

## FACTORS INFLUENCING CHOICE OF HEALTH FOOD IN CHANDIGARH - AN EMPIRICAL STUDY

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### ABSTRACT

*All natural", "Low fat", "sugar free", the nation is currently experiencing a health craze like never before indulging in health conscious comestibles is almost the trendy thing to do nowadays and if you take the time to step back and look, you'll see it, go on a peregrination of your favourite fast food restaurants and the message is ubiquitous-healthy is "in". However eating healthy is only part of the equation on the path to a healthy lifestyle but it is an important first step in the right direction. Maintaining healthy diet will have positive effects on health and increase the chances of a long & a peaceful life without any hiccups. The word "diet" is almost synonymous with losing weight, however, a diet is simply a particular selection of food which can be modified or prescribed to improve a person's physical condition, treat an illness or disease. As a result of busy life schedules & working families, one can't take care of his health by burning calories in a health club as he is on the move all the time, resulting into diverting towards health foods which are low on calories & are balanced & can replace exercising part of day to day life. Almost every food manufacturing companies have introduced diet foods & drinks in Indian market which shows the demand for this kind of food. This paper empirically examines the factors impacting choice of Diet or Health Food.*

### INTRODUCTION

Now one can eat ice creams, drink vodka and even polish off a couple of bars of chocolate without worrying about ugly look. Releasing consumers from the guilt of gastronomic indulgences is a clutch of food and beverage; companies are burning midnight oil to deliver products that are low on fat and sugar. Not surprisingly then, the diet foods market is one of the fastest growing segments of the food industry. It is driven by health-conscious consumers who want to indulge but not at the expense of their weight or wellness, said R.S. Sodhi, chief general manager of Gujarat Co-operative Milk Marketing Federation, "In recent times consumer interest in the relationship between diet and health has increased, pushing up the demand for low-calorie foods." While the market for low-calorie foods is small in developing countries, India already ranks among the top 10 consumers of diet foods. The market size is expected to nearly double in the next five years. Total sales in this category are estimated to have grown by 3.8 per cent in value in 2006. Diet products, with low fat and sugar content, have invaded virtually all the sectors of the food and drink

market. From liquor companies to dairy processors, all major players have launched products that promise to liberate consumers from the ill-effects of fattening products. Chasing the diet along with the food, pharmaceutical majors are busy developing sugar substitutes and artificial sweeteners. Increased awareness about illnesses like obesity and the risk of diabetes are driving people to opt for sugar alternatives. Sugar-free chewing gums are doing well in India, though they still account for less than 6 per cent of the gum market. Among the favourites in this category is Orbit, the only sugar-free brand in the Wrigley India product portfolio, which was launched in the second half of 2004. The current market size of the sweetener category, as per org retail audit, is close to Rs 70 core, and is growing at about 15 per cent per annum. In recent times, the positioning of these products has also changed, with the target audience no longer being diabetics, but healthy people for whom sweeteners are preventive products. While a teaspoon of sugar has 240 calories, a pellet of any sugar substitute has zero to two calories. Capitalising on the growing trend and increased consumer interest, Amul has come up

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with its Sugar free Probiotic Frozen Dessert, which is not only low in calories, but also contains a bacterial culture that aids in digestion and improves immunity. From Mother Dairy's low-fat ice creams to Nestle's Kit Kat Lite and Maggi's Healthy Soups, no company wants to be left behind. Apart from the diet market for indulgences such as ice cream and chocolate that for everyday necessities like milk and dairy products is also growing. They are now increasingly being sold in toned and skimmed form. Of the Rs 20,000-crore branded milk market, the low-fat category accounts for Rs 2,200 crore. If Mother Dairy has introduced probiotic dahi, Nestle has a number of diet products on offer, including Slim Milk and Everyday Slim, a low-calorie dairy whitener." (The low cal high, India Today, 2007)

