

EFFECT OF HEALTHY EATING HABITS ON THE ACADEMIC PERFORMANCE OF GRADUATING STUDENTS

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ABSTRACT

INTRODUCTION

This study was necessary as most graduating students were studying hard but, for some, academic achievement was not achieved as expected, leading to disappointment. When students move to undergraduate courses, their lifestyles changed. Diet, is relevant in that can help them achieve higher academic performance.

OBJECTIVE

The present research work was undertaken to examine the effect of a healthy diet on the overall academic performance of graduating students in India.

METHODS

For the study, 279 students from RTM Nagpur University were used as sample size and were selected randomly. A structured questionnaire was used to collect the responses from the participants. Student academic achievement was evaluated based on their semester grade point average scores.

RESULTS

Results obtained state a strong and positive association between a healthy diet and academic performance. Results confirmed the hypothesis that if students adopt the practice of having a daily healthy diet their academic performance will improve.

CONCLUSION

Many students at this university have habits of skipping breakfast or taking it a few times a week but not daily. Also, they are not generally good at eating healthy foods. This directly affects their performance in academic work. Therefore, parents are advised to keep a strict check on these habits.

KEYWORDS

academic performance, eating habits, health, students

INTRODUCTION

Academic performance can be defined as knowledge acquisition, acquisition of competencies and skills, getting good grades, picking a progressive career, tenacity, and intention for education [1]. Educational attainment influences their future-related achievements, well-being, and health. Studies show that healthy dietetic behavior and practices are fundamental aspects that can predict undergraduate performance in academics [2]. Healthy eating can be defined as eating a balanced diet to meet the body's physiological needs [3]. A healthy diet involves grain cereals, organic products, vegetables, and fruits and can prompt better mental capacity, further development of memory, best grades on tests, and better college presence, prompting a generally better performance of students academically [4].

Academic performance is fundamentally impacted by various determinants including school or college indicators (i.e., financial status, education level of the parents, and educational attitudes). Social media is a factor that affects academic performance [5]. Social Media can affect academic performance positively as well as negatively [6, 7]. Further, more determinants incorporate a greater number of individual qualities (i.e., aptitude, Behavior or conduct, natural inclination, and motivation) all of which have set up independent impacts [8]. While dietary examples such as omission/intake of breakfast can influence intellectual capacity and conduct in young people, meal patterns and nutrient composition can over the long run apply to have helpful or adverse effects as these may connect with cognition [9]. Therefore, in these many factors, researchers wish to know the effect of a healthy diet on academic performance. Breakfast as a component of a healthy diet and way of life decidedly impacts children and students' well-being and general prosperity, particularly including supplements rich in whole grains and high fiber, fresh fruits, and dairy items [10]. Students who can eat a balanced diet do better in their exams than those who do not. Similarly, nourished students show better performance as compared to malnourished students [11]. Thus, in the aforementioned context, it tends to be argued that individual wellbeing and nutritional status are additional interesting factors and decision makers/indicators of educational presentation [10].

It is important to look at how lifestyle factors, especially diet, affect student performance, with an emphasis on Semester

Grade Points Average (SGPA) and general academic performance at the college and university levels. As 12th standard going college students move to graduate college, firstly their eating habits often transform as they adapt to new resources, different environments, and lack of parental supervision [12]. Secondly, unhealthy habits of eating have been related to deprived academic performance and might influence undergraduates' general well-being status [13, 14]. Hence this research work was carried out to investigate the effect of a healthy diet on the overall academic performance of college students by using SGPA as a measure of outcome.

For this study, undergraduate students evaluated on their SGPA were considered. The scale used for evaluation is from 1 – to 10. The academic performance in a semester for each student is specified by a figure called SGPA. The SGPA is the average (weighted) of the grade points achieved in all the courses and projects recorded by the undergraduate during the particular semester.

