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A Study on Eating Behavior and Stress among College Going Students

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Abstract—*The present investigation was undertaken to investigate the eating behaviour of college students and to examine its relationship with gender, family income and stress. A sample of 120 males and females were selected from different colleges of Kolkata. For both Eating Behaviour and Stress, data were collected through standardized tests and an information schedule was used for collecting information on general food habit of the students. Statistical analysis was done by using Descriptive Statistics, Chi-square and Correlation. Findings revealed that though there was no significant association of eating behaviour with gender and family income, but a significant and positive association existed between stress and some types of eating behaviours like low fat eating, snacks and convenience, emotional eating, meal skipping and cultural lifestyle behaviour. The overall results imply that knowledge about healthy eating behaviour should be disseminated among college students so that they can cope with stress effectively.*

Keywords*: stress, eating behaviour, college going students.*

1. INTRODUCTION

College is a new and exciting time, but it can be overwhelming. Among all of the new experiences, and learning and growing opportunities available in a college environment, some may lead to unhealthy levels of stress which hinder students' abilities to socialize and to achieve their academic goals.

There are a number of stressors in a college setting such as keeping up with challenging courses, managing finances, poor self-care habits and educational demands, daily hassles, perceived control over stressful situations or for some students dealing with homesickness. These variables can affect students' academic performance and overall well-being and therefore the unpleasant apprehension induced by stressors in the individual may drive them to seek instant gratification in order to reduce negative feelings and anxiety associated with stress, which is accomplished by eating foods that are satisfying, or highly palatable to one's taste buds. According to the American College Health Association [2]a study revealed that only 7.3% of students ate five or more servings of fruits and vegetables daily. So the transition to college life often worsens dietary patterns among the students and this may contribute to weight problems especially during the first year of college and continue during later years of life .With obesity recognized as a global epidemic [14]**,** unhealthy changes in eating patterns in response to stress are of concern.

The relation between eating and mental health is bi-directional: one's mood or psychological state can affect what and how much one eats and eating affects one's mood and psychological well being. Researchers have shown that emotions such as stress, worry and anxiety are the ones that are most often linked to emotional eating i.e. eating to satisfy emotional needs. Emotional eating is responding to feelings such as stress by eating high-carbohydrate, high-calorie foods with low nutritional value. Because these food activate the reward system to feel better, everything may end up in eating whenever stress or anxiety is experienced. While eating these comfort foods does not decrease stress itself, it may drive the individual to overeat in order to feel at least *some* happiness, rather than just stress alone.

Due to this emotional eating the dietary patterns that are consistently observed among youngsters put them at risk of unhealthy eating: the consequence of snacking, usually on energy-dense but otherwise nutrient-poor items; meal skipping; irregular eating patterns; and a wide use of fast food for meals and snacks. Other eating behaviours generally recognized as common are eating away from home, low intake of fruits and vegetables, and in some instances, of dairy products as well; and weight concerns leading to faulty dieting practices, particularly in girls [7-10]**.**

Although an unhealthy eating pattern is observed among the youngsters, girls usually have better eating habits than boys and are more concerned about healthy eating which suggest that gender differences do exist. According to Brevard & Ricketts (1996) female college students tend to eat more fatty foods than male students, although their fruit and vegetable consumption tends to remain similar. Females avoid certain foods for their concern for weight, health and ethical reasons (especially when avoiding meat) more significantly than males [4].

Apart from gender, the irregular and unhealthy patterns of eating behaviour are also influenced by the socio-economic

backgrounds of the individuals. Youngsters coming from low income families face high levels of stress owing to financial and food insecurity, emotional pressures and this stress and poor mental health may lead to **unhealthy eating behaviors.** [1].

In the light of the above discussion it can be said that the college students generally have poor eating habits and this may be perhaps due to stress or poor mental health condition. They tend to eat fewer fruits and vegetables on a daily basis and report high intake of high-fat, high-calorie foods. So the present study has been undertaken to find out the nature of association that exist between stress and eating behavior of the college going students by considering gender and socio-economic background as the most important demographic variables that may influence their eating behavior.

2. OBJECTIVES OF THE STUDY

- To examine the eating behaviour of college going students aged between 17-21 years.
- To find out the association between stress and eating behaviour of these students.
- To find out whether any association exists between eating behaviour and the demographic variables - gender and family income.

Hypotheses of the study

1. There is a significant association of stress with eating behaviour
2. There is a significant association of gender with eating behaviour
3. There is a significant association of family income with eating behaviour.

3. METHOD

Type of study- Survey research with correlational design was conducted.

Study area- The sample included college going students from within the city of Kolkata and North 24 Parganas.

Sample- In the present study purposive sampling has been used. The sample comprised of 60 male and 60 female college going students.