#### LITERATURE REVIEW:

Social influences on food intake refer to the impact that one or more persons have on the eating behaviour of others, either direct (buying food) or indirect (learn from peer's behaviour), either conscious (transfer of beliefs) or subconscious. Even when eating alone, food choice is influenced by social factors because attitudes and habits develop through the interaction with others. However, quantifying the social influences on food intake is difficult because the influences that people have on the eating behaviour of others are not limited to one type and people are not necessarily aware of the social influences that are exerted on their eating behaviour (Feunekes et al. 1998). Social support can have a beneficial effect on food choices and healthful dietary change (Devine et al. 2003). Social support from within the household and from co-workers was positively associated with improvements in fruit and vegetable consumption (Sorensen et al. 1998) and with the preparative stage of improving eating habits, respectively (Sorensen et al. 1998b). Social support may enhance health promotion through fostering a sense of group belonging and helping people to be more competent and self-efficacious (Berkman 1995). The family is widely recognised as being significant in food decisions. Research shows the shaping of food choices taking place in the home. Because family and friends can be a source of encouragement in making and sustaining dietary change, adopting dietary strategies which are acceptable to them may benefit the individual whilst also having an effect on the eating habits of others

(Anderson et al 1998). Although the majority of food is eaten in the home, an increasing proportion is eaten outside the home, e.g. in schools, at work and in restaurants. The venue in which food is eaten can affect food choice, particularly in terms of what foods are on offer. The availability of healthy food at home and 'away from home' increases the consumption of such foods. However, access to healthy food options is limited in many work/school environments. This is particularly true for those with irregular hours or with particular requirements, e.g. vegetarian (Faugier et al. 2001). With the majority of adult women and men in employment, the influence of work on health behaviours such as food choices is an important area of investigation (Devine 2003). People have many different eating occasions daily, the motivations for which will differ from one occasion to the next. Most studies investigate the factors that influence habitual food choice but it may be useful to investigate what influences food choice at different eating occasions. The effects of snacking on health have been debated widely. Evidence shows that snacking can have effects on energy and nutrient intakes but not necessarily on body mass index (Hampl et al. 2003). However, normal weight and overweight individuals may differ in their coping strategies when snack foods are freely available and also in their compensatory mechanisms at subsequent meals. Moreover, snack composition may be an important aspect in the ability of individuals to adjust intake to meet energy needs. Helping young adults to choose healthy snack choices poses a challenge to many health professionals. In the home, rather than forbidding unhealthy snacks, a more positive approach may be the introduction of healthy snack options over time. Moreover, healthy food choices outside the home also need to be made more readily available. Psychological stress is a common feature of modern life and can modify behaviours that affect health, such as physical activity, smoking or food choice. The influence of stress on food choice is complex not least because of the various types of stress one can experience. The effect of stress on food intake depends on the individual, the stressor and the circumstances. In general, some people eat more and some eat less than normal when experiencing stress (Oliver & Wardle 1999). The proposed mechanisms for stress induced changes in eating and food choice are motivational differences (reduced concern about

weight control), physiological (reduced appetite caused by the processes associated with stress) and practical changes in eating opportunities, food availability and meal preparation. Studies also suggest that if work stress is prolonged or frequent, then adverse dietary changes could result, increasing the possibility of weight gain and consequently cardiovascular risk (Wardle et al. 2000). Hippocrates was the first to suggest the healing power of food, however, it was not until the middle ages that food was considered a tool to modify temperament and mood. Today it is recognised that food influences our mood and that mood has a strong influence over our choice of food. Interestingly, it appears that the influence of food on mood is related in part to attitudes towards particular foods. The ambivalent relationship with food - wanting to enjoy it but conscious of weight gain is a struggle experienced by many. Dieters, people with high restraint and some women report feeling guilty because of not eating what they think they should (Dewberry & Ussher 1994). Moreover, attempts to restrict intake of certain foods can increase the desire for these particular foods, leading to what are described as food cravings. Women more commonly report food cravings than do men. Depressed mood appears to influence the severity of these cravings. Reports of food cravings are also more common in the premenstrual phase, a time when total food intake increases and a parallel change in basal metabolic rate occurs (Dye & Blundell 1997).

#### OBJECTIVES OF THE STUDY

- i. To study the relation between demographics & Health Food Choice.
- ii. To study the factors which influence the choice of Health Food?