Many studies have confirmed that students taking a healthy breakfast and a good and healthy diet perform better in their academic achievements. They concluded a straight association between healthy dietary habits and improved school performance [15, 17, 20 and 21]. Hence it would be interesting to know the item which is generally taken in breakfast by the majority of the students as none of the studies have done in this direction so far.

LITERATURE REVIEW

Consumption of fast food on daily basis is a risk factor for poor performance in academic achievement [16]. A detailed investigation of the connection between the diet of college students and their academic performance examined seven different studies and revealed that five of them reported high performance in academic with increased consumption of fruits [17]. Peter et. al. [18] conducted an online survey with 577 undergraduate university students in the US to find a relationship between their consumption habits and academic performance. They found that eating a healthy breakfast had a constructive consequence on self-reported GPA and that eating fast food had a negative outcome. Their overall conclusion was that a healthy diet has a constructive effect on the academic performance of students. Bernadetta, [19] supported a solid association between students' habits for eating, in phrases of frequency and

quality of feeding, breakfast quality, and their performance academically. In addition, students perceived that taking a light breakfast complements their interest span to learn, researcher encourages parents from rural backgrounds to give adequate vitamins and nutrition to their children to enhance their performance in the school. Jessica et. al. [20] found that high levels of physical activity and taking daily main meals are directly related to improved performance in school and emphasize the essentialness of encouraging these habits in the school children. Rola and Ahlam [21] revealed that students' scores were better if their dietary intake was healthy and regular. Farahbakhsh et. al. [22] found that the students fronting insecurity in food reported that their academic performance is adversely affected and that poor concentration leads to exam failure or poor academic performance.

For this study the following Hypothesis was framed

Ho: More frequent practice of a healthy diet will improve the academic performance of college students.

METHODS

The objective of this research work was to examine the effect of a healthy diet on the general academic performance of graduating students by using SGPA as a measure of outcome. For this study, the population involved students from RTM Nagpur University, Nagpur Maharashtra, India. All colleges are compulsorily affiliated to RTM Nagpur University. Few affiliated colleges were selected and permission to collect data from the students was taken from the principal/director. Hence all ethics were followed to collect data. This research is quantitative

and the researcher has surveyed using a questionnaire to collect the responses. For the study, students were requested to complete self-rated questions which include various questions on eating habits, frequency of eating, the content of eating, fruit intake, drinking habits, juice intake, and consumption of egg and milk. The questions were divided into 3 sets. The first set of questions was on demographic profile, the second set was on eating habits (questions such as weekly consumption of breakfast, number of times, type, and quantity). and the last set of questions was on SGPA (questions such as score on subjects and time of exam). Overall, 341 students took part in the survey but only 279 responses were able to be used if they were complete in every sense. Thus, making the response rate of 81.81% of the sample size (n=279). Undergraduate college students were randomly selected from different colleges in the university during the January - February (winter session) and August – September (summer session) of 2021. The research instrument used in this survey was a structured questionnaire. Quantitative answers were analyzed using tools such as the frequency and percentage method. Standard least squares regression was utilized to check whether self-revealed current SGPA (Scale 0.00 to 10.0) was connected with various sorts and rates of drink utilization and weekly food. Statistical software SPSS (Version 23) was used. Cronbach alpha was found to be 0.895 which means excellent internal consistency. Students were asked both open-ended and closed-ended questions. Closed-ended questions were on the 5-point rating scale. This scale ranges from strongly agree = 5 and strongly disagree = 1.

