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The influence of advertisements on food preferences among university students: A gender-based and overall analysis of regret, trust, advertising role, influence, and product attributes

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Abstract
This cross-sectional study examined the influence of food advertisements on the food preferences of 130 university students (65 males and 65 females) from rural and urban areas, aged 18-34 years. Data were collected through a structured questionnaire and analyzed using descriptive statistics and chi-square tests. Results showed low post-purchase regret, with only 18.46% of participants reporting regret, while most did not. A majority expressed doubt about advertising credibility, as 63.85% stated that advertisements do not reflect actual products, while 44.62% were neutral, indicating uncertainty rather than full trust. However, 44.62% agreed that advertisements influence their food choices, indicating an indirect effect. Students identified product quality (91.54%), health benefits (91.54%), taste (93.08%), and price (93.85%) as the most important factors in food selection, whereas brand reputation, visual appearance, emotional appeal, and social media presence were rated lower. Chi-square analyses revealed no significant gender differences ($p>.05$). In conclusion, advertisements influence awareness and behavior to some extent, but students rely more on core product attributes than on promotional claims when making food-related decisions.

Keywords: Post-purchase regret, advertisement accuracy, advertisement role, advertising influence, food preferences, product attributes importance

Introduction
The word "advertising" refers to the public, compensated display and endorsement of goods, services, or concepts by a specified sponsor. It is a paid type of communication because the advertiser has to pay for the time or space that his advertisement appears. Advertising is a worldwide phenomenon these days. The recipient of the advertisement is the most important part of every advertising transaction. Advertising appears to function best when its subject matter is understood in a way that is relevant to the target audience (Srivastava., 2002) [7].
The definition of advertisement, which is to paint a picture in order to boost sales and marketing, is universal. The term "avert ere" originates from the Latin word "avertere," which means to demonstrate new products by clearly presenting ideas, visions, images, and services through mass media and social media. It also means to improve marketing by focusing on the relationship between business and products. For this reason, many agencies create advertisements for sellers through international businesses that are part of societies (Sharam & Zafar., 2008) [6].
"What advertisements do to people is only half a question. The remainder is, what do people do to advertisements**"** (Benson., 2002) [1].
To succeed, any business from little, independent farms to massive, global food producers needs marketing. Food marketing is creating new items and promoting them through advertising, cultivating client connections, raising brand awareness, and even providing funds to grocery stores so they may display them prominently on their shelves (Forsey., 2022) [3].
Food marketing plays a significant role in determining eating habits, particularly in kids and teenagers. "Any communication designed to increase recognition, appeal, and/or consumption of specific food products, brands, and services" is referred to as food

marketing. Since successful marketing to them can build early, good relationships as well as long-lasting interactions between brands and consumers that last into adulthood, children and adolescents represent a significant portion of the market. It's true that kids and teenagers can purchase food directly, making it a "primary market." Moreover, they constitute a "influence market" since they have the power to influence family purchasing decisions. Lastly, since they were early adopters, their brand loyalty ensures that they will continue to purchase from the company as adults; in other words, they are a "future market." (Harris *et al*., 2009) [4].

Teenagers have been seen to have unhealthy eating habits, and their dietary intake frequently falls short of international requirements. As a result, the World Health Organization (WHO) has demanded that marketing limitations be placed on products that are harmful to children and young adolescents, such as tobacco products and unhealthy meals and beverages. In addition to interactions with environmental factors, junk food marketing have been identified as a negative influence on the consumption of junk food among adolescents. Teenagers are exposed to food marketing through a variety of media, such as billboards, radio, print publications, the internet, mobile devices, social media, movies, television, product placements, cross-promotions, product packaging, athlete and celebrity endorsements, and charitable donations from food and beverage companies. Advertising can take many different forms, such as pictures, videos, and games that highlight particular brands (Tsochantaridou *et al*., 2023) [10].

When people start college, they go through a phase where they are more independent and self-sufficient, and this is frequently accompanied by changes in eating habits. Students are subjected to an onslaught of marketing messages pushing a variety of food products, from trendy health foods to convenient fast-food options, when they are not under the limitations of parental supervision. Consequently, these pervasive marketing campaigns have a significant influence on college students' food decisions (Harris *et al*., 2009) [4].

