



Daffodil
International
University

**JUNK FOOD HABITS AND THEIR EFFECTS ON HEALTH STATUS
AMONG THE STUDENTS AT DAFFODIL UNIVERSITY: A CROSS-
SECTIONAL STUDY**

Submitted by

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**Submitted to the Department of Nutrition and Food Engineering in the partial
fulfillment of B.Sc. in Nutrition and Food Engineering**

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APPROVAL

The project entitled " **Junk Food Habits and Their Effects on Health Status among the Students at Daffodil University: A Cross-Sectional,**" authored by Tanisha Zaman Borsha (Student ID: 201-34-1028) has been endorsed by the Department of Nutrition and Food Engineering at Daffodil International University. It satisfies the essential criteria in terms of structure and content for the partial completion of the B.Sc. degree in Nutrition and Food Engineering.

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I confirm that I have finished this project under the supervision of Dr. Nasima Akter Mukta, Assistant Professor in the Department of Nutrition and Food Engineering at Daffodil International University. Furthermore, I affirm that this project, either in its entirety or in part, has not been presented to any other institution to obtain a degree or diploma.

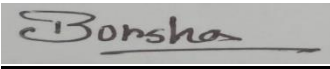
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ABSTRACT

Research investigates the junk food consumption habits of students enrolled at Daffodil International University and the associated health effects. The study aims to analyze the students' demographic characteristics, their expenditure on junk food, and the correlations between junk food consumption, health consequences, and BMI categories. The survey findings indicate that 62.5% of students occasionally indulge in junk food, primarily driven by taste. Despite widespread awareness of the detrimental effects of junk food, many students persist in consuming it, often as a substitute for regular meals. The research reveals important links between consuming junk food and digestive problems, although it did not establish strong connections with changes in weight or long-term conditions like diabetes and heart disease, possibly due to the participants' relatively young age. Additionally, the study indicates a relationship between BMI and how individuals perceive their health, considering that students with higher BMI levels may have a more negative perception of their health. Cultural factors and the convenient availability of junk food on campus likely play a role in shaping students' eating behaviors. The results underscore the importance of providing specific nutritional guidance, advocating for healthier food choices, and implementing programs that promote regular meal intake and more physical activity. The research emphasizes the significance of creating a supportive campus atmosphere to encourage healthier lifestyle decisions and lessen the potential long-term health consequences of unhealthy eating habits.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Food is a fundamental requirement for life, serving not only as a source of energy but also playing a critical role in growth, tissue repair, and overall health maintenance. Nutrients obtained from food are essential for numerous physiological processes, including immune function, brain development, and cellular regeneration. However, the quality of food consumed directly influences these outcomes, making dietary choices a major determinant of both physical and mental health. In today's world, the relationship between diet and long-term health has become increasingly evident, with research showing that the food choices we make daily are key contributors to health and longevity (Afshin et al., 2019).

A key role in promoting physical fitness and preventing illness is played by proper nutrition. Overall health can be improved and the risk of disease reduced by providing the body with the right nutrients. The body requires six essential nutrients: carbohydrates, proteins, fats, vitamins, minerals, and water. Nutrition is the process by which cells and organisms receive the necessary materials to support life. An organism's diet, which is what it eats, is often influenced by the perceived taste and palatability of foods. Health can be negatively impacted by a poor diet, leading to deficiencies and other health problems. The study of nutrition pertains to food and its utilization by the body. Humans, like all living beings, require survival food (Pullakhandam et al., 2024). Food provides the essential building materials for the body to repair and construct tissues, as well as to regulate organ and system functions. A well-rounded diet entails consuming appropriate types and sufficient quantities of food and drinks to supply the body with the necessary nutrition and energy for maintaining cells, tissues, and organs, as well as for supporting normal growth and development. A balanced diet guarantees that the body obtains the correct amounts of each nutrient. These nutrients, such as carbohydrates, proteins, and fats, serve as the main sources of energy for the body. A diet rich in calories, salt, and sugar, but lacking in essential nutrients like vitamins, minerals, and fiber, poses significant health risks. Such diets have been linked to a higher prevalence of chronic diseases, including obesity, type 2 diabetes, cardiovascular diseases, and hypertension, which are increasingly common in both developed and developing nations. Poor

dietary habits not only increase the risk of these conditions but also have a detrimental impact on psychological well-being, leading to issues like anxiety, depression, and diminished quality of life (Bhaskar, 2012).

In recent years, the consumption of junk food has grown at an alarming rate, particularly among university students. This trend is driven by various economic and social factors, including longer working hours, the increasing participation of women in the workforce, and the rise in single-parent households or families where both parents work full-time. These lifestyle changes have significantly reshaped eating habits, leading many young adults to opt for convenience over nutritional value (Abdala, Brasileiro, & Araújo, 2015).

Given these developments, addressing the dietary challenges faced by university students is critical. These challenges are not just a reflection of shifting social dynamics but also a pressing public health concern. Universities can play a pivotal role by promoting healthier eating habits through education and intervention strategies, helping to foster a healthier campus environment. Such efforts are essential to ensure students' physical health and mental well-being, both of which are crucial for their academic success and long-term health outcomes (Bárbara & Ferreira-Pêgo, 2020). Throughout the years, multiple research studies have indicated that consumers often opt for unhealthy food in various circumstances. This pattern has also proven to be a lucrative area for business investment. This enquiry objects to delve into the aspects behind why individuals choose to purchase and consume unhealthy food, as well as to assess their consumption patterns and level of understanding regarding their dietary choices. Previous global research has highlighted numerous factors contributing to this pattern, and our study seeks to examine these factors within a different context (Sequeira et al., 2014). This study, therefore, explores the relationship between junk food consumption, body mass index (BMI), and potential health risks among university students, aiming to provide insights that will help universities encourage healthier dietary behaviors. This research aims to examine the complex relationship between the consumption of junk food, the body mass index of young people, and the potential emergence of health problems. The study seeks to provide valuable knowledge into the current debate on promoting a healthier and more durable lifestyle for different populations of university students through its exploration of such interconnections. By shedding light on these interconnections, the research endeavors to inform evidence-based strategies and interventions that empower university students to make

informed dietary choices, thereby mitigating the risks associated with junk food consumption and fostering long-term health and wellness.

