



The Effect of Media on Food Purchasing Behaviour of University Students

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Abstract

Besides being a major channel of food marketing and advertising, mass media plays an important role as a source of nutrition information. This study was planned and conducted in order to evaluate the exposure of university students to food advertisements. The research was carried out on 1050 students studying at different universities and departments in Ankara. A questionnaire including socio-demographic characteristics, nutritional knowledge and the effect of advertisements on purchasing behavior was applied to the participants. It was found that 46.5% of the students had a high nutritional knowledge, 41.4% were at a medium level, and 12.1% were at a low level. It has been found that individuals with good nutritional knowledge mostly consumed school meal. Brand assurance always motivates 75.9% of men and 72.7% of women to buy the specified product. It was stated that foods such as chocolate, biscuits, cakes and fast food products were the most purchased foods with the advertisement effect. 33.3% of men and 55.4% of women stated that advertisements of junk food were effective in purchasing. Advertising of foods with high energy and low nutrient content should be consumed in limited quantities, that poses a risk especially for university students where the food culture has begun to settle. Advertisements that will encourage unhealthy eating behaviour, especially targeting students, should be examined by the authorities and necessary measures should be taken for healthy generations.

1. Introduction

Obesity is now reaching epidemic proportions, not only in westernized/industrialized countries, but also in developing countries as well as in our country. It affects all age groups, children, adolescents, adults and the elderly. A variety of genetic, environmental, physiological, psychological and sociocultural factors influence the development of obesity. In addition to certain factors such as malnutrition and physical inactivity, exposure to food marketing and the obesogenic environment play an important role in the increase of obesity (Goldberg, Gunasti, 2009). The obesogenic environment affects eating behaviors in the long term. Eating behaviors are formed by the constantly changing eating culture, nutritional needs of the individuals, impact of institutional food services and food advertisements. Obesity is arguably a natural response to the modern food environment, where the marketing and advertising of inexpensive, highly palatable, energy-dense foods and beverages is omnipresent (Glanz, Sallis, Saelens, Frank, 2005) (Harris, Bargh, & Brownell, 2009). Food advertisements are the most effective way for the development and growth of the food marketing. The main purpose of food advertisements and promotion is to increase the advertised products consumption. The techniques used to market unhealthy foods are extensive, sophisticated, persuasive and target different vehicles of promotion via varying marketing techniques. Acute and accumulative exposures to food marketing influence people thoughts and behaviours, in particular, their attitudes, preferences and consumption of unhealthy commodities. Exposure to the marketing of unhealthy foods and beverages is a widely acknowledged risk factor for the development of

obesity and noncommunicable diseases (Andreyeva, Kelly, & Harris, 2011) (Valezquez, Daep, & Black, 2019) (Powell, Schermbeck, Szczypka, Chaloupka, & Braunschweig, 2011). Food advertisements are worth examining because of their potential association with obesity. For this purpose, this study was planned and conducted in order to evaluate the exposure of university students to food advertisements.

2. Material and Method

This study was conducted on students studying in different universities and departments in Ankara, capital of Turkey. A total of 1050 students (315 male, 735 female) were included in the study. The participants were informed about the study and signed an informed consent form. Ethical Approval was obtained from Gazi University Ethics Committee. (Dated: 21.12.2017 Approval Number: 181637). Research data were obtained through a questionnaire applied by the researchers.

In the first part of the questionnaire, basic information about the participants socio-demographic characteristics and their food consumption was asked. In the second part, a form consisting of 11 questions was used to determine the nutritional knowledge levels of the students. In this section, questions about healthy eating are presented as multiple choice. The number of correct answers indicates the level of knowledge. Giving correct answers to at least 8 of the 11 questions indicates that the nutritional knowledge level is good, at least 5-7 correct answers are medium and at most 4 correct answers indicate that the nutritional knowledge level is poor. In the third part of the questionnaire a form

consisting of different questions was used to reflect the students' perspective on food advertisements. In the last part, a form was applied to evaluate the effects of advertisements on students' purchasing behavior. In addition, the height and body weight measurements of the participant were taken using appropriate methods in the study (Lohman, Roche, & Martorell, 1998). Body Mass Index (BMI) is classified according to the World Health Organization (WHO) criteria (WHO,2020).