Food preferences and appetites are created and maintained, which is one of the main ways that food marketing affects college students' dietary choices. Certain food products generate a sense of desire and attraction due to the clever use of eye-catching graphics, memorable slogans, and star endorsements. For example, students who are juggling busy academic schedules and social activities may find fast food to be an appealing option since it is portrayed as being synonymous with ease, indulgence, and social acceptance. Similar to this, the promotion of sugary foods and drinks takes use of people's natural predilection for sweetness to create cravings that influence college students' consumption habits (Story and French., 2004) [8].

Review of Literature

This qualitative study investigated how young adults perceive and respond to food-related marketing, with a focus on social media platforms. The study engaged 166 Australians aged 18 to 24 in a four-week online discussion centered on food, health, and social media. Through inductive thematic analysis, participants frequently referenced aspects of the marketing mix product, price, placement, and promotion particularly in relation to energy-dense, nutrient-poor foods. Key themes included the impact of digital advertising, algorithm-driven content, and the use of ad-blockers. Many participants expressed that repeated exposure to unhealthy food marketing negatively influenced their dietary behavior and contributed to feelings of guilt. The findings underscore the importance of shaping both advertising strategies and the broader food environment to better support healthy eating among young adults (Molenaar *et al*., 2021) [11].

This cross-sectional study investigated the types of food advertisements university students encounter on campus and their influence on dietary habits and nutritional status. Data from 367 students were collected through a semi-structured questionnaire, with BMI calculated via standard measurement techniques. The sample included 51.5% females and 48.5% males. The internet (58.9%) and television (21.0%) were the leading sources of food advertising. Most participants (74.9%) indicated that food marketing affected their dietary choices. Those with compromised nutritional status were more inclined to consume sugar-sweetened beverages (10.1%) than fruits and vegetables (1.4%). A significant correlation existed between the type of food consumed and the advertising source ($p = .003$), whereas no significant link was found between BMI and food choices influenced by advertisements ($p = .832$). These results highlight the importance of nutrition education and intervention programs via digital and broadcast media to foster healthier eating behaviors among students (Kalog *et al*., 2022) [5].

This mixed-methods research investigated the external food environment in informal settlements of Nairobi, Kenya, and the individual determinants of women's food choices. Data were gathered from five focus groups involving 26 women across four villages in the Mukuru and Kibera settlements, supplemented by food environment assessments including vendor mapping, price surveys, and quality evaluations. A total of 1,163 food vendors were documented, most offering fruits and vegetables, though the variety of fruits was limited. Animal-based foods, particularly fried snacks, were generally more expensive than plant-based options. Women's food selection was influenced by factors such as economic status, time availability, convenience, and preferences. The findings emphasize the importance of addressing both environmental and socioeconomic factors to promote healthier diets in low-income urban communities (Downs *et al*., 2022) [2].

This study investigated how students' demographic, economic, and behavioral factors relate to the nutritional quality of their fast-food purchases. Fast-food items ($n = 3,781$) sold at the University of North Carolina at Charlotte from Fall 2016 to Spring 2019 were assigned Fast-Food Health Scores. These scores were averaged across 14,367 students enrolled in meal plans, based on over 1.5 million transactions totaling $10.7 million. Multivariate analysis indicated that lower income, greater fast-food expenditure, and lower GPA were linked to poorer health scores. The study underscores the utility of institutional transaction data for monitoring student dietary habits and calls for further research to promote healthier eating in university contexts (Racine *et al*., 2022) [13].

This study provides a thorough evaluation of the effects of food marketing on children aged 0 to 18 years, as well as a critique of the research methods used. A systematic review of five academic databases yielded 71 primary studies, both quantitative and qualitative, published through September

2018. The results consistently showed that food marketing—especially through television, movies, and product packaging—negatively influenced children's attitudes, preferences, and consumption patterns. The evidence strongly advocates for restrictions on marketing targeted at children. However, notable gaps were identified, including underutilization of qualitative and physiological research methods, limited investigation into advanced digital marketing techniques, and a lack of longitudinal studies on the effects of food advertising on children's weight (Smith *et al*., 2019) [12]

Research Methodology

This study used a descriptive cross-sectional survey design and was conducted at Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, over an eight-month period from September 2023 to April 2024. A total of 130 students (65 males and 65 females) were randomly selected from Undergraduate (U.G.), Postgraduate (P.G.), and Ph.D. programs across various colleges within the university. The sample included students aged between 18-34 years, representing both rural and urban areas, providing socio-geographic diversity.

