

Role of Media and Nutrition Education on Students' Dietary Behavior: A Review Study

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ABSTRACT

Students' dietary behavior is a critical determinant of their overall health, growth, and academic performance. In recent years, the influence of media and nutrition education on students' food choices has gained considerable attention. This review examines the roles of various media—including television, social media, digital platforms, and advertisements—as well as formal and informal nutrition education in shaping students' dietary behaviors. The study synthesizes findings from the national and international literature to examine how exposure to food-related content affects students' knowledge, attitudes, and consumption patterns (Story, Neumark-Sztainer, & French, 2002; Contento, 2011). The review reveals that the media plays a dual role. While it can promote unhealthy eating habits through the advertising of processed and fast foods, it can also encourage healthy dietary practices when used effectively for educational purposes (Harris, Bargh, & Brownell, 2009). Social media platforms, in particular, significantly influence students' preferences and perceptions regarding food choices (Vaterlaus *et al.*, 2015). On the other hand, structured nutrition education programs in schools have been found to improve students' awareness, knowledge, and positive attitudes toward balanced diets, leading to healthier food choices (Contento, 2008; FAO, 2013). Furthermore, the interaction between media exposure and nutrition education highlights the importance of integrating media literacy with health education to enable students to make informed dietary decisions (Livingstone, 2004). The study concludes that a combined approach involving responsible media use and comprehensive nutrition education can play a vital role in promoting healthy eating behaviors among students. The findings of this review provide valuable insights for educators, policymakers, and health professionals in designing effective interventions to improve students' nutritional status and long-term health outcomes.

Keywords: Dietary Behavior, Students' Nutrition, Nutrition Education, Media Influence, Social Media, Food Advertising

INTRODUCTION

Dietary behavior among students is a critical public health concern, as it directly influences physical growth, cognitive development, academic performance, and the long-term risk of non-communicable diseases such as obesity, diabetes, and cardiovascular disorders. Adolescence and young adulthood represent transitional life stages during which individuals develop independent food choices and establish lifelong dietary patterns. However, these stages are also characterized by increased exposure to external influences, including media, peer groups, and changing food environments,

which often lead to unhealthy eating habits such as frequent consumption of fast food, irregular meal patterns, and low intake of fruits and vegetables (Story, Neumark-Sztainer, & French, 2002). Therefore, understanding the determinants of students' dietary behavior is essential for designing effective interventions to improve nutritional outcomes.

One of the most influential factors shaping students' dietary behavior in contemporary society is media exposure. Traditional media, such as television, have long been recognized as powerful tools that influence food preferences and consumption patterns through advertisements and promotional content. Studies have

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consistently shown that a significant proportion of food advertisements targeted at children and adolescents promote energy-dense, nutrient-poor foods, including sugary beverages, fast foods, and processed snacks (Harris, Bargh, & Brownell, 2009). These advertisements not only affect immediate food choices but also contribute to the development of long-term unhealthy eating habits by shaping taste preferences and normalizing the consumption of unhealthy foods.

In recent years, the rapid expansion of digital media and social networking platforms has further intensified this influence. Platforms such as Instagram, YouTube, and Facebook expose students to a wide range of food-related content, including influencer endorsements, viral food trends, and visually appealing food imagery. This exposure often leads to increased desire for highly palatable, calorie-dense foods and influences perceptions of what constitutes desirable or “normal” eating behavior (Vaterlaus *et al.*, 2015). Additionally, the interactive nature of social media allows peer influence to play a significant role, as students are more likely to adopt dietary behaviors observed within their social networks. Consequently, the media not only serves as an information source but also as a behavioral model that can positively or negatively influence students’ dietary habits.

Despite the potential negative impact of the media, it also offers opportunities for promoting healthy dietary practices. When used strategically, media can serve as an effective platform for delivering nutrition education, raising awareness about healthy eating, and encouraging behavior change. Public health campaigns, educational videos, and digital interventions can reach a large audience and provide accessible nutrition information in engaging formats. For instance, online campaigns promoting balanced diets, physical activity, and reduced sugar intake have shown promising results in improving awareness and influencing dietary choices among young populations (Food and Agriculture Organization [FAO], 2013). However, the effectiveness of such initiatives depends on the credibility of the information and students’ ability to evaluate media content critically.

In this context, nutrition education emerges as a crucial factor in shaping students’ dietary behavior. Nutrition education refers to planned learning experiences designed to facilitate the adoption of healthy eating practices by improving knowledge, attitudes, and skills related to food and nutrition. School-based nutrition education programs are particularly important because

they provide structured opportunities to reach large numbers of students during the formative years. Research indicates that comprehensive nutrition education interventions can significantly improve students’ knowledge about nutrients, food groups, and dietary guidelines, leading to healthier food choices and improved eating patterns (Contento, 2011). Moreover, such programs often incorporate practical components, such as meal planning, label reading, and cooking skills, which further enhance their effectiveness.

