

Review Article

Influence of Social Media on Dietary Habits and Nutritional Choices in Adolescents: A Systematic Review of the Evidence

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Abstract

Background: The objective of this review is to analyze the current evidence concerning how social media influences adolescents' dietary habits and nutritional choices. **Methods:** Search databases included PubMed, Google Scholar, and Scopus. The included articles were published between 2014 - 2024 and explored the role of social media on dietary choices, food and beverage marketing knowledge, food consumption patterns, and nutritional knowledge in adolescents aged 10-19 years. **Results:** Social media can promote both healthy nutritional behaviors and unhealthy nutritional behaviors, and current evidence reveals that the promotion of unhealthy dietary behaviors (including consumption of fast food and sugar-sweetened beverages (SSBs)) is the most common result in adolescents. The effectiveness of social media in conveying nutritional interventions to adolescents is limited, as some studies have shown improvement in nutrition knowledge or behaviors, while others have observed no significant impact. Social media usage is also associated with disordered eating in adolescents, including restrictive eating, binge eating, and orthorexia nervosa related to body image dissatisfaction. The potential influence of social media on adolescent dietary behaviors is a public health concern as it may decrease the overall diet quality of adolescents and increase the risk of malnutrition and chronic diseases later in life. **Conclusions:** Future research can focus on evaluating the overall diet quality of adolescents through using the Healthy Eating Index (HEI), as well as assessing whether the observed impacts of social media on dietary behaviors is caused by social media or adolescents' desire to see particular food content based on previous dietary behaviors.

Keywords

Adolescents, Social Media, Dietary Behaviors, Nutrition, Influencers, Eating Disorders, Healthy Eating Index (HEI)

1. Introduction

Social media and the Internet are used by most teens today, as 97% of U.S. teens use the Internet daily [1] and similar percentages are seen in other nations. In Italy, 95% of households with children have access to the Internet [2]. Platforms most popular among adolescents include TikTok, YouTube, Instagram, Snapchat, and Facebook. 67% of U.S.

adolescents use TikTok, and 95% use YouTube [1]. As social media is widely used among adolescents, it has the potential to impact their dietary habits, nutritional behaviors, and dietary knowledge.

Adolescents use social media more than adults [3]. Compared to 95% of U.S. teens using YouTube, only 83% of U.S.

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adults use it. Additionally, only 33% of U.S. adults use TikTok [3] which is half the percentage of teenage use. There are also differences in which sites are more popular among these age groups. YouTube and TikTok were the most popular for adolescents [1], but YouTube and Facebook were the most popular among adults [3]. Young adults have similar social media site preferences to adolescents, as 62% of individuals aged 18-29 in the U.S. use TikTok, while only 10% of adults aged 65 and older use it [3].

Sites like TikTok and YouTube are popular among adolescents, as they utilize short videos that enable users to encounter a variety of genres and subjects in a short span of time [4]. This fast-paced entertainment can be addictive and lead to a variety of negative outcomes for some individuals, including higher depression, anxiety, stress, social anxiety, attention issues, decreased academic performance, lower life satisfaction, and decreased sleep quality [4]. TikTok is also popular because it is informative [5]. Users can access a broad range of information with just a few simple clicks, which attracts individuals with a diverse range of interests. Platforms like TikTok and YouTube enable users to interact with one another and the information they provide. This is beneficial for health information, as it can be more widely disseminated. Health information shared on social media also receives better engagement than other sources [5].

The Healthy Eating Index (HEI) is a diet quality index developed in accordance with the Dietary Guidelines for Americans (DGA), most recently the 2015-2020 guidelines [6]. It measures the extent to which individuals consume food groups in accordance with the DGA. The nine adequacy components include Total Fruits, Whole Fruits, Total Vegetables, Greens and Beans, Whole Grains, Dairy, Total Protein Foods, Seafood and Plant Proteins, and Fatty Acids. These food groups are recommended for inclusion in a healthful diet. A maximum score is 10 points for Whole Grains, Dairy, and Fatty Acids, and 5 points for the other categories. A maximum score is obtained by consuming greater than or equal to a set amount. The four moderation components (which are recommended to be limited in a healthful diet) are Refined Grains, Sodium, Added Sugars, and Saturated Fats. A maximum score for these categories is 10 points each, and a maximum score is obtained by consuming less than or equal to a set amount. A maximum HEI score is 100 points. For the HEI-2020, the average score for individuals in the U.S. 2 years and older was 58, which does not reflect conformance to healthful dietary recommendations [6]. As a result, the diet quality of adolescents is not high, and many are not consuming as many nutrient dense foods as recommended. Nutrition during this period of life is vital to appropriate growth and development, and good dietary behaviors during this period can help lower the risk of chronic diseases (such as type 2 diabetes and cardiovascular disease) later in life [7].

