical perspectives and research methods; alignment of the research method with the research problem; data collection method; representativeness of data; consistency in result interpretation; researchers' cultural and theoretical qualifications; researchers' description of the influence on the study; representativeness of the research participants; and the ethical approval of the research.

Each criterion was scored as 1 for "yes" and 0 for "no" or "unclear." Studies were included in the review if the number of "yes" responses met or exceeded the majority threshold, as determined by author consensus.

Ethical considerations

To ensure transparency and adherence to ethical standards, we sought the review of the institutional review board (IRB) review. The IRB of the Yonsei University Health System, Severance Hospital, approved the study with a waiver of informed consent (IRB No. 4-2024-0290, approved on 2 May 2024).

Results

Study characteristics

We selected nine studies based on the inclusion criteria (Table 2). Five studies (55.6%) were published between 2014 and 2018, and four studies (44.5%) were published between 2019 and 2022. Almost half of the studies (44.5%) were conducted in the United States. One study (11.1%) was conducted simultaneously in the United States and Australia, while one study each (11.1%) was conducted in Australia, Japan, Iran, and China. The most common study design was cross-sectional—with six studies (66.7%)—followed by qualitative (n = 2, 22.2%) and longitudinal (n = 1, 11.1%) designs. Eight studies (88.9%) included only women as participants, while one study (11.1%) included both men and women. Sample sizes ranged from 24 to 2023. Across seven quantitative studies, six reported statistically significant positive associations between social media use and UWMB, with adjusted effect sizes ranging from $\beta = 0.742–0.756$ and odds ratio (OR) = 1.81–26.9, whereas one study showed mixed associations in which the effect of Facebook use became protective after adjusting for appearance comparison.

Analysis of social media

Classification of social media. The selected studies classified the types of social media based on Kaplan and Haenlein's[24] framework, which categorizes social media according to social presence/media richness and self-presentation/self-disclosure. We summarize this classification below.

Social networking sites. Social networking sites (SNS) are platforms that allow users to create accounts to share content and interact with others.[24] Six studies (66.7%) investigated this type of social media, including Facebook, Instagram, Snapchat, and dating apps such as Tinder, Grindr, and Coffee Meets Bagel. Facebook was the most

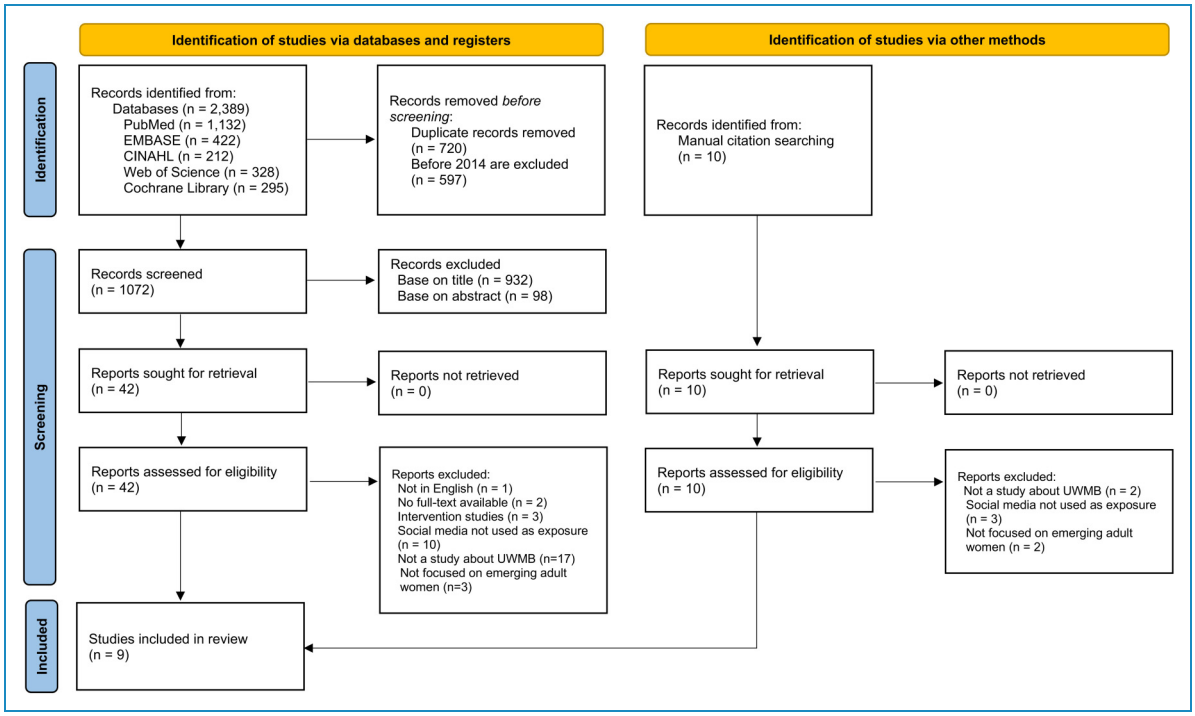

Figure 1. PRISMA flow diagram of the literature search and selection process.

