Association Between Eating Habits and Academic Performance Among University Students –A Quantitative Study

PROGRAM

(BS PUBLIC HEALTH)

USWA ILYAS

01-152221-027

Supervised by

DR. SOHIMA ANZAK

Department of Humanities and Social Sciences

Bahria University, E8 Campus, Islamabad

2025

Bahria University
Islamabad Campus

Dated:1 Dec 2025

Thesis Approval Form

The topic of Research **"Association Between Eating habits and Academeic Performance Among University Students- A Quantitative Study "**

Name of Student: USWA ILYAS

Enrollment no. : 01-152221-027
Program: BS Public Health – 8th semester

Thesis Supervisor

DR. SOHIMA ANZAK

Internal Examiner

DR. ASIA ASHFAQ

External Examiner

DR. ANEELA SULTANA

Dr. Irfan Qaisrani
Head of Department
Humanities & Social Sciences

Acknowledgements

In the name of Allah, the most Gracious, the most Merciful

First and foremost, I would like to express my deepest gratitude to Allah, the Most Gracious and Most Merciful. His guidance and blessings have been my constant source of strength throughout this journey. I am grateful for the wisdom and opportunities He has bestowed upon me, allowing me to pursue my studies and complete this thesis. I attribute every success and achievement to His divine support.

I would like to extend my heartfelt thanks to my supervisor, **Dr. Sohima Anzak**. Your guidance, encouragement, and invaluable feedback have been instrumental in shaping this thesis. Your expertise and dedication to your students have inspired me to reach my fullest potential. Thank you for believing in me, challenging me to think critically, and nurturing my passion for public health. Your support has made a significant difference in my academic journey, and I am incredibly grateful for your mentorship. I also so deeply grateful to **Dr. Sidra Shahid** and **Dr. Waqas Abdul Aziz Khattak**, whose suggestions and support greatly strengthened my work.

I would also like to acknowledge my father, **Mr. Muhammad Ilyas**, and my mother, **Mrs. Nazia Ilyas**, for their unwavering support and sacrifices. Dad, your dedication to excellence and commitment to service have always motivated me to strive for greatness. Your discipline and work ethic have instilled in me the values of perseverance and integrity. Mom, your nurturing spirit and encouragement have been a constant source of comfort. Your belief in my abilities has fueled my determination to succeed. Thank you both for being my guiding lights and for instilling in me the importance of education.

Finally, I want to express my appreciation to **Fateha Zafar** for your support, encouragement, and understanding throughout this process, and I am thankful for your belief in my abilities.

To all of you, I am profoundly grateful. This thesis is a testament to your unwavering support, and I could not have reached this milestone without your encouragement and guidance. Thank you for being an integral part of my journey.

Abstract

In Pakistan, growing concerns about unhealthy eating habits among university students have highlighted the need to understand how diet affects academic performance. This study investigated the relationship between eating habits and academic performance among university students; nutrition is considered a major determinant of cognitive functioning and overall well-being. The study design was quantitative cross-sectional, and data were collected through a structured questionnaire that studied demographic characteristics, dietary behaviors, and academic performance of 382 students. The majority of the students reported good eating habits (74.1%), while 53.4% demonstrated good academic performance. On the other hand, chi-square analysis yielded no significant association between overall eating habits and academic performance (χ^2 (1) = 0.451, p = 0.503). Further analysis examined the associations of eating habits with demographic variables. There were no significant associations between dietary habits and gender, age, year of study, or field of study, which suggests that dietary patterns were relatively constant across student groups. The only demographic variable significantly associated with eating habits was residence status (χ^2 = 8.622, p = 0.013); residents in hostels had poorer dietary habits compared with those living with family. Although the research has not found a direct link between eating habits and academic performance, the findings emphasize important contextual factors affecting students' nutritional choices. Its reliance on self-reported data, its cross-sectional design, and the single-institution sample may limit the generalizability of the results. Overall, this study maintains the importance of stronger nutrition education, supportive campus environments, and future longitudinal research to better elucidate how eating habits relate to academic outcomes over time.

