

INVESTIGATING THE PUBLIC HEALTH IMPACT OF FOOD MARKETING ON CHILDREN'S DIETARY **CHOICES**

ADIL RAJA¹, MD AFZAL²
¹ASSISTANT PROFESSOR, DEPARTMENT OF CS & IT, KALINGA UNIVERSITY, RAIPUR, INDIA. ²RESEARCH SCHOLAR, DEPARTMENT OF CS & IT, KALINGA UNIVERSITY, RAIPUR, INDIA.

Abstract

In order to solve the worldwide kid obesity issue, public health professionals called on governments, industry, and campaigners to take action fifteen years ago to significantly alter the unhealthy food-marketing environment around children. Teenagers are widely exposed to food marketing on, print media, television, and video games. With the fast-changing nature of social media trends and advertising tactics, there is increasing concern in knowing the link between teenagers' exposure to fast food advertising and food intake. Most of the research found that the viewing of unhealthy food and beverage commercials strongly intensified adolescents' appetite and intent for consuming the products advertised. In addition, peer pressure, social media influencers, and interactions with biological, environmental, and social determinants enhanced the impacts of these adverts, which contributed to the existing obesogenic environment.

Keywords: influencers, obesity, Instagram, online gaming, food marketing, public health

1. INTRODUCTION

Food marketing has a powerful impact on the food people eat. Successful marketing to this age group can establish positive connections at an early age, building long-term brand loyalty and consumer relationships that can last into adulthood, making this a key market segment [10]. Notably, children and teenagers constitute both a "primary market," as they can directly purchase food, and an "influence market," as they can shape family purchasing decisions [1]. Last but not least, their early brand devotion ensures ongoing sales throughout maturity; in other words, kids represent a "future market" as later consumers [11]. Adolescents have been observed to exhibit unhealthy eating habits, and their dietary intake frequently falls short of international guidelines [2]. Scientific studies have reported that unhealthy food promotion contributes to an undesirable influence on dietary consumption of bad foods by the youth, many times coupled with environmental factors. Food advertising is seen by adolescents through a number of sources, including television, films, videos, advergames, product placement, celebrity endorsements, billboards, radio, print materials, internet, mobile phones, and social media, with advertisements in many forms, including images, videos, and games to promote certain brands [9] [13].

Advertising strategies employed to influence consumers, especially children and teenagers, tend to emphasize the desirable features of a product, including its flavor, aroma, texture, nutrition, singularity, and novelty [15-16]. Emotional appeals are also commonly made, as evidenced in many TV commercials that appeal to family ties and connections in an effort to create an emotional bond with the target market. Faster speed, the employment of cartoon characters, and the selection of situations based on real-world events are further strategies employed by TV ads to appeal to children about food products [4] [14].

2. LITERATURE REVIEW

Children's surroundings have changed over the past ten years, with less physical activity and more sedentary pursuits including computer use, video game playing, and television watching. The sharp rise in the prevalence of overweight and obese children is probably a result of both this decrease in energy expenditure and the expansion of high-calorie, high-fat food options. (Bar-Or, O., & Gillis, L. J. 2003) Fast food and body weight have been linked in several research. (C. B. Ebbeling et al., 2004) According to the American population research Cardia, eating fast food frequently is positively correlated with weight gain and the likelihood of developing insulin resistance beyond the age of fifteen [17]. (Stender, S., et al 2007) In Asia it has been observed that there is a tremendous effect has been seen lifestyle among adult in the form of obesity and related health [5-6].



Twenty-six percent of students in 29 European nations reported consuming soft drinks on a daily basis [12]. C. A. Vereecken et al. (2005) Adolescents who regularly eat fast food had worse nutritional quality dietary intakes than those who eat it less frequently, according to one study. (S. A. French et al., 2001) One of the most common venues to get food away from home is fast food restaurants. Vinyard, B. T., and Bowman, S. A. (2004)

These foods are easily accessible and reasonably priced in public areas, including parks, theaters, picnic areas, and shopping centers. These establishments serve a wide variety of dishes that are commonly referred to as fast food. Eating out of the house has become more popular in recent years. Since they bring these ready-to-eat items with them when they return from their offices, it has been noted that working women prefer these foods the most. Foods consumed away from home are usually ready to eat, and the consumer has less control over the nutritional value and portion size. (French S. A., 2003)

