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Junk Food Marketing – A Study among Youth

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The developmental vulnerabilities of children and adolescents have been capitalized by marketers especially those of junk food companies. The adverse effect of unhealthy or junk food marketing on children including advertising on television, digital media content, sports sponsorship, productpackaging and collectible toys have addressed by researchers. Kelly et al. (2015), assessed the evidence for a conceptual "hierarchy of effects" of marketing, to provide an understanding of the relationship between consumer's exposure to unhealthy food marketing and poor diets and overweight. Similar to this, marketers may use the leverage of social media influencers to spread their messages (Coates et al., 2019). In India, the rate of obesity and other non-communicable diseases are on the rise amongadolescents and it is closely related with the consumption of junk food (Ismail et al., 2016). This causes a big threat to the subsistence of a healthyfuture generation.

Consumers are influenced by many factors to make decisions such as what to buy, from where to buy and how to make the purchase. Different consumers act differently in the market place based on underlying motives for those actions. Consumers are mainly influenced by personal, psychological, social, cultural, economic, political and natural factors. It alsoincludes marketing strategies and other social factors. The development ofinternet and social media made it easy for the companies to reach consumersglobally with least effort**.** Junk food companies apply different marketing techniques such as online advertisements, sports sponsorship, attractive packaging and offers to promote the sale.

Junk foods are highly processed food available in attractive packing and having artificial taste ingredients. These are high in empty calories, supplying little or none of the protein, vitamins, or minerals required for a nutritious diet. There are health risks associated with eating junk food and it is important to create awareness and impart knowledge regarding these risks among its consumers. It has been demonstrated that the exact ingredients in many junk food has adverse impacts on human health.

Objectives

1. To explore the marketing elements that influence youth to purchase junk foods.
2. To assess the influence of junk food marketing on junk food consumption among youth.

Statement of the Problem

The prevalence of obesity among young people in Kerala is rising and is higher than the national percentage, regardless of gender classifications. The number of diabetic cases is also high in Kerala comparing to national average (Ullas, 2021). The main reason for this increased life style diseases is contributed to the increased consumption of junk food. Junk food consumption leads to mental problems like hypertension and other Non-Communicable Diseases (NCDs) (Bohara et al., 2021). Marketing activities are intended to influence the purchase behaviour of consumers and our younger generation are highly fascinated by the modern marketing techniques including social media and other online sources. However, how these activities influence the junk food consumption of youth in Kerala are yet to be identified. The reason why junk food companies are giving extensive advertisements on online medium, could be treated as the result of positive responses they are getting from the side of youth. Prevailing studies in Kerala towards this problem are reluctant to explore the responses of youth in detail. Hence the problem exists to uncover the influence of marketing elements on junk food consumption among youth in Kerala.

Methodology

Data have been collected from primary and secondary sources**.** The population is unknown, consists of youth in Kerala in the age group of 16 to 27 years. By applying a Purposive sampling technique, 385 respondents were selected for data collection.

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- **Sample Size Distribution of Respondents**

The three regions of the state of Kerala have been divided in to City, Town and Village areas respectively. Data have been collected non randomly from each area. ♣ From city, 163 samples were collected and it constitutes 42.3% of the total sample size. ♣ From town area, 138 samples were collected and it constitutes 35.8% of the total sample size. ♣ Similarly, from rural area, 84 samples were selected that constitutes 21.8% of the total sample size.

Sample Size Distribution

Region	City	Town	Village	Total	% to Total
North	54	46	28	128	33.25%
Central	55	46	28	129	33.51%
South	54	46	28	128	33.25%
Total	163	138	84	385	100%
% To Total	42.34%	35.84%	21.82%		

Source: Compiled by the Researcher

Hence, sample size of the study is set as 385 presuming the true representation of Kerala population. By applying appropriate statistical tests using this sample size, inferences of the population could be drawn.

Analysis and Interpretation

The influence of junk food marketing on its consumption was assessed and the results are summarised in this section. The influence has been measured in terms of three constructs such as Marketing Elements, Media of Advertisement as a Source of Information and specifically Influence of Social Media. The classifications of the main hypothesis tested are as follows:

H0: There is no significant difference in influence of marketing elements on junk food purchases across categories of age- groups, gender and domiciles.