frequently used platform, identified as a space for appearance-based comparisons and "fat talk" (negative discussions about body size and weight), which contributed to body dissatisfaction and UWMB.[25,26] Instagram was remarkable for its highly visual content, particularly "fitspiration" images promoting thin and toned body ideals, which foster self-objectification and appearance comparisons.[27,28] We cited dating apps as environments with emphasis on physical appearance, encouraging users to adopt extreme weight–control behaviors to meet perceived attractiveness norms.[29]

Content communities. Content communities are platforms where users share multimedia content such as videos, images, or presentations.[24] Four studies (44.5%) investigated these platforms, including YouTube, TikTok, and various diet/fitness apps. YouTube was used to access body-positive videos and content that could shape self-perception and body image,[27] as well as to support weight and activity management.[30] TikTok's short-video format was remarkable for promoting appearance-centered trends and reinforcing societal beauty standards.[27] Diet/fitness apps mentioned included multifunctional trackers (e.g. Fitbit, Samsung Health), physical activity-specific apps (e.g. Nike Run, 7-Minute Workout), combined diet/activity apps (e.g. MyFitnessPal), weight loss-specific apps (e.g. MyPlate, LOSE IT!), and bodybuilding-focused apps (e.g. Bodybuilders).[30,31] These apps were categorized as content communities due to their emphasis on self-disclosure through shared data, progress logs, food tracking, and user interactions within communities.

Blogs and microblogs. One study used blogs and microblogs, represented by X (formerly Twitter) (11.1%). The study recognized X as enabling interpersonal communication around body image, which indirectly influenced UWMB through body-image discussions.[27]

Unspecified social media. Although the study by Garousi and Nejad[32] did not specify a particular type of social media and therefore was not included in the above classification framework, it nevertheless examined the association between social media and UWMB. They discussed the broader role of the Internet, including social media, in exposing users to unrealistic body images and beauty standards, thereby increasing body dissatisfaction and UWMB.

Following the classification of social media types, we also mapped how these platforms evolved across the included studies over time (Figure 2). A visual timeline was developed to illustrate trends in the types of social media between 2014 and 2023, highlighting changes in platform focus and emerging trends in the literature.

Measurement of social media. Studies have used a variety of tools and methods to assess social media usage, ranging from structured questionnaires to qualitative approaches. For SNS, studies used the Facebook Intensity Scale to measure users' emotional connection to Facebook and its

Table 1. Quality analysis using Joanna Briggs Institute (JBI) critical appraisal tools.

JBI critical appraisal checklist for analytical cross-sectional studies									
Author(s)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
Garousi and Nejad (2014)	Yes	Unclear	Yes	Yes	No	No	Unclear	Yes	4/8
Hahn et al. (2022)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	8/8
Tran et al. (2019)	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes	6/8
Zhang et al. (2018)	Yes	Yes	Unclear	Yes	No	No	Yes	Yes	5/8
Fardouly et al. (2018)	Yes	Yes	Yes	Yes	No	No	No	Yes	6/8
Walker et al. (2015)	Yes	Yes	Yes	Yes	Unclear	No	Yes	Yes	7/8
Cohen et al. (2018)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6/8

JBI critical appraisal checklist for qualitative research											
Author(s)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total
Ando et al. (2021)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	9/10
Eikey (2021)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	9/10

integration into their daily life. Additional tools included questions regarding Instagram usage, such as the frequency of checking Instagram, time spent per day, and self-reported frequency of dating app usage. Studies measured general social media usage through questions assessing overall time spent on SNS, while selfie activity frequency tools captured the extent to which individuals posted and shared selfies and photos on different platforms. To evaluate the use of content communities, researchers used open-ended questions about social media exposure and perceptions of beauty ideals. Other instruments included questions on the type and frequency of weight-related self-monitoring (WRSM) apps used for managing diet, exercise, and weight, as well as questionnaires assessing usage patterns and the perceived influence of diet and fitness apps. The measurement of blogs and microblogs, such as X (formerly Twitter), was typically conducted using open-ended questions on exposure to beauty ideals via social media. Studies involving unspecified types of social media used general media usage questions—covering platforms like television and the Internet—to assess participants' exposure.