The quantitative data were collected through structured questionnaires administered in both online and offline modes. The primary objective was to examine university students' perceptions of food advertising, with a focus on post-purchase regret, perceived advertisement accuracy, the role and influence of advertising, and the importance of product attributes, along with a gender-based analysis to identify potential differences.

The quantitative data were analyzed using Microsoft Excel and SPSS. Descriptive statistical techniques, such as frequencies (n) and percentages (%), were applied to summarize the data. A Pearson chi-square test of independence was conducted to assess whether there was a statistically significant association between categorical variables, specifically gender-based differences in food preferences influenced by advertising. A significance level of $p<.05$ was used to determine statistical significance.

Results

This section presents the study's findings, including participants' demographic characteristics and their responses regarding post-purchase regret, perceived accuracy of advertisements, perceived role of advertising, influence on food choices, and the perceived importance of various product-related advertisement attributes.

Table 1: Frequency and Percentage Distribution of Respondents by Gender (Overall Population, N = 130; Male = 65, Female = 65)

Gender	Frequency (n)	Percentage (%)
Male	65	50.0
Female	65	50.0
Total	130	100.0

The study included 130 participants, evenly divided by gender, with 65 males (50%) and 65 females (50%). This equal representation facilitated effective comparisons between male and female responses.

Table 2: Frequency and Percentage Distribution of Respondents by Gender and Place of Residence

Gender	Residence of participant		Total (n, %)
	Rural (n, %)	Urban (n, %)	
Male	45 (34.6)	20 (15.4)	65 (50.0)
Female	33 (25.4)	32 (24.6)	65 (50.0)
Total	78 (60.00)	52 (40.00)	130 (100.0)

The study included 130 participants, evenly divided between males (n = 65, 50.0%) and females (n = 65, 50.0%). Among male participants, 45 (34.6%) were from rural areas and 20 (15.4%) from urban areas. Among female participants, 33 (25.4%) resided in rural areas and 32 (24.6%) in urban areas. Overall, the sample had a greater proportion of rural residents (60.0%) compared to urban residents (40.0%), with gender representation in both groups being relatively even.

Table 3: Frequency and Percentage Distribution of Respondents by Gender and Qualification

Gender	Types of course			Total (n, %)
	U.G. (n, %)	P.G. (n, %)	Ph.D. (n, %)	
Male	22 (16.9)	34 (26.2)	9 (6.9)	65 (50.0)
Female	18 (13.8)	36 (27.7)	11 (8.5)	65 (50.0)
Total	40 (30.8)	70 (53.8)	20 (15.4)	130 (100.0)

The study sample consisted of 130 participants, with an equal number of males (n = 65, 50.0%) and females (n = 65, 50.0%). Among males, 22 (16.9%) were enrolled in undergraduate (U.G.) courses, 34 (26.2%) in postgraduate (P.G.) programs, and 9 (6.9%) were pursuing a Ph.D. Similarly, female participants included 18 (13.8%) undergraduates, 36 (27.7%) postgraduates, and 11 (8.5%) doctoral candidates. Overall, most participants (53.8%) were enrolled in postgraduate courses, followed by undergraduates (30.8%) and Ph.D. students (15.4%). The distribution of course types was relatively balanced between males and females across all categories.

Table 4: Frequency and Percentage Distribution of Participants Who Regretted Purchasing a Food Product Based on Its Advertisement by Gender

Gender	Have you ever regretted buying a food product based on its advertisement? (Yes or No)		Total (n, %)
	Yes (n, %)	No (n, %)	
Male	13 (10.0)	52 (40.0)	65 (50.0)
Female	11 (8.46)	54 (41.54)	65 (50.0)
Total	24 (18.46)	106 (81.54)	130 (100.0)

Note: A Pearson chi-square test of independence was conducted to examine the association between gender and reported regret, χ^2 (1, N = 130) = 0.204, p = .651.

The study involved 130 participants, equally divided between 65 males and 65 females, who were surveyed about regret following food purchases influenced by advertisements. Among the male participants, 13 (10.0%) expressed regret, whereas 52 (40.0%) did not. Among females, 11 (8.46%) reported regret, and 54 (41.54%) did not. Overall, across all participants, 18.46% (n = 24) reported regret, while the majority (81.54%, n = 106) did not, indicating that most participants did not experience regret after purchasing a food product influenced by advertising. A Pearson chi-square test of independence showed no significant relationship between gender and regret, χ^2 (1, N = 130) = 0.204, p = .651, suggesting that feelings of regret related to advertised food purchases were similar across genders.