1.2 Background of the Study

The modern university setting, with its fast-paced academic demands and social pressures, offers limited opportunities for students to make informed dietary decisions. The availability of inexpensive, nutritionally poor food options such as fast food, processed snacks, and sugary beverages creates an environment where convenience often trumps health. These foods are not only high in calories, salt, and sugar but also lack essential nutrients that are critical for maintaining good health. As a result, junk food has become an integral part of many students' diets, exacerbating public health challenges such as rising obesity rates, metabolic disorders, and other diet-related diseases. The increasing prevalence of unhealthy eating habits, in particular the widespread consumption of junk food, is a pressing issue for university students (Madan, Verma, & Mathur, 2021). In addition, the consumption of junk food by university students has become widespread around the world. Despite its widespread availability and popularity, there is a lack of comprehensive understanding among university students about the demographic profile, spending habits as well as potential health consequences related to consumption of junk food. At the heart of this issue is the growing trend of sedentary lifestyles among university students. Long hours spent in lectures, studying, or engaging in academic activities leave little time for physical exercise, compounding the health risks associated with poor diet. The sedentary nature of academic life, combined with easy access to nutritionally deficient food options, has created a perfect storm for negative health outcomes (Anderson & Patterson, 2005). Concerns about the overall well-being of students are raised by the sedentary lifestyle associated with academic activity, combined with readily available but nutritionally deficient food options (Vinay Gopal et al, 2012). This study aims to fill a major gap in knowledge about the extent and possible health consequences of junk food consumption among university students. This study, particularly focusing on Daffodil International University in Birulia, Bangladesh, aims to investigate the patterns and determinants influencing junk food consumption among university students the impact of unhealthy eating habits can be amplified by the inactive nature of academic life. Understanding junk food consumption patterns among university students is vital due to its profound public health

implications, including obesity, cardiovascular diseases, and metabolic disorders. University campuses help to provide easy access to foods that are not healthy and influence the way students eat. To mitigate the health risks related to the consumption of unhealthy foods, targeted interventions may be used targeting particular demographic groups (Nadzirah et al., 2013). The adverse effect on academic performance and the well-being of students is due to unhealthy dietary habits, including excessive intake of junk food. To promote healthy eating habits and improve overall student welfare, it is therefore important to identify factors influencing junk food consumption and its health outcomes such by way of figure bulk catalog and the occurrence of diseases.

The purpose of this study is to examine the factors contributing to junk food consumption among university students at Daffodil International University in Birulia, Bangladesh. Specifically, it aims to explore the relationship between these dietary habits and students' body mass index (BMI), as well as the potential health risks they face. The findings of this study will help identify key determinants of unhealthy eating habits and provide valuable insights into how universities can promote healthier behaviors. By understanding the underlying causes of junk food consumption, targeted interventions can be developed to encourage better dietary choices and reduce the associated health risks.

1.3 Previous Study Gap

Despite the growing awareness of the health risks associated with junk food consumption, there remains a significant gap in research focused specifically on university students. Previous studies have largely centered on general populations or younger children, with limited attention paid to the unique challenges faced by students in higher education. As a result, little is known about the demographic profiles, spending habits, and awareness levels of university students concerning junk food and its health implications. This gap in the literature is particularly concerning given the rise in diet-related health issues among this population, including obesity, cardiovascular diseases, and diabetes. Moreover, while numerous studies have highlighted the adverse effects of poor dietary choices on physical health, fewer have explored the broader consequences of these habits on mental health, academic performance, and long-term well-being. The relationship between unhealthy eating, stress, and cognitive function is an area that warrants further investigation, particularly in high-pressure academic environments where students are often required to balance

multiple responsibilities. Understanding these dynamics is critical for developing comprehensive strategies to promote healthier lifestyles among students. This study seeks to fill this gap by examining the specific dietary habits of university students, focusing on the consumption of junk food, its determinants, and its effects on both physical and mental health. By doing so, it will provide much-needed data that can inform public health policies and university-based initiatives aimed at reducing the prevalence of junk food consumption and improving overall student well-being.

1.4 Objectives:

Specific objective:

The general objective of this study is the Consumption pattern of Junk Food among University Students at Daffodil International University.