ANALYSIS AND RESULTS

TABLE 1: DEMOGRAPHIC PROFILE OF THE PARTICIPANTS

		Frequency	Percentage
Gender	Male	152	54.48
	Female	127	45.52
Age (in years)	18 - 19	87	31.18
	20 - 21	98	35.12
	22 - 23	59	21.15
	24 - 25	28	10.04
	Above 25	7	2.51
Bachelor Degree	Engineering	34	12.19
	Science	79	28.31
	Commerce	65	23.30
	Arts	41	14.69

	Architecture	13	4.66
	Law	21	7.53
	Others	26	9.32

Source: Survey Result

For this research project, male students participated more than female students - 54.48 % were male students and 45.52% of the total population were female students. Most of the respondents were in the age range of 20 to 21 years. The mean age was found to be 19.5 years. Of the total respondents. There were 28.31% of students from the science stream. The second-highest number of respondents was from the commerce field which constituted 23.30% of the whole population. Arts students were 14.69% of the total population. In the demographic profile, there were a few open-ended questions as well. Most of the students were from the 2nd and 4th semesters meaning most of the respondents are from the 1st and 2nd years. The average SGPA was found to be 6.87.

HEALTHY EATING HABITS AND SGPA:

Table 3 shows the complete analysis of healthy eating habits and their SGPA. Respondents how frequently they

have eaten green salads, vegetables, fruits, fruit juice, milk, and eggs, responses varied widely (Table 2).

It is evident from Table 2 that most of the respondents (23.3%) consume green salads 7 to 9 times a week and a little less than that (21.15%) take green salad items 10 to 12 times a week. It was found that most students take vegetables in their food consumption. As high as 91 (32.62%) respondents consume vegetables more than 12 times a week and 83 respondents take vegetables 10 to 12 times per week. It was found that 85 respondents of 275 take fruits 7 to 9 times a week and 81 take fruits 4 to 6 times a week. 91 (32.62%) students have a habit of taking fruit juice at least once a day. However, 75 students take juice 4 to 6 times a week. It was found that 43.37% either don't drink milk or take it less than 3 times a week. At the same time, 70 respondents take milk 7 to 9 times a week. Most of the students take eggs almost daily. In general, vegetable and fruits is the only healthy food intake that most students take almost daily.

TABLE 2: EATING HABITS REPORTED AS CONSUMPTION NUMBERS TIMES PER WEEK OF RESPONDENTS

No. of times/week	0		1 - 3		4 - 6		7 - 9		10 - 12		more than 12	
	f	%	f	%	f	%	f	%	f	%	f	%
Green Salad	24	8.6	48	17.2	44	15.77	65	23.3	59	21.15	39	13.98
Vegetables	4	1.43	11	3.94	21	7.53	69	24.73	83	29.75	91	32.62
Fruits	3	1.07	34	12.19	81	29.03	85	30.46	64	22.94	12	4.3
Fruit Juice	11	3.94	37	13.26	75	26.88	91	32.62	58	20.79	7	2.51
Milk	57	20.43	64	22.94	67	24.01	70	25.09	15	5.38	6	2.15
Eggs	42	15.05	61	21.87	82	29.39	85	30.46	7	2.51	2	0.72

Source: Survey Result

TABLE 3: RELATION BETWEEN VARIOUS TYPES OF EATING HABITS AND SELF-REPORTED PRESENT SGPA USING LEAST SQUARES REGRESSIONS AMONG UNIVERSITY STUDENTS (N = 279)

Eating Habits	No. of times consumed/Week	Result of Test	p-Value
Consumption of green salad	0/1-3/4-6/7-9/10-12/12+	DF=4, F-Ratio=1.2272, R ² =0.007	0.2982
Consumption of vegetables	0/1-3/4-6/7-9/10-12/12+	DF=4, F-Ratio=1.1235, R ² =0.008	0.3434
Consumption of fruits	0/1-3/4-6/7-9/10-12/12+	DF=4, F-Ratio=2.1209, R ² =0.02	0.0763

Consumption of fruit juice	0/1-3/4-6/7-9/10-12/12+	DF=4, F-Ratio=1.3582, R ² =0.01	0.2496
Consumption of Milk	0/1-3/4-6/7-9/10-12/12+	DF=4, F-Ratio=1.3873, R ² =0.007	0.2387
Consumption of Egg	0/1-3/4-6/7-9/10-12/12+	DF=4, F-Ratio=1.1241, R ² =0.007	0.2639
Consumption of Breakfast	0/1/2/3/4/5/6/7	DF=1, F-Ratio=41.5317, R ² =0.07	<0.0001