Fast food is meant to promote consumption of a maximum of energy in a minimum of time. If other dietary circumstances mirrored fast food in important ways, such as high calorie density, low fiber content, substantial food processing (allowing for quick swallowing with little chewing), and low satiating value, they may similarly cause overeating and incomplete energy compensation. (C. B. Ebbeling et al., 2004)

It has been demonstrated that adolescent junk food consumption is correlated with family practices, the availability of junk food at home, television viewing, taste preferences, fast food consumption, and skipping breakfast and family meals. (C. Verzeletti, 2009)

In the opinion of Zhu et al. (2008), the majority of youth and adolescents eat junk food for breakfast at home, and they mostly use typical channels of communication to get information about food, which are television (67.95%), their mothers (9.02%), and newspapers or magazines (6.71%).

3. MATERIALS AND METHODS

Data were collected on behaviours related to nutrition, the consumption of mainly fast food or foods characterized as unhealthy, and the consumption of sugary drinks such as soft drinks. Data was also obtained regarding teenagers' internet and social media use, their use of social media websites such as Facebook, Instagram, and YouTube, and their activities involving commercial food and beverage entities. The extent to which advertisement has an impact on teenagers' purchase and eating behaviour was gauged on several occasions via several methods under the different surveys. For example, Powell et al. employed single program television ratings to examine advertising data, quantifying scores within target rating point units for particular subgroups of the population. A product categorization code was used to categorize the monthly target rating points across food categories once they had been aggregated to the brand level.

Table 1: Participants profile

DP 1	Age of the Respondents								
	18-25 years	26-33 years	34-41 years	42-49 years	above 50 years	Total			
Frequency	49	45	28	23	5	150			
Percent	32.7	30.0	18.7	15.3	3.3	100.0			
DP 2	Educational Qualification of the Respondents								
	certificate	diploma	bachelors	postgra	Total				
Frequency	50	16	64	2	150				
Percent	33.3	10.7	42.7	13	100.0				



DP 3	Income Per Month of Respondents								
	12000- 20000	21000- 30000		1000- 0000	41000- 50000		above 50000	Total	
Frequency	92	12	19		10		17	150	
Percent	61.3	8.0		12.7	6.7		11.3	100.0	
DP 4									
	Unemployed	Self- employed	priv		te government		Total		
Frequency	74	52	21		3		150		
Percent	49.3	34.7	14.0		١	2.0		100.0	
DP 5									
	Married	Unmar		Divorcee			Total		
Frequency	90	58			2			150	
Percent	60.0	38.7			1.3			100.0	

1. Main Findings of the Studies

Importantly, Powell and co-authors reported that adolescents who were exposed to soft drink and sweetened beverage advertisements were much more likely to drink them. Yet, they could not establish a definitive relationship between fast-food commercials and eating. The BMI of early adolescents was substantially correlated with exposure to cereal advertising, but not with exposure to advertising for soft drinks and fast food. The findings on obesity showed that the percentage of body fat in youngsters was correlated with their exposure to cereal advertisements. This also applied to advertising for fast food. On the other hand, the proportion of body fat was marginally significantly correlated with exposure to advertisements for sugar-sweetened beverages.

Table 1: Quality of life with regard to mental health



Items	Mean	Std. Deviation	Communality	
Do children who play food-themed video games have poorer dietary habits than those who do not?	2.72	1.332	0.667	
What is the relationship between food marketing and children's requests for unhealthy foods at grocery stores?	2.99	1.258	0.622	
Can food marketing regulations, such as restrictions on advertising to children, be effective in promoting healthier dietary choices?	3.89	1.007	0.468	
What is the impact of celebrity endorsements in food marketing on children's dietary choices?	3.51	0.995	0.628	
Do children who are exposed to food marketing have lower intakes of fruits and vegetables than those who are not?	3.00	1.259	0.701	
What is the relationship between food marketing and children's body mass index (BMI)?	3.25	1.220	0.640	
Can schools play a role in promoting healthy dietary choices among children by limiting food marketing?	3.95	0.865	0.510	
What is the impact of food marketing on children's self-regulation of food intake and eating habits?	3.85	0.745	0.325	
Do children from low-income households have greater exposure to unhealthy food marketing than those from higher-income households?	3.91	0.846	0.556	
What is the relationship between food marketing and children's consumption of sugary drinks and snacks?	3.03	1.277	0.695	
Can parental involvement in food purchasing decisions mitigate the influence of food marketing on children's dietary choices?	3.33	0.966	0.696	
What is the impact of online food marketing on children's dietary choices and purchasing requests?	3.52	1.091	0.588	
Do children who watch more television with food advertisements have poorer dietary habits than those who watch less?	3.35	1.106	0.706	
What is the relationship between exposure to food marketing and children's preferences for unhealthy foods?	3.02	1.167	0.647	