Specific objectives:

1. Analyzing the demographic profile of university students.
2. Determination of the amount of money spent by students on junk food.
3. Investigation of the significant association between junk food consumption and the occurrence of health problems among university students
4. Investigation of the association between BMI and health effects of junk food

CHAPTER 2

LITERATURE REVIEW

2. Literature Review:

Here are growing concerns about the consumption of junk food among university students around the world, with several studies revealing various aspects of this eating behavior. In shaping the food choices and consumption patterns of students, demography plays a major role. The key factors affecting the frequency and type of junk food consumed have been previously found to be age, gender, social status as well as living arrangements (Lalnunthara, R., & Kumar, J. N, 2018). Food that is speedily arranged and obliged is known as fast food, a concept that became popular in the United States in the 1950s. Regularly consuming large amounts of fast food can lead to various negative health effects, such as overweight and obesity. Several studies have pinpointed different factors that impact the health of individuals who consume fast food, with a particular emphasis on its effects on young people. The adverse effects of fast food on people's health have been extensively documented, providing insight into the typical eating habits of the general population. Due to factors such as affordability and convenience, the consumption of junk food is often more common among young students and people with lower social backgrounds (Roos, Karvonen, and Rahkonen, 2004)

In addition, students often allocate a large proportion of their budget to the purchase of junk food, particularly fast food and sugar drinks. Increased spending on junk food is due to factors such as peer influence, aggressive marketing strategies, and a wide range of harmful eating options on campus. Studies have shown that the impact of social norms and campus environments on student dietary habits is a cause for concern, calling for intervention to address these factors to improve healthy eating patterns (Madan, Verma, and Mathur, 2021). Fast food comprises a variety of options such as hamburgers, sandwiches, fried chicken, pizza, and fries—essentially, they are foods that can be quickly prepared and served at a low cost. Since its inception, fast food has steadily made its way into the food market, gaining popularity over time. The consumption of fast food started to increase as more individuals embraced the convenience it offers. Despite being aware of the detrimental effects of excessive fast food intake, people continue to frequent fast food establishments, with customers placing orders in a seemingly never-ending stream (Mirza et al.,

2018). The concerning trend not only endangers the physical health of students but also has the potential to result in reduced academic achievement and long-term health issues, highlighting the urgent requirement for specific actions in university settings. The inactive lifestyle associated with academic pursuits, combined with the widespread presence of unhealthy, convenient food choices, increases worries regarding the general welfare of students (Vinay Gopal et al, 2012). The pressure of academic requirements frequently drives students to adopt unhealthy eating habits for comfort or convenience, worsening the issue. This detrimental pattern not only impacts their current physical and mental well-being but also lays the groundwork for unhealthy lifestyle choices in the future. As a result, universities need to actively encourage healthier eating options and exercise, incorporating wellness initiatives that assist students in making better choices regarding their diet and overall health (Nanjappan & Amutha, 2021).

Numerous research studies have found a correlation between excessive consumption of fast food and a range of health problems. Fast food is typically packed with high levels of calories, unhealthy fats, sugars, and sodium, all of which contribute to weight gain and an elevated risk of obesity. Consistently eating fast food has also been associated with an increased probability of developing cardiovascular diseases, diabetes, and metabolic disorders. Adolescents are particularly susceptible, as they tend to consume fast food more frequently and often lack the nutritional knowledge required to make healthier choices (Yadav & Kaur, 2019), (Datar & Nicosia, 2012). In terms of health implications, excessive junk food consumption among university students has been linked to various adverse outcomes, including obesity, type 2 diabetes, cardiovascular diseases, and mental health issues. In addition to immediate health risks, poor dietary habits have a long-term impact on students' overall well-being and academic performance. However, the relationship between junk food consumption and BMI remains a subject of debate, with conflicting findings across studies (Poudel, P, 2018).

This study aims to contribute to the existing literature by examining patterns of junk food consumption among university students from Daffodil International University in Birulia, Bangladesh. The study aims to provide valuable information on the demographic profiles of students, their spending habits on junk food, and potential health implications associated with junk food consumption by combining previous research and examining the specific context of this institution.

CHAPTER 3

METHODOLOGY

3.1 Methodology:

3.1.1 Study design:

A study with a descriptive cross-sectional design was carried out to evaluate the patterns of junk food consumption among university students. This particular research method was chosen because it allows for examining connections between different factors, such as the consumption of junk food and its impact on health, at a specific moment in time. This approach makes it easier to assess the factors that shape students' eating habits by capturing a current overview of behaviors and attitudes.

3.1.2 Study Settings and Sampling:

The study occurred at Daffodil International University (DIU), a private university in Smart City, Birulia. We selected this university for our research as we are students at DIU. We chose participants from different departments, focusing on students between the ages of 18 and 25 to guarantee a varied representation across academic disciplines. Only individuals who gave informed consent and were willing to share their data were enrolled in the study.

3.2 Sample size:

The study's sample size was determined to be 220 students, utilizing a prescribed formula that considers a 95% confidence level and a 5% margin of error, with an assumed proportion (P) of 0.5% (Shrestha, 2021). This sample size was considered adequate to produce dependable data and understand the trends in junk food consumption among university students.

3.3 Data collection:

The data was collected over 20 days, starting from July 1st and ending on July 20th 2024. To maintain consistency in the collected data, a standardized questionnaire was developed for the study. The questionnaire was made available online using Google Forms to facilitate easy and effective data collection. The use of an online platform improved accessibility and convenience for participants, leading to an increased response rate.

3.4 Inclusion and Exclusion Criteria

- **Inclusion Criteria:** - **Age Range:** The study included students aged between 18 and 25, as this age group represents typical university students. - **Enrollment Status:** Only students actively enrolled in any Daffodil International University (DIU) department during the study period were eligible to participate. - **Willingness to Participate:** Participants were required to provide informed consent and complete the questionnaire voluntarily, ensuring that only those comfortable sharing their data were included. - **Access to Online Platforms:** Since data collection was conducted through an online questionnaire via Google Forms, only students with internet access and the ability to use the platform were included.
- **Exclusion Criteria:** - **Non-Students:** Individuals not enrolled at DIU, such as university staff or visitors, were excluded from the study. - **Incomplete or Invalid Responses:** Participants who failed to complete the questionnaire or provided inconsistent or invalid data were excluded from the final analysis. - **Medical Conditions Affecting Diet:** Students with pre-existing medical conditions, such as diabetes or severe food allergies that could significantly influence their dietary choices, were excluded to prevent potential biases in the study findings. - **Age Outside of Target Range:** Students younger than 18 or older than 25 were excluded, as the study specifically aimed to focus on the eating habits of young adults within this age group.