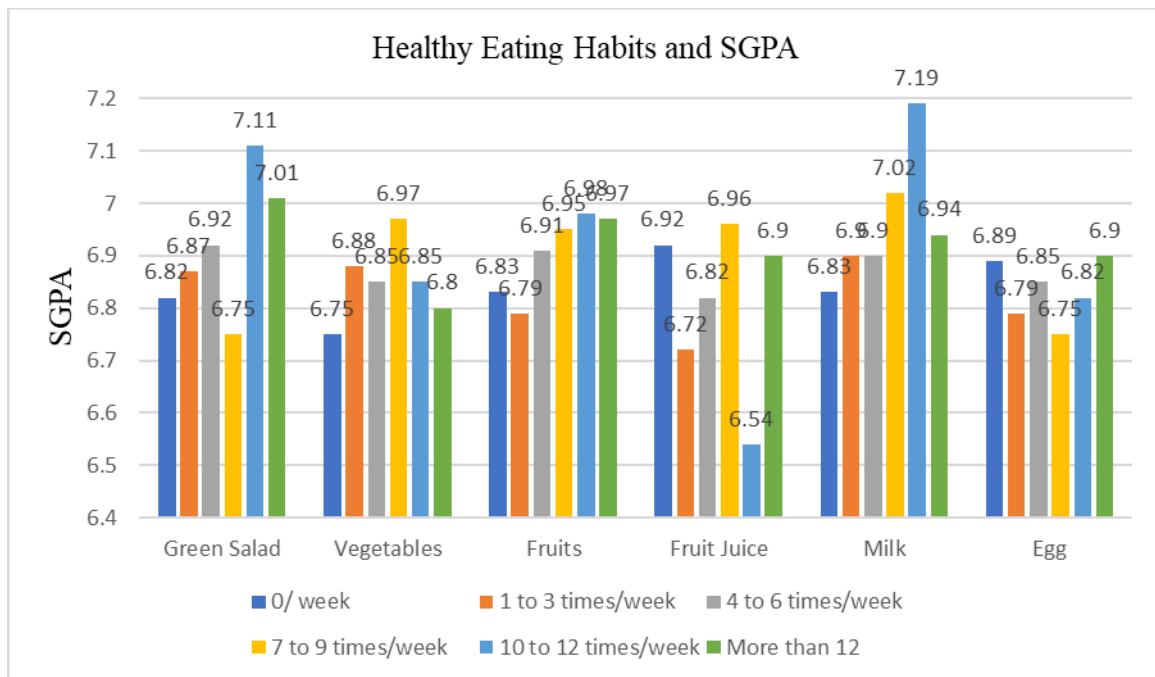
Source: SPSS Output

Eating Habits and Self-reported SGPA were analyzed. Consumption of green salad, vegetables, fruits, fruit juice, Milk, Egg, and Breakfast consumption and the number of times consumed in a week were analyzed (Table 3, $p > 0.0763$). Respondents who mentioned having taken 10 to 12 times of milk per week reported having the best SGPA (7.19). It was followed by respondents who take green

salad 10 to 12 times a week and scored 7.11 SGPA (reflected in Figure 1).