Analysis of UWMB

Classification of UWMB. The types of UWMB reported across the nine studies included fasting, restricted dieting, consumption of meal substitutes, skipping meals, excessive smoking, consumption of diet pills, vomiting, and the use of laxatives or diuretics, consistent with the definitions outlined in a previous study.[7]

Fasting. Studies described this behavior as abstaining from food for at least 1 day[29] or for extended periods.[26,28] Hahn et al.[30] also investigated fasting as a form of UWMB, although they did not define it in precise terms.

Restricting dieting. In a qualitative study by Ando et al.,[27] participants engaged in various forms of restrictive dieting, such as consuming very small portions or severely limiting certain food types. Studies also cited medically unapproved fad diets, including the sweet-potato diet, as examples. Other studies reported similar behaviors, including severe food restriction,[31] eating very little food,[28,30] eating the same food every day, and the development of "safe" or "fear" food through food-database apps.[31] In some cases, participants reduced meal portions or eliminated food types based on popular diets found online or in books, rather than following medically approved or nutritionally balanced plans.[26,33]

Eating substitute foods. Both Fardouly et al.[28] and Hahn et al.[30] identified the use of low-calorie meal substitutes as a form of UWMB, where participants replaced meals

Table 2. Study characteristics and key findings (N = 9).

No	Author (years)	Country	Study design	Participants (sample size/age/female)	Measured variables			Conceptual definition of UWMB	Contents of social media	Key findings
					UWMB	Social media	Etc.			
1	Ando et al. (2021)	Japan	Qualitative	N = 29/range: 18–25/100%	Self-perception and behaviors	The types of media used; admired figures and perceived beauty ideals; exposure to body-positive YouTube videos	Awareness of body positivity	Disordered eating behaviors driven by both media advertisement and interpersonal pressures; restrictive behaviors promoted by appearance pressures from diverse sources inside and outside Japan	YouTube videos related to body positivity and beauty ideals; types of media commonly used by participants	Social media was found to promote UWMB through business advertisements endorsing beauty standards, esthetic modification, and the use of diet-related products. High interrater reliability was reported (96.9%, range 83.9–100%)
2	Garousi and Nejad (2014)	Iran	Cross-sectional	N = 400/M = 23.30(SD = 3.10)/100%	Body management methods (severe dieting, heavy exercise, substance use (e.g. steroids, muscle enhancers))	Media influence on body image and social life	Perceived pressure from others	Behaviors including the use of substances such as steroids, muscle-enhancing products, creatine, and weight reduction pills	Use of media (TV, magazines, internet)	55.6% used dieting, 30% heavy exercise, 6% substance use. Media had a strong direct (β = 0.756) and indirect (β = 0.742 via body satisfaction) effect on body management behaviors
3	Hahn et al. (2022)	USA	Longitudinal	N = 1428/M = 22.0(SD = 2.0) /58.5%	Engagement in UWCBs; unhealthy muscle-building behaviors (e.g. protein supplements, steroids, creatine or growth hormone); binge eating	Use of WRSM apps	NA	Behaviors such as fasting, eating very little food, using a food substitute, skipping meals, smoking more cigarettes, taking diet pills, vomiting, abusing laxatives, and diuretics	Use of WRSM apps (e.g. food/activity/weight tracking apps); participants listed up to three apps used in the past year	Engagement in UWCBs during adolescence predicted greater use of dietary-focused WRSM apps in emerging adulthood
4	Tran et al. (2019)	USA	Cross-sectional	Total; N = 1726/ range:18–65/ 63.6% Young adult females; N = 310/18–25/100%	Engagement in UWCBs	Frequency of dating app use (past 30 days); categorized as users vs. nonusers	NA	UWCBs included fasting, self-induced vomiting, laxative use, unprescribed diet pills, anabolic steroids, and muscle-building supplements (e.g. creatine, amino acids, dehydroepiandrosterone, hydroxymethylbutyrate, growth hormone)	Using dating app (e.g., Tinder, Grindr, Coffee Meets Bagel, etc.)	Women who used dating apps had significantly higher odds (2.3–26.9 times) of engaging in all six UWCBs compared to nonusers
5	Eikey (2021)	USA	Qualitative	N = 24/ range:18–23/100%	Eating disorder behaviors measured using Eating Attitudes Test-26, Eating Disorder Examination Questionnaire 6.0	Use, perception, and impact of diet and fitness apps	NA	Behaviors such as restrictive eating, obsession with tracking food/exercise data, excessive concern with weight and body image, and binge eating	Diet and fitness app	84.2% of participants exhibited eating disorder symptoms. Emergent themes included fixation on numbers (e.g. calories), rigid dieting, app dependency, obsession with tracking, and negative emotional responses
6	Zhang et al. (2018)	China	Cross-sectional (mixed methods)	N = 2023/eligible criteria: female university students/100%	Weight-control behaviors in underweight BMI subgroup over past 6 months; in-depth interviews on extreme methods (e.g. meal skipping, food elimination)	Use of physical activity guides categorized as: (1) unguided, (2) media-guided (apps/videos), and (3) coach-guided	The problematic thin-ideal (ideal BMI < 18.5 kg/m^2)	Extreme methods in weight-control behaviors such as gastrectomy, vomiting, liposuction and acupuncture	Use of exercise/fitness apps and videos (e.g. Keep (app), JungDaYeon (video), Iphone health (app), Nike+(app), others)	Use of extreme methods (e.g. vomiting, liposuction, acupuncture) and media-guided practices (apps/videos) were significantly associated with underweight BMI. Over half of underweight participants attempted weight loss within 6 months
7	Fardouly et al. (2018)	USA & Australia	Cross-sectional	N = 276/ range:18–25/100%	Body image concerns measured via EDI	Instagram use patterns, fitspiration image	Internalization, appearance comparison, self-objectification	Assessed via EDI subscales: body dissatisfaction, drive for thinness	Use of Instagram	Viewing fitspiration images was positively associated with body dissatisfaction and