3.5 Analysis of Data:

We used the most recent edition of SPSS software to analyze the gathered data. To provide an overview of the participants' junk food consumption habits, we utilized descriptive statistics to calculate means and frequencies. To explore the connections between junk food consumption and different health outcomes such as BMI, digestive issues, and overall health perception, we conducted chi-square tests for inferential analysis. This tactic permitted on behalf of widespread inspection of both the descriptive and inferential aspects of the study.

CHAPTER 4

RESULTS

4.1 Demographic profile of the respondent

Table 4.1: Demographic profile of the respondent

Variable	Category	Frequency	Percentage
Gender	Male	99	45.8%
	Female	117	54.2%
Currently living place	A resident of a University Dormitory	90	41.7%
	Resident Off-Campus	126	58.3%
Total household income per month	Less than 20000 TK	22	10.2%
	20000to 40000 TK	26	12.0%
	Above 40000 TK	168	77.8%

Table 1 describe about demographic status of the respondent. This table indicates just over half (54.2%) of the participants are women, making females slightly outnumber males. Nearly two-thirds of the individuals live off-campus, while the majority do not reside in university dormitories. More than three-quarters of the respondents come from households with higher incomes, earning over 40000 TK per month.

4.2 BMI Range of the Respondents

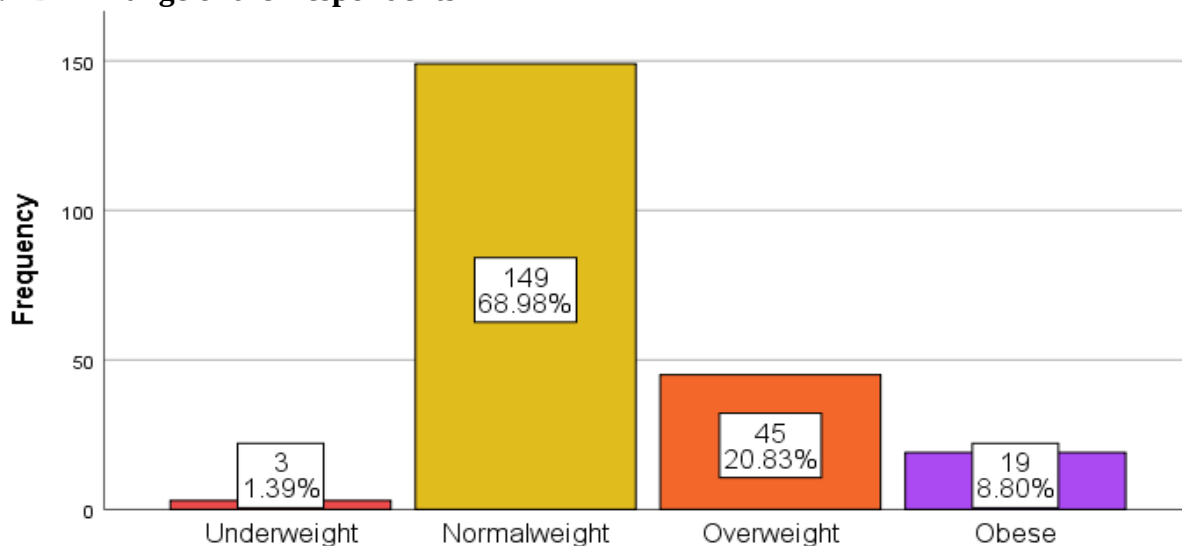


Figure 1: BMI Range of the respondents

Figure 1 describes the BMI range of the respondent. Here, underweight less than 18.5, those with normal weight between 18.5 to 24.9, and Between 25 and 29.9 are classified as overweight, and those 30 or over are classified as obese. The data reveals that the vast majority of respondents (69%) are of normal weight. However, about one-fifth (20.8%) are overweight, and nearly 9% are classified as obese, indicating some presence of higher body mass categories in the population. Underweight individuals make up a very small fraction (1.4%) of the group.

4.3 Junk Food Consumption Behavior

Table 4 2: Junk Food Consumption Behavior

Variable	Category	Frequency	Percentage
Junk food intake frequency	Occasionally (1-4 times a week)	135	62.5%
	Frequently (5 or more times a week)	54	25.0%
	Never	27	12.5%
Taste preference for junk food	Yes	192	88.9%
	No	24	11.1%
Missing breakfast frequency	Occasionally (1-4 times a week)	124	57.4%
	Frequently (5 or more times a week)	58	26.9%
	Never	34	15.7%
Consume junk food as an alternative to regular meal	Yes	148	68.5%
	No	68	31.5%
Type of junk food consumed	Solid items (e.g., chips, candy, fast food)	35	16.2%
	Drinks (e.g., sugary beverages, energy drinks)	12	5.6%
	Both solid items and drinks	142	65.7%
	None of the above	27	12.5%
Average spent on junk food daily	Less than 40 TK	51	23.6%
	40-100 TK	75	34.7%
	Above 100 TK	90	41.7%

This table indicates 62.5% of the participants occasionally indulge in junk food, and the majority (88.9%) have a preference for its taste. A considerable proportion (57.4%) skips breakfast from time to time. Moreover, a significant number (68.5%) replaces regular meals with junk food, showing a preference for both solid food and beverages (65.7%). The largest percentage (41.7%) spends over 100 TK on junk food.