The purpose of this review is to explore the evidence on how social media influences adolescents' dietary habits and nutritional choices, both positively and negatively. This will

highlight the public health relevance of understanding these relationships as diet-related health issues (including obesity, increased chronic disease risk, and disordered eating) become more prevalent in adolescents.

2. Methods

2.1. Search Strategy

To gather current evidence on the relationship between social media and adolescents' dietary habits, a comprehensive search was conducted across the following databases: PubMed, Google Scholar, and Scopus. Keywords used in the search included "social media", "adolescents", "diet quality", "nutrition", "dietary habits", "eating behaviors", "food trends", and "influencers".

2.2. Inclusion Criteria

Inclusion criteria were peer-reviewed studies that were published within the last 10 years (2014-2024) on adolescents aged 10-19 years and explored the role of social media on dietary choices, food and beverage marketing knowledge, food consumption patterns, and nutritional knowledge. Studies that were excluded were those that did not study adolescents within the age range or lacked an empirical basis for their conclusions based on sample size.

2.3. Selection and Data Collection Process

Studies were selected from the databases listed previously using the inclusion criteria given above. The 22 studies selected were organized using Zotero. Outcome measurements included social media exposure to food and beverage content, dietary consumption and selection, nutrition knowledge, social media habits, body image, peer influence, perception of eating norms, attitudes towards foods, disordered eating behavior, physical activity, sociodemographic data, BMI, life satisfaction, and symptoms of depression and anxiety (see Table 1).

3. Results

3.1. Social Media as a Source of Nutritional Information

While adolescents encounter a significant amount of health information on social media, the credibility of this information and its practical application vary [8]. One mixed-methods cross-sectional survey of adolescents 14-18 years old found that most participants were exposed to health information on social media, but they preferred to use websites when searching up specific health information to find more credible sources. Adolescents also preferred for an in-

intervention focused on healthy weight to be delivered through credible sources such as health professionals, including dietitians [8].

Another cross-sectional study of adolescents aged 12 years and above found that those who looked for and shared health information the most were more likely to have dealt with health issues themselves [9]. Only 25% of participants believed that social media could provide useful health information, and few wanted to connect with their personal healthcare providers or teams on social media. A systematic review of adolescents' views on social media as a source of health information also found a general distrust of health information on social media [10]. Trust was largely determined by the identity of the poster, as friends and peers were more likely to be trusted than other users. Medical professionals were also more likely to be trusted with posting health information that was reliable. The tone and appearance of the information were also factors, as making the information relatable and logical made adolescents more likely to consider it (Figure 1). As far as advertisements and marketing are concerned, the extent to which adolescents view and are influenced by it varies based on the individual. Some felt like the advertisements attracted them and encouraged them to consume specific products or information, while others tended to ignore most if not all, advertisements [10].

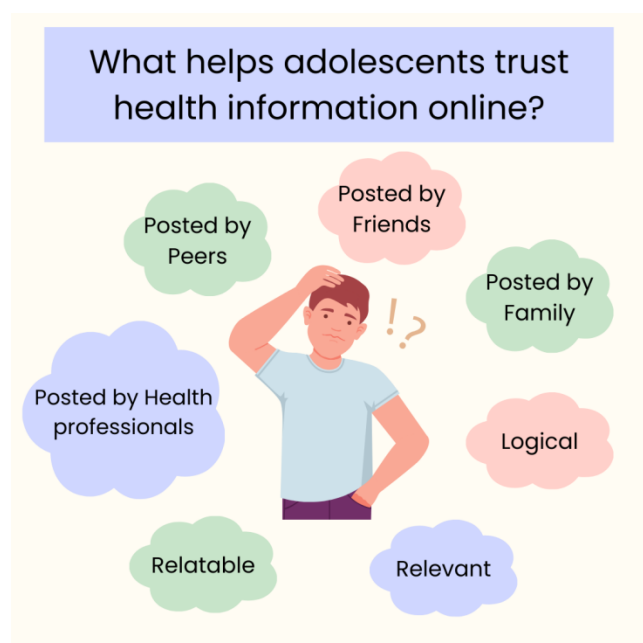


Figure 1. Adolescents Attitudes Towards Health Information on Social Media.

3.2. Role of Influencers in Shaping Adolescent Dietary Choices

Research concerning the impact of influencers on adolescent's dietary choices is new and limited. As covered above,

the extent of impact depends on how much the adolescent views the influencer as credible, relatable, or trustworthy. Differences have also been found between boys and girls, as one content analysis of influencers popular with adolescents revealed that male influencers tended to post more unhealthy foods (89%) compared to female influencers (57%). Male influencers also featured more food products than female influencers, at a rate of 1 food product for every 2.5 posts compared to 1 food product for every 6.1 posts [11]. Another secondary analysis found that boys were more likely to see marketing featuring a male or male influencer as the dominant user, with appeals most often involving achievement or athleticism [12]. For girls, no significant difference was observed between males and females used in marketing [12].