Table 5: Frequency and Percentage Distribution of Participants' Perceptions Regarding the Influence of Food Marketing and Advertisements on Food Choices by Gender

Gender	Do you think food marketing and advertisements influence your food choices?					Total (n, %)
	Strongly disagree (n, %)	Disagree (n, %)	Neutral (n, %)	Agree (n, %)	Strongly agree (n, %)	
Male	9 (6.92)	6 (4.62)	18 (13.85)	28 (21.54)	4 (3.08)	65 (50.0)
Female	7 (5.38)	5 (3.85)	20 (15.38)	30 (23.08)	3 (2.31)	65 (50.0)
Total	16 (12.3)	11 (8.47)	38 (29.23)	58 (44.62)	7 (5.38)	130 (100.0)

Note: A Pearson chi-square test of independence was conducted to examine the association between gender and advertisements influence on food choices, χ^2 (4, N = 130) = 0.658, p = .956.

A total of 130 participants (65 males and 65 females) took part in the study investigating how food marketing and advertisements impact their food choices. Among males, 6.92% strongly disagreed, 4.62% disagreed, 13.85% were neutral, 21.54% agreed, and 3.08% strongly agreed. Female responses were similar, with 5.38% strongly disagreeing, 3.85% disagreeing, 15.38% remaining neutral, 23.08% agreeing, and 2.31% strongly agreeing. Overall, across all participants, 12.3% strongly disagreed (n = 16), 8.47% disagreed (n = 11), 29.23% were neutral (n = 38), 44.62% agreed (n = 58), and 5.38% strongly agreed (n = 7) that advertisements influence their food choices. The largest proportion of participants selected "agree," suggesting that most respondents perceived advertisements as having at least some influence on their food choices. A Pearson chi-square test of independence found no significant association between gender and advertisements influence on food choices, χ^2 (4, N = 130) = 0.658, p = .956, suggesting that gender did not influence perceptions of how food marketing affects food choices.

Table 6: Frequency and Percentage Distribution of Participants' Beliefs about the Accuracy of Food Advertisements in Representing Actual Products by Gender

Gender	Do you believe food advertisements accurately represent the actual product?			Total (n, %)
	Yes (n, %)	No (n, %)	Not sure (n, %)	
Male	4 (3.07)	44 (33.85)	17 (13.08)	65 (50.0)
Female	6 (4.62)	39 (30.00)	20 (15.38)	65 (50.0)
Total	10 (7.69)	83 (63.85)	37 (28.46)	130 (100.0)

Note: A Pearson chi-square test of independence was conducted to examine the association between gender and belief about advertisement accuracy, χ^2 (2, N = 130) = 0.944, p = .624.

The study included 130 participants (65 males and 65 females) who were asked whether they believe food advertisements accurately reflect the actual product. Among males, 3.07% answered "Yes," 33.85% said "No," and 13.08% were "Not sure." Female responses showed a similar pattern, with 4.62% responding "Yes," 30.00% "No," and 15.38% "Not sure". Overall, across all participants, 7.69% (n = 10) answered "Yes" 63.85% (n = 83) responded "No" and 28.46% (n = 37) were "Not sure" indicating that the majority of respondents did not believe that food advertisements accurately represent actual products. A Pearson chi-square test of independence revealed no significant association between gender and belief in advertisement accuracy, χ^2 (2, N = 130) = 0.944, p = .624, suggesting that both males and females held similar views on the accuracy of food advertisements.

Table 7: Frequency and Percentage Distribution of Participants' Perceptions of Whether Advertisements Convey Accurate Product Information by Gender

Gender	Do you think advertisements conveys the correct information of the products to the consumers?					Total (n, %)
	Strongly disagree (n, %)	Disagree (n, %)	Neither agree nor disagree (n, %)	Strongly agree (n, %)	Agree (n, %)	
Male	9 (6.92)	14 (10.77)	28 (21.54)	4 (3.08)	10 (7.69)	65 (50.0)
Female	3 (2.31)	20 (15.38)	30 (23.08)	3 (2.31)	9 (6.92)	65 (50.0)
Total	12 (9.23)	34 (26.15)	58 (44.62)	7 (5.38)	19 (14.62)	130 (100.0)

Note: A Pearson chi-square test of independence was conducted to examine the association between gender and perceptions of advertisement accuracy, χ^2 (4, N = 130) = 4.32, p = .364.