Evidence also suggests that nutrition education has a positive impact on students’ attitudes and behaviors. Students who receive regular nutrition education are more likely to consume fruits and vegetables, reduce intake of high-fat and high-sugar foods, and adopt healthier lifestyle practices (Contento, 2008). However, the success of these programs depends on several factors, including curriculum design, teaching methods, cultural relevance, and parental and community involvement. In many cases, the lack of integration between nutrition education and real-life food environments limits the sustainability of behavior change.

An important aspect that connects media and nutrition education is media literacy. Media literacy refers to the ability to access, analyze, evaluate, and create media content critically. In the context of nutrition, media literacy enables students to recognize misleading advertisements, understand marketing strategies, and make informed decisions about food choices. Integrating media literacy into nutrition education can empower students to resist unhealthy food marketing and adopt healthier dietary behaviors (Livingstone, 2004). This integrated approach is particularly relevant in today’s digital age, where students are constantly exposed to diverse, often conflicting, nutrition information.

Furthermore, dietary behavior is influenced by a complex interplay of socio-cultural, economic, and environmental factors. Family eating patterns, cultural food practices, availability and affordability of healthy foods, and peer influences all contribute to shaping students’ dietary habits. For instance, students from urban areas may have greater access to fast food outlets and processed foods, while those from rural areas may rely more on traditional diets. Similarly, socioeconomic status can influence food choices, as healthier options are often perceived as more expensive or less accessible. Therefore, interventions aimed at improving dietary behavior must adopt a holistic approach that considers

these contextual factors.

In conclusion, students' dietary behavior is shaped by multiple interrelated factors, among which media and nutrition education play pivotal roles. While media exposure can promote unhealthy eating habits through persuasive marketing and social influences, it can also provide opportunities to disseminate nutrition information and promote healthy behaviors. At the same time, nutrition education provides the foundation for informed decision-making and long-term behavior change. The integration of media literacy with nutrition education, along with supportive social and environmental conditions, is essential for fostering healthy dietary practices among students. Understanding these dynamics is crucial for researchers, educators, and policymakers to design effective strategies for improving the nutritional status and overall well-being of the student population.

Review of Literature:

Story *et al.* (2002) conducted a comprehensive study to examine the multiple factors influencing adolescent eating behavior. The authors identified that dietary habits are shaped by complex interactions among individual, social, and environmental determinants, including family practices, peer influence, school environment, and media exposure. The study emphasized that adolescents are particularly vulnerable to external influences because of their developmental stage, during which independence and identity formation are key. Media exposure, especially television advertising, was found to significantly affect food preferences and consumption patterns, often promoting high-calorie, low-nutrient foods. Additionally, the authors highlighted the importance of socio-economic factors and accessibility of food options in shaping dietary behavior. The study concluded that effective interventions must adopt a multi-level approach, integrating nutrition education with environmental and policy-level changes to promote healthy eating habits among adolescents. Livingstone (2004) explored the concept of media literacy and its growing importance in the digital age. The study highlighted that children and adolescents are increasingly exposed to diverse media content, including advertisements, which can influence their attitudes and behaviors. The author argued that without adequate media literacy skills, young individuals may struggle to critically evaluate the credibility and intent of media messages, particularly those related to food marketing. The study

emphasized that food advertisements often use persuasive techniques that can mislead viewers into developing unhealthy eating habits. Livingstone suggested that integrating media literacy into educational curricula can empower students to analyze and interpret media content more effectively. This approach not only helps reduce the negative impact of the media but also supports informed decision-making. The study concluded that media literacy is an essential component in addressing the influence of media on dietary behavior. Contento (2008) focused on the role of nutrition education in promoting healthy dietary behaviors among individuals, particularly students. The study emphasized that nutrition education should go beyond simply providing information and must incorporate behavioral theories to facilitate long-term change. The author highlighted that effective programs include skill-building activities, such as meal planning, food preparation, and critical thinking about food choices. The study also stressed the importance of culturally relevant and age-appropriate educational content to enhance engagement and effectiveness. Evidence from various interventions indicated that students who participated in structured nutrition education programs demonstrated improved knowledge, attitudes, and dietary practices, including increased consumption of fruits and vegetables. Contento concluded that well-designed nutrition education programs can significantly influence dietary behavior, especially when combined with supportive environments and policies. Harris *et al.* (2009) examined the impact of television food advertising on eating behavior, particularly among children and adolescents. The study found that exposure to food advertisements significantly increases the consumption of advertised products, especially unhealthy, energy-dense foods. The authors demonstrated that advertising influences behavior not only through conscious decision-making but also through subconscious priming, which triggers automatic eating responses. The study also highlighted that children are less likely to critically evaluate advertisements, making them more susceptible to marketing strategies. The findings raised concerns about the role of media in promoting unhealthy dietary habits and contributing to the rising prevalence of obesity. The authors recommended stricter regulations on food advertising targeted at young audiences and emphasized the need for interventions that enhance awareness and critical thinking skills related to media content. Contento (2011) provided a comprehensive framework for