4.4 Health effects of junk food

Table 4 3: Health effects of junk food

Variable	Category	Frequency	Percentage
Perception about junk food unhealthiness	Yes	204	94.4%
	No	12	5.6%
Digestive problems due to junk food consumption	Yes	172	79.6%
	No	44	20.4%
Weight changes due to junk food consumption	Yes	136	63.0%
	No	80	37.0%
Overall health perception	Excellent	32	14.8%
	Good	147	68.1%
	Bad	37	17.1%
Health condition linked to junk food consumption	Diabetes	9	4.2%
	Obesity	32	14.8%
	Heart disease	8	3.7%
	None of the above	167	77.3%

Most of the respondent (94.4%) believe junk food is unhealthy. Almost one fourth of the respondents have history of suffer digestive problems due to junk food consumption. 63% of the respondent think they observed weight gain or weight loss due to junk food consumption. Almost 70% of the respondent think there health condition is good. More than one third of the respondent do not have any of the health condition like Diabetes, Obesity, and Heart disease.

4.5 Association between Junk food consumption and Health effect

Table 4.5.1: Association between Junk food intake frequencies with Health effects

Variable	Category	Frequently	Occasionally	Never	P-value
Perception about junk food unhealthiness	Yes	55	116	33	.723
	No	3	8	1	
Digestive problems due to junk food consumption	Yes	42	107	23	.016
	No	16	17	11	
Weight changes due to junk food consumption	Yes	32	61	15	.570
	No	26	63	19	
Overall health perception	Excellent	1	18	13	.000
	Good	45	85	17	
	Bad	12	21	4	
Health condition linked to junk food consumption	Diabetes	2	5	2	.758
	Obesity	11	18	3	
	Heart disease	3	3	2	
	None of the above	42	98	27	

There is a significant association between junk food intake frequencies with digestive problems due to junk food consumption and overall health perception as the P-value is less than 0.05. There is no significant association between junk food intake frequencies with the perception of junk food unhealthiness (P-value- .723), Weight changes due to junk food consumption (P-value-.570), and health conditions linked to junk food consumption (P-value-.758)

Table 4.5.2: Association between taste preferences of Junk food with Health effects

Variable	Category	Frequently	Occasionally	Never	P-value
Perception about junk food unhealthiness	Yes	48	131	25	.079
	No	6	4	2	
Digestive problems due to junk food consumption	Yes	48	105	19	.102
	No	6	30	8	
Weight changes due to junk food consumption	Yes	30	68	10	.288
	No	24	67	17	
Overall health perception	Excellent	1	18	13	.000
	Good	44	92	11	
	Bad	9	25	3	
Health condition linked to junk food consumption	Diabetes	2	4	3	.139
	Obesity	10	21	1	
	Heart disease	4	3	1	
	None of the above	38	107	22	

There is a significant association between taste preferences of junk food with overall health perception as the P-value is less than 0.05, with a mild association with the perception of junk food unhealthiness (P-value-.079). There is no significant association between taste preferences of junk food with Digestive problems due to junk food consumption (P-value-.102), Weight changes due to junk food consumption (P-value-.208), and health conditions linked to junk food consumption (P-value-.139)

Table 4.5.3: Association between missing breakfast frequency with Health effects

Variable	Category	Yes	No	P-value
Perception about junk food unhealthiness	Yes	183	21	.115
	No	9	3	
Digestive problems due to junk food consumption	Yes	155	17	.256
	No	37	7	
Weight changes due to junk food consumption	Yes	100	8	.083
	No	92	16	
Overall health perception	Excellent	23	9	.003
	Good	134	13	
	Bad	35	2	
Health condition linked to junk food consumption	Diabetes	7	2	.739
	Obesity	29	3	
	Heart disease	7	1	
	None of the above	149	18	

There is a significant association between missing breakfast frequency with Overall health perception as the P-value is less than 0.05. There is a mild association between missing breakfast frequency with Weight changes due to junk food consumption (P-value-.083). There is no significant association between the perception of junk food unhealthiness (P-value-.115), Digestive problems due to junk food consumption (P-value-.256), and health conditions linked to junk food consumption (P-value-.739).

Table 4.5.4: Association between consuming junk food as an alternative to regular meals with health effects

Variable	Category	Yes	No	P-value
Perception about junk food unhealthiness	Yes	142	62	.155
	No	6	6	
Digestive problems due to junk food consumption	Yes	132	40	.000
	No	16	28	
Weight changes due to junk food consumption	Yes	79	29	.143
	No	69	39	
Overall health perception	Excellent	17	15	.023
	Good	100	47	
	Bad	31	6	
Health condition linked to junk food consumption	Diabetes	7	2	.691
	Obesity	24	8	
	Heart disease	6	2	
	None of the above	111	56	

There is a significant association between consuming junk food as an alternative to regular meals with digestive problems due to junk food consumption and overall health perception (P-value >0.05). There is no significant association between consuming junk food as an alternative to regular meals with the perception of junk food unhealthiness (P-value-.155), weight changes due to junk food consumption (P-value-.143), and health conditions linked to junk food consumption (p-value-.691)