In total, 130 participants (65 males and 65 females) were surveyed on whether they believe advertisements provide accurate information about products. Among males, 6.92% strongly disagreed, 10.77% disagreed, 21.54% were neutral, 7.69% agreed, and 3.08% strongly agreed. For females, 2.31% strongly disagreed, 15.38% disagreed, 23.08% were neutral, 6.92% agreed, and 2.31% strongly agreed. Overall, across all participants, 9.23% (n = 12) strongly disagreed,

26.15% (n = 34) disagreed, 44.62% (n = 58) neither agreed nor disagreed, 5.38% (n = 7) strongly agreed, and 14.62% (n = 19) agreed. The largest proportion of respondents were neutral, indicating that many participants were unsure about whether advertisements convey correct product information, whereas strong agreement was least common. The Pearson chi-square test of independence indicated no significant relationship between gender and perception of advertisement accuracy, χ^2 (4, N = 130) = 4.32, p = .364, suggesting that both genders viewed the accuracy of advertising information similarly.

Table 8: Frequency and Percentage Distribution of Participants' Perceptions of the Role of Advertisements by Gender

Gender	What is the Role of Advertisement according to you?				Total (n, %)
	Increasing brand awareness (n, %)	Informing consumers about brand attributes (n, %)	Changing consumer Attitudes (n, %)	Influencing purchase Decision (n, %)	
Male	20 (15.38)	16 (12.31)	12 (9.23)	17 (13.08)	65 (50.0)
Female	19 (14.61)	14 (10.77)	13 (10)	19 (14.62)	65 (50.0)
Total	39 (30.00)	30 (23.08)	25 (19.23)	36 (27.69)	130 (100.0)

Note: A Pearson chi-square test of independence was conducted to examine the association between gender and the perceived role of advertisement, χ^2 (3, N = 130) = 0.31, p = .958.

A total of 130 participants (65 males and 65 females) provided their opinions on the role of advertisements. Among males, 15.38% believed that ads increase brand awareness, 12.31% felt they inform consumers about product features, 9.23% thought they influence consumer attitudes, and 13.08% said they affect purchasing decisions. Female responses were similar, with 14.61% selecting brand awareness, 10.77% product information, 10.00% attitude change, and 14.62% purchase influence. Overall, across all participants, 30% (n = 39) identified increasing brand awareness as the main role of advertisements, 23.08% (n = 30) stated informing consumers about brand attributes, 19.23% (n = 25) believed advertisements change consumer attitudes, and 27.69% (n = 36) reported that advertisements influence purchase decisions. The most frequently chosen role was increasing brand awareness, followed closely by influencing purchase decisions. The Pearson chi-square test revealed no significant association between gender and perceived advertisement role, χ^2 (3, N = 130) = 0.31, p = .958, suggesting that both genders shared similar views on the purpose of advertising.

Table 9: Frequency and Percentage Distribution of the Perceived Importance of Product-Related Advertisement Attributes by Gender: An Analysis of Consumer Preferences

Attribute	Gender	Not Important (n, %)	Important (n, %)	Very Important (n, %)	Total (n, %)
Product Quality	Male	5 (3.84)	30 (23.08)	30 (23.08)	65 (50.0)
	Female	6 (4.62)	28 (21.54)	31 (23.84)	65 (50.0)
	Total	11 (8.46)	58 (44.62)	61 (46.92)	130 (100.0)
Health Benefits	Male	6 (4.62)	20 (15.38)	39 (30)	65 (50.0)
	Female	5 (3.84)	19 (14.62)	41 (31.54)	65 (50.0)
	Total	11 (8.46)	39 (30)	80 (61.54)	130 (100.0)
Brand Reputation	Male	13 (10)	34 (26.15)	18 (13.85)	65 (50.0)
	Female	17 (13.08)	35 (26.92)	13 (10)	65 (50.0)
	Total	30 (23.08)	69 (53.07)	31 (23.85)	130 (100.0)
Visual Appearance	Male	20 (15.39)	33 (25.38)	12 (9.23)	65 (50.0)
	Female	17 (13.07)	35 (26.93)	13 (10.0)	65 (50.0)
	Total	37 (28.46)	68 (52.31)	25 (19.23)	130 (100.0)
Taste Appeal	Male	6 (4.61)	32 (24.62)	27 (20.77)	65 (50.0)
	Female	3 (2.31)	33 (25.38)	29 (22.31)	65 (50.0)
	Total	9 (6.92)	65 (50)	56 (43.08)	130 (100.0)
Price	Male	4 (3.08)	28 (21.54)	33 (25.38)	65 (50.0)
	Female	4 (3.08)	25 (19.23)	36 (27.69)	65 (50.0)
	Total	8 (6.15)	53 (40.77)	69 (53.08)	130 (100.0)
Cultural Relevance	Male	26 (20)	27 (20.77)	12 (9.23)	65 (50.0)
	Female	29 (22.31)	26 (20)	10 (7.69)	65 (50.0)
	Total	55 (42.31)	53 (40.77)	22 (16.92)	130 (100.0)
Emotional Appeal	Male	30 (23.08)	23 (17.69)	12 (9.23)	65 (50.0)
	Female	23 (17.69)	29 (22.31)	13 (10)	65 (50.0)
	Total	53 (40.77)	52 (40)	25 (19.23)	130 (100.0)
Social Media Presence	Male	27 (20.77)	27 (20.77)	11 (8.46)	65 (50.0)
	Female	23 (17.69)	29 (22.31)	13 (10)	65 (50.0)
	Total	50 (38.46)	56 (43.08)	24 (18.46)	130 (100.0)