H0: There is no significant difference in sources of information about junk food through different media across categories of age-groups, gender and domiciles.

H_0: There is no significant impact of Marketing elements and Social media on Consumption of junk food among youth in Kerala.

The responses of the respondents are notified as ‘extremely’, ‘highly’,‘neutral’, ‘not so’ and ‘not at all’ in a five-point scale.

Marketing Elements that Influence Choice of Junk Foods

Selected elements of marketing which are relevant in the case of junkfood marketing namely ‘Packaging/ Logo etc.’, ‘Brand Name’, ‘Gifts/Offer’, ‘Size/Colour etc’ and ‘Celebrity Presence’ were subjected to age-wise, gender- wise and domicile wise analysis for their influence in choice of junk food to be bought.

H0: There is no significant difference in influence of marketing elements on junk food purchases across categories of age- groups, gender and domiciles.

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Age-wise Analysis of Influence of Marketing Elements onJunk Food Purchases

Table 1
Age Group Wise Descriptive Statistics

Descriptive Statistics

Variables	Age group	Mean	SD	N
Packaging	16 to 19 years	3.6471	0.92857	238
	20 to 23 years	3.6718	0.99570	131
	24 to 27 years	3.6250	1.45488	16
	Total	3.6545	0.97502	385
Brand Name	16 to 19 years	3.7185	1.00240	238
	20 to 23 years	3.7176	1.03978	131
	24 to 27 years	4.1250	.61914	16
	Total	3.7351	1.00387	385
Gift/offers	16 to 19 years	3.4916	1.06633	238
	20 to 23 years	3.6565	1.04345	131
	24 to 27 years	3.5625	1.15289	16
	Total	3.5506	1.06221	385
Size/ Colour etc	16 to 19 years	2.8487	1.13360	238
	20 to 23 years	2.7939	1.25709	131
	24 to 27 years	3.0625	1.34009	16
	Total	2.8390	1.18367	385
Celebrity presence	16 to 19 years	3.6050	1.04513	238
	20 to 23 years	3.6412	0.96132	131
	24 to 27 years	3.7500	1.06458	16
	Total	3.6234	1.01600	385

Source: Computation from Primary Data

From the above table, the most prominent attribute
as marketing elements that influence choice of junk food was found to be ‘Brand Name’among all the age groups. The least prominent one was ‘Size/Colour’ among all the age groups.

The multivariate test results with age-group as independent variable are shown in the following Table:

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Table 2
Multivariate test results

	Value	F	Hypothesis df	Error df	Sig.
Wilks' lambda	.985	0.586	10.000	756	.826

F tests the multivariate effect of age

Source: Computation from Primary Data

The null hypothesis that there is no significant difference in combined dependent variables across categories of age-groups fails to get rejected at 5 per cent significance level, since the p-value of F statistic exceeds 0.05. It is inferred that when all the influence of marketing elements on junk food purchases are considered as a whole, significant differences could not be traced across categories of age-groups.

Gender-wise Analysis of Marketing Elements on Junk Food

An independent sample t-test was applied on gender wise data on frequency of consumption of type of junk food with a view to determine whether gender role theory applies on frequency of consumption. The descriptive statistics of gender-wise observations are shown in the following Table.

Table 3
Group Statistics – Gender wise

Dependent Variable	Gender	N	Mean	SD
Packaging	Male	147	3.4762	0.9885
	Female	238	3.7647	0.9521
Brand Name	Male	147	3.7483	0.9989
	Female	238	3.7269	1.0089
Gift/offers	Male	147	3.6190	1.0091
	Female	238	3.5084	1.0937
Size/ Colour etc	Male	147	2.8980	1.2092
	Female	238	2.8025	1.1687
Celebrity presence	Male	147	3.7687	0.9797
	Female	238	3.5336	1.0296

Source: Computation from Primary Data

From the above table, ‘Packing’ was found to be the most prominentattribute among female customers followed by ‘BrandName’. ‘Size/Colour’ as an attribute influencing decision to purchase junk food was found to be the least prominent among female customers. ‘Celebrity presence’ was found to be the most prominent attribute among male customers followed by ‘Brand Name’. ‘Size/Colour etc’ as an attributeinfluencing decision to purchase junk food was found to be the least prominent among male customers.