Keywords

Eating habits, Academic performance, University students, Dietary behaviors, Cognitive performance, Nutrition, Cross sectional study, Public health, Quantitative study

List of Abbreviations

1.	SCT	Social Cognitive Theory
2.	GPA	Grade Point Average
3.	SES	Social Economic Status

Table of Contents

List of Tables

List of Figures

CHAPTER 1

INTRODUCTION

1.1 Background

Students in universities are faced with numerous academic and lifestyle challenges, which impact their well-being and performance. Eating practices play an important role in contributing to cognitive abilities, memory and academic achievement (Adan & Fernandes, 2018). Many studies have already shown that poor eating habits among students such as forgetting to eat meals, overconsuming fast foods, and under consumption of fruits and vegetables have negative effects on student thinking and academic outcomes (Burrows et al., 2017).

Disruptions to the regular eating habits of the university students can endanger their mental and physical well-being, especially when there is a transition in life (World Health Organization, 2020). Inadequate nutrition contributes extensively to the global disease burden as highlighted in the Global Nutrition Report 2021, especially in the low and middle income nations where consumption of nutrient dense food is limited. In Pakistan, and in many other developing countries, the quality of food consumed by students has worsened due to the shift in eating patterns and a growing reliance on processed foods, which can potentially affect their school results (Farooq et al., 2020).

Academic achievement is an intricate outcome which is affected by numerous cognitive and behavioral outcomes which include sleep, stress management, study techniques, and above all, nutrition. It is mostly based on the grade point average (GPA), test results, and attendance in the class. Although in the context of academic success the focus has historically been on socioeconomic and intellectual traits as the modifiable behavioral factors, increased attention is given to nutrition as a modifiable behavioral factor (Peltzer & Pengpid, 2015).

The relation between the academic performance and eating habits is a hot topic of study especially in integration of institutions of higher learning which ar e trying to establish an environment through which students are holistically developed. Bad eating habits may jeopardize the academic ambitions of university students leading to fatigue, loss of mental capacity, and lack of

concentration. However, with an excellent nutrient-rich eating habit, academic perseverance and the best use of the brain can be enhanced.

The relationship between the academic performance and the eating practices of university student has become a more and more stressed topic in the world-based research. When a cross-national survey in 26 countries done, it was discovered that there was a strong relationship between the poor eating habits of university students with the self-reported academic performance (El Ansari et al.,2017). Reduced academic performance, particularly breakfast, and intake of high-energy/low-nutrient foods are associated with the deficit of eating, which is confirmed by the researches of various sites, including North America, Europe, or Asia (Adolphus et al., 2016).

According to the Centers of Disease Control and Prevention (CDC, 2019), United States students who participated in a consistent and steady breakfast schedule had improved school attendance and high scores on the standardized exams. In a South Korean study, students who ate at a regular time and have healthy breakfast performed better academically and were more concentrated than the students who did not eat or ate high-sugar food (Kim et al., 2018). According to a study conducted among the undergraduates in Nigeria, economic status was one of the significant factors of nutrition habits and was highly correlated with academic competitions, including poor concentration and fatigue during tests (Olaoye et al., 2020).

The COVID-19 pandemic has intensified the dietary and cognitive experiences of the university students. Remote learning and lockdowns caused the disruption of the daily routine of students with a result in the consumption of more comfort and processed food and affecting food supply chains (Sogari et al., 2021).

Global health crisis highlighted the importance of realizing the effect of lifestyle choices, including dietary habits, on academic success and psychological wellbeing in demanding academic settings. Although the growing interest in the discipline, the overall comprehension of the individual and group impact of many elements of eating habits, such as frequency, quality, and grazing habits of food on academic achievement, has not been properly understood.

Moreover, the majority of the research that is available nowadays was conducted in high income countries and thus there is a still lack of information in low and middle income areas, including the southern parts of Asia. This gap is the endeavor of the current research that seeks to provide a context based study of the effects of eating practices on academic success among Pakistani university students.