#### HYPOTHESIS

H1: More people know the worthiness of Health Food; more would be their intent to purchase it.  
 H2: More people know the utility of Health Food; more would be their intent to purchase it.  
 H3: More people consider Health Food safe; more would be their intent to purchase it.  
 H4: More information people will have about Health Food; more would be their intent to purchase it.

#### RESEARCH METHODOLOGY

Research Universe was Chandigarh City. Data was collected from respondents shopping in retail outlets

of grocery, drinks & food. Random sampling was used to select respondents. A self administered questionnaire was used which had questions on demographics, health food types, awareness about health foods, factors influencing choice of Health Food using 5 point Likert Scale (1 as low & 5 as high). Data was analysed with the help of Chi Square, ANOVA, , Correlation Analysis & Multiple Regression etc. On the basis of output of factor analysis, those variables having Coefficient Alpha values of less than 0.7 were removed. Hypotheses were tested with the help of Pearson Correlation. 168 usable questionnaires were received out of 200. Researcher conducted study from November 2010 to January 2011.

#### ANALYSIS & FINDINGS

168 usable questionnaires were received out of initially planned 200. Female were 59.53% and males were 40.47 & their age range was 18-50 years. Majority of them were below 50 years. Around 62% were married & rest were single & around 10% said that they had unending illnesses. 38% had some other family member suffered/suffering from an unending disease. Almost half of them said that they & their family members have suffered/suffering from lifestyle diseases.

Factors analysis was used to shrink large no. of factors into smaller numbers with a good internal consistency. With the help of Principal Component extraction factor analysis was carried out. On the basis of output of factor analysis, those variables having Coefficient Alpha values of less than 0.7 were removed in the absence of required internal consistency which has been reflected in table no. 3. Factors like price of the Health Food, substitution of normal meal by Health Food have been removed due to low internal consistency & reliability.

The respondents were asked to specify their health food buying behaviour which has been reflected in table no. 4. Group 1, 2 and 3 are those respondents who have never bought (non users) any of the Health Food products and they have made up 49.39% of the sample. It also signified to some extent that almost equal number of Health Food products users and non users were there in the study. Table 4 is showing the summary of the entire group. Consumers were bifurcated into six broad categories. Category 1 includes those respondents who haven't bought Health food and not even thinking of buying it; Category 2 includes those who



haven't bought Health Food and thinking of buying in the near future; and Category 3 includes those who haven't bought Health Food and plan to buy in the next one month. The first three among the six categories were of non-buyers of Health Food products. Category 4 includes those who have used Health Food in past but no more now; Category 5 includes those who buy Health Food but not on a regular basis and category 6 includes those who buy Health Food regularly. Categories 4, 5 and 6 respondents were then tested of their degree of Health Food use. Their buying pattern was tested by having a look at the type and quantum of health products they bought in each of their shopping effort. The respondents were asked about the quotient of health against non health products. Respondents were bifurcated into two categories which were less than 50% health food products & more than 50% health food products which are reflected in Table no. 5. To find out which are the factors which influence the intention to purchase Health Food products as per their degree of significance, Multiple Linear Regression was conducted. Results of Multiple Linear Regression are reflected in Table no. 7. On the basis of these results of the Multiple Linear Regression model with four predictors on Health Food product Worthiness, Utility, Safety and Information availability of Health Products was appropriate in explaining the deviation in purchase intention of Health Food products ( $F=11.153$ ;  $d.f. =5$ ;  $p=.000$ ). Perception of respondents on Health Food worth of purchase influences significantly as an intention to purchase Health Food products ( $t=4.701$ ;  $p=0.000$ ;  $\beta=0.361$ ). Same is the case with other dependent variable; belief on the safety and Worthiness of Health Food aspects of Health Food products. The relationship of the variable to intention to purchase Health Food products was positive and significant ( $t=2.231$ ;  $p=0.026$ ;  $\beta=0.164$ ). The proportion of explained variance is 24.9% as reflected in Table 6. The beta values results in Table 8 indicates perception on Health Food products worth of purchase ( $\beta=0.363$ ) more significant influencer of intention to purchase than belief on the safety and health aspects of Health Food products ( $\beta=0.164$ ). Rest of the dependent variables weren't significantly related to intention to purchase Health Food products.