understanding nutrition education and its impact on dietary behavior. The study emphasized that knowledge alone is insufficient to bring about behavior change; instead, interventions must address attitudes, skills, self-efficacy, and environmental factors. The author proposed a model that integrates behavioral theories with practical strategies to promote healthy eating. The study highlighted the importance of school-based programs, which can reach large student populations and provide consistent exposure to nutrition education. Additionally, the author stressed the need for interactive and participatory teaching methods to enhance student engagement. The findings suggested that nutrition education programs are most effective when they are long-term, theory-based, and supported by policy and environmental changes. The study concluded that nutrition education plays a vital role in improving dietary behavior when implemented systematically. Carins and Rundle-Thiele (2013) reviewed social marketing interventions to promote healthy eating behaviors. The study analyzed various campaigns conducted between 2000 and 2012 and found that media-based interventions can effectively influence dietary behavior when designed using audience-centered approaches. The authors emphasized that successful campaigns focus on understanding the target audience's preferences, motivations, and barriers to behavior change. The study also highlighted the importance of using multiple media channels, including television, digital platforms, and community-based communication, to maximize reach and impact. However, the authors noted that the effectiveness of such interventions depends on message clarity, cultural relevance, and consistency. The study concluded that social marketing, when combined with nutrition education, can be a powerful tool for promoting healthy eating behaviors among students and young people. FAO (2013) The Food and Agriculture Organization (FAO) (2013) emphasized the importance of integrating nutrition education into primary school curricula to promote healthy dietary behaviors from an early age. The report highlighted that schools provide an ideal setting for delivering structured nutrition education, as they can reach large numbers of children during the formative years. The FAO recommended the use of interactive teaching methods, practical activities, and community involvement to enhance the effectiveness of nutrition education programs. The report also suggested incorporating media tools, such as educational videos and campaigns, to reinforce learning and increase awareness. Furthermore,

it stressed the need for collaboration between educators, policymakers, and health professionals to create supportive environments for healthy eating. The FAO concluded that comprehensive and well-implemented nutrition education programs can significantly improve students' knowledge, attitudes, and dietary practices.

Vaterlaus *et al.* (2015) investigated the influence of social media on young adults' health behaviors, including dietary practices. The study found that social media platforms play a significant role in shaping food preferences, eating habits, and perceptions of health. Participants reported being influenced by images, posts, and recommendations shared by peers and influencers, which often promoted unhealthy foods. However, the study also noted that social media can serve as a source of motivation and support for adopting healthy behaviors when used positively. The authors highlighted the dual nature of social media, serving both as a risk factor and an opportunity for health promotion. The study concluded that interventions should leverage social media platforms to deliver accurate nutrition information and encourage healthy dietary choices among students. Klassen *et al.* (2018) conducted a systematic review to evaluate the effectiveness of social media-based nutrition interventions. The study found that social media platforms can be effective tools for promoting healthy eating behaviors, particularly when interventions are interactive and engaging. The authors noted that features such as peer support, feedback, and personalized content enhance the impact of these interventions. However, the study also highlighted challenges, including misinformation and varying levels of user engagement. The findings suggested that while social media has great potential for delivering nutrition education, its effectiveness depends on careful design and implementation. The authors recommended combining social media interventions with traditional education methods to achieve better outcomes.

Smit *et al.* (2019) examined the impact of social media influencers on children's dietary behavior. The study found that exposure to influencer marketing significantly increases children's consumption of unhealthy snacks and beverages. The authors explained that children perceive influencers as relatable and trustworthy, which enhances the persuasive effect of their endorsements. The study raised concerns about the lack of regulation in influencer marketing and its potential impact on public health. The findings highlighted the need for policies to regulate digital food marketing and protect young

audiences. The study concluded that influencer marketing is a powerful driver of dietary behavior and must be incorporated into health promotion strategies.

Recent studies (2022–2025) have consistently highlighted the growing influence of digital media on students' dietary behavior. Research indicates that adolescents spend significant time on social media, where they are exposed to both healthy and unhealthy food-related content. Studies conducted in 2024 and 2025 found that excessive social media use is associated with poor dietary habits, increased consumption of fast food, and body image concerns. At the same time, digital platforms have been successfully used for nutrition awareness campaigns and interventions. These studies emphasize the importance of integrating media literacy with nutrition education to help students critically evaluate online content. Overall, recent evidence suggests that a balanced approach combining regulation, education, and awareness is essential to address the impact of media on dietary behavior.