(continued)

Table 2. Continued.

No	Author (years)	Country	Study design	Participants (sample size/age/female)	Measured variables			Conceptual definition of UWMB	Contents of social media	Key findings
					UWMB	Social media	Etc.			
						viewing, frequency of appearance comparisons				drive for thinness. Appearance comparison frequency mediated the relationship between fitspiration exposure and negative body image outcomes
8	Walker et al. (2015)	USA	Cross-sectional	N = 128/ range:18–23/100%	Disordered eating behaviors measured by EDE-Q	Facebook engagement intensity, tendency to engage in online physical appearance comparisons, fat talk engagement on social media	NA	Disordered eating behaviors including dietary restraint, bulimic episodes, and concerns about body shape and weight	Use of Facebook	Facebook intensity showed both risk and protective associations with disordered eating, mediated by online physical appearance comparison. When appearance comparison was accounted for, higher Facebook intensity was linked to less disordered eating
9	Cohen et al. (2018)	Australia	Cross-sectional	N = 259/ range:18–29/100%	Bulimic symptoms, drive for thinness measured via EDI-3	SNS use and selfie-sharing behavior	Internalization, body satisfaction, self-objectification	Preoccupation with dieting and engagement in purging behaviors, as reflected in EDI-3 items such as "I think about dieting" and "I have thought of trying to vomit in order to lose weight"	SNS usage and selfie-posting behavior (e.g. on Facebook, Instagram, Snapchat)	Greater engagement in selfie activities, rather than general SNS use, was significantly associated with body dissatisfaction and bulimic symptoms. Self-objectification moderated these associations

BMI: body mass index; EDI: eating disorder inventory; NA: not applicable; SNS: social network sites; UWCB: unhealthy weight control behavior; UWMB: unhealthy weight management behaviors; WRSM: weight-related self-monitoring.

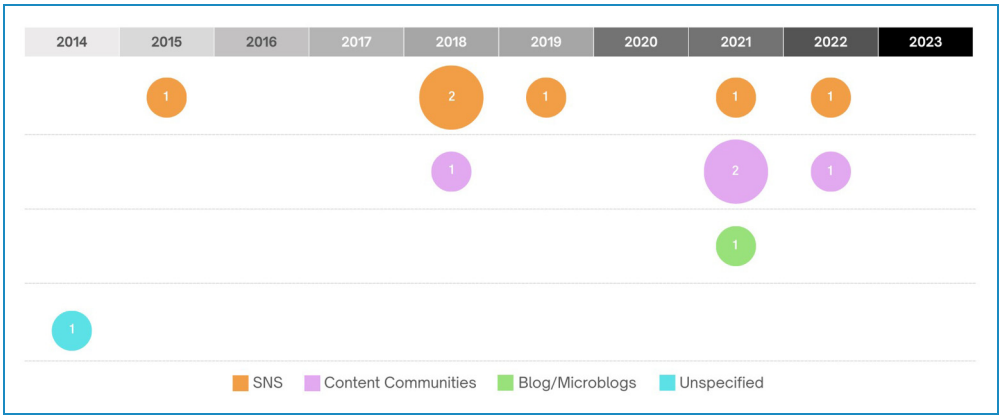

Figure 2. A timeline visualization of trends in social media types.