The current study will contribute to the existing knowledge base by providing evidence based, context specific information as to the relationship between academic achievement and eating behaviors among university students in Pakistan. Although numerous studies have been made in developed nations, there is dearth of quantitative information in scholarly settings in South Asia. This is because socioeconomic inequality, food insecurity, and educational desires are all factors that influence the behavior of students. By adopting a systematic statistical approach to conducting the study, the study offers useful information to the student health discussion, allowing regional comparisons and operationalizing the local programs.

The study will give a comprehensive understanding of how these factors interact with the academic success and the cognitive functioning through analyzing the frequency, the quality and the type of meals that students of the university often consume. It is especially applicable because the universities are starting to introduce mental and physical wellness programs and define the importance of the overall student growth more and more (Musaiger et al., 2016).

Recent studies also emphasize that eating habits of university students are influenced by a combination of many interacting variables such as the availability of food in the university, financial constraints, cultural values as well as the level of academic stress. Recent research researched since 2015 has indicated that university settings are critical towards supporting healthy or unhealthy eating habits. An example is a study where diets of the students were largely determined by the availability of fast-food stores and lack of access to healthy foods that are affordable in the colleges (Yahia et al., 2016). Likewise the peer pressure, time constraints, and the academic loads are bound to force the students to use the convenience-based food habits that may lead to adverse impacts on the cognitive functioning process (Musaiger et al., 2017).

Moreover, moving on to the university setting has been linked to the decrease in the meal time's structure and rise in snacking. The study in Turkey, Malaysia, and the Middle East has demonstrated that students are disposed to eating snacks and packed food, caffeinated drinks to compensate the academic requirements, and these may result in untrustworthy energy levels and poor grades (Sogari et al., 2018). It is possible to correlate the trends presented with the results of the studies carried out on an international level that argue that the quality of the foods consumed has a significant effect on the span of attention, the formation of the memory, and the processing of the complex information (Lopez et al., 2020).

In addition to that, research by cognitive neuroscience researchers has found that the deficiency of micronutrients like inappropriate consumption of iron, folates, zinc, and omega-3 fatty acids, may negatively affect the workings of the synapses, neurotransmitter, and mood regulation which are the basic processes of academic learning (Haider et al., 2019). These findings uphold to the belief that good nutrition does not only enhance good health, but it also influences academic performance directly in a number of biological processes.

There is further justification of consideration of this topic based on the regional context as well. Pakistan, as most developing countries, is moving towards non-traditional eating patterns to the westernized eating pattern that puts more focus on fast food, beverages that are sugar sweetened and processed snacks. Recent research on the Pakistani youth shows that there is an increasing incidence of irregular eating habits, skipping breakfast, and lacking micronutrients factors with high susceptibility to academic inactivity and low GPA rates (Hassan et al., 2021; Raza et al., 2022). Such tendencies highlight the necessity of local empirical studies that would help to comprehend how the eating practices of students can be adapted to the academic performance of students in the cultural and socioeconomic context of Pakistan.

Furthermore, the international organizations like the UNESCO, Global nutrition report and the WHO further reiterate that the learning potential of students has a strong relationship to their nutritional condition particularly in low and middle income nations where the difference in food consumption is high. The years at university are a pivotal time to form a lifelong approach to the

dietary pattern, so examining the way these practices are formed and their impact on the educational achievement levels is critical (UNESCO, 2022).

The next significant aspect of the eating behavior of university students is the increasingly addicted attitude towards time saving products, including ready prepared snacks and fast food. It has been shown that with the increase in academic pressures, students tend to reduce the quality of their foods to the convenience and, in the end, end up consuming low nutrient content and unstable energy levels throughout the day (Fotiadis et al., 2021). Such behaviors are not only damaging to physical health but also to mental alertness, emotional stability and long-term attention necessary to achieve academic success. The findings of studies conducted in various areas indicate that the lack of meals and especially breakfast is one of the most effective predictors of low cognitive abilities and poor academic achievements, especially in young adults (Rampersaud et al., 2018).

Moreover, psychosocial variables of stress, anxiety, emotional coping, and social eating norms affect the nature of the correlation between diet and academic performance. In examinations, university students tend to be more stressful, which results in either overeating or suppressing appetite, both of which influence the cognitive process (Fernandez et al., 2022).