The results of independent samples t-test and applicability of equal variances assumption using Levene’s test are shown in Table.

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Table 4

Test Variables		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Packaging	Equal variances assumed	1.325	.250	-2.847	383	**.005**
	Equal variances not assumed			-2.822	300.463	.005
Brand Name	Equal variances assumed	.156	.693	.203	383	.839
	Equal variances not assumed			.204	311.709	.839
Gift/offers	Equal variances assumed	.996	.319	.993	383	.321
	Equal variances not assumed			1.012	328.262	.312
Size/ Colour etc	Equal variances assumed	.151	.698	.768	383	.443
	Equal variances not assumed			.762	301.297	.447
Celebrity presence	Equal variances assumed	1.491	.223	2.217	383	**.027**
	Equal variances not assumed			2.243	321.081	.026

Figure in bold indicates significant at 5% level

Source: Computation from Primary Data
A greater than 0.05 significance of F statistics fails to reject Levene'snull hypothesis that variances are equal in all the cases. Hence the t statistics of independent samples t test, when equal variances are not assumed becomes irrelevant in all the cases.
The null hypothesis that there is no significant difference in influenceof marketing elements on junk food purchases across categories of gendergets rejected, at 5 per cent level of significance, in the cases of Packaging and Celebrity presence. No statistically significant difference in influence of marketing mix elements on junk food purchases could be traced across categories of gender in any of the other cases.

Domicile-wise Analysis of Influence of Marketing Elements on Junk Food Purchases
Considering the influence of domicile group on the influence of marketing elements on junk food purchases, a domicile wise analysis of influence of marketing elements on junk food purchases was attempted. The categories of domicile included city, towns and villages, the descriptive statistics of which are shown in the following Table .

Table 5
Descriptive Statistics

Dependent Variable	Domicile	Mean	SD	N
Packaging	City	3.6196	.99510	163
	Town	3.6522	.90942	138
	Village	3.7262	1.04537	84
	Total	3.6545	.97502	385
Brand Name	City	3.8160	.86238	163
	Town	3.6739	1.14090	138
	Village	3.6786	1.01981	84
	Total	3.7351	1.00387	385
Gift/offers	City	3.6074	1.07402	163
	Town	3.5797	1.09285	138
	Village	3.3929	0.98198	84
	Total	3.5506	1.06221	385
	City	2.9141	1.11886	163

Size/ Colour etc	Town	2.8188	1.25119	138
	Village	2.7262	1.19589	84
	Total	2.8390	1.18367	385
Celebrity presence	City	3.7730	.99567	163
	Town	3.5290	1.01946	138
	Village	3.4881	1.02374	84
	Total	3.6234	1.01600	385

Source: Computation from Primary Data

From the above table, 'Brand Name' was observed to be the most prominent attribute influencing decision to purchase junk food in cities and in towns. 'Packing' was observed to be the most prominent attribute in villages. The least prominent attribute as marketing influencing junk food choice was found to be 'Size/Colour etc.' in cities as well asin towns and villages

The multivariate test results with Domicile as independent variable are shown in Table

Table 6
Multivariate Test Results

	Value	F	Hypothesis df	Error df	Sig.
Wilks' lambda	.976	0.932	10.000	756	.503
F tests the multivariate effect of age					

Source: Computation from Primary Data

The null hypothesis that there is no significant difference in combined dependent variables across categories of domiciles fails to get rejected at 5 per cent significance level, since the p-value of F statistic exceeds 0.05. It is inferred that when all the attributes of influence of marketing elements on junk food purchases are considered as a whole, no significant differences exist across categories of domicile.

Media of Advertisements as a Source of Junk Food Information
The sources of information about junk food through different mediawas subjected to analysis, age wise, gender wise and domicile wise.