Table 4.5.5: Association between types of junk food consumed with health effect

Variable	Category	Solid items	Drinks	Both solid items and drinks	None of the above	P-value
Perception about junk food unhealthiness	Yes	30	12	137	25	.069
	No	5	0	5	2	
Digestive problems due to junk food consumption	Yes	28	10	116	18	.351
	No	7	2	26	9	
Weight changes due to junk food consumption	Yes	10	9	80	9	.002
	No	25	3	62	18	
Overall health perception	Excellent	6	1	12	13	.000
	Good	22	9	105	11	
	Bad	7	2	25	3	
Health condition linked to junk food consumption	Diabetes	2	0	4	3	.108
	Obesity	4	1	26	1	
	Heart disease	1	2	4	1	
	None of the above	28	9	108	22	

There is a significant association between types of junk food consumed with weight changes due to junk food consumption and overall health perception as P-value is less than 0.05. There is mild relation with perception about junk food unhealthiness as (P-value-.069). There is no significant association between types of junk food consumed with digestive problems due to junk food consumption (P-value-.351) and health conditions linked to junk food consumption (P-value-.108)

Table 4.5.6: Association between spent on junk food with health effects

Variable	Category	Less than 40 TK	40-100 TK	Above 100 TK	P-value
Perception about junk food unhealthiness	Yes	46	71	87	.271
	No	5	4	3	
Digestive problems due to junk food consumption	Yes	32	59	81	.001
	No	19	16	9	
Weight changes due to junk food consumption	Yes	19	32	57	.003
	No	32	43	33	
Overall health perception	Excellent	18	10	4	.000
	Good	28	53	66	
	Bad	5	12	20	
Health condition linked to junk food consumption	Diabetes	4	4	1	.283
	Obesity	4	14	14	
	Heart disease	1	3	4	
	None of the above	42	54	71	

There is a significant association between spending on junk food with digestive problems due to junk food consumption, weight changes due to junk food consumption, and overall health perception as P- value is less than 0.05. There is no significant association between spent on junk food with perception of junk food unhealthiness (P-value-.271) and health conditions linked to junk food consumption (P-value-.283)

6 Association between BMI ranges with Health effects

Table 6.1: Association between BMI ranges with health effects

Variable	Category	Underweight	Normal weight	Overweight	Obese	P-value
Perception about junk food unhealthiness	Yes	3	143	41	17	.442
	No	0	6	4	2	
Digestive problems due to junk food consumption	Yes	1	119	37	15	.245
	No	2	30	8	4	
Weight changes due to junk food consumption	Yes	1	66	29	12	.062
	No	2	83	16	7	
Overall health perception	Excellent	0	28	4	0	.000
	Good	2	114	26	5	
	Bad	1	7	15	14	
Health condition linked to junk food consumption	Diabetes	0	5	3	1	.000
	Obesity	0	1	18	13	
	Heart disease	0	5	2	1	
	None of the above	3	138	22	4	

There is a significant association between BMI ranges with overall health perception and health condition linked to junk food consumption as P-value is less than 0.05. There is a mild association between BMI ranges with weight changes due to junk food consumption (P-value-.062). There is no significant association between BMI ranges with perception of junk food unhealthiness (P-value-.442) and digestive problems due to junk food consumption (P-value-.245).

CHAPTER 5

DISCUSSIONS

5.1 Prevalence of junk food consumption patterns and other variables

The study provides valuable insights into the demographic characteristics, junk food consumption habits, and related health effects among the respondents. It offers a detailed analysis of the connections between junk food intake and various health outcomes, highlighting behaviors that may contribute to lifestyle-related health problems.

Consistent with previous research, our study found that a larger proportion of respondents were female (54.2%) compared to male (45.8%), reflecting a common trend where women are more likely to participate in health and nutrition surveys. This aligns with the findings from previous work (Wiles et al. 2007), which also reported higher female engagement in health-related studies. Additionally, our results show that the majority of students (58.3%) live off-campus, and a significant portion (77.8%) come from higher-income households. This supports existing research suggesting that students from wealthier families tend to have greater access to both healthy and unhealthy food options.

Similar to findings in previous studies, such as (Kovic et al., 2018), (Boylan et al., 2017), (Kaushik et al., 2011), which identified convenience, taste, and peer influence as key factors driving junk food consumption among university students, our study also found that 62.5% of respondents consume junk food occasionally, with 88.9% citing taste as their primary reason. This supports existing research, which emphasizes taste as a significant motivator for junk food consumption among young adults.

However, our study noted a slightly higher percentage (68.5%) of students replacing regular meals with junk food compared to other studies. This difference may be influenced by specific cultural or contextual factors, such as the accessibility and affordability of junk food in this setting, or heightened academic pressures contributing to irregular eating habits among students.

Reflecting findings from previous studies, such as (Sharma, 2013) & (S et al., 2021), the majority of respondents (94.4%) in our study are aware of the unhealthiness of junk food, indicating a broad understanding of its harmful effects. Similar research has shown that while young adults recognize the negative health consequences of junk food, they continue to consume it due to factors like taste and convenience.

Regarding health outcomes, digestive problems (79.6%) and weight changes (63%) were frequently reported, consistent with (Mititelu et al., 2023), which established a strong correlation between junk food intake and digestive issues. The high prevalence of digestive problems in our study may be attributed to the increased consumption of both solid junk food and sugary drinks, which, as (Zahedi et al., 2014), noted, can exacerbate digestive complications.

However, while most respondents perceived their overall health as good (68.1%), our findings slightly differ from previous studies, which often report a lower health perception among frequent junk food consumers. This discrepancy could be attributed to subjective health perceptions or unmeasured factors like physical activity, which may offset some negative effects of junk food consumption.