SPSS (Statistical Package Social Sciences) 22.0 statistical package program was used for the statistical evaluation of the data. The Chi-square (X²)

test was used to evaluate categorical variables. In all statistical analyzes, $p < 0.05$ was accepted as the statistical significance level.

3. Results

30% of participant included in the research are men and 70% are women. All of the participant are students and the average age was 21.1 ± 2.3 years. The average BMI of men was 23.9 ± 3.0 and women were 21.5 ± 3.0 , 2.5% of men were underweight, 64.1% were normal, 29.5% were overweight and 3.8% were obese, 14.6% of women were underweight, 71.7% were normal, 12.7% were overweight and 1.1% were obese. (Table 1).

Table 1. Anthropometric measurements of the participants

Anthropometric Measurements	Male		Female	
	n	%	n	%
Gender	315	30.0	735	70.0
	\bar{X}	SS	\bar{X}	SS
Height (cm)	178.1	6.9	164.4	6.0
Body weight (kg)	76.1	11.8	58.4	8.9
BMI (kg/m ²)	23.9	3.1	21.5	3.0
BMI Classification	n	%	n	%
Underweight	8	2.5	107	14.6
Normal weight	202	64.1	527	71.7
Overweight	93	29.5	93	12.7
Obesity	12	3.8	8	1.1

Table 2. The relationship between out of home dining place and the nutritional knowledge

Out-of-home dining place	Nutrition Knowledge Level							
	Good		Average		Poor		Total	
	n	%	n	%	n	%	n	%
School meal	223	45.70	132	30.34	42	33.07	397	37.8
Restaurant	30	6.15	46	10.57	15	11.81	91	8.7
Kebab restaurant	56	11.48	66	15.17	19	14.96	141	13.4
Fast-Food	118	24.18	139	31.95	37	29.13	294	28.0
Patisserie / Cafe / Pub	61	12.50	52	11.95	14	11.02	127	12.1
Total	488	46.5	435	41.4	127	12.1	1050	100

$$\chi^2 = 29.86 \quad p < 0.001$$

Table 3. Factors affecting purchasing behavior in food advertisement

Factors affecting purchasing behavior	Male						Female					
	Always		Sometimes		Never		Always		Sometimes		Never	
	n	%	n	%	n	%	n	%	n	%	n	%
Brand	239	75.9	69	21.9	7	2.2	534	72.7	195	26.5	6	0.8
The advertisement contains an element of information.	180	57.1	130	41.3	5	1.6	458	62.3	265	36.1	12	1.6
Explanation the contents of the product	209	66.3	100	31.7	6	1.9	534	72.7	193	26.3	8	1.1
Explanation the benefits of the product	216	68.6	86	27.3	13	4.1	519	70.6	196	26.7	20	2.7
The advertising actor is famous.	92	29.2	136	43.2	87	27.6	126	17.1	378	51.4	231	31.4
The gender of the advertising actor	85	27.0	128	40.6	102	32.4	78	10.6	293	39.9	364	49.5
Etraordinary advertisement	132	41.9	138	43.8	45	14.3	241	32.8	394	53.6	100	13.6
Funny Advertisement	115	36.5	148	47.0	52	16.5	178	24.2	412	56.1	145	19.7
Advertising contains social and cultural elements	129	41.0	159	50.5	27	8.6	250	34.0	402	54.7	83	11.3
Consumption habits and frequency of the product	163	51.7	126	40.0	26	8.3	440	59.9	263	35.8	32	4.4

Table 4. The most purchased foods with the effect of advertising

Food Group	Male		Female	
	n	%	n	%
Meat and meat products	57	18.1	47	6.4
Milk, yoghurt etc.	35	11.1	64	8.7
Fruit and vegetable	8	2.5	20	2.7
Cereals, legumes	3	1.0	12	1.6
Fats	5	1.6	5	0.7
Fast food	81	25.7	157	21.4
Chocolate, biscuit, cake	105	33.3	407	55.4
Soft drink	21	6.7	23	3.1
Total	315	100	735	100