Other studies have evaluated the impact of influencers on adolescents' immediate snack choices [13]. A two-by-two-subject experimental study observed that after participants were exposed to the profile of an overweight or thin-ideal influencer, participants were more likely to choose a healthy snack when the overweight influencer promoted an unhealthy snack. A thin-ideal influencer had no significant observable impact. In this study, adolescents' dietary behaviors were negatively influenced by an overweight influencer, as they behaved in a manner opposite to what the influencer promoted [13]. An experimental pilot study of adolescents 13-16 years old evaluated whether viewing a post from an influencer promoting red peppers would lead to higher consumption of red peppers among participants compared to other vegetables [14]. After viewing either a non-food social media post, a post promoting red peppers, or a post from an influencer promoting an energy-dense snack, participants were offered a variety of vegetable snacks. All groups consumed vegetables, and the consumption of red peppers was not significantly higher than that of other vegetables. Based on this study, a popular influencer had little impact on the specific vegetable intake of adolescents [14].

3.3. Impact of Social Media on Disordered Eating Patterns

Many studies have shown a positive correlation between social media and disordered eating in adolescents. A prospective study of adolescents 14-16 years old in Italy found that internalization of media ideals led to self-objectification, which resulted in negative feelings about body image, which led to dietary restriction and/or binge eating [15, 16]. Similarly, a survey of adolescents in the Netherlands observed that more frequent use of social media was associated with an increase in body dissatisfaction over time as well as a more frequent perception of peer-related appearance feedback [17]. However, a cross-sectional survey of largely Hispanic females discovered that peer competition, more than social media or television use, predicted body dissatisfaction, eating disorder symptoms, and/or lower life satisfaction [18]. It is essential to note that social media use was linked to later peer competition [18].

Regarding which social media sites are most likely to increase disordered eating, one study found that for girls Snapchat was associated with the most disordered eating behaviors [19]. Instagram was associated with higher levels of exercise and a greater tendency to skip meals. Tumblr was associated with binge eating for both boys and girls. For boys, Facebook, Instagram, and Snapchat were also correlated with disordered eating behaviors [19]. Social media addiction has also been correlated with increased eating disorder risk, and frequent consumption of nutrition content on social media has been associated with orthorexia nervosa [20].

3.4. Diet Quality

There is currently limited research specifically examining how social media affects the diet quality of adolescents, as measured by the Healthy Eating Index (HEI). This research is relevant, as it has been shown that some adolescents tend to make the same food choices as those displayed on social media [21, 22]. Multiple studies have found that adolescents are exposed to many food advertisements online, a majority of which feature fast food, sugar-sweetened beverages (SSBs), and high-energy-dense (HED) foods [23-25]. Engagement with fast food brands among adolescents has also been noted as high, as one study found that 70% of their participants interacted with food and beverage brands on social media, and 50% of participants interacted with fast food brands (see Figure 2) [26].

Adolescents have also been observed to have a higher recall of HED and SSB food advertisements compared to more nutritious foods [27, 28]. One cross-sectional study found that a greater recall of marketed foods was associated with increased purchase and consumption of these foods, although this association was not observed with BMI. A higher recall of foods also indicated more positive attitudes towards unhealthy foods [27]. Adolescents spent more time viewing unhealthy food content and were more likely to share it and view the posters positively [28]. Another cross-sectional study found that social media addiction was observed to decrease diet quality, as consumption of chips, nuts, chocolate, other snacks, sandwiches, biscuits, bagels, hamburgers, potatoes, soft drinks, and fatty foods increased with addiction [29].

Research also varies as to whether social media interventions can improve diet quality [30]. A quasi-experimental study evaluated whether nutrition education provided via social media or a nutritional booklet could improve knowledge of proper nutrition and fat consumption compared to the control group. While both interventions improved nutritional knowledge and diet quality (related to increased consumption of healthy fatty acids and decreased consumption of saturated fat), the nutritional booklet had the most significant increase [30]. Another study measuring the impact of a 4-week social media intervention showing participants example images of appropriate portion sizes of snacks found that adolescents did not reduce their reported desired portion

size to match the recommended portions [31].

Current research on social media and the HEI is limited, but one cross-sectional study assessed the relationship between food cravings and body image and HEI scores among adolescent girls [32]. The average HEI score among participants was 53.0, which is less than the average score in 2020 for the U.S. While there was no significant correlation between food cravings and HEI scores or BMI and HEI scores, a higher body image score (indicating higher body satisfaction) was associated with a higher HEI score (Figure 2) [32].