The cultural factors also play a major role in foods. Pakistan is no exception, as students change their habits by abandoning home-cooked meals once they enter universities and start consuming more restaurant foods and fried snacks (Khan & Ahmed, 2020). Such foods are usually rich in calories and low in nutrients leading to poor concentration, tiredness, and poor academic functioning.

Also, the studies indicate that off-campus students who stay in hostels usually have worse food habits compared to on-campus students because their families do not adequately monitor them, they do not have access to cooking facilities, and fast-food restaurants are easily accessible in the vicinity (Naeem et al., 2022).

Moreover, the present day patterns of lifestyle such as the prevalence of excessive screen time, studying late at night, and disturbed sleep patterns have been proven to influence food and cognitive functioning. A number of studies published after 2015 highlighted that sleep disorders

could modify the appetite hormone and result in poor eating practices and reduced learning performance (Trovato et al., 2021).

Eating practices have a significant subjective influence on health outcomes including academic performance and concentration of university students. However, the relationship between these two has received limited research attention in the Pakistani context. Although the issue of the well-being of students is growing in importance, local research is still limited.

1.2 Problem Statement

Eating habits are known to influence various health and social conditions, especially concentration and academic performance among university students. However, this is a field that is not well explored in the context of Pakistan. Therefore, this study aims to investigate the association between eating habits and academic performance among university students in Pakistan.

1.3 Objectives of the study

1. To identify the eating behaviors of university students and its influence on their academic performance.

1.4 Research Questions

1. What are the common eating habits among university students?
2. How do particular eating habits affect academic performance among university students?

1.5 Significance of Study

The research can be of great importance in the context of interpreting a complex correlation between eating habits and academic performance in university students. Academic stress, disrupted day-to-day lives, family and peer pressures, and scarce time to practice good eating habits are characteristic of university life and all these factors create poor eating habits among the students. This study presents the role that poor eating habits can cause fatigue, lack of concentration, and engagement in classes by analyzing the frequency of meals, the kind of food consumed, and the difficulties in having a balanced diet. On the other hand, it also determines the role of healthy eating practices in enhancing cognitive performance, energy status and academic performance. The results of the research are relevant to the sphere of state health because it focuses

on the significance of balanced nutrition as an indicator of academic achievement and wellness in general. These results are useful to students since they become more aware of the impacts of their daily eating practices on their learning ability and their health. It helps the university officials to create specific intervention measures in form of nutrition education, healthy food choices, and school health promotion programs to create a conducive academic setting leading to a healthy body and body performance. Furthermore, this study contribute to the limited existing literature on the link between eating practices and academic performance within the local context, serving as a reference point for future research and policy formulation. Ultimately, it seeks to encourage behavioral change among students by highlighting the long-term academic and health benefits of maintaining healthy eating practices.

1.6 Research Gap

Although there is increased global evidence, a significant gap of studies focusing on the relationship between eating habits and academic performance in the country is observed in Pakistan. The majority of the present studies have been done in Western or East Asian settings, where socioeconomic and cultural aspects vary significantly. Local research is essential to understand how culture based dietary practices, financial limitations, and academic pressure effect on nutrition and education (Bhattacharjee et al., 2025). Also, there are a small number of studies that use longitudinal designs that can be used to determine causal relationships between diet and academic outcomes to restrict the scope of the knowledge presently available.

In addition, the role of psychosocial influences such as stress, peer pressure, and mental health is underexplored in the context of eating behaviors and educational outcomes. These factors likely mediate or moderate the relationship between nutrition and academic performance, yet they are not examined in depth. These dynamics are relevant in understanding how the comprehensive and effective interventions are to be formulated.