Bandura (1986) introduced the Social Learning Theory, which provides a strong theoretical foundation for understanding how media influence dietary behavior. The theory suggests that individuals, especially children and adolescents, learn behaviors through observation, imitation, and modeling. The media serves as a powerful source of observational learning, exposing individuals to food-related messages, advertisements, and role models. When adolescents observe celebrities or peers consuming certain foods, they are more likely to adopt similar behaviors. The theory also highlights the role of reinforcement and motivation in shaping behavior. For example, attractive advertisements and positive portrayals of unhealthy foods can reinforce unhealthy eating habits. Bandura concluded that behavior change requires not only awareness but also changes in environmental cues and social influences, making media an important target for intervention strategies. Wardle *et al.* (2003) examined the determinants of food choice among adolescents and found that psychological, social, and environmental factors significantly influence dietary behavior. The study emphasized that taste preferences, peer pressure, and media exposure are key drivers of unhealthy eating habits. Adolescents were found to prefer energy-dense foods due to repeated exposure through advertisements and peer acceptance. The authors also highlighted gender differences, with girls being more influenced by body image concerns and media portrayals of thinness. The

study concluded that interventions must address both cognitive and environmental factors to promote healthy eating behaviors effectively.

Brownell and Horgen (2004) critically analyzed the role of the food industry and media in shaping dietary behavior. Their study argued that aggressive marketing strategies, particularly targeting children and adolescents, contribute significantly to unhealthy eating patterns. The authors highlighted that food companies invest heavily in advertising unhealthy products, often using persuasive techniques such as emotional appeal, celebrity endorsements, and promotional offers. These marketing practices create an obesogenic environment that normalizes unhealthy food choices. The study concluded that public health policies and stricter regulations are necessary to counteract the influence of food marketing.

Robinson (2007) explored the behavioral impact of screen media on dietary habits and physical activity. The study found that increased screen time, including television and digital media, is associated with higher consumption of unhealthy snacks and reduced physical activity levels. One key finding was that eating while watching television leads to mindless eating, where individuals consume more food without awareness. The study also noted that exposure to food advertisements during screen time further reinforces unhealthy dietary choices. Robinson concluded that reducing screen time and promoting mindful eating practices can significantly improve students' dietary behavior.

Evans *et al.* (2010) investigated the effectiveness of health communication campaigns in influencing dietary behavior. The study found that media campaigns promoting healthy eating can positively impact knowledge and attitudes when messages are clear, consistent, and culturally relevant. However, the authors noted that the effectiveness of such campaigns is often limited by competing advertisements promoting unhealthy foods. The study emphasized the importance of integrating media campaigns with school-based nutrition education and community interventions to achieve sustainable behavior change.

The World Health Organization (WHO) (2016) highlighted the global impact of food marketing on children's dietary behavior. The report emphasized that exposure to marketing of foods high in fat, sugar, and salt is a major contributor to unhealthy diets and rising obesity rates among children and adolescents. The WHO recommended implementing policies to restrict unhealthy

food advertising, especially in digital media. It also stressed the need for nutrition education and public awareness campaigns to counteract the influence of marketing. The report concluded that a multi-sectoral approach involving governments, schools, and media is essential for promoting healthy dietary behaviors.

Turner *et al.* (2017) examined the role of digital health interventions in improving dietary behavior among young people. The study found that mobile apps, online programs, and social media platforms can effectively deliver nutrition education and support behavior change. Interactive features such as goal setting, self-monitoring, and feedback were found to enhance user engagement and outcomes. However, the study also highlighted challenges in user retention and information quality. The authors concluded that digital interventions should be evidence-based and user-centered to maximize effectiveness.

Kelly *et al.* (2019) investigated adolescents' exposure to digital food marketing and its impact on dietary behavior. The study found that adolescents are frequently exposed to food advertisements on social media, gaming platforms, and websites. These advertisements often promote unhealthy foods and beverages, influencing preferences and consumption patterns. The study also noted that digital marketing is more personalized and interactive, making it more persuasive than traditional advertising. The authors recommended stricter regulations and increased awareness to mitigate the impact of digital marketing on dietary behavior. Recent Evidence (2023–2025 Extension): Recent studies (2023–2025) have further highlighted the algorithm-driven nature of social media, in which personalized content continuously exposes students to food-related messages. Research indicates that platforms like Instagram and YouTube use recommendation systems that amplify both healthy and unhealthy dietary trends. Studies in 2025 show that students exposed to fitness and nutrition influencers demonstrate improved dietary awareness, whereas exposure to fast-food content increases consumption of ultra-processed foods. Additionally, school-based digital interventions integrated with media literacy programs have shown significant improvements in students' food choices and critical thinking abilities. These findings highlight that the media is not only a risk factor but also a powerful tool for positive behavior change when used strategically.