While there is little research on the HEI and adolescents, one study has evaluated the implementation of an interactive HEI and healthcare system on a mobile platform for college students [33]. This system helped some participants move through the stages of motivational change and move towards dietary habits that better aligned with the 2015-2020 DGA. Participants were able to self-evaluate their own eating habits, and self-correct towards the goals provided by the HEI [33].



Figure 2. Social Media and Healthy Eating Index.

4. Discussion

Current research indicates a correlation between social media use and the consumption of less nutritious foods. Most of the studies included in this review interpreted this correlation as indicating that social media is a cause of unhealthy food consumption. However, it is essential to note that algorithms on social media tend to show viewers more content they like and engage with, thereby creating an “echo chamber” of their perspectives and interests [34]. This can be applied to food marketing, as the type of food shown in advertisements will be more of what users liked, shared, or spent time viewing [34]. As a result, researchers must consider whether the

association between social media and increased high-calorie food and SSB consumption could be due to users engaging with fast food and SSB marketing based on their previous food interests. Current research reveals that adolescents are exposed to a large amount of less nutritious food marketing [21-29], but they may also choose to view these advertisements themselves. Future research may explore whether the type of food largely advertised varies depending on adolescents' nutrition knowledge and interests (for example, whether adolescents who choose to follow an exercise regimen or implement a particular diet receive more or less fast-food and SSB advertisements).

There is also a gap in research evaluating the diet quality of adolescents based on social media influences using the HEI. While some studies have measured the intake, attitudes, and purchasing of certain food groups, none have measured the overall diet quality of adolescents associated with social media usage and its influences [21-33]. As previously discussed, recall of fast-food and sugar-sweetened beverage (SSB) advertising was higher than that of more nutritious food advertising. Adolescents also rated this marketing positively [28], and higher consumption and purchase of these foods were associated with positive attitudes and recall [26]. There is currently limited evidence that nutrition interventions delivered via social media are significantly effective in improving diet quality [30, 31], which may suggest that the impact of unhealthy food marketing on diet quality is due to adolescents' desire to view this content from the outset.

Social media can also compromise diet quality by promoting disordered eating behaviors [15-20]. Self-objectification can result based on the ideals promoted on social media, which can increase body image dissatisfaction and lead to restrictive or binge eating [15, 16]. For binge eating, HEI scores could potentially be reduced due to the possible consumption of large amounts of refined grains, sodium, added sugars, and saturated fats. For restrictive eating, HEI scores could potentially be reduced due to low consumption of many food groups. Regarding orthorexia nervosa, which can be associated with a large consumption of nutrition content on social media [20], HEI scores may be high but not reflect a healthy view of food or consumption of adequate nutrients for that individual.

The HEI is a validated tool for measuring diet quality that can be easily used by healthcare professionals to assess adherence to the 2015-2020 Dietary Guidelines for Americans (DGAs) [6]. There is minimal analysis of the HEI scores of adolescents alone, as national statistics typically use age ranges of 2 years and older or 2-18 years old, and there are few studies that use the HEI with adolescents [6, 32]. Further research can measure the average HEI scores of adolescents 10-19 years old, as well as assess the impacts of a variety of influences on HEI scores (including social media). Social media nutrition interventions could potentially improve HEI scores in adolescents, and the content adolescents are exposed to could further encourage the consumption of recommended

food groups (specifically whole foods) [30-33]. Conversely, social media could contribute to lowering HEI scores by encouraging greater consumption of refined grains, sodium, added sugars, and saturated fat, which generally decreases consumption of fruits, vegetables, and whole foods [21-29]. More research is needed to determine whether social media influences the HEI scores of adolescents or whether it is a contributing factor at all.

5. Conclusions

Social media is widely used by most adolescents today and has the potential to both positively and negatively impact their diet quality [1-33]. Some adolescents may not trust nutrition and health information they find online unless they view the source as credible, which may be a health professional, a peer, a friend, or a family member [8]. In current research, influencers have not significantly altered the dietary habits of adolescents [13-14]. However, the large quantity of fast food and sugar-sweetened beverage (SSB) advertising on social media has been correlated with increased consumption of these foods in adolescents [21-29], and increased usage of social media can be associated with disordered eating [15-20]. Further research is needed to determine whether social media is the cause of these results or whether adolescents are exposed to more of this content because they continue to engage with it. Future studies can utilize the HEI to gain a more concrete understanding of the diet quality of adolescents in relation to meeting the DGA recommendations.