H0: There is no significant difference in sources of information about junk food through different media across categories of age-groups, gender and domiciles.

Age-wise Analysis of Informative Media of Advertisements

The media of advertisements of junk foods that influence decision ofcustomers belonging to different age groups to buy such type of foods are analysed and results are interpreted in this section. The descriptive statisticsare shown in the following Table .

Table 7

Age wise descriptive Statistics

Variables	Age group	Mean	td. Deviatio	N
Magazines/newspapers	16 to 19 years	3.0042	1.10043	238
	20 to 23 years	3.1069	1.28453	131
	24 to 27 years	3.0000	1.31656	16
	Total	3.0390	1.17307	385
	16 to 19 years	3.9328	0.99984	238

TV Commercials	20 to 23 years	3.9389	1.16193	131
	24 to 27 years	4.1875	.83417	16
	Total	3.9455	1.05061	385
Social media	16 to 19 years	4.1849	0.89033	238
	20 to 23 years	4.2214	0.97893	131
	24 to 27 years	3.8750	1.25831	16
	Total	4.1844	0.93806	385
Google ads	16 to 19 years	3.3361	1.08909	238
	20 to 23 years	3.2901	1.21838	131
	24 to 27 years	3.5000	1.03280	16
	Total	3.3273	1.13050	385
Word of mouth	16 to 19 years	3.7185	1.04768	238
	20 to 23 years	3.9008	1.04407	131
	24 to 27 years	3.8750	1.02470	16
	Total	3.7870	1.04649	385

Source: Computation from Primary Data

From the above table, the most prominent attribute was found to be 'TV Commercials' among the age group of 24 to 27 years
and 'Social Media' among the age group of 20 to 23
and among the age group of 16 to 19 years. The least prominent one was 'Magazines/Newspapers' among age group of 24to 27 years as well as among the age group of 20 to 23 years and among the age group of 16 to 19 years.

The multivariate test results with age-group as independent variable are shown in the following Table:

Table 8
Multivariate test results

	Value	F	Hypothesis df	Error df	Sig.
Wilks' lambda	.977	0.866	10.000	756	.565
F tests the multivariate effect of age					

Source: Computation from Primary Data

The null hypothesis that there is no significant difference in combined dependent variables across categories of age-groups fails to get rejected at 5 per cent significance level, since the p-value of F statistic exceeds 0.05. It is inferred that when all the sources of information about junk food through different media are considered as a whole, significant differences could not be traced across categories of age-groups.

Gender-wise Analysis of Informative Media of Advertisements
An independent sample t-test was applied on gender wise data on sources of information about junk food through different media with a viewto determine whether gender role theory applies on sources of information.

The descriptive statistics of gender-wise observations are shown in Table 9
Group Statistics – Gender wise

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Dependent Variable	Gender	N	Mean	SD
Magazines/news papers	Male	147	3.2041	1.1701
	Female	238	2.9370	1.1657
TV Commercials	Male	147	4.0340	1.0096
	Female	238	3.8908	1.0736
Social media	Male	147	4.1973	0.9189
	Female	238	4.1765	0.9515
Google ads	Male	147	3.3810	1.1724
	Female	238	3.2941	1.1051
Word of mouth	Male	147	3.8231	1.0183
	Female	238	3.7647	1.0650

Source: Computation from Primary Data

From the above table, 'Social Media' was found to be the most prominent attribute among female customers followedby 'TV Commercials'. 'Magazines/News Papers' wasfound to be the least prominent attribute as informative source of advertisements among female customers.
'Social Media' was found to be the most prominent attribute among male customers followed by 'TV Commercials'. 'Magazines/News Papers' as an attribute influencingdecision to purchase junk food was found to be the least prominent amongmale customers.

The results of independent samples t-test and applicability of equalvariances assumption using Levene's test are shown in Table.