Characteristics of the sample-

- The age group of the subjects was between 17-21 years.
- The subjects comprised of both male and female.
- The subjects belonged to the low and middle income group.
- All of them were undergraduates.

Tools used

1. Eating Behavior patterns Questionnaire by Williams DP, Christensen NK (adapted from Schulundt DG, PhD. Vanderbilt University School of Medicine SODA Questionnaire). There were 51 questions on different types of eating patterns and habits. Each question had 5 options and score of 1-5 was given accordingly. Then total score of each section was divided by the total no. of questions included in that section. The sections were Low fat eating, Snacks and convenience, Emotional eating, Planning ahead, Meal skipping and Cultural lifestyle.
2. Stress Process Questionnaire was retrieved from the website. There were 75 questions on different symptoms of stress experienced during last six months. Each question had 5 options and there was no right or wrong answers. Higher scores were indicative of higher level of stress.

Procedure

Questionnaire method was used for data collection. After data collection, responses were scored according to the norms of the tools used. The scores were tabulated and subjected to statistical analysis. Correlations and Chi-Square tests were used to interpret the results.

4. RESULT AND ANALYSIS

Table 1: Interco relation Matrix between Stress and different types of eating behavior

Variables	Low fat eating	Snacks and convenience	Emotional eating	Planning ahead	Meal skipping	Cultural lifestyle	Stress
Low fat eating	1	.393**	.490**	.248**	.331**	.421**	.379**
Snacks and convenience	.393**	1	.552**	.279**	.315**	.392**	.362**
Emotional eating	.490**	.552**	1	.354**	.262**	.392**	.284**
Planning ahead	.248**	.279**	.354**	1	.246**	.259**	.086
Meal skipping	.331**	.315**	.262**	.246**	1	.206*	.260**
Cultural lifestyle	.421**	.392**	.392**	.259**	.206*	1	.321**
Stress	.379**	.362**	.284**	.086	.260**	.321**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2 Chi square tests of association between Gender and different types of Eating behavior

Table 2.1: Low fat eating and Gender

Gender		Scores on Low fat eating				Total
		1	2	3	4	
	Male	11	28	20	1	60
	Female	13	26	20	1	60
Total		24	54	40	2	120

Chi square=.241;Not significant at .05 level.

Table 2.2: Snacks and convenience and Gender

Gender		Scores on Snacks and convenience					Total
		1	2	3	4	5	
	Male	5	0	40	14	1	60
	Female	0	1	36	23	0	60
Total		5	1	76	37	1	120

Chi square =9.40; Significant at .05 level.

Table 2.3: Emotional eating and Gender

Gender		Scores on Emotional Eating				Total
		1	2	3	4	
	Male	17	27	16	0	60
	Female	9	26	24	1	60
Total		26	53	40	1	120

Chi square =5.080; Not significant at .05 level

Table 2.4: Planning ahead and Gender

Gender		Scores on Planning Ahead				Total
		1	2	3	4	
	Male	7	28	24	1	60
	Female	3	28	28	1	60
Total		10	56	52	2	120

Chi square =5.080;Not significant at .05 level

Table 2.5: Meal skipping and Gender

Gender		Scores on Meal Skipping					Total
		0	1	2	3	4	
	Male	1	2	31	21	5	60
	Female	0	0	40	16	4	60
Total		1	2	71	37	9	120

Chi square=4.908;Not significant at .05 level

Table 2.6: Cultural lifestyle behavior and Gender

Gender		Scores on Cultural Lifestyle Behaviour				Total
		1	2	3	4	
	Male	7	38	14	1	60
	Female	4	34	19	3	60
Total		11	72	33	4	120

Chi Square= 2.798 df- 3 Not significant at .05 level

Table 2 suggests that among all the patterns of eating behaviour only snacks and convenience has significant association with gender.

Table 3 Chi square tests of association between Family income and different types of Eating behaviour.

Table 3.1: Low fat eating and Family income

F. Income		Scores on Low fat eating				Total
		1	2	3	4	
	1	3	26	6	1	36
	2	15	15	12	1	43
	3	3	8	15	0	26
	4	3	5	7	0	15
Total		24	54	40	2	120

Chi Square=26.544; Significant at .01 level

Table 3.2: Snacks and convenience and Family income

F. Income		Scores on Snacks and Convenience					Total
		0	1	2	3	4	
	1	2	0	24	10	0	36
	2	1	1	29	11	1	43
	3	2	0	13	11	0	26
	4	0	0	10	5	0	15
Total		5	1	76	37	1	120

Chi square=8.067;Not significant at .05 level.