Abbreviations

HEI	Healthy Eating Index
DGA	Dietary Guidelines for Americans
BMI	Body Mass Index
SSBs	Sugar-Sweetened-Beverages
HED	High-Energy-Dense

Author Contributions

Lily Moffitt: Data curation, Investigation, Writing – original draft

Minu Sara Thomas: Conceptualization, Funding acquisition, Project administration, Resources, Supervision, Validation, Writing – review & editing

Data Availability Statement

Not applicable.

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Conflicts of Interest

The authors declare no conflicts of interest.

Appendix

Table A1. Impacts of Social Media on Dietary Habits and Nutritional Knowledge. The reference, year published, purpose, sample size, subject characteristics/study population, sample design, year of data collection, control and intervention, and key findings presented.

Ref	Year Published	Purpose	Sample size	Subject Characteristics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Collected	Control	Intervention	Findings
21	2020	What is the association between exposure to food and beverage content on social media and nutrient intake for female adolescents?	81	Female adolescents 14-18 years old in high school in Indonesia	Cross-sectional, participants surveyed on social media exposure to food and beverage content (duration & frequency), food selection, nutrition knowledge, body image and peer influence, and nutrient intakes calculated based on food consumption (3 24 hr. recalls).	2019	N/A	N/A	Participants with a higher frequency of exposure to social media had a higher tendency to make the same food choices they saw on social media. There was no significant correlation between nutritional knowledge or peer influence and food selection.
8	2023	What are the social media habits, preferences, and diet and physical activity of adolescents of color like? What are the preferences among adolescents of color for healthy weight management interventions delivered via social media?	101	Adolescents of color 14-18 years old in Massachusetts and California.	Mixed methods, cross-sectional surveys measuring sociodemographic, health behaviors via Youth Risk Behavior Survey, height and weight, and social media habits and preferences. Participants also completed 45-60-minute focus groups that assessed social media habits and preferences for nutrition and physical activity intervention delivery.	2021-2022	N/A	N/A	The most preferred platform was TikTok. Adolescents were often exposed to health information on social media but preferred to use websites when searching up health information for increased credibility. Participants preferred healthy weight interventions to be from trusted sources that they could relate to.
11	2024	What is the impact of social media influencers on adolescents' food preferences and behaviors?	1373	Posts from top 3 influencers with adolescents 13-17 years old from Instagram, TikTok, and YouTube.	Content analysis of posts from top 3 influencers popular with male and female adolescents on Instagram, TikTok, and YouTube.	2021-2022	N/A	N/A	Influencers that were more popular with males featured 1 food product or brand for every 2.5 posts, and influencers more popular with females featured 1 food product or brand for every 6.1 posts. Influencers more popular with males tended to post less healthy food products, as 89% of their food posts featured less healthy foods compared to 57% of posts from influencers more popular with females.

Year Ref	Pub- lished	Purpose	Sam- ple size	Subject Character- istics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Col- lected	Con- trol	In- ter- ven- tion	Findings
12	2022	Are adolescents exposed to different marketing techniques for food and beverages on social media based on gender?	62	Male and female adolescents 12-16 years old in Canada.	Secondary analysis of cross-sectional study. Participants filled out sociodemographic information and logged onto their favorite social media apps and spent 5 minutes on each app. Eye tracking glasses recorded what they viewed.	2018	N/A	N/A	Boys and girls viewed a similar amount of food marketing in a 10 min period on social media. Girls were more likely to see foods high in total fat, and marketing including quizzes, surveys, and polls. Boys were more likely to see marketing featuring males as the dominant user, an influencer, or appeals to achievement or athleticism. 76% of participants viewed food marketing during the exercise. The most common food categories viewed were unhealthy foods and beverages.
15	2014	What are the direct and mediated links posited in objectification theory between media-idea internalization, self-objectification, shame around body appearance, dietary restraint, and binge eating behaviors?	718	Male and female adolescents 14-16 years old in Italy.	Prospective study which surveyed participants using the 9-item general Media-ideal Internalization, 5-item Athletic Internalization, the 8-item Body Surveillance subscale and Body Shame subscale of the Italian version of Objectified Body Consciousness Scale, the Italian version of Social Appearance Anxiety Scale, Eating Disorder Examination 12.0D (EDE), objective binge eating and subjective binge eating as defined by the EDE, the Italian K-SADS-P (schedule for affective disorders and schizophrenia for school-age children) semi structured interview, and BMI measurements.	ND	N/A	N/A	Media-ideal internalization of a body type led to self-objectification, which then resulted in negative feelings about body image, and then dietary restriction and/or binge eating.
13	2022	How can social media influencers be used to promote healthy food consumption among tweens?	146	Male and female adolescents 11-13 years old in Belgium.	Two-by-two between subjects' experimental study where participants were exposed to the profile of an influencer, either overweight or thin ideal, and then to a post of that same influencer promoting a snack, either healthy or unhealthy. Participants then answered a questionnaire.	ND	N/A	N/A	The choice for a healthy snack was higher when an overweight influencer promoted an unhealthy snack, indicating that an overweight influencer was viewed as less credible. A thin-ideal influencer had no impact on snack choice.
17	2015	What is the relationship between	604	Male and female ado-	A two-wave panel survey assessed social network site	2008-2009	N/A	N/A	More frequent social network site use predicted