Gerbner *et al.* (2002) developed the Cultivation

Theory, which explains how long-term exposure to media content shapes individuals' perceptions of reality and influences their behaviors. In the context of dietary practices, the theory suggests that repeated exposure to food-related media messages—especially those promoting fast food, sugary snacks, and processed items—gradually normalizes unhealthy eating habits. Adolescents, who are in a critical developmental stage, are particularly susceptible to these influences as they actively construct their identities and social norms. The study emphasized that the media does not merely provide information but also cultivates a worldview in which unhealthy food consumption is perceived as common, desirable, and socially acceptable. Furthermore, the cumulative nature of media exposure reinforces these perceptions over time, making behavior change more challenging. The findings highlight the need for media regulation, public awareness campaigns, and integration of media literacy in education systems to counteract the long-term effects of unhealthy food promotion. Thus, the study provides a strong theoretical basis for understanding how media environments shape dietary behavior.

Nestle (2006) critically examined the intersection of food marketing, policy environments, and dietary behavior, emphasizing the structural determinants of food choices. The study argued that individual dietary decisions are not made in isolation but are heavily influenced by the broader food environment, including aggressive marketing strategies and economic policies. Media plays a central role in promoting highly processed and convenience foods, often portraying them as desirable, affordable, and time-saving options. Nestle highlighted that the food industry invests substantial resources in advertising campaigns targeting children and adolescents, thereby shaping their preferences and consumption patterns from an early age. The study also discussed the concept of an “obesogenic environment,” in which unhealthy food choices are more readily accessible and heavily promoted, while nutritious alternatives are less so. Importantly, the author emphasized that nutrition education alone is insufficient unless supported by policy interventions, such as regulating food advertising, taxing unhealthy foods, and improving access to healthy options. The study concluded that a comprehensive approach combining education, policy reform, and media regulation is essential to improve dietary behavior.

Halford *et al.* (2007) conducted an experimental study to examine the direct effects of food advertising

on children's eating behavior. The findings revealed that exposure to advertisements promoting high-fat, sugar, and salt (HFSS) foods significantly increased children's immediate food intake, regardless of hunger levels. The study highlighted that advertising not only influences food preferences but also triggers actual consumption through psychological mechanisms such as priming and cue reactivity. Interestingly, the impact was found to be more pronounced among overweight and obese children, suggesting differential vulnerability based on individual characteristics. The authors also emphasized that children often lack the cognitive ability to critically evaluate persuasive intent, making them more susceptible to marketing messages. The study raised important ethical concerns about targeting young audiences with unhealthy food advertisements. It concluded that restricting HFSS food advertising, especially during children's programming, and promoting media literacy are essential strategies for reducing unhealthy dietary behaviors and preventing obesity.

Powell *et al.* (2007) investigated the extent of adolescents' exposure to food marketing and its association with dietary intake patterns. The study found that adolescents are disproportionately exposed to advertisements for fast food, sugary beverages, and energy-dense snacks, particularly through television and emerging digital media platforms. This exposure was positively correlated with increased consumption of advertised products and poor overall diet quality. The research also highlighted socio-economic disparities, noting that adolescents from lower-income backgrounds were more frequently targeted by unhealthy food marketing and had limited access to healthier food alternatives. The study emphasized that such inequalities contribute to widening health disparities and increased risk of obesity and related diseases. Furthermore, the authors pointed out that marketing strategies often use appealing visuals, promotional offers, and celebrity endorsements to influence adolescents' choices. The study concluded that policy-level interventions, including regulating food advertising and improving access to healthy foods, are necessary to address these challenges and promote equitable dietary behaviors.

Cairns *et al.* (2013) conducted a comprehensive systematic review to assess the extent, nature, and impact of food marketing on children and adolescents. The study found strong and consistent evidence that food marketing significantly influences children's food preferences,

purchase requests, and consumption patterns. The review highlighted that modern marketing strategies have evolved beyond traditional media to include digital platforms, advergames, and social media, making them more interactive and engaging. These strategies often blur the line between entertainment and advertising, making it difficult for children to recognize persuasive intent. The authors emphasized that children's cognitive immaturity further increases their susceptibility to such marketing tactics. The study also noted that most marketed foods are high in fat, sugar, and salt, contributing to unhealthy dietary habits. The findings underscored the urgent need for comprehensive regulatory frameworks that address all forms of media marketing. The study concluded that reducing exposure to unhealthy food marketing is a critical component of public health strategies to improve dietary behavior among young populations.

Boylund *et al.* (2016) examined the immediate effects of food advertising on children's dietary intake through controlled experimental studies. The research demonstrated that even brief exposure to advertisements for unhealthy foods leads to a significant increase in calorie consumption among children. The study highlighted that advertising influences both conscious and subconscious processes, with children often responding automatically to food cues presented in advertisements. Additionally, the research found that children with higher body mass index (BMI) were more responsive to food advertising, suggesting a heightened susceptibility. The authors emphasized that children generally lack the cognitive maturity to understand the persuasive intent of advertisements, making them particularly vulnerable to marketing strategies. The study raised important ethical concerns regarding the targeting of children in food marketing and called for stricter regulatory measures. It concluded that reducing children's exposure to unhealthy food advertisements, along with enhancing media literacy, is essential for promoting healthier dietary behaviors and preventing obesity. Bucher *et al.* (2016) explored behavioral interventions to encourage healthy eating habits among children and adolescents. The study focused on "nudging" strategies, which involve subtle environmental modifications to influence food choices without restricting options. Examples include placing healthier foods at eye level, using attractive presentation techniques, and providing visual cues that promote nutritious choices. The findings indicated that such interventions can significantly increase the selection and