Three studies investigated differences in gender concerning reactions to advertisements for food. Food ads on television and social media frequently encourage the consumption of unhealthy foods and drinks, which is linked to increased teen consumption. Peer pressure and influencers increase the effects of ads, which also interact with



biological, environmental, and social factors. Priority should be given to public health regulations pertaining to television commercials for unhealthy foods and, in particular, the evolving social media landscape [7-8]. One aspect of the current obesogenic environment is food marketing.

- 1. More research is needed to fully comprehend how diet-related behaviours may be disproportionately impacted by harmful food marketing aimed at underprivileged adolescents.
- Additional studies are needed in order to stay abreast of the continuously changing digital marketing
 practices, such as the utilization of GPS tracking, brand experiences within the metaverse, and the
 commodification of children's personal information to track and study internet behaviour, eventually
 targeting them with customized marketing messages.
- 3. Even in the face of overwhelming evidence that voluntary self-regulation by industry has had no apparent effect on stemming the marketing of unhealthy foods to children, food manufacturers still commit to being allies in the fight against childhood obesity as a means of fending off government control and regulation of food marketing.
- 4. A few nations have enacted national statutory food-marketing laws, such as Chile and the UK. These laws are far more extensive than those started by the industry, despite certain drawbacks.
- 5. Newer types of digital marketing that jeopardize children's rights to privacy, independence from manipulation, and a healthy living require further governmental measures [3].

6. CONCLUSIONS

Food marketing to children, including teens, has far-reaching and negative implications for their diets and their long-term health. The marketing is pervasive and challenging to avoid, repeatedly targeting developmental susceptibilities and worsening health inequities disproportionately affecting children of colour and lower-income children. Over the past 15 years, researchers from all over the world have made significant progress in this understanding. Therefore, selling highly processed foods to kids is more than just an annoyance. It contributes to a potent obesogenic environment that endangers the long-term health and wellbeing of young people. The public health movement is increasingly appreciating that regulation by the government is the most potent means to curb the promotion of unhealthy food among children. In addition, governments need to act to end marketing practices which undermine children's right to privacy, health, nutrition, and protection from exploitation. Nevertheless, deep-rooted misconceptions concerning marketing food to children and powerful vested interests from industries present severe hurdles for champions working to impose government regulations. Research and advocacy expenditures are required to create practical plans to get over these obstacles and advance the passage and enforcement of strict food-marketing laws.

REFERENCES

- 1. Chang, Po-Ju, Linda Wray, and Yeqiang Lin. "Social relationships, leisure activity, and health in older adults." *Health Psychology* 33, no. 6 (2014): 516.
- 2. Dominick, Kelli L., Frank M. Ahern, Carol H. Gold, and Debra A. Heller. "Relationship of health-related quality of life to health care utilization and mortality among older adults." Aging clinical and experimental research 14 (2002): 499-508.
- 3. Arun Prasath, C. (2025). Performance analysis of induction motor drives under nonlinear load conditions. National Journal of Electrical Electronics and Automation Technologies, 1(1), 48–54.
- 4. Patterson, Ruth E., Laura L. Frank, Alan R. Kristal, and Emily White. "A comprehensive examination of health conditions associated with obesity in older adults." American journal of preventive medicine 27, no. 5 (2004): 385-390.
- 5. Valtorta, Nicole K., Danielle Collingridge Moore, Lynn Barron, Daniel Stow, and Barbara Hanratty. "Older adults' social relationships and health care utilization: a systematic review." American journal of public health 108, no. 4 (2018): e1-e10.
- 6. Kavitha, M. (2025). Real-time speech enhancement on edge devices using optimized deep learning models. National Journal of Speech and Audio Processing, 1(1), 1–7.
- 7. Bryant, Christina, Bei Bei, Kim Gilson, Angela Komiti, Henry Jackson, and Fiona Judd. "The relationship between attitudes to aging and physical and mental health in older adults." International psychogeriatrics 24, no. 10 (2012): 1674-1683.