Moreover, there is little literature regarding eating habits of university students in the surrounding environments, particularly in developing countries, including Pakistan, where academic stress, food availability within the campuses and the financial influence determined the eating habits of

students. It is not felt that the literature available centers around the modeling of such context and behavior variables to ascertain the degree of concentration, involvement, attendance and academic performance and the variance in knowledge in respect to the dominating role that nutrition exerts on the learning results to the level of the behavior. It is also highly preoccupied with the academic performance parameters that is typically limited to GPA. This approach fails to capture broader aspects of academic success, such as classroom engagement, cognitive functioning, or problem-solving skills. A more comprehensive evaluation framework would provide deeper insights into how nutrition influences learning outcomes in a multifaceted way.

Also, gender-specific and psychosocial variables are underdeveloped in this field. Some female students tended to show gender differences in eating habits, as they were more likely to engage in restrictive eating, and males tended to be highly fed on fast food (Syahrir et al. 2025), . They also recommended that these issues can be addressed through nutritional education and mental health interventions (Riasat et al. 2025). Based on these results, the next generation of studies in Pakistan would involve mixed-method design and longitudinal design to determine the mutual influence of behavioral, psychological, and environmental variables on the learning outcomes. The closing of these gaps would also allow the development of effective nutrition based interventions applicable in the university context, which will promote academic excellence due to the enhanced diet practices.

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This chapter presents a comprehensive review of the research conducted in the context of eating habits and academic performance among university students. It examines existing scholarly evidence, theoretical perspectives, and conceptual foundations relevant to understanding this association. The discussion also highlights the theoretical frameworks that inform the study and guide the interpretation of findings. Furthermore, the chapter outlines how these frameworks support the data analysis and operationalization of key variables. Overall, it establishes a solid foundation for the study by integrating prior research with the theoretical orientation adopted.

2.1 Eating Habits and Academic Outcomes

The eating practices of university students play a significant role in their performance at school, concentration, and intelligence. The shift to higher education can usually cause changes in lifestyle, making them improper with eating with regard to the stress of academics, time, and accessibility. A recent cross-sectional study in Clinical Nutrition ESPEN found that students who skipped meals or ate high-calorie, low-nutrient-density foods had lower grade point averages and were more tired than those who ate balanced diets (Bhattacharjee et al., 2025). A systematic review found that postsecondary students' low food intake impaired their focus, memory, and emotional stability, which are directly related to study efficiency (Holly et al., 2025).

There is also an increasing number of studies highlighting the importance of breakfast intake as a key factor of cognitive functioning. Students who had a regular breakfast were better in memory retention and classroom engagement tests, and this shows that morning meals are still relevant in maintaining mental alertness. The habitual evasion of breakfast or the use of convenience foods, in its turn, is the reason behind poor metabolic control and intellectual burnout.

Similarly, fruit, vegetable, and whole-grain high-fiber diets favor the metabolism of the brain and executive functions. Combined, these researches allow concluding that healthy and frequent meals belong to the category of benefits of cognitive abilities and increased academic achievement (Vasco et al., 2025).

2.2 Quality of nutrition and intelligence

The food quality that is taken by students is a crucial factor in their intellectual and emotional health. Lack of the necessary micronutrients, including iron, vitamin D, and omega-3 fatty acids, in the diet is also connected to the decreased attention and slowness in information processing. The consumption of balanced dietary intake enhances mental endurance and emotional response, which are quite crucial in sustaining focus when attending lectures and exams (Vasco et al., 2025). Equally, the study found that there is a good relationship between body mass index (BMI), hemoglobin level, and GPA among students of public health, meaning that students are well-nourished, which increases their academic performances (Syahrir et al., 2025).

Intervention-based research also has demonstrated good results in changing the Eating practices of students. In the Journal of the Academy of Nutrition and Dietetics, discovered that experiential learning programs with a focus on nutritional education showed a significant positive change in eating habits, as well as in academic performance (Schallert & Daily, 2025). These results highlight the importance of considering nutrition education in the academic setting in order to improve cognitive efficiency. Nonetheless, the majority of intervention studies have been temporary and limited to specific geographical regions, concluding that longitudinal and culturally adjusted studies should be carried out, in particular, in South Asian countries such as Pakistan.