Note: A Pearson chi-square tests of independence were conducted to examine the association between gender and the Perceived importance of ad attributes, including product quality, health benefits, brand reputation, visual appearance, taste appeal, price, cultural relevance, emotional appeal, and social media presence (ps > .05 for all).

A total of 130 participants (65 males and 65 females) rated the perceived importance of various product-related advertisement attributes when purchasing food products. Ratings were categorized as "Not Important," "Important," and "Very Important."

Product Quality: Among male respondents, 3.84% rated product quality as not important, 23.08% as important, and 23.08% as very important. Female respondents rated this attribute similarly, with 4.62% selecting not important, 21.54% selecting important, and 23.84% selecting very important. Overall, 91.54% of participants considered product quality important or very important, highlighting its significant role in food purchase decisions across genders.

Health Benefits: Among male respondents, 4.62% rated health benefits as not important, 15.38% as important, and 30.00% as very important. Among females, 3.84% rated it not important, 14.62% as important, and 31.54% as very important. Overall, 91.54% of participants considered health benefits important or very important, indicating its strong influence on food choices.

Brand Reputation: Male respondents rated brand reputation as not important (10.00%), important (26.15%), and very important (13.85%). Female participants rated it as not important (13.08%), important (26.92%), and very important (10.00%). Overall, 76.92% of respondents rated brand reputation as important or very important, reflecting a moderate influence on purchase behavior.

Visual Appearance: Among males, 15.39% considered visual appearance not important, 25.38% important, and 9.23% very important. Female respondents rated it as not important (13.07%), important (26.93%), and very important (10.00%). Overall, 71.54% of participants considered visual appearance important or very important, suggesting moderate importance in food decisions.

Taste Appeal: Male respondents rated taste appeal as not important (4.61%), important (24.62%), and very important (20.77%). Female participants rated it as not important (2.31%), important (25.38%), and very important (22.31%). In total, 93.08% of participants considered taste appeal important or very important, making it one of the most highly valued attributes.

Price: Among male respondents, 3.08% rated price as not important, 21.54% as important, and 25.38% as very important. Among females, 3.08% rated it not important, 19.23% important, and 27.69% very important. Overall, 93.85% of participants rated price as important or very important, underscoring its high relevance in food purchase decisions.

Cultural Relevance: Male respondents rated cultural relevance as not important 20.00%, important 20.77%, and very important 9.23%**.** Female participants reported 22.31% not important, 20.00% important, and 7.69% very important. Overall, 57.69% of participants considered cultural relevance important or very important, suggesting that while it plays a role in advertising effectiveness, it had relatively less impact compared to other factors.

Emotional Appeal: Among male participants, 23.08% rated emotional appeal as not important, 17.69% as important, and 9.23% as very important. Female respondents rated it as not important (17.69%), important (22.31%), and very important (10.00%). Overall, 59.23% of participants considered emotional appeal important or very important, indicating a moderately low influence in food choice.

Social Media Presence: Male respondents rated social media presence as not important (20.77%), important (20.77%), and very important (8.46%). Female participants reported 17.69% not important, 22.31% important, and 10.00% very important. Overall, 61.54% of participants rated social media presence as important or very important, indicating relatively lower influence compared to more direct product attributes.