Year Ref	Pub- lished	Purpose	Sam- ple size	Subject Character- istics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Col- lected	Con- trol	In- ter- ven- tion	Findings
		social media use, peer appearance related feedback, and body dissatisfaction in adolescents?		lescents 11-18 years old in the Netherlands.	use, the Dutch translation of Body Areas Satisfaction Scale subscale of Multidimensional Body-self Relations Questionnaire, BMI, parental monitoring of the adolescents' online behavior, pubertal status, ethnicity, and socioeconomic status by the Dutch gold standard used by Statistics Netherlands.				increased body dissatisfaction over time and more frequent perception of peer-related appearance feedback.
23	2022	What are adolescents' social media viewing habits? What are the associations between social media viewing and self-reported exposure to unhealthy food and beverage advertising? What are the differences in trends among younger and older adolescents in six high and upper middle-income countries?	9171	Male and female adolescents 10-17 years old in Australia, Canada, Chile, Mexico, the UK, and the US.	Cross-sectional survey. Participants completed the 2019 International Food Policy Study Youth Survey. Outcome measures include total screen time, usage of social media platforms, location and frequency of exposure to unhealthy food and beverage advertisements, and socio-demographic measures.	2019	N/A	N/A	Self-reported exposure to fast food and sugary drink advertisements were common in all countries. Exposure increased with greater screen time.
18	2014	What are the influences of television, social media, and peer competition on body dissatisfaction, eating disorder symptoms, and life satisfaction in adolescent girls?	237	Female adolescents 10-17 years old, 94.1% Hispanic.	Cross sectional, measures included BMI, survey of 3 favorite TV shows and rate attractiveness of actresses in those shows, Female Competition Stress Test (FCST), social media use and frequency assessed by 7 item survey, Body Esteem Scale for Adolescents and Adults (BESAA), Eating Attitudes Test, Life Satisfaction, Beck Anxiety Inventory, Zung Depression Inventory, withdrawal/depression scale of Child Behavior Checklist, Parenting Styles Questionnaire, and the parental affection and verbal abuse subscales of Family Conflict Scale.	ND	N/A	N/A	Only peer competition, not television or social media use, predicted body dissatisfaction, eating disorder symptoms, or lower life satisfaction. Social media use was associated with later peer competition.
30	2019	What is the effect of a nutritional booklet and social media on adolescents' knowledge and consumption of	96	Male and female adolescents 16-18 years old in Sura-	Quasi-experimental. Measures used included fattening food knowledge (definition of fat, function of fat, fat sources in food, amount of fat needed, and effects of excessive fat	2017	1 group given a nutrition inter-	No book let or so- cial me-	There was an increase in nutritional knowledge in all groups, most significantly in the nutritional booklet and social media groups. The nutritional

Year Ref	Pub- lished	Purpose	Sam- ple size	Subject Character- istics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Col- lected	Con- trol	In- ter- ven- tion	Findings
		fattening foods?		karta City.	consumption) and consumption of fattening foods gathered from 24-hour recall and Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ). Intervention included a control group, a group given a nutritional booklet, and a group given a nutrition intervention through social media.		ven- tion throug h a book- let, an- other throug h so- cial media.	dia in- ter- ven- tion.	booklet group had the highest increase in knowledge of fat.
14	2020	Does promoting red peppers through a popular influencer on social media increase the vegetable intake of adolescents?	132	Male and female adolescents 13-16 years old in the Netherlands.	Experimental pilot study. All groups were shown the same popular influencer. Control group was shown a non-food social media post, one intervention group was shown a post promoting red peppers, and the other intervention group was shown a post promoting an energy dense snack. All groups were given the option of a variety of vegetable snacks after the activity.	2018	Red pepper social media post and energy dense snack social media post.	Non- food so- cial me- dia post.	All groups ate vegetables after the study, but there was not a significant increase in red pepper intake. There was no significant impact of a popular social media influencer promoting the intake of vegetables.
28	2020	Do adolescents respond more positively to unhealthy food advertising, and are they more likely to share posts from celebrities or peers than brands?	151	Male and female adolescents 13-17 years old in Ireland.	Mixed methods, experimental. Tested responses to generated content showing healthy, unhealthy, and non-food posts. Questions included attitude towards fictional peer whose page they viewed and probability of sharing the post, general social media use and knowledge, and questions to elicit brand recall and recognition.	ND	N/A	N/A	Advertisements for unhealthy food had more positive responses, as participants were more likely to wish to share them, rated the posters more positively, recalled and recognized more unhealthy food brands, and spent more time viewing unhealthy food content.
22	2021	What is the relationship between social media food exposure and eating outcomes for adolescents?	1002	Male and female adolescents 11-19 years old in Flanders, Belgium.	Cross sectional survey which assessed food message exposure, food intake by Flemish Food Frequency Questionnaire, intention to eat in the next month compared to now, food preferences and perception of food healthiness used to measure core and non-core food attitudes, perceived norms, food literacy from validated self-perceived food literacy scale, self-regulated eating autonomy measured by treatment self-regulation questionnaire, BMI-for-age, and demographics.	ND	N/A	N/A	Participants who reported a higher exposure to non-core foods also reported higher consumption of those foods. They also believed that their peers consumed more non-core foods than core foods.