with alternative food products to control or reduce weight.

Skipping meals. Skipping meals was a recurring behavior in the literature. Participants reported skipping dinner[27] or other meals[30,33] as a method of reducing calorie intake, which Fardouly et al.[28] also identified in their study.

Excessive smoking. Hahn et al.[30] and Fardouly et al.[28] discussed excessive smoking as a UWMB, particularly as a method of appetite suppression among participants aiming to manage their weight.

Consumption of diet pills. Several studies identified the use of diet pills. Participants consumed pills promoted through media sources[27] or weight-loss pills obtained without medical supervision.[29] Garousi and Nejad,[32] Fardouly et al.,[28] and Hahn et al.[30] also reported diet pill usage as a common form of UWMB.

Vomiting. Tran et al.,[29] Fardouly et al.,[28] and Zhang et al.,[33] classified vomiting after eating as a UWMB, highlighting purging behaviors among participants attempting to control their weight.

Using laxatives or diuretics. Hahn et al.[30] and Fardouly et al.[28] reported the use and abuse of laxatives and diuretics. Walker et al.[26] and Cohen et al.[25] also observed participants engaging in similar behaviors as part of their weight management behaviors.

Other forms of UWMB. Besides the identified eight categories, several other forms of UWMB were also reported.

- Heavy exercise for weight reduction was noted by Garousi and Nejad,[32] who described participants engaging in strenuous and frequent workout routines specifically to lose weight. Similarly, Hahn et al.[30] and Eikey[31] highlighted the use of excessive physical activity to counteract food intake or as a form of punishment.
- Substance use was documented by Tran et al.,[29] Hahn et al.,[30] and Garousi and Nejad,[32] who reported that participants used anabolic steroids and other muscle-enhancing substances, including creatine, amino acids, dehydroepiandrosterone, hydroxymethylbutyrate, and growth hormones, to modify muscle tone or overall body composition.
- Surgical methods were reported by Zhang et al.,[33] with participants undergoing procedures such as gastrectomy and liposuction. Acupuncture was also mentioned as a weight control method.
- Obsession with calorie counting and diet tracking was described by Eikey,[31] who observed that participants used apps to compulsively monitor food intake and calorie counts. This behavior often resulted in obsessive tendencies and an excessive focus on numerical goals.
- Binge eating was identified by Walker et al.,[26] who reported on bulimic episodes involving the rapid consumption of large quantities of food accompanied by a sense of loss of control. Similarly, Cohen et al.[25] described bulimia, characterized by binge eating followed by purging, as a form of UWMB.

Identified individual UWMB types are re-categorized into core and extended to address inconsistencies in definitions across studies (Table 3). Core UMWB comprised eight behaviors that align with established definitions in previous literature,[7] whereas extended UWMB encompassed additional behaviors identified through this review.

Measurement of UWMB. The study employed the body management methods (used in 1 study) and unhealthy weight control behaviors tools (used in 2 studies), as well as eating disorder behavior assessment tools, such as

Table 3. Classification and definition of UWMB.

Classification	Type	Definition	Included study
Core	Fasting	Abstaining from food for at least one day or for extended periods	25–29
	Restricting dieting	Reduced meal portions or eliminated food types based on popular diets rather than following medically approved or nutritionally balanced plans	25–32
	Eating substitute foods	Use of low-calorie meal substitutes to control or reduce weight	27–29
	Skipping meals	Skipping dinner or other meals as a method of reducing calorie intake	26–32
	Excessive smoking	As a method of appetite suppression aiming to manage weight	27–29
	Consumption of diet pills	Including pills promoted through media sources or weight-loss pills obtained without medical supervision	26–31
	Vomiting	Vomiting after eating attempting to control their weight	27–32
	Using laxatives or diuretics	Purging behaviors with the use and abuse of laxatives and diuretics	24–29
Extended	Heavy exercise for weight reduction	Engaging in excessive physical activities specifically to lose weight or to counteract food intake or as a form of punishment	29–31
	Substance use	Using anabolic steroids and other muscle-enhancing substances to modify overall body composition	28–31
	Surgical methods	Undergoing procedures such as gastrectomy, liposuction or acupuncture	32
	Obsession with calorie counting and diet tracking	Using apps to compulsively monitor food intake and calorie counts	30
	Binge eating	Bulimic episodes involving the rapid consumption of large quantities of food accompanied by a sense of loss of control	24–25