- 8. White, Ann Marie, G. Stephane Philogene, Lawrence Fine, and Sarbajit Sinha. "Social support and self-reported health status of older adults in the United States." American journal of public health 99, no. 10 (2009): 1872-1878.
- 9. Yen, Irene H., Yvonne L. Michael, and Leslie Perdue. "Neighborhood environment in studies of health of older adults: a systematic review." American journal of preventive medicine 37, no. 5 (2009): 455-463.
- 10. Surendar, A. (2025). Lightweight CNN architecture for real-time image super-resolution in edge devices. National Journal of Signal and Image Processing, 1(1), 1–8.
- 11. Chen, Shuangzhou, Ting Wang, Zhikang Bao, and Vivian Lou. "A path analysis of the effect of neighborhood built environment on public health of older adults: a Hong Kong study." Frontiers in public health 10 (2022): 861836.
- 12. Sudhakar, M., Boobalan, K., & Ravisankar, S. (2018). Elegant Hospitals Using Internet of Things (IoT). International Journal of Advances in Engineering and Emerging Technology, 9(1), 20–24.
- 13. Veerappan, S. (2024). A comparative study of NFC and UWB technologies for secure contactless payment systems. National Journal of RF Circuits and Wireless Systems, 1(1), 49–57.
- 14. Kong, Y., Suntrayuth, S., & Lin, F. (2024). Construction of Cross-Border E-Commerce Supply Chain of Agricultural Food Products based on Blockchain Technology. Natural and Engineering Sciences, 9(2), 145-163. https://doi.org/10.28978/nesciences.1569226
- 15. Sunarto, A., Kencana, P.N., Munadjat, B., Dewi, I.K., Abidin, A.Z., & Rahim, R. (2023). Application of Boosting Technique with C4. 5 Algorithm to Reduce the Classification Error Rate in Online Shoppers Purchasing Intention. Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications, 14(2), 01-11. https://doi.org/10.58346/JOWUA.2023.I2.001
- 16. Abdul, A. M., & Nelakuditi, U. R. (2021). A New Blind Zone Free PFD in Fractional-N PLL for Bluetooth Applications. Journal of VLSI Circuits and Systems, 3(1), 19–24. https://doi.org/10.31838/jvcs/03.01.04
- 17. Abdo, A. A., Alhajri, K., Alyami, A., Alkhalaf, A., Allail, B., Alyami, E., & Baaqeel, H. (2023). AI-based Spam Detection Techniques for Online Social Networks: Challenges and Opportunities. Journal of Internet Services and Information Security, 13(3), 78-103. https://doi.org/10.58346/JISIS.2023.I3.006
- 18. Rahman, T., Yufiarti, & Nurani, Y. (2024). Game-based Digital Media Development to Improve Early Children's Literacy. Indian Journal of Information Sources and Services, 14(2), 104–108. https://doi.org/10.51983/ijiss-2024.14.2.15
- 19. Mustika, S., Sofia, E. R. A., Sari, N. A. K., Poetri, L. N., Yudhanto, H. S., & Handayani, D. (2024). The Effects of Traditional Asian Diet on Metabolism, Gut Microbiota, and Liver Tissue in NASH Rats. Natural and Engineering Sciences, 9(2), 309-325. https://doi.org/10.28978/nesciences.1574444
- 20. Arthur, L., & Ethan, L. (2025). A review of biodegradable biomaterials for medical device applications. Innovative Reviews in Engineering and Science, 3(1), 9–18. https://doi.org/10.31838/INES/03.01.02
- 21. Zain, Z. (2025). Exploring the field of mechatronics: Scope and future. Innovative Reviews in Engineering and Science, 2(1), 45-51. https://doi.org/10.31838/INES/02.01.05
- 22. Suba, R., & Satheeskumar, R. (2016). Efficient cluster-based congestion control in wireless mesh network. International Journal of Communication and Computer Technologies, 4(2), 96-101.
- 23. Liu, X. (2024). Design and implementation of hardware-embedded lightweight cryptographic engines for secure IoT edge devices. Electronics, Communications, and Computing Summit, 2(4), 72–79.
- 24. Kamarudin, M. S., Nuruljannah, M. P., Syukri, F., & Cruz, C. R. (2023). Effects of dietary protein-energy level on the survival, growth and body composition of tinfoil barb, Barbonymus schwanenfeldii fry. International Journal of Aquatic Research and Environmental Studies, 3(2), 35-50. https://doi.org/10.70102/IJARES/V3I2/3