Ref	Year Published	Purpose	Sample size	Subject Characteristics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Collected	Control	Intervention	Findings
16	2020	What are the relationships between body image concerns, disordered eating, and body change behavior in adolescents?	681	Male and female adolescents with an average age of 12.76 years old in Australia.	Cross-sectional surveys assessing SM use, depression (using the CESDR-10), self-esteem, BMI, SM and muscular ideal internalization, appearance comparison (using the Sociocultural Attitudes Towards Appearance Questionnaire), body dissatisfaction (using the EDE-Q), disordered eating (using the DEBQ), and muscle-building behaviors (using the Body Change Inventory).	ND	N/A	N/A	Social media use was weakly to moderately correlated with lower self-esteem, more depressive symptoms, more internalization of appearance ideals, more appearance comparison, more dietary restraint, and more body dissatisfaction and muscle change behaviors.
31	2019	Can exposure to images of peer' portions of high-energy-dense (HED) snacks and sugar sweetened beverages (SSBs) on social media influence reported desired portion sizes?	44	Male and female adolescents 13-16 years old.	Pilot interventions. 4-week intervention, adolescents randomly assigned to a condition. Participants informed snacking behaviors were being evaluated. Surveys completed at beginning and end of intervention. 1 confederate peer (member of research team) posted daily on Smart Snacking account of portions of HED and SSB snacks, as well as snack information (nutrition facts) and quizzes. Participants were surveyed on their usual/desired portion sizes for snacks and frequency of consumption.	2017	N/A	N/A	Images of recommended portion sizes for 4 weeks did not influence adolescents to reduce their reported portion size of high energy dense snacks or sugar sweetened beverages relative to the control group.
24	2022	What is the exposure of adolescents to social media food promotions (SMFPs)? How do they evaluate them?	34	Male and female adolescents 13-16 years old in Australia.	Quantitative and qualitative data collection. Participants joined 1 on 1 Zoom's with the researcher, shared their screen and visited up to 3 of their favorite social media platforms for 10 min each. The researcher pointed out social media food promotions (SMFPs) and asked questions about awareness and appreciation of SMFPs. Screenshots of SMFPs were analyzed.	2020-2021	N/A	N/A	During 1000-minute viewing time, 1801 SMFPs were identified. The median rate was 12 SMFPs per min. 60% of participants said they sometimes, rarely, or never noticed SMFPs, and they largely remembered non-core foods or brands.
19	2019	What is the relationship between social media use and disordered eating in adolescents?	996	Grade 7 and 8 adolescent girls and boys in Australia.	Cross-sectional surveys which measured socioeconomic status, BMI, disordered eating based on the Eating Disorder Examination Questionnaire (EDE-Q), eating behaviors based on the Project EAT (eating among teens) Questionnaire, and social media use	ND	N/A	N/A	Girls with Snapchat had a higher chance of disordered eating behaviors than girls without Snapchat. Girls with Instagram accounts also had higher levels of exercise and occurrences of meal skipping, Tumbler use