5.2 Association between junk food consumption and health effects

Consistent with earlier research, our study found a significant association between frequent junk food consumption and digestive problems (P-value - .016), as well as overall health perception (P-value-.000). These results align with the reported findings (Prescott & Logan, 2016), that frequent junk food consumers are more likely to suffer from gastrointestinal issues and report a decline in perceived health.

Interestingly, no significant association was found between junk food intake and weight changes (P-value-.570) or specific health conditions like diabetes and heart disease (P-value: .758). This differs from previous studies, which have often reported stronger connections between junk food consumption and these chronic conditions. A potential explanation is the relatively young age of the participants, where such conditions may not have developed despite unhealthy eating habits.

Additionally, our study revealed a significant association between skipping breakfast and overall health perception (P-value-.003), echoing findings from (Payab et al., 2015), who emphasized that missing breakfast can negatively affect health outcomes. However, the weaker association with weight changes (P-value-.083) contrasts with earlier studies that reported stronger links between skipping meals and weight gain. This variation could be due to unmeasured lifestyle factors like physical activity or stress, which were not considered in this study.

5.3 Association between BMI and Health Outcomes

In line with previous research, our study found a significant association between BMI and overall health perception (P-value-.000), with higher BMI levels correlating with a poorer perception of health. As noted in the literature (Poudel, P, 2018), individuals with higher BMI in our study were also more likely to report conditions such as obesity and diabetes (P-value-.000). However, the mild association between BMI and weight changes (P-value-.062) contrasts with the stronger relationships reported in earlier studies. This discrepancy may be due to the relatively smaller proportion of obese respondents in our sample or differences in how respondents perceive and report weight changes.

The outcomes of this study largely align with earlier investigations, particularly regarding junk food consumption patterns, health perceptions, and digestive issues. However, unique contextual factors, such as cultural eating habits and the affordability of junk food, may account for some of the observed differences, especially in the replacement of regular meals with junk food and perceptions of overall health. Outcomes highlight the need for besieged involvement to address unhealthy eating habits and encourage healthier dietary choices among university students.

CHAPTER 6

RECOMMENDATIONS

6.1 Recommendations:

Based on the findings of this study, several recommendations can be made to address the health effects of junk food consumption and promote healthier lifestyles among university students:

Nutritional education and awareness campaigns:

- Universities should implement comprehensive nutritional education programs to raise students' awareness of the negative health impacts associated with frequent junk food consumption, particularly the long-term risks such as obesity, heart disease, and diabetes.
- Regular workshops and seminars focusing on healthy eating habits, meal planning, and the importance of balanced diets could empower students to make more informed food choices.

Promotion of healthy alternatives:

- University cafeterias and surrounding food outlets should provide affordable, healthy alternatives to junk food, including balanced meals, fresh fruits, and nutritious snacks, to make healthy options more accessible to students.
- Introducing healthy meal choices in vending machines and reducing the availability of high-sugar and high-fat junk food on campus would further encourage healthier dietary choices.

Interventions to reduce meal skipping:

- Given the association between skipping breakfast and poorer health outcomes, universities should promote regular meal consumption through awareness campaigns highlighting the importance of breakfast for maintaining energy and focus throughout the day.
- Programs offering subsidized or free healthy breakfast options could help decrease meal skipping among students.

Physical activity initiatives:

- Encouraging students to engage in regular physical activity through gym memberships, sports clubs, or fitness challenges can help mitigate some of the negative effects of junk food consumption, such as weight gain and digestive issues.
- Universities should provide more opportunities for physical exercise, including promoting walking or cycling as sustainable and healthy transportation options.

Counseling and support for healthy habits:

- Health and wellness centers on campus could offer counseling services to assist students in developing healthier eating habits, managing stress, and adopting balanced lifestyles.
- Peer mentoring programs, where students who have successfully improved their health habits support and guide others, could be an effective way to foster a health-conscious community.

CHAPTER 7

CONCLUSIONS

7.1 Conclusions:

This study offers valuable insights into junk food consumption patterns among university students and their associated health effects. While most students recognize the unhealthy nature of junk food, many continue to consume it regularly, often substituting it for regular meals. Significant associations were identified between junk food intake and digestive problems, as well as overall health perception, underscoring the detrimental impact of excessive junk food consumption. Despite a general awareness of its negative effects, junk food remains prevalent, likely due to factors such as convenience, affordability, and taste preferences. This highlight complies with directed involvements focused on both nutritive education then the availability of healthy food options. Encouraging regular meal consumption, promoting physical activity, and providing counseling services can help mitigate the adverse effects of junk food and support students in adopting healthier lifestyles. By creating a campus environment that prioritizes health and wellness, universities can empower students to make better dietary choices and reduce the risks associated with junk food consumption.