consumption of fruits, vegetables, and other healthy foods. The study emphasized that behavioral strategies are particularly effective when combined with nutrition education and supportive environments. It also highlighted the importance of repeated exposure and positive reinforcement in establishing long-term dietary habits. The authors concluded that integrating behavioral insights with educational and policy interventions can create a comprehensive approach to improving dietary behavior. This approach is especially relevant in school settings, where structured environments can facilitate the implementation of such strategies. Coates *et al.* (2019) investigated the impact of digital food marketing on adolescents, with a particular focus on social media platforms. The study found that adolescents are highly engaged with branded content, including sponsored posts, influencer endorsements, and interactive advertisements. These marketing tactics were shown to increase brand recognition, preference, and consumption of unhealthy food products. The study emphasized that digital marketing is more personalized and immersive than traditional advertising, making it more effective at influencing behavior. Adolescents often perceive influencers as relatable and trustworthy, which enhances the persuasive impact of their endorsements. The authors also highlighted the lack of adequate regulation in digital marketing, allowing companies to target young audiences more aggressively. The study concluded that there is a need for stronger policies to regulate digital food marketing and protect adolescents from its negative effects, as well as the integration of media literacy programs to enhance critical thinking skills. Nguyen *et al.* (2020) examined the relationship between media exposure, screen time, and dietary patterns among adolescents. The study found that increased screen time is associated with higher consumption of fast food, sugary beverages, and snacks, along with lower intake of fruits and vegetables. The authors suggested that this relationship is influenced by a combination of factors, including exposure to food advertisements, sedentary behavior, and mindless eating during screen use. The study also found that adolescents who spend more time on digital devices are more likely to encounter targeted advertisements for unhealthy foods. Furthermore, prolonged screen time reduces opportunities for physical activity, contributing to an overall unhealthy lifestyle. The findings emphasized the importance of reducing screen time and promoting healthier media habits among adolescents. The study

concluded that interventions should focus on both behavioral change and environmental modifications, including parental guidance and school-based education, to improve dietary outcomes.

Research Gap:

1. Most studies based on Social Learning Theory and Cultivation Theory focus on traditional media and do not fully address modern digital media environments.
2. Limited research exists on the impact of algorithm-driven social media platforms such as Instagram on students' dietary behavior.
3. There is insufficient evidence on the role of video-based platforms like YouTube in shaping food choices among adolescents.
4. Most studies examine media influence and nutrition education separately rather than using an integrated approach.
5. There is a lack of research combining nutrition education with media literacy to improve dietary behavior.
6. Existing studies are largely conducted in developed countries and lack focus on the Indian context.
7. Very few studies specifically address dietary behavior among students in Uttarakhand.
8. Most research is cross-sectional and does not establish causal relationships.
9. There is a lack of intervention-based studies assessing the effectiveness of educational programs.
10. Limited longitudinal studies exist to examine long-term behavioral changes.
11. School-based integrated intervention programs are underexplored in existing literature.
12. Psychological factors such as motivation, self-efficacy, and decision-making are not sufficiently addressed.
13. Socio-economic and cultural influences on media-driven dietary behavior are inadequately studied.
14. The role of influencers and digital marketing in shaping adolescents' food preferences is still under-researched.
15. There is limited research on using digital media as a positive tool for promoting healthy dietary behavior.

Objective:

To critically review and synthesize existing literature on the role of media and nutrition education in shaping students' dietary behavior, with particular emphasis on the influence of digital platforms such as Instagram and YouTube, and to identify gaps and implications for effective interventions.

METHODOLOGY

The present study adopts a systematic review design to critically analyze and synthesize existing literature on the role of media and nutrition education in shaping students' dietary behavior. This approach ensures a structured, transparent, and replicable process for reviewing previous research, enabling the identification of key trends, relationships, and research gaps.

The study is based entirely on secondary data, collected from previously published scholarly sources. The data are qualitative and include theoretical frameworks, empirical studies, and intervention-based research on media influence and nutrition education. Relevant literature was retrieved from reputable academic databases and institutional sources, including Google Scholar, PubMed, Scopus, ResearchGate, and reports from the World Health Organization and the Food and Agriculture Organization. These sources were selected to ensure the reliability, credibility, and comprehensiveness of the data.

A systematic search strategy was employed, using relevant keywords and Boolean operators (AND, OR) to refine the search results. Key search terms included "media influence on dietary behavior," "nutrition education and students," "social media and food habits," "food advertising and adolescents," and "digital media and eating behavior." The search was limited to studies published between 2000 and 2025 to include both foundational and recent research.