The Pearson chi-square tests revealed no significant associations between gender the perceived importance of various product-related advertisement attributes: product quality, χ^2 (2, N = 130) = 0.176, p = .916; health benefits, χ^2 (2, N = 130) = 0.167, p = .920; brand reputation, χ^2 (2, N = 130) = 1.354, p = .508; visual appearance, χ^2 (2, N = 130) = 0.342, p = .843; taste appeal, χ^2 (2, N = 130) = 1.087, p = .581; price, χ^2 (2, N = 130) = 0.300, p = .861; cultural relevance, χ^2 (2, N = 130) = 0.364, p = .833; emotional appeal, χ^2 (2, N = 130) = 1.657, p = .437; and social media presence, χ^2 (2, N = 130) = 0.558, p = .757, suggesting that males and females similarly rated the importance of these advertisement factors.

Overall, product quality, health benefits, taste appeal, and price were the most highly valued attributes influencing food purchase decisions, with over 90% of participants rating these as important or very important. Cultural relevance, emotional appeal, visual appearance, and social media presence were generally rated as less important. Both descriptive statistics and chi-square test results indicated that males and females assigned similar levels of importance to food advertisement attributes.

Discussion

The analysis found low levels of regret associated with food purchases influenced by advertising, with 18.46% (n = 24) of participants reporting regret. Among males, 10.0% expressed regret, compared to 8.46% of females, and the Pearson chi-square test showed no significant association between gender and regret, χ^2 (1, N = 130) = 0.204, p = .651. These findings align with research on post-purchase regret in consumer behavior, which suggests that regret arises more from mismatches in expectations (e.g., product quality, taste, or health) than from advertising alone (Rook, 1987; Youn & Faber, 2000) [27, 26]. The minimal reported regret may also reflect consumer resilience or rational filtering, whereby individuals consider multiple factors beyond promotional content when making food-related decisions.

Consumer responses revealed widespread doubt about the accuracy of food advertisements. A total of 63.85% (n = 83) stated that advertisements do not reflect actual products, while 28.46% (n = 37) were not sure, and only 7.69% (n = 10) believed advertisements were accurate. A Pearson chi-square test showed no significant association between gender and belief in advertisement accuracy, χ^2 (2, N = 130) = 0.944, p = .624. When asked more generally whether advertisements provide correct product information, 44.62% (n = 58) remained neutral, 35.38% (n = 46) disagreed, and only 20.0% (n = 26) agreed. This indicates that participants were largely uncertain or doubtful about advertising credibility, with strong agreement being least common. The Pearson chi-square test again showed no significant gender differences, χ^2 (4, N = 130) = 4.32, p = .364. These findings are consistent with earlier studies showing that consumers often question advertising claims, particularly regarding health or quality (Cowburn & Stockley, 2005; Wu *et al*., 2021) [19, 25].

Although participants doubted the accuracy of advertisements, nearly half (44.62%, n = 58) still agreed that advertisements influence their food choices. This suggests that advertisements can affect behavior even when their

credibility is questioned. Participants also identified various roles of advertising: 30% (n = 39) said it increases brand awareness, 23.08% (n = 30) that it informs consumers, 19.23% (n = 25) that it changes attitudes, and 27.69% (n = 36) that it influences purchase decisions. The chi-square test revealed no significant gender differences, χ^2 (3, N = 130) = 0.31, p = .958. These findings reflect the multi-functional nature of advertising, which can work at both emotional and rational levels (Kotler & Keller, 2016) [20]. However, the relatively even distribution of responses and the absence of gender effects suggest that advertisements function more as background influences rather than direct motivators of food choice.

Most respondents expressed neutral to moderate agreement regarding the influence of advertisements on their food choices. Specifically, 29.23% (n = 38) were neutral, 44.62% (n = 58) agreed, and 5.38% (n = 7) strongly agreed. The chi-square analysis found no significant association between gender and reported influence, χ^2 (4, N = 130) = 0.658, p = .956. These findings support the dual-process theory of consumer behavior (Petty & Cacioppo, 1986) [23], which suggests that decisions may follow either a central route (deliberate processing) or a peripheral route (influenced by external cues). Here, personal experience and habitual behavior appear to outweigh advertising cues.