It was found that 37.8% of the participants preferred to consume school meal and 28% prefer to eating in fast food restaurants, 13.4% in kebab restaurants, 12.1% in patisseries or cafes and 8.7% prefer to eating in restaurants which serving vegetables. In study, it was determined that 46.5% of the students had a good level of nutritional knowledge, 41.4% were at a medium level and 12.1% were at a low level. In the statistical analysis, the difference between the nutritional knowledge level and the out-of-home dining place was found to be statistically significant. It has been determined that individuals with good nutrition knowledge mostly consume their meals in school cafeterias. (Table 2).

Having brand assurance always motivates 75.9% of men and 72.7% of women to buy the specified product. In addition, in cases where the content of the product was specified in detail and the benefits were explained, the behavior of the participants was to purchase the product at the rate of 66.3% and 68.6% for men and 72.7% and 70.6% for women respectively. Advertisements contain an element of information and the consumption habit and frequency of a particular food have been determined as another important reason for purchasing. (Table 3).

Participants stated that the most purchased foods, with the effect of advertising, are chocolate biscuits and cakes and fast food. 33.3% of men and 55.4% of women stated that advertisements of chocolate biscuit cake type were effective in purchasing. 25.7% of men and 21.4% of women are affected by fast-food advertisements. Following these, meat and meat products (18.1%), milk and dairy products (11.1%), carbonated beverages (6.7%), vegetables and fruits (2.5%) fats (1.6%) and cereals and legumes (1.0%) are purchased by the participants through advertisements. In females, milk and dairy products (8.7%), meat and meat products (6.4%), carbonated drinks (3.1%), vegetables and fruits (1.6%), cereals, legumes (2.7%) and oils (0.7%) were purchased by the participants through advertisements (Table 4).

4. Discussion

In parallel with the rapidly developing technology, eating habits also undergo changes. Food and beverage marketing strategies are effective in increasing purchasing and consumption and play an important role in the development and change of nutritional behaviors, especially in adolescents and young adults (Ginnis, Gootman, & Kraak, 2006). Similar to our findings Andreyeva et al. was found

that food and beverage advertisements increase purchase demand and consumption (Andreyeva, Kelly, & Harris, 2011). In this study, 86.9% of the participants stated that they were slightly affected by the advertisements and 56.2% of the participants stated that they bought a food that they never thought to buy.

Individuals, who gain independence in this period, start to decide on their eating preferences, to eat out more frequently and to get influenced by their circle of friends more. Therefore, they tend to consume those foods that are deemed unhealthy such as fizzy drinks and fast-food (Yardım, Özdoğan, Özçelir, Sürücüoğlu, 2012). Changes in eating behavior due to fluctuations in university students emotional state can also be caused by situations or events out of the daily routine of a person, such as adapting to certain environments, motivating oneself, rewarding or coping with any situation. It is stated that the eating changes experienced in these cases are generally directed towards increasing the intake of palatable foods such as delicious foods, fast foods, sugary products or snacks (Bilici, Ayhan, Karabudak & Köksal, 2020). In a study conducted by Papadaki et al. it was found that inadequate and uniform nutrition was common among university students especially because of living away from parents, inability to prepare meal and problems with food shopping (Papadaki, Hondros, Scott, & Kapsokefalou, 2007). In this study 28% of the students found to consumed menus probably with high energy, fat and sodium content in fast food restaurants, 13.4% in kebab or pita shops, and 12.1% in patisseries or cafes. Since the menus of school cafeterias are prepared by a dietician taking into account the needs of the students, this consumption is of great importance in

terms of healthy nutrition it was evaluated favorable that 37% of them preferred school cafeterias.