Table 10

Test Variables		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Magazines/news papers	Equal variances assumed	0.251	.617	2.181	383	**.030**
	Equal variances not assumed			2.179	308.469	.030
TV Commercials	Equal variances assumed	.939	.333	1.301	383	.194
	Equal variances not assumed			1.320	323.831	.188
Social media	Equal variances assumed	.000	1.000	.211	383	.833
	Equal variances not assumed			.213	317.611	.832
Google ads	Equal variances assumed	2.069	.151	.732	383	.465
	Equal variances not assumed			.722	295.404	.471
Word of mouth	Equal variances assumed	0.254	.615	0.532	383	.595
	Equal variances not assumed			0.537	319.949	.591

Figure in bold indicates significant at 5% level

Source: Computation from Primary Data

A greater than 0.05 significance of F statistics fails to reject Levene'snull hypothesis that variances are equal in all the cases. Hence the t statistics of independent samples t test, when equal variances are not assumed becomes irrelevant in all the cases.

The null hypothesis that there is no significant difference in sources of information about junk food through different media across categories of gender gets rejected, at 5 per cent level of significance,

in the cases of Magazines/ Newspapers only. No statistically significant difference in sources of information about junk food through different media could be traced across categories of gender in any of the other cases.

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Domicile-wise Analysis of Informative Media of Advertisements

Considering the influence of domicile group on the informative sources of advertisements on junk food purchases, a domicile wise analysisof informative sources on junk food purchases was attempted.

The categories of domicile included city, towns and villages, the descriptive statistics of which are shown in Table

Table 11
Descriptive Statistics – Domicile-wise

Variables	Domicile	Mean	td. Deviatio	N
Magazines/newspapers	City	3.1227	1.10985	163
	Town	3.0435	1.26647	138
	Village	2.8690	1.12774	84
	Total	3.0390	1.17307	385
TV Commercials	City	4.1472	0.97013	163
	Town	3.9058	1.02443	138
	Village	3.6190	1.16065	84
	Total	3.9455	1.05061	385
Social media	City	4.2025	0.96327	163
	Town	4.2246	0.88802	138
	Village	4.0833	0.97200	84
	Total	4.1844	0.93806	385
Google ads	City	3.2577	1.11990	163
	Town	3.3696	1.14673	138
	Village	3.3929	1.13028	84
	Total	3.3273	1.13050	385
Word of mouth	City	3.8466	1.00359	163
	Town	3.7319	1.09771	138
	Village	3.7619	1.04845	84
	Total	3.7870	1.04649	385

Source: Computation from Primary Data

From the above table, ‘Social Media’ was observed to be the most prominent attribute as informative sources of advertisements influencing decision to purchase junk food in villages in cities, and in towns. The least prominentattribute influencing decision to purchase junk food was found to be ‘Magazines/Newspapers’ in towns as well as in citiesand villages.

The multivariate test results with Domicile as independent variable are shown in the following Table .

Table 12
Multivariate Test Results

	Value	F	Hypothesis df	Error df	Sig.
Wilks' lambda	.938	2.459	10.000	756	**.007**
F tests the multivariate effect of domicile					
Figure in bold indicates significant at 5% level					

Source: Computation from Primary Data

The null hypothesis that there is no significant difference in combined dependent variables across categories of domiciles gets rejectedat 5 per cent significance level, since the p-value of F statistic falls below

0.05. It is inferred that when all the attributes of informative media of advertisements are considered as a whole, significant differences were found to exist across categories of domicile.

Impact of Marketing elements and Social media on Consumption of junk food among youth in Kerala.

The latent variables namely 'Marketing elements influence on junk food purchases' and 'Influence of social media on junk food purchases', referred to as the first order constructs are reflected by principal components identified through exploratory analysis, which has been subjected to data parcelling.

H_0: There is no significant impact of Marketing elements and Social media on Consumption of junk food among youth in Kerala.

The standardised regression weights with their probability values are shown in the following Table.