When selecting food, participants prioritized product attributes such as quality (91.54%), health benefits (91.54%), taste appeal (93.08%), and price (93.85%). No significant gender differences were found in these ratings. These results are consistent with prior studies emphasizing the importance of core product features over promotional factors in food choice (Glanz *et al*., 1998; Steenkamp, 1997) [24, 22]. In contrast, brand reputation (76.92%), visual appearance (71.54%), cultural relevance (57.69%), emotional appeal (59.23%), and social media presence (61.54%) were rated lower. This indicates a value-driven mindset, particularly among younger adults, who prioritize real product benefits over decorative or promotional claims.

Conclusion

This study examined how food advertisements affect university students, with a focus on post-purchase regret, accuracy of advertisements, role of advertising, influence on food choices, and the importance of product attributes. A total of 130 participants (65 males and 65 females), aged 18-34 years, from rural and urban areas were included. Chi-square tests showed no significant gender differences across any variable (p>.05). Post-purchase regret was low, with only 18.46% (n = 24) of participants reporting regret, while the majority (81.54%, n = 106) did not. This indicates that most students do not regret food purchases influenced by advertising.

Beliefs about advertising showed more doubt. Only 7.69% (n = 10) of respondents felt advertisements accurately represent products, while 63.85% (n = 83) said “No” and 28.46% (n = 37) were “Not sure.” When asked whether advertisements convey correct product information, the largest group (44.62%, n = 58) selected neutral, while disagreement (35.38%, n = 46) outweighed agreement (20%, n = 26). These findings highlight broad uncertainty about advertising credibility.

Despite this doubt, advertisements still influenced behavior. Almost half of respondents (44.62%, n = 58) agreed that advertisements affect their food choices, while 29.23% (n = 38) were neutral, and 20.77% (n = 27) disagreed. Students also identified different roles of advertising, with 30% (n = 39) saw it as increasing brand awareness, 23.08% (n = 30) as informing consumers, 19.23% (n = 25) as changing attitudes, and 27.69% (n = 36) as influencing purchase decisions. These results suggest that advertising functions more as a background factor, shaping awareness and choices without being the main reason for decisions.

When selecting food, participants prioritized product quality (91.54%), health benefits (91.54%), taste appeal (93.08%), and price (93.85%) as the most important factors. In contrast, brand reputation, visual appearance, cultural relevance, emotional appeal, and social media presence were rated lower. This shows that students value product features more than promotional claims.

In conclusion, food advertisements do affect students’ awareness and choices, but their influence is limited by doubt and uncertainty, while decisions mainly depend on core attributes such as product quality, health, taste, and price. Future studies should explore factors such as cultural background, economic status, and media awareness to better understand how advertising and product features together shape consumer behavior.

Recommendations and Suggestions

For Companies

Focus on Product Quality and Health Advantages: Consumers value high-quality products that offer health benefits above all else. Businesses should prioritize these features during product development and highlight them clearly in their marketing efforts to meet consumer expectations and stand out in the market.

Maintain Honesty in Advertising: Given the widespread doubt about the reliability of food advertising, brands must commit to honest and transparent messaging. Avoiding exaggeration or false claims helps build trust and fosters lasting relationships with customers.

Strengthening Brand Education: Today’s consumers value transparency and want to understand what they're buying. Creating content that educates audiences about product ingredients, sourcing, or health benefits can build trust and set a brand apart. Informative advertising increases perceived value, encourages brand loyalty, and helps customers make confident buying decisions.

Data-Driven Advertising Strategy: This approach focuses on using behavioral insights such as customer purchase history or product reviews instead of relying on broad demographic categories like gender. Since gender had little influence on consumer behavior, segmenting audiences based on actual habits and interests leads to more relevant and effective marketing. It improves engagement, increases return on investment, and helps companies use their advertising budget more efficiently.

For Consumers

Encourage Critical Evaluation of Food Advertising: Consumers should adopt a critical perspective when engaging with food advertisements, recognizing them as only one source of information. Verifying marketing claims through nutritional labels, third-party reviews, and brand transparency metrics is essential to making informed choices.

Promote Evidence-Based Decision Making: Food selection should be guided by objective criteria such as product

quality, nutritional value, and sensory attributes (e.g., taste). These factors are closely linked to consumer satisfaction and help reduce post-purchase dissonance.

Support Marketing Transparency and Accountability: Consumers have the power to influence industry behavior by supporting brands that demonstrate honesty and transparency in their advertising. Conversely, they can discourage misleading practices by avoiding products from companies that rely on deceptive or manipulative promotional strategies.

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