To examine the relationships Pearson Correlation was used between the independent variables (Worthiness of Health Food, Safety, Utility & Availability of Health Food product information) and the dependent variable (intention to purchase Health Food products). Results indicated that three independent variables (all except for availability of Health Food product information) were significantly related to intention to buy Health Food products.

#### CONCLUSION

Study revealed that more than half of the respondents had lifestyle disease. In that regard the importance of health food becomes more important. Majority of respondents weren't aware about the health food & their positive effects on day to day working & overall health. Also they didn't want to purchase in near future as well. As far factors were concerned people were more influenced by significance of almost all factors like natural, preservative free, calorie free, sugarless, easily digestible, balanced, light on stomach etc. Study found that if more people will be aware about the worthiness of health food; more would be their intent to purchase it, if more people will be aware about the utility of health food; more would be their intent to purchase it, if more people will consider health food safe; more would be their intent to purchase it. It becomes necessary for marketers to effectively position their health food products in order to penetrate in a lesser tapped market with quite a few players all ready to venture into a huge market like India.

Results of buying reasons for health food are shown in table no. 2. The factors which respondents mainly shown were healthiness of health foods, low sugar & fat levels, easily digestible, preservative less, low on calories. Among other factors were fibre richness & naturalality of health food.

Factors analysis was used to shrink large no. of factors into smaller numbers with a good internal consistency. With the help of Principal Component extraction factor analysis was carried out. On the basis of output of factor analysis, those variables having Coefficient Alpha values of less than 0.7 were removed in the absence of required internal consistency which has been reflected in table no. 3. Factors like price of the Health Food, substitution of



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**Table 1: Demographic Profile of Respondents (n=168)**

Characteristics	Frequency	%age
<b>Sex</b>		
Male	68	40.47
Female	100	59.53
<b>Age</b>		
18-24	23	13.69
25-30	37	22.02
31-40	62	36.90
41-50	34	20.23
Above 51	12	7.14
<b>Marital Status</b>		
Single	63	37.5
Married	38	22.61
Married with kids	67	39.88
<b>Education Level</b>		
Diploma	15	8.92
Bachelor	78	46.42
Master	25	14.88
PhD	38	22.61
Professional	12	7.14
<b>Suffered/Suffering form Major Disease</b>		
YesNo	17	10.11
<b>Other family members Suffered/Suffering from Major Disease</b>		
Yes	151	89.88
No		
<b>Suffered/Suffering from Lifestyle Disease</b>	64	38.09
Yes	104	61.90
No	80	47.61
<b>Other family members Suffered/Suffering from Major Disease</b>	88	52.38
Yes	82	48.80
No	86	51.19

Table 2: Buying Reasons for Health Food Products

Health Food Category & Buying Reason	Frequency	%age
<i>Digestive Biscuits, Low Calorie Cakes &amp; Sweets</i>		
Healthier	56	36.8
Easily Digestible	47	28.5
Natural	45	27.3
Fat Less	53	25.2
Low Sugar Level	30	21.4
Rich in Fiber	26	15.3
<i>Low Calorie Drinks, Probiotic Drinks</i>		
Low Sugar Level	21	16.31
Healthier	37	3.91
Preservative Less	31	5.6
Easily Digestible	29	18.5
<i>Low Calorie Dairy Products</i>		
Low Sugar Level	33	14.42
Healthier	49	2.6
Low Fat Level	27	15.6
Preservative & Synthetic Colourless	31	15
Natural	42	22.7
<i>Roasted Snacks</i>		
Fat Less	27	17
Healthier	51	22.4
Preservative Less	19	17.3
Low Carbohydrates Level	29	12
Natural	36	14.8