Eating Attitudes Test-26, the Eating Disorder Inventory (EDI), and the global Eating Disorder Examination Questionnaire (used in 4 studies), to measure UWMB.

Role of social media in promoting UWMB. Various social media platforms—including Instagram, Facebook, dating apps, and WRSM apps—were found to influence body image concerns and promote UWMB. Studies consistently reported significant associations between social media use and engagement in UWMB. Zhang et al.[33] found that UWMB behaviors such as taking diet pills (OR = 2.35, 95% confidence interval (CI) = 1.76–2.68) and engaging in extreme practices like vomiting after meals or undergoing liposuction (OR = 3.11, 95% CI = 2.12–3.85) were strongly linked to underweight groups. Garousi and Nejad[32] identified both direct (0.756) and indirect (0.742, mediated by body satisfaction) effects of social media on unhealthy body management. Hahn et al.[30] showed that engaging in UWMB during adolescence (OR = 1.81, 95% CI = 1.14–2.87) predicted a greater likelihood of using diet-focused apps in adulthood. Tran et al.[29] reported that women using dating apps were between 2.3 and 26.9 times more likely to engage in UWMB than nonusers. Fardouly et al.[28] demonstrated significant association of viewing "fitspiration" images on Instagram with body dissatisfaction and a drive for thinness, with frequency of comparison acting as a key mediator. Walker et al.[26] found that Facebook intensity negatively correlated with UWMB, mediated by appearance-based comparisons. Cohen et al.[25] reported that active engagement with photo-sharing activities on social media was associated with UWMB, particularly among women with high self-objectification, where photo engagement significantly predicted bulimia symptoms.

In qualitative studies, Ando et al.[27] and Eikey[31] emphasized the role of social media in promoting UWMB. Ando et al.[27] found that business advertisements on social media perpetuated unrealistic beauty standards, prompting users to purchase diet products or supplements, potentially resulting

in UWMB. Eikey[31] observed that numerical obsession—such as calorie counting—strict diet plans, exposure to negative motivational messages, and social media driven weight loss competitions contributed significantly to UWMB.

Key variables in research on UWMB and social media

Media appearance pressures. Media appearance pressures refer to societal expectations and standards related to idealized body images propagated by mass media, including social media and television.[34,35] Ando et al.[27] observed that social media exposed young women to sociocultural pressures to conform to unattainable body standards, thereby contributing to UWMB. Similar findings were reported by Garousi and Nejad,[32] Tran et al.,[29] and Zhang et al.[33]

Binge eating. Binge eating is defined as consuming an unusually large amount of food in a short period, typically accompanied by a perceived loss of control over eating behavior.[36] Walker et al.[26] found significant association of Facebook intensity, physical-appearance comparisons, and participation in online "fat talk" with disordered eating. While the association of Facebook intensity with fewer disordered-eating behaviors was higher, both appearance comparisons and fat talk correlated with more severe symptoms. This variable was also examined by Cohen et al.[25] and Hahn et al.[30]

Body dissatisfaction. Body dissatisfaction involves negative attitudes toward one's body, usually arising from discrepancies between actual and ideal body images, and often includes dissatisfaction with weight, shape, or specific features.[37,38] Cohen et al.[25] showed a link between investment in selfie-related activities and increased body dissatisfaction and bulimia symptoms, even when accounting for established risk factors such as thin-ideal internalization and BMI. Hahn et al.[30] also addressed this variable in their findings.

Self-objectification. Self-objectification is the psychological process in which individuals perceive their bodies from an outsider's perspective, often as sexual objects, and evaluate themselves based on external appearance.[39] Cohen et al.[25] found that self-objectification moderated the relationship between investment in photo-sharing activities and bulimia symptoms. Their findings indicated an association between active participation in photo-related activities on SNS, rather than general usage, and increased body-related concerns and eating disorders. Fardouly et al.[28] also investigated self-objectification as a contributing factor to UWMB.