Table 3.3: Emotional eating and Family income

F. Income		Scores on Emotional Eating				Total
		1	2	3	4	
	1	12	17	7	0	36
	2	10	17	15	1	43
	3	2	17	7	0	26
	4	2	2	11	0	15
Total		26	53	40	1	120

Chi square=22.725;Significant at .05 level.

Table 3.4: Planning ahead and Family income

F. Income		Scores on Planning Ahead				Total
		1	2	3	4	
	1	6	15	14	1	36
	2	0	27	16	0	43
	3	1	11	13	1	26
	4	3	3	9	0	15
Total		10	56	52	2	120

Chi square=18.380;Significant at .05 level.

Table 3.5: Meal skipping and Family income

F. Income		Scores on Meal Skipping					Total
		0	1	2	3	4	
	1	1	0	24	9	2	36
	2	0	2	25	13	3	43
	3	0	0	14	8	4	26
	4	0	0	8	7	0	15
Total		1	2	71	37	9	120

Chi square=11.575;Not significant at .05 level**.**

Table 3.6.Cultural lifestyle and Family income

F. Income		Scores on Cultural Lifestyle				Total
		1	2	3	4	
	1	4	25	6	1	36
	2	5	23	12	3	43
	3	0	18	8	0	26
	4	2	6	7	0	15
Total		11	72	33	4	120

Chi square=12.065; Not significant at .05 level**.**

Table 3reveals that low fat eating, emotional eating and planning ahead have significant association with family income.

5. DISCUSSION

The purpose of the present study is to investigate the eating behaviour of college going students aged between 17-21 years and to find its association, if any with their stress level. The different types of eating patterns that have been considered as eating behaviour are Low fat eating, Snacks and convenience, Emotional eating, Planning ahead, Meal skipping and Cultural lifestyle. The correlation values reveal that all types of eating behaviours have positive and significant correlation with stress except planning ahead at 0.01 level. The finding of this study is quite consistent with earlier investigations.

Different researches on eating behaviour and mental health have demonstrated that Skipping of meals and specially breakfast is one of the most common phenomenons that is observed among the college students. Sleeping late at night and hurrying for the morning classes usually make them skip the most important meals of the day i.e. breakfast and sometimes even lunch. According to Jason Stevens, NSU Nutritional Sciences instructor, when the students get to dinner, after skipping both breakfast and lunch, they think they are limiting their calories by eating only one meal per day [14]. This type of dietary behavior leads to poor food choices since it results in overcompensation later in the day by eating more [13]. College students have reported skipping of meals and increased snacking behavior and stress is considered as an important factor which tends to influence snacking and eating patterns among young individuals [12]**.**

According to McEwen (2008**)**, excessive or chronic stress can trigger or exacerbate a huge variety of diseases and disorders [11]. Stress, either acute or mild stress or prolonged chronic stress, can also influence our appetite, including our drive to eat and the types of food we are likely to select. On the other hand, recent researches assume that poor dietary behavior is related to the lifestyle of the college students which is often detrimental for their mental health. College students generally have poor physical activity habits. Tobacco smoking and alcohol consumption are major risk factors and of concern among the students and this may be linked to psychological distress which is particularly problematic for them [6].

This study has also tried to find out whether any association exists between eating behavior and the demographic variables of gender and family income. Table 2 shows chi-square values which reveal that most of the eating behaviours are not significantly associated with gender except snacks and convenience. Snacking refers to the consumption of food and drinks including items such as chips, chocolates, and soft drinks. Irregular snacking may even lead to skipping of regular meals and increased frequencies of snacking in between. The association between gender and snacking behaviour has been observed in previous studies. More frequent snacking has been reported among boys than girls.Anding *et al*. found that males reported an average of 2.6 snacks per day compared to the 1.9 snacks per day reported by females [5]. Males snack frequently (more than twice a day) compared to females. Females more often tend to replace their meals with snacks and had a tendency to skip meals. Males tend to snack more of oily snacks and aerated drinks as compared to females who include more fruits in their snacks.

From table 3it is found that low fat eating, emotional eating and planning ahead are associated with family income. Those who are eating less or skipping meals to stretch food budgets may **overeat when food does become available,** resulting in chronic ups and downs in food intake that can contribute to weight gain [5]**.** Cycles of food restriction or deprivation also can lead to disordered eating behaviors, an unhealthy preoccupation with food, and metabolic changes that promote fat storage — all the worse when combined with overeating**[15].**Thus there is tendency of consuming cheap, energy-dense foods in low-income communities**.**

6. CONCLUSION

The findings of the study indicate that stress is significantly and positively associated with eating behavior. Stress may be considered as an important determinant of eating behavior. Gender and socio-economic status are also important factors of some types of eating behavior. However a study with large representative sample is necessary for generalization of the conclusion of the present study.

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