Year Ref	Pub- lished	Purpose	Sam- ple size	Subject Character- istics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Col- lected	Con- trol	In- ter- ven- tion	Findings
					based on items used in previ- ous body image research in adolescents.				was associated with binge eating for boys and girls. For boys, Facebook, Instagram, and Snapchat were all associated with disordered eating behav- iors.
29	2022	What is the effect of social media addic- tion on nutrition and exercise behavior in adolescent females?	295	Adolescent females with an average age of 16.4 years old in Turkey.	Questionnaire study, included the Descriptive Information Questionnaire, Social Media Addiction Scale for Adoles- cents, Nutrition Exercise Be- havior Scale, and BMI.	2020	N/A	N/A	Participants with a social media addiction dis- played more unhealthy eating and exercise be- haviors than those with- out social media addic- tion. Those with social media addiction also consumed more chips, nuts, chocolate and other snacks, sandwiches, bis- cuits, bagels, hamburgers and potatoes, soft drinks and soda pop, fat and fatty foods.
26	2020	How much do ado- lescents engage with food and beverage brands on social media? What is the relationship between engagement and screen time? What are the sociodemo- graphic differences in engagement?	1564	Male and female ado- lescents 13-17 years old in the U.S.	Cross-sectional survey which measured restaurant, food, and beverage brands ever liked, shared, or followed on social media.	2017	N/A	N/A	Engagement with un- healthy food and bever- age brands is common among adolescents on social media, as 70% of participants engaged with food and beverage brands, and around 50% engaged with fast food brands.
25	2016	How do adolescents communicate food images on social media?	1001	Instagram accounts from 14-year-old adolescents.	Content analytic approach, each account was searched for images of food. The results were categorized according to the type of food shown, how the food was displayed, the context in which the food was presented, and how the up- loader described the image in the caption and hashtags.	2014	N/A	N/A	A majority (85.3%) of accounts posted a food image. The most common foods posted were cook- ies and pastry, and high calorie foods were de- picted in 67.7% of the images. Food was pre- sented on Instagram in either aesthetically pleasing ways or in ways that emphasized the life- style or situation sur- rounding the food.
27	2023	What is the impact of recall of food mar- keting on videogame live streaming plat- forms on purchase and consumption of foods and health	490	Male and female ado- lescents 13-18 years old.	Cross-sectional survey which assessed demographic info, video game live streaming platform use, recall of un- healthy food marketing, pur- chase of unhealthy food, con- sumption of unhealthy food,	2020-20 21	N/A	N/A	A higher recall of mar- keted foods was associ- ated with greater purchase and consumption of these foods. Neither purchase nor consumption were found to be associated

Year Ref	Pub- lished	Purpose	Sam- ple size	Subject Character- istics/ Study population	Sample Design (Study type, intervention, duration)	Year Data Col- lected	Con- trol	In- ter- ven- tion	Findings
		outcomes?			BMI, diet quality via short FFQ, attitudes towards un-healthy and healthy foods, and branded food preference.				with BMI. A higher recall of marketed foods was associated with more positive unhealthy food attitudes, which in turn was associated with greater purchase of mar-keted foods.
20	2022	What is the rela-tionship between social media addic-tion, orthorexia nervosa (ON), eating attitudes, and body image among ado-lescents?	1232	Male and female ado-lescents in high school 14-18 years old.	Cross-sectional study, measures included the Social Media Addiction Scale for Adolescents, Eating Attitude Test-26 (EAT-26), Body Im-age Scale (BIS), and OR-TO-11 questionnaire.	ND	N/A	N	Social media addiction was associated with a higher eating behavior disorder risk, ON ten-dency and lower body image. Frequent reading of posts about nutrition on social media was posi-tively associated with ON tendency and eating be-havior risk.



Figure A1. Adolescents Attitudes Towards Health Information on Social Media.



Figure A2. Social Media and Healthy Eating Index.

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Biography



Lily Moffitt is a student at Western Carolina University, Nutrition and Dietetics Department. She completed her Bachelor of Science in Nutrition and Dietetics from Western Carolina University in 2025. Her major works include research into the effects of plant-based diets on micronutrient intake, which earned her the Portz Scholar Award nomination from WCU in 2024. Other major works include research projects on the impact of social media on the diet quality of adolescents and college students.



Minu Sara Thomas is an Assistant Professor in the Department of Nutrition and Dietetics at Western Carolina University, School of Health Sciences. She earned her Ph.D. (2022), M.S. (2018), and completed her Dietetic Internship (2023) in Nutritional Sciences at the University of Connecticut. Additionally, she holds a Master of Science in Medical Biochemistry (2010) from Amrita Institute of Medical Sciences and a Bachelor's in Biochemistry (2007) from Madurai Kamaraj University, India. She brings extensive interdisciplinary teaching and research experience that bridges Medical Biochemistry and Nutritional Sciences, with a focused application in Dietetics. Her work translates complex biochemical mechanisms into actionable, evidence-based nutrition strategies. Her primary research explores dietary interventions to prevent cardiometabolic diseases, particularly Metabolic Syndrome. She is currently investigating the impact of social media use on flourishing, mental health, and diet quality, as well as the effects of energy drink consumption on kidney health in university populations. She has contributed to multiple clinical trials and serves as a peer reviewer for scientific journals.

Research Field

Lily Moffitt: nutrition and social media, nutrition and autoimmune conditions, eosinophilic esophagitis, plant-based diets, diet quality.

Minu Sara Thomas: metabolic syndrome, cardiometabolic health, plant-based diet, eggs, choline, social media and mental health, flourishing, energy drinks, and kidney health.