Here, it is important to note that the SGPA of the participants who have self-reported has increased significantly with the number of days that they have reported having breakfast/week (Regression, DF = 1, F-Ratio = 41.5317, R² = 0.07 and $p < .0001$)

FIGURE 1: HEALTHY EATING HABITS AND SGPA



Source: Survey Interpretation

TABLE 4: CONSUMPTION OF BREAKFAST/WEEK AND SGPA

No. of times have Breakfast	f	Average SGPA
0	38	6.47
1	42	6.62
2	49	6.59
3	47	6.71
4	32	6.85
5	27	6.98
6	21	7.28
7	23	7.46

Source: Survey Interpretation

Upon asking about the number of times breakfast is consumed and their respective SGPA. The following details were obtained from the respondent. It was gathered that 38 respondents do not have a habit of eating breakfast, 42 respondents have taken breakfast only once a week, and 49 of the total 279 respondents have consumed their breakfast two days a week. 16.85% (47 students) have taken breakfast thrice a week before they start their day. All of these students have not scored well in their respective SGPA. 32 of 279 had their breakfast 4 times a week and were near to the average SGPA of all students. 27 students have scored more than the average of 6.87 and they have eaten 5 times breakfast in a week. 21 and 23 students score excellent marks and their SGPA was very good, and they take 6 times and 7 times respectively in a week. Respondents' self-reported present SGPA has improved significantly with the no. of days per week stated to have eaten breakfast. (Regression, DF =1, F-Ratio = 41.5317, R² =0.007 and p-value < 0.0001, refer Table 3). This gives us evidence to accept the hypothesis which confirms that eating a healthy diet every day will help to improve academic performance among the students.

In summary, it is evident that having daily breakfast helps students to score well in their examinations. Their scores keep on improving the number of times they take breakfast weekly. It is also important for them to take a healthy breakfast and should not depend upon junk food, especially for breakfast as these days' students have the habit of taking quick snacks from roadside sellers.

DISCUSSION

Most parents want their children to score well in their examinations. This study was undertaken to examine the effect of the eating habits of undergraduate students in one university on their overall score in terms of SGPA. Hence the researcher attempted to find a correlation between these two factors. A positive correlation was found between daily healthy eating habits and the overall SGPA score. A strong relationship was also found between having breakfast daily and an increase in SGPA.

This research is in line with the research done by Adolphus et. al., Reuter et. al., and Reuter and Forster [23, 25, 26] where the researcher also concluded and supported correlations of higher academic achievement in college students having daily breakfast. Similarly, Nasir and Tahir

[24] also found a correlation between breakfast consumption and grades. This research also supports their finding. College students who consumed breakfast at least five times a week reported significantly higher grades than the students having breakfast three times or less (Table 4).

CONCLUSION AND RECOMMENDATIONS

According to the results obtained in this study, it was evident that there is a strong and positive association between a healthy diet and academic performance.

The results obtained conclude that the students who take healthy and regular breakfast score good grades and do excellent in their examinations. These students have habits of taking all types of food items in their breakfast. Their academic performance is far better than the students having low-quality meals or less number of times eating breakfast in a week. The result obtained supports the hypothesis framed for this study. It was proved that having no or fewer times breakfasts or unhealthy food consumption leads to poorer academic performance. RTM Nagpur University students do have habits of taking breakfast and healthy foods. In this study, it was observed that a large number of students were not having breakfast daily which directly affects their academic performance. At the same time, it was also found that students took milk 10 to 12 times a week has helped them to score higher.

It is strongly recommended that parents provide healthy food and daily breakfast to improve their mental health. College management can help the students too by providing them healthy breakfast enabling them to score well. Students should also need to understand the importance of breakfast in their educational life and should not ignore it and should develop a habit to have a healthy daily breakfast.

LIMITATIONS:

This research work was dependent on self-reported information by students. There is a strong probability that the student might forget his/her actual SGPA. Students may not remember what and how often they have taken breakfast or any other healthier food items. Students might have given false information projecting that they follow a healthier lifestyle. Since the sample size was small, having a larger sample would have given more precise results.

FUTURE SCOPE FOR RESEARCH:

Researchers study other factors such as lunch, proper sleep, high-impact diets, and physical activity into consideration as an extension of this research work. The effect of healthy eating habits based on the gender of the students can also be studied.

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