According to Bilici et al the relationship between consuming unhealthy foods and BMI was statistically significant (Bilici et al., 2014). In another study that examining the food consumption of students, it was reported that students were generally prefer fast food and were eating poorly especially in fruits and vegetables. In terms of nutrition, fast-food includes high amounts of sodium, sugar, cholesterol and fat (especially saturated fat) but low in vitamins A and C and dietary fiber content (Ansari, Stock, & Mikolajczyk, 2012). Although the food consumption was not taken in this study, when the anthropometric results were evaluated the data showed that 19,6 % of the students were overweight that may reflect the negative effects of out-of-home nutrition.

It is mentioned that due to the consideration that the students' purchasing and food preferences may be negatively affected by advertisements and the high frequency of out-of-home consumption it becomes more important to give nutrition education included in the university curriculum to raise awareness of healthy eating behaviors and gain proper eating habits. In our study the finding that there was a statistically significant difference between the nutritional knowledge level and the place where eating out of home ($p < 0.001$) also support the importance of nutrition education among students. It is observed that individuals with good nutritional knowledge consume their meals in school cafeterias whose menus are prepared by dieticians considering the needs of the people. Our study results are similar to the results of the study conducted by Geaney et al. that found increased nutritional knowledge was associated with diet quality (Geaney et al., 2015).

According to the results of a systemic review investigating the nutritional knowledge level and diet quality, most of the studies (65%) were found to be statistically significantly and positively associated (Spronk, Kullen, Burdon, & Connor, 2014).

It is stated in the literature that food brands significantly affect purchasing and consumption. (Anselmson, Bondesson, Johanson, 2014). The existence of brand assurance in this study always motivates 73.6% of the participants to buy the desired product. In addition, it has been reported that brand trust has an important effect on purchasing and consuming the desired product, and even when the desired product cannot be reached, participants prefer similar products of the same brand to other brands (Roman & Sanchez, 2018). In this study, where the content of the product was specified in detail and the benefits provided were explained, the behavior of the participants was to buy the product at the rate of 70.8% and 70.0%, respectively. In a study by Zhou et al., the attachment of private detailed labels for food in sale enabled the product to be purchased and increased its consumption (Zhou, Tilburg, Mei and Wildschut, 2019). The consumption habit and frequency of a particular food has been determined as another important reason for purchasing. It was stated that the most purchased foods with the effect of advertisements were chocolate biscuits and cakes etc. (48.8%) and fast food products (22.7%). Similarly, in another study, it was stated that exposure to fast food advertisements on television was associated with the fast food consumption of adults. (Scully, Dixon, & Wakefield, 2007). The specified foods do not supply adequate and balanced diet pattern to meet the needs of individuals in the long term in terms of energy and nutrient content.

Particularly, being affected by these advertisements and increasing consumption of unhealthy food an undesirable situation that will negatively affect the healthy eating status of the participants. In a study by Shin-Yi Chou et al., banning fast food advertisements would reduce the number of overweight children aged 3-11 by 10 percent and overweight children aged 12-18 by 12 percent. It is also reported that introducing additional taxes will reduce consumption by 5%. (Chou, Rashad , & Grosman, 2008). Following these, meat and meat products (9.9%), milk and dairy products (9.4%), carbonated beverages (4.7%), cereals, legumes (1.4%) and oils (1%) are purchased by the participants through advertisements. Meat and meat product ads are often associated with processed meat products and the effects of processed meats on health are discussed. Also, processed meat was classified by WHO as a human carcinogen (Group 1) with cigarettes and asbestos (WHO, 2020). In this study, after junk food and fast food products, the consumption of these products is increased by advertisements (9.9%).

5. Conclusion

Turkey has been striving to the obesity epidemic and the serious nutritional problems affecting public health. Advertising of foods with high energy and low nutrient content, which should be consumed in limited quantities, poses a risk especially for university students where the eating behaviour has begun to settle. Advertisements that will encourage to consume unhealthy food, especially targeting students, should be examined by the authorities and necessary measures should be taken for healthy generations. In addition, food labels and menu labels should be comprehensible in detail to enable

individuals to make a healthier choice. Considering that consumer advertising is used as a source of information, it is necessary to ensure the young who will be future parents have access to reliable and correct nutritional information.

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Conflicts of interest

The authors declare they have no conflict of interest.

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