For study selection, specific inclusion and exclusion criteria were applied. Studies included peer-reviewed articles, reports, and scholarly publications focusing on children, adolescents, or students, and addressing media influence, nutrition education, or dietary behavior. Only studies published in English with full-text availability were considered. Studies were excluded if they were not directly related to the topic, lacked full-text access, were non-academic in nature (such as blogs or opinion articles), or were duplicate publications.

Relevant data from the selected studies were systematically extracted and organized into key categories, including author and year of publication, study objectives and design, sample characteristics, major findings related to media and dietary behavior, the role of nutrition education, and intervention strategies, where applicable. The collected data were analyzed using qualitative content analysis, where studies were compared and synthesized to identify recurring themes such as the influence of traditional and digital media, the role of social media platforms like Instagram and YouTube, the impact of nutrition education on knowledge, attitudes, and practices, and the effectiveness of intervention programs. This thematic analysis facilitated a comprehensive understanding of the subject.

The findings of the review were presented chronologically and thematically, covering theoretical perspectives, the influence of traditional and digital media, the role of nutrition education, combined intervention approaches, and recent trends.

However, the study has certain limitations. Since it is based on secondary data, there is limited control over the quality and methodology of the included studies. Some relevant research may have been excluded due to restricted access, and variations in study designs and populations may affect the comparability and generalization of findings.

Results of the Study:

The findings of the present systematic review indicate that the media play a significant role in shaping students' dietary behavior, influencing both food preferences and consumption patterns. Exposure to television advertisements and digital media content is strongly associated with increased intake of energy-dense, nutrient-poor foods such as fast food, sugary beverages, and snacks. Repeated exposure to such content normalizes unhealthy eating habits and affects both conscious and subconscious decision-making processes. In recent years, social media platforms such as Instagram and YouTube have emerged as powerful influencers, where food-related content, influencer marketing, and peer interactions significantly shape dietary choices. While such platforms often promote unhealthy food trends, they also offer opportunities to raise awareness and encourage healthy eating through positive, educational content.

The review further reveals that nutrition education

has a positive impact on students' knowledge, attitudes, and dietary practices. Students exposed to structured nutrition education programs demonstrate improved understanding of balanced diets and healthier food choices, including increased consumption of fruits and vegetables. However, knowledge alone is insufficient to sustain behavior change unless supported by practical skills, motivation, and a conducive environment. The combined effect of media and nutrition education is therefore critical, as media literacy helps students critically evaluate food-related messages and resist unhealthy influences. Integrated approaches that combine nutrition education with media awareness are more effective at promoting healthy dietary behavior.

Additionally, the review highlights the strong influence of advertising and marketing strategies, particularly those targeting children and adolescents. Techniques such as celebrity endorsements, emotional appeals, and promotional offers increase the attractiveness of unhealthy foods, while digital marketing and personalized advertisements further intensify this effect. Behavioral and psychological factors, including taste preferences, peer influence, self-efficacy, and body image concerns, also play crucial roles, and the media often reinforces these factors. Socio-economic and environmental factors further shape dietary habits, as students from lower socio-economic backgrounds are more exposed to unhealthy food marketing and have limited access to nutritious food options.

The findings also emphasize the effectiveness of intervention programs that integrate nutrition education, media literacy, and behavioral strategies. School-based programs, interactive learning approaches, and digital interventions have shown promising results in improving students' dietary behavior. Recent trends (2022–2025) indicate that algorithm-driven content on digital platforms continues to influence students' food choices, reinforcing both healthy and unhealthy habits. Overall, the results suggest that while media significantly contributes to unhealthy dietary patterns, it can also be utilized as a powerful tool for promoting healthy eating when combined with effective nutrition education and policy interventions.

Discussion:

The findings of the present review provide strong evidence that the media play a critical and multifaceted role in shaping students' dietary behavior. These findings

align with established theoretical frameworks such as Social Learning Theory and Cultivation Theory, which explain how individuals learn behaviors through observation and how prolonged media exposure shapes perceptions of reality. In the context of dietary practices, students are continuously exposed to food-related messages that influence their preferences, attitudes, and consumption patterns. The normalization of unhealthy foods through repeated media exposure reinforces the idea that such eating habits are acceptable and desirable, particularly among adolescents who are in a vulnerable developmental stage.

The review findings are consistent with earlier studies such as Story *et al.* (2002) and Harris *et al.* (2009), which reported that media exposure significantly increases the consumption of energy-dense, nutrient-poor foods. The present study further extends these findings by highlighting the growing dominance of digital and social media over traditional media. Platforms such as Instagram and YouTube have transformed the way food-related information is delivered and consumed. Unlike traditional media, digital platforms provide personalized, interactive, and continuous exposure through algorithm-driven content. This creates a reinforcing loop in which students are repeatedly exposed to similar types of food content, thereby strengthening their existing preferences and shaping their dietary behavior more profoundly.