CHAPTER 8

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Synopsis

JUNK FOOD HABITS AND THEIR EFFECTS ON HEALTH STATUS AMONG THE STUDENTS AT DAFFODIL UNIVERSITY: A CROSS-SECTIONAL STUDY

Introduction:

Food plays a vital role in energy production, growth, support for repairs, and the shaping of our overall health, which is essential to survive. The choice we make daily about our dietary preferences has an important impact on the health and longevity of all of us, which is highly influenced by these choices. (Afshin et al., 2019). The development of different health problems in adulthood can be influenced by the consumption of foods rich in calories, salt, or sugar but lacking vitamins, minerals, and fibers. Such dietary choices have been linked to an increased risk of conditions like obesity, diabetes, cardiovascular diseases, and hypertension. Poor dietary habits have an impact on other aspects of health, in particular psychological well-being and the overall quality of life. (Bhaskar, R., 2012) The prevalence of junk food has grown in popularity across age groups in the modern era, attracting both adults and children. The dining habits of university students have been revolutionized by economic change, characterized by extended working hours, increased participation of women in the workforce, and a growing number of family households with no parents. This shift in eating habits is not only a reflection of changing social dynamics but also a reminder of the need for education and awareness of the long-term health implications of such dietary choices. (Abdala, Brasileiro, & Araújo, 2015). These changes represent a departure from the typical dietary patterns and demonstrate how today's lifestyle trends influence food choices for this demographic. In order to address the dietary challenges faced by university students and promote healthy eating habits in academia, it is therefore of paramount importance that we understand the consequences of these changes. Universities can take concrete steps to address these consequences through targeted interventions and initiatives aimed at fostering a healthy environment for students' eating habits, which in turn will contribute to their well-being as well as university success. (Bárbara & Ferreira-Pêgo, 2020). This research aims to examine the complex relationship between the consumption of junk food, the body mass index of young people, and the potential emergence of health problems. The study seeks to provide valuable knowledge into the current debate on promoting a healthier and more durable lifestyle for different populations

of university students through its exploration of such interconnections By shedding light on these interconnections, the research endeavors to inform evidence-based strategies and interventions that empower university students to make informed dietary choices, thereby mitigating the risks associated with junk food consumption and fostering long-term health and wellness.

Objectives:

1. To analyze the demographic profile of university students
2. To determine the amount of money spent by students on junk food
3. To investigate the significant association between junk food consumption and the occurrence of health problems among university students
4. To investigate the significant association between junk food consumption and BMI

Methodology:

A descriptive cross-sectional study was carried out to evaluate junk food consumption. The research will be carried out by students between 18 and 25 years of age who are enrolled in different departments of Daffodil International University Smart City, Birulia. The study will only include participants who have given their consent for the sharing of data. The sample size for this study is 220 using the specified formula, with a 95% confidence level and a 5% margin of error, assuming $P = 0.5\%$ (Shrestha, 2021). The data collection period shall run from 1st July to 25th July. For this study, a standardized questionnaire is developed. The data will be collected via google form through online. The most recent version of SPSS will be used to analyze the data. To find means and frequency we will use descriptive statistics. For inferential statistics, we will use chi-square tests.

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Annexure 1

Questionnaire

Consent Letter

Title: Junk Food Habits and Their Effects on Health Status among the Students at Daffodil University: A Cross-Sectional Study

Subject: Consent Letter for Participation in Study

Dear Participants,

I'm writing to ask you to take part in a research study on the “**Junk Food Habits and Their Effects on Health Status among the Students at Daffodil University: A Cross-Sectional Study**”.

This study, in particular about Daffodil International University Ashulia, Bangladesh, is aimed at examining the patterns and factors that influence junk food consumption among university students. You will be required to complete a questionnaire that collects information on your dietary habits, preferences, and lifestyle factors to participate in the research.

Participation in this study is completely free, and you may withdraw at any time for no reason. Your responses will be confidential and anonymous for research, with no use to you. No publication or report based on this study will reveal your identity.

You understand and agree to the following conditions of participation by signing up:

It is optional for you to participate in this research study.

At any time, you have the right to withdraw from the study without consequence.

You will be kept confidential and anonymous in your responses.

For research purposes only, the information gathered will be used.

There are no foreseeable risks associated with participating in this study, you understand.

Please sign and date this letter if you agree to take part. Please contact me if you have any questions or concerns about the study.

Yours sincerely,

Tanisha Zaman Borsha

ID no: 201-34-1028

Contact number: 01759069157

I've read and understood the above information, and I hereby give my informed consent to participate in the study.

The signature of the participant: _____

Survey Question

Demographic Data

1. Age:
2. Weight:
3. Height:
4. Gender:
a) Male b) Female
5. Residential Status:
a) Residential
b) Non-residential?
6. What is your total household income per month?

a. Less than 12500 TK
b. 12500 to 21500 TK
c. 21500 above

Junk Food Consumption

1. On a normal university day, how often have you missed breakfast?
a. Never
b. Occasionally (1-4 times a week)
c. Frequently (5 or more times a week)
2. How often do you consume junk food or snacks in a typical week?
a. Never
b. Occasionally (1-4 times a week)
c. Frequently (5 or more times a week)

3. Do you like the taste of junk food?
 - a. Yes
 - b. No
4. Do you consume junk food as an alternative to regular meals?
 - a. Yes
 - b. No
5. Most common junk food you consume?
 - a. Solid items (e.g., chips, candy, fast food)
 - b. Drinks (e.g., sugary beverages, energy drinks)
 - c. Both solid items and drinks
 - d. None of the above
6. On average how much money do you spend on junk food per day?
 - a. Less than 50
 - b. 50-100
 - c. Above 100

Health Effects

1. Do you believe junk food is unhealthy?
 - a. Yes
 - b. No
2. How would you describe your overall health?
 - a. Excellent
 - b. Good
 - c. Bad
3. After you had eaten junk food, did you experience any digestive problems such as fatigue, or stomach pain?
 - a. Yes
 - b. No
4. As a result of your consumption of junk food, do you currently have any of the following conditions in place?
 - a. Obesity
 - b. Diabetes
 - c. Heart disease
5. Did you notice any change in your weight gain or loss over the past six months that would have been attributed to eating junk food?
 - a. Yes
 - b. No

Project Report

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