2.3 Psychosocial and Environmental Determinants

Psychosocial stress and exposure to environmental factors which result to food accessibility are extremely critical in defining eating habits of university students. The researchers concluded that the poor quality of sleep, inability to concentrate, and a decline in academic activities in Pakistani tertiary students were associated with high consumption of sugary and carbonated beverages (Riasat et al., 2025).

The diet and GPA relationship were also found to be mediated by stress eating habit like emotional eating and less appetite. Through these findings, the idea of the issue that the academic performance is not only contingent on the consumption of nutrients, but on the psychological and emotional conditions of the learners, which depend on the environment that the learners are exposed to.

Environmental factors are also not just limited to the availability of food, but to the academic schedules, campus facilities and cultural norms surrounding the consumption of food. As an example, students with crammed lecture schedules can either skip meals or use vending machines; meanwhile, students in campuses with a developed meal schedule and access to healthy meals show improved dietary compliance and concentration during classes (Grech et al., 2017).

Cultural and family norms may also influence what students eat; students that still eat traditional foods tend to consume more home-cooked and nutritious food, which is beneficial to the cognitive and academic performance (Shah et al., 2022).

2.4 Unhealthy Eating Habits and Specific Dietary Components

Unhealthy eating habits amongst university scholars are an international issue. A systematic analysis of (Mansouri et al., 2021) has shown that bad eating habits are rampant within college campuses all over the world with dietary variations having been dictated by conventional and ambient influences. It has been common to find that the intake of fast foods, sweet foods, and soda is higher among students in western countries than in their counterparts in non-western regions (Alzahrani et al., 2019).

The opposite is also true as the traditional diets practiced in most of the Asian countries characterized by high vegetable, rice, fish intake have been attributed with better academic performance and healthy eating habits in South Asia, university students exhibited poor diets. Such students would take overly sweetened beverages and fries and they took inadequate number of fruits and vegetables. They are risky eating patterns to a large extent due to the wretchedness of the academic study, which contributes to the pertinence of nutritional interventions that enhance scholastic study and well-being (Al-Rethaiaa et al., 2020).

A study demonstrated that Saudi Arabian students who gave stronger attributions to the traditional diets such as inclusion of dates, whole grains, and legumes had better performance in their academic performance than those who adopted Westernized diets (Al-Rethaiaa et al., 2020). This highlights how national culinary practices impact the academic performance and health results.

A number of researches highlight the adverse effects of fast-food and high-sugar intake on academic performance. The frequency of using sugar was strongly correlated with poorer GPA among college students (Nawajah, 2025). It is in line with previous results that observed a negative relationship between fast-food intake and academic achievements (Edmonds et al., 2019). These findings underscore the relevance of the quality and not the amount of the diet in relation to cognitive performance and learning.

Though it is a fact that various studies indicate that healthier diets positively relate with academic achievements, there are reports that indicate weak or non-significant relationships. A systematic review of college students found that while most studies reported a positive correlation, two out of 7 studies examined showed no statistically significant correlation between dietary intake and academic achievement (Burrows et al., 2017). This shows that the diet performance relationship might not be universal among all groups of students and under all conditions.

Additionally, a systematic review dedicated to the academic issue of mental wellbeing of university students (and secondarily, academic performance) stated that among numerous observational studies, some of them did not find any significant correlation between the overall quality of diet and academic performance (e.g., grade point average) (Whatnall et al., 2018). This poses the idea that diet may not be a good or general predictor of academic performance in the presence of other factors.

2.5 Eating Habits, Diet Types and their Impact on Academic Performance

Dietary trends largely orchestrate academic achievement. As recent studies indicated, diets rich in fruits, vegetables, whole breakfast cereal and lean proteins are associated with better academic performance and cognitive well-being. Mediterranean diet that focuses on eating of olive oil, fish, vegetables and fruits has been associated with enhanced intellectual ability and mental clarity. A study showed that students in the university with a Mediterranean-style diet had better cognition especially in memory related tasks (Lopez et al., 2018).

Diets with a high intake of processed foods, fast foods and sweeteners have been linked with low academic performance. Such foods may cause energy imbalances and lack of concentration which the student may not be able to memorize and perform well in exams. A study established that the

academic performance was lower among children and adolescents who ingested an unreasonable number of junk food similar to those who adhered to a healthier diet (Taras, 2016) .