Another important aspect emerging from the discussion is the role of influencer marketing and peer influence in shaping dietary habits. Adolescents often perceive influencers as relatable and trustworthy, which enhances the persuasive impact of their endorsements. This finding aligns with studies by Smit *et al.* (2019) and Coates *et al.* (2019), which emphasize the powerful role of digital marketing in shaping food choices. The persuasive techniques used in digital media, such as visually appealing content, emotional appeals, and social validation (likes, shares, comments), further amplify the impact of unhealthy food promotion. At the same time, the review also identifies the potential of social media as a positive tool, with health-focused content and fitness influencers promoting awareness and encouraging healthier dietary practices.

The discussion also highlights the significant role of nutrition education in improving dietary behavior. Consistent with the work of Contento (2008, 2011), the findings indicate that nutrition education enhances knowledge, attitudes, and practices related to healthy

eating. However, the review emphasizes that knowledge alone is insufficient for behavior change. This aligns with behavioral theories, which suggest that factors such as motivation, self-efficacy, and environmental support are crucial determinants of behavior. Therefore, nutrition education programs must incorporate practical skills, interactive learning, and behavior change strategies to achieve long-term impact.

A key contribution of this review is the identification of the combined effect of media and nutrition education. The findings suggest that integrating media literacy with nutrition education can significantly enhance students' ability to evaluate food-related messages and resist unhealthy influences critically. This supports Livingstone's (2004) argument that media literacy is essential in the digital age. By equipping students with critical thinking skills, such integrated approaches can empower them to make informed dietary choices despite the pervasive influence of media.

The role of advertising and marketing strategies also emerges as a critical factor in the discussion. Consistent with the findings of Brownell and Horgen (2004) and Cairns *et al.* (2013), the review highlights how aggressive marketing of unhealthy foods contributes to poor dietary habits. The shift from traditional advertising to digital and influencer-based marketing has further intensified this issue, as these methods are subtler, more engaging, and harder to regulate. This raises important public health concerns and underscores the need for stricter regulatory policies to control food marketing targeted at children and adolescents.

Furthermore, the discussion acknowledges the influence of socio-economic and environmental factors on dietary behavior. Students from lower socio-economic backgrounds are often more exposed to unhealthy food marketing and have limited access to nutritious food options, which exacerbates health inequalities. This finding is consistent with previous research emphasizing the role of environmental determinants in shaping dietary behavior. It suggests that interventions must go beyond individual-level education and address broader structural factors, such as food availability, affordability, and regulatory policies.

The effectiveness of intervention programs is another important theme discussed in this review. The findings indicate that multi-component interventions combining nutrition education, media literacy, and behavioral strategies are more effective than single-

component approaches. School-based programs, in particular, provide a structured environment for implementing such interventions and reaching a large number of students. This aligns with global recommendations from organizations such as the World Health Organization, which emphasize the importance of integrated strategies to promote healthy dietary behaviors.

Recent trends (2022–2025) further highlight the evolving role of digital media in influencing dietary behavior. Algorithm-driven content, personalized recommendations, and increased screen time have increased students' exposure to food-related information. While this poses significant risks, it also presents opportunities for innovative health promotion strategies using digital platforms. The challenge lies in leveraging these platforms effectively while minimizing their negative impact.

In conclusion, the discussion underscores that students' dietary behavior is shaped by a complex interplay of media exposure, nutrition education, psychological factors, and socio-environmental influences. While the media often promotes unhealthy eating patterns, its impact can be mitigated through effective nutrition education, media literacy, and policy interventions. The findings highlight the need for a comprehensive and integrated approach that combines education, awareness, and regulation to promote healthy dietary behaviors among students.

Recommendations for Further Study:

1. Future research should focus on the impact of emerging digital media environments, particularly algorithm-driven platforms, on students' dietary behavior.
2. More studies are needed to examine the long-term influence of social media platforms such as Instagram and YouTube on eating habits and food preferences.
3. Researchers should conduct longitudinal studies to assess sustained changes in dietary behavior over time rather than relying only on cross-sectional data.
4. There is a need for intervention-based research to evaluate the effectiveness of combined nutrition education and media literacy programs.
5. Future studies should explore the integration of media literacy with nutrition education to

- enhance critical thinking and informed decision-making among students.
6. More context-specific research is required in developing regions, particularly in India and Uttarakhand, to understand socio-cultural influences on dietary behavior.
 7. Researchers should investigate the role of influencers and digital marketing strategies in shaping students' food choices.
 8. Further studies should focus on school-based intervention models that combine education, awareness, and behavioral strategies.
 9. There is a need to examine psychological factors such as motivation, self-efficacy, peer pressure, and body image in relation to dietary behavior.
 10. Future research should assess the impact of socio-economic status and food environment on students' eating habits.

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