Table 13

		Factors	SRW	P
Consumption	←	Marketing Elements	0.100	0.741
Consumption	←	Social Media	0.397	0.083
PCA 2	←	Marketing Elements	0.852	***
PCA 1	←	Marketing Elements	0.479	0.074
PCA2	←	Social Media	1.000	***
PCA 1	←	Social Media	0.310	***
*** indicates significance at 0.001 level				

Table 14

Hypothesis Test Results - Composite Model

	Null Hypothesis	SRW	p	Model Fitness	Decision
H_0	Marketing elements influence on junk food purchases does not significantly impact Consumption of junk food	0.100	0.741	X2/df= 1.321, RMSEA = 0.0540	Cannot be rejected
H_0	Influence of social media on junk food purchases does not significantly impact Consumption of junk food	0.397	0.083		Cannot be rejected
*** indicates significnat at 0.001 level					

Souce: Calculation from primary source

Findings of the study

1. The most prominent attribute as marketing elements that influence choice of junk food was found to be

'Brand Name' among all the age groups. The least prominent one was 'Size/Colour' among all the age groups.

2. When all the attributes of marketing elements considered as a whole, significant differences could be traced across categories of age-groups. But in the case of individual attributes, no such difference could be traced across categories of age groups in anyof the cases.
3. 'Packing/Logo etc' was found to be the most prominent attributeamong female customers followed by 'Brand Name' among female customers. 'Celebrity presence' was found to be the most
4. prominent attribute among male customers followed by 'Brand Name' among male customers. 'Size/Colour' as an attribute influencing decision to purchase junk food was found to be the least prominent among female and male customers.
5. No statistically significant difference among marketing elementsthat influence junk food purchases could be traced across categories of gender in any of the cases except 'Packaging/ logoetc' and 'Celebrity presence'.
6. 'Brand Name' was observed to be the most prominent attribute influencing decision to purchase junk food in cities and in towns.'Packing/Logo etc.' was observed to be the most prominent attribute in villages. The least prominent attribute as marketing mix influencing junk food choice was found to be 'Size/Colour etc.' in cities, towns and villages.
7. When all the attributes of marketing elements considered as a whole no significant differences exist across categories of domicile. No significant differences could be found in the case of individual attributes as well except in the case of 'Celebrity presence'.
8. The most prominent attribute as informative media of advertisements was found to be 'TV Commercials' among the age group of 24 to 27 years and 'Social Media' among the age group of 20 to 23 years and among the age group of 16 to 19 years. The least prominent one was 'Magazines/Newspapers' among all age groups.
9. It was found that when all the attributes of informative media ofadvertisements considered as a whole, significant differences could not be traced across categories of age-groups. No significant differences exist across categories of age groups in the case of individual attributes as well.
10. 'Social Media' was found to be the most prominent attribute as informative media of advertisements among male and female customers followed by 'TV Commercials'. 'Magazines/News Papers' found to be the least prominent among male and femalecustomers.
11. No statistically significant difference in informative media couldbe traced across categories of gender in any of the cases except 'Magazines/News papers'.
12. 'Social Media' was observed to be the most prominent attributeas informative media influencing decision to purchase junk foodin villages, cities and in towns. The least prominent attribute wasfound to be 'Magazines/Newspapers' in all the cases.
13. It was found that when all the attributes of informative media ofadvertisements are considered as a whole, significant differences were found to exist across categories of domicile. In the case of individual attributes are considered, statistically significant differences exist across categories of domicile only in the case of 'TV Commercials'.
14. It was inferred that 'Marketing elements influence on junk food purchases' and 'Influence of social media on junk food purchases' had no significant impact on 'Consumption of junk food'.

Conclusion

The study reveals that, our younger generation consume junk food frequently due to the variety of options available and the attractive branding. Social media and its extensivelevel of usage among youth made it effortless for junk food companies to reach young people widely. This works as the main source of information,provide online ordering facility and facilitates comparative shopping. On one side, parents are trying to abstain their children from junk food consumption and on the other side, society, including this digital world giving them wide choices and opportunities to consume more as part of their daily meals. Therefore, to manage the problem of deteriorating health among young

generation due to increased level of junk food consumption,the existing regulations from the part of government authorities have to be revised and implemented strictly. Regular and detailed awareness programmes at school and college levels will also be a remarkable solution towards the problem.

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