Discussion

Social media has been shown to significantly impact the lifestyle and health of young adults by providing useful health information, fostering supportive online communities, and raising awareness of important health issues. Specifically, this study explored the impact of social media on UWMB among emerging adult women. Our review highlights notable shifts in the types of social media examined across studies, reflecting broader changes in the digital environment. Earlier research often referred to social media in broad or unspecified terms, without distinguishing among platform characteristics; however, recent studies increasingly focus on specific platforms such as Instagram, YouTube, and various diet or fitness applications. This trend reflects a growing recognition that platforms differ in their structural and interactive features, which may differentially influence engagement in UWMB. Our findings further indicate that earlier studies primarily focused on SNS, whereas more recent work has expanded to include content communities with relatively limited attention to blogs and microblogs. The growing interest of content communities—particularly diet and fitness applications—broadens the conceptual boundaries of social media and suggests that self-tracking tools may also function as socially interactive environments that shape weight-related perceptions and behaviors among emerging adults.

SNS was the most commonly used social media platform in terms of being highly relevant to UWMB among women in emerging adulthood. Drawing on self-objectification theory[40] and social comparison theory,[41] features such as likes and comments on SNS platforms creates appearance-focused feedback loops that pressure users to conform to thin ideals, leading to UWMB.[28] Consistent with these, our study also found that exposure to fit-inspired content or idealized body images on these platforms increases self-objectification, further driving body dissatisfaction and UWMB. Social media feedback mechanisms intensify these effects by providing immediate assessments of appearances, which often have negative psychological impacts on body image.[18,42] SNS also foster a culture of comparison, particularly through "fat talk" and comparisons with influencers or celebrities, further increasing body dissatisfaction and UWMB.[26,43] A systematic review confirmed that fitspiration content negatively affects body image and contributes to UWMB, particularly among younger populations highly exposed to such content.[44]

In response, recent studies have explored the protective influences of social media in relation to initiatives such as the "body-positivity" movement,[27] which promotes body acceptance and challenges narrow beauty standards.[45] Exposure to the body-positive content can improve self-esteem, especially among women.[46,47] Considering that social media consumption has become a habitual part of daily life of emerging adults, body-positivity movements led by influencers may offer a meaningful alternative to content that promotes UWMB. Although research on the long-term health impacts of influencer-driven messaging

is still in its early stages,[48] future studies should accumulate evidence to determine whether such social media-based positivity movements indeed lead to positive outcomes regarding UWMB.

In addition to user feedback and influencer-driven content, social media algorithms, particularly on platforms such as Youtube and Instagram, play a critical role in shaping users' exposure to body-related content.[49] By curating content based on user engagement, this structural logic increases repeated exposure to idealized body images, which may contribute to UWMB.[28,44] Therefore, future research should incorporate the dynamics of these algorithm-based platforms and systematically investigate how evolving content-delivery mechanisms may either reinforce or mitigate UWMB.

The diet and fitness apps verified in this study were distinguished by the practice of users sharing data and progress within the app community, including their exercise routines and food intake. Apps used to track weight management are designed with an emphasis on numerical data such as calrories or steps, which can place undue pressure on users and contribute to their UWMB as an unintended negative consequence.[30,31] This is because they often encourage competition with others and their previous records. Similar to our study, in a systematic review of health and fitness app use, approximately 41.5% of the articles included in the analysis identified UWMB as a negative behavioral outcome.[50] This indicates that although technological developments have facilitated monitoring individuals' health-related behaviors in real time, the limitations of these technologies can result in overwhelming pressure on individuals and lead to physical and mental stress and poor health outcomes. Therefore, intervention studies targeting UWMB among emerging adult women should design diet/fitness apps that focus less on numbers and more on building healthy relationships with food and body image. For example, instead of tracking numbers, using photo records for monitoring can be helpful.[51] Moreover, a psychological approach can effectively encourage individuals to focus on their body, nutritional needs, and physical limitations.[52] Additionally, those who use fitness apps for weight control or body-image reasons rather than health reasons are more likely to experience UWMB.[53] Thus, it may be beneficial to ask whether the motivation for using a fitness app is health-related or connected to body dissatisfaction before using it.[54] These insights should be applied to the future development of diet and fitness apps targeting emerging adults.