Table 3: Rotated Component Matrix results for all Factors

Rotated Component Matrix Factors	Factor Loading
<b>1. Intent to Buy Health Food</b> Eigen Values:6.432 Cumulative Variance Explained: 22.989% Cronbach's Alpha: 0.912	
Food is Balanced	0.842
Food is Body Friendly (Easily Digestible)	0.799
Food is without Preservatives	0.792
No Compromise with Taste	0.783
Food has lesser Carbohydrates & Fat	0.76
Food is Natural (Without Artificial Agents)	0.742
Food is Light	0.727
Food is a little expensive but is in my reach**	0.629
<b>2. Worthiness of Health Food</b> Eigen Values: 2.42 Cumulative Variance Explained: 32.842 per cent Cronbach's Coefficient Alpha: 0.758	
Worth of Buying	0.781
Better Quality than Normal Food	0.681
Value for Money	0.597
Can substitute Full Meal**	0.485
<b>3. Utility</b> Eigenvalues:1.902 Cumulative Variance Explained: 41.847 per cent Cronbach's Coefficient Alpha: 0.747	
Easily Substitutes Normal Food	0.798
Food is Healthy	0.779
Helps in Disease Free Life	0.689
<b>4. Safety</b> Eigenvalues:1.688 Cumulative Variance Explained: 50.529 % Cronbach's Coefficient Alpha: 0.742	
Food is Safe to Consume	0.849
Food has no Side Effects	0.831
<b>6. Information Availability</b> Eigenvalues:1.084 Cumulative Variance Explained: 66.083 per cent Cronbach's Coefficient Alpha: 0.741	
Information Readily Available	0.869
Exclusive Health Food Outlets Available	0.858

\*\* Factor were deleted due to Low reliability, Factor 5 was removed due to low Cronbach's Alpha



**Table 4: Consumption Categories of Health Food**

Category	Frequency	%age	Customer Type
1. Neither purchased Health Food ever nor Interested	34	20.23	Not a Customer
2. Never purchased Health Food but thinking of using	45	26.78	Not a Customer
3. Never purchased Health Food but thinking to use definitely	4	2.38	Not a Customer
4. Purchased, Used, Stopped usage & might start again	36	21.42	Prior Users & Future Prospects
5. Purchase Irregularly	42	25	Occasional Buyer
6. Purchase Regularly	7	4.1	Regular Users

**Table 5: Consumption Pattern of Health Food**

Types of Health Food	>50% Share
Digestive Biscuits, Low Calorie Cakes & Sweets	23.80% n=40)
Low Calorie Drinks, Probiotic Drinks	22.21% n=39)
Low Calorie Dairy Products	12.50% n=21)
Roasted Snacks	22.80% n=39)

**Table 6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.501(a)	0.249	0.21	0.59900
a Predictors: (Constant : Worthiness of Health Food, Utility, Safety, Information Availability)				
b Dependent Variable: Intent to buy Health Food				

**Table 7: Analysis of Variance**

Model 1	Sum of Squares	df	Mean Squares	F	Sig.
Regression	109.971	5	3.994	11.153	.00(a)
Residual	59.109	164	0.360		
Total	70.080	170			

a Predictors: (Constant : Worthness of Health Food, Utility, Safety, Information Availability  
 b Department Variable: Intent to buy Health Food

**Table 8: Coefficients**

Model1	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	1.871	0.372		5.014	0.00
Worthiness of Health Food	0.333	0.071	0.360	4.701	0.00
Utility	0.150	0.065	0.164	2.231	0.026
Safety	0.111	0.071	0.115	1.572	0.116
Information Availability	-0.10	0.052	-0.013	-0.21	0.81
Dependent Variable : Intent to Buy Health Food					

**Table 9: Testing of Hypothesis using Pearson Correlations**

Hypothesis	r-Value	p-Value	Results
H1: More people know the worthiness of Health Food; more would be their intent to purchase it.	0.300	0	Supported
H2: More people know the utility of Health Food; more would be their intent to purchase it.	0.319	0	Supported
H3: More people consider Health Food safe; more would be there intent to purchase it.	0.451	0	Supported
H4: More information people will have about Health Food; more would be there intent to purchase it.	0.043	0.293	No Supported

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