This study additionally identified a lack of consensus regarding the categorization of UWMB. To classify UWMB, studies employed instruments from the EAT survey[7] to measure the unhealthy and extreme weight-control behaviors instrument as an operational framework. Using this framework, studies identified eight types of UWMB, which served as a consistent basis for analyzing the included studies. However, some behaviors reported in the literature do not clearly belong to the existing classification. These included heavy exercise for weight reduction,[30–32] substance use for weight control,[29,30] surgical methods,[33] an obsession with calorie counting and diet tracking,[31] and binge eating.[25,26] Additionally, the definition of UWMB varied across studies, adding complexity to the analysis. For example, one study defined fasting as abstaining from food for at least 1 day,[29] while others described it as prolonged periods without food intake.[26,28] Without a clear definition of temporal parameters, fasting may be conflated with meal skipping, which hinders the accurate classification and measurement of UWMB. These inconsistencies highlight the limitations of the current classification system. Building on the identified inconsistencies in definitions and limitations of existing UWMB classifications, we reclassified the types of UWMB into core and extended categories, thereby providing a clearer operational framework for future research. This framework may also support the development of a more comprehensive and standardized conceptual framework in future research. Establishing clear definitions and categorization criteria are essential for improving the validity and comparability of findings in future research on UWMB.

This study highlights the diverse impact of social media on UWMB among women in emerging adulthood; however, it has several limitations. Although this study focused on emerging adult women, there are limitations in generalizing the influence of social media as a phenomenon exclusive to women. According to recent research, some studies have reported that social media also has negative effects on emerging adult men.[55,56] As social media use has become widespread, repeated exposure to fitness influencers and bodybuilding-related content can strengthen the drive for muscularity among emerging adult men and lead to UWMB such as dietary restriction, the use of food substitutes, or excessive exercise.[56,57] Given that the influence of social media on UWMB is evident across the broader emerging adult population, future research should investigate potential gender differences in how social media impacts UWMB. Another limitation is the heterogeneity study designs which made a meta-analysis or pooled effect estimates inappropriate. However, because its aim was to understand the types of social media that have recently increased and to examine how each type relates to UWMB, acknowledging this diversity provides value by offering a broader and more integrative perspective. Finally, this study included nine studies by applying clear and rigorous inclusion and exclusion criteria to ensure methodological quality. Because social media has only recently become embedded in everyday life, research on its relationship with UWMB remains limited; nevertheless, this review is valuable in capturing the most current evidence to date.

Despite the heterogeneity of the reviewed studies, the findings provide an important foundation for understanding

the impact of social media use on UWMB among women in emerging adulthood. Based on these results, primary healthcare providers should take a preventive and proactive role in addressing these influences. Because the use of social media for health purposes—such as monitoring health information and providing health education—is encouraged,[57] healthcare providers should play an active role in strengthening patients' health literacy, including their ability to obtain, interpret, and evaluate accurate information. In clinical practice, this may also include assessing patients' social media preferences or usage patterns. Representing a significant step forward in understanding the scope and context of the impact of social media, this study provides a valuable foundation for addressing the critical health issues of this population.

Conclusion

This study provides comprehensive insights into the diverse influences of social media on UWMB in emerging adult women, underscoring the need for clearer definitions and categorizations of UWMB. While social media plays a role in providing supportive communities and raising awareness about health issues, it has also contributed to UWMB by reinforcing self-objectification and promoting unrealistic body ideals. SNS is the most common social media platform, followed by content communities and blogs and microblogs. This indicates that future interventions should consider developing tailored strategies based on the specific effects of different social media platforms and focus on promoting social support to enable healthier choices in this population.

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Ethical considerations

The IRB of the Yonsei University Health System, Severance Hospital, approved the study with a waiver of informed consent (IRB No. 4-2024-0290, approved on 2 May 2024).

Consent to participate

Not applicable.

Consent for publication

Not applicable.

Contributorship

CK was involved in conceptualization, formal analysis, investigation, project administration, visualization, writing—original draft preparation, and writing—review & editing; GH in conceptualization, formal analysis, investigation, writing—original draft preparation, and writing—review & editing; HL in conceptualization, funding acquisition, supervision, and writing—review & editing; JL and HL in conceptualization, formal analysis, investigation, and writing—review & editing; HS in conceptualization, and formal analysis; and ZAI in conceptualization.

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Data availability statement

The datasets used and analyzed during the current study available from the corresponding author, who serves as the guarantor of the data, on reasonable request.

Supplemental material

Supplemental material for this article is available online.

Guarantor

Hyeonkyeong Lee is the guarantor for this article and accepts full responsibility for the integrity of the work as a whole.

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