Food choice is not the only determinant of eating behavior; the behavior patterns are also important. One study examined the cognitive restraint, uncontrolled eating, and emotional eating concerning academic performance of students. They discovered that students who had better GPAs had lower uncontrolled eating and greater cognitive restraint, which indicated that self-control on eating behavior could be useful in academic achievement. These findings suggest that the amount and quality of dietary consumption and the pattern of behavior could also be significant in the academic performance (Rodriguez et al., 2017).

There are context-specific studies that dispute the perceived advantage of breakfast on academic performance. As an example, one of the studies published in BMC Medical Education discovered that the consumption of breakfast during exam periods was not associated with academic performance among students significantly (BMC Med Educ., 2023). These results indicate a possibility that the timing and context of meals (e.g. intense exam weeks) can intervene in the effect of breakfast on cognition or grades.

There is also evidence on diet type (not just quality or frequency) which shows the diet type has no correlation with academic success. In a research that included female undergraduate students, the researchers compared vegetarian and non-vegetarian diets and did not provide a significant difference in the CGPA between two groups (PMC, 2015). This implies that being a vegetarian does not necessarily increase academic performance, and other lifestyle or nutritional modulators may have a more significant role.

2.6 Nutritional Education, Interventions and Institutional Policies

The most dominant focus of the initiatives aimed at reducing the effects of eating practices on academic performance have been placed on the nutritional education and intervention strategies. Several studies have revealed that whenever students are educated on the significance of healthy nutrition and its impact on their mental performance, they tend to stick to healthier eating habits.

The study has shown that nutrition education programs aimed at college students have led to significant changes in grades and diet (Casagrande et al., 2021). These initiatives emphasized the need of planning meals, the intake of foods rich in nutrients and the avoidance of foods rich in energy and low in nutrients.

Evidence suggest that the effectiveness of campus wide initiatives that can be used to improve the access to healthy food and raise awareness about the cognitive advantages of a healthy diet in improving academic performance and eating habits of students (MacFarlane et al., 2020) . These programs should be culturally acceptable and be specific to the varied student demographic dietary patterns and tastes.

The influence of university environment on eating habits has also been studied by the modern researchers. A study revealed that affordable and nutritious food at the campus has a significant impact on meal selection (Sogari et al., 2018). The students that had healthier food choices on campus stated greater quality of their diet and reduced fast food dependency. It was also found out that universities that implemented wellness programs on nutrition, campus dining restructuring, and health campaigning had a slow change in eating practices and self-reported academic performance among students (MacFarlane et al., 2020).

But in low and middle income countries, these policies have not been adopted in large scales. It has been stated that the Pakistani universities currently tend to have no formal nutrition education programs, whereas students often rely on cafeteria meals mainly consisting of fried food and sweet drinks, and low-nutrition snacks (Mehmood & Raza, 2021) . This environmental variable emphasizes the role of institutional interventions.

2.7 Contradictory Evidence and Null Findings

Although a bulk of the prevalent literature indicates that healthy eating habits have a positive relationship with academic performance, some of the studies have indicated that there is no statistically significant relationship between these two and that the relationship might be subjected to contextual, cultural, or methodological factors.

It was discovered that even though students with regular meals at the university level stated that their well-being was higher, there was no significant relationship between their eating practices and the GPA (Galloway et al., 2018) . The authors indicated that study habits, motivation, or learning environment could be more effective determinants of academic performance as opposed to diet.

Likewise, research carried out with undergraduates in Spain and found out that students who had healthier diets stated a higher level of energy and did not show a significant difference in their academic performance compared to those with poor eating habits (Galloway et al., 2018). This highlighted the fact that dietary effects can be indirect on motivation or mood instead of having a direct impact on academic results.

A different study on Canadian adolescents has also established that the poor quality of diet is linked to behavioral problems and inability to concentrate directly, but was not linked to the academic performance indicators (such as standardized test scores). The authors observed that academic grades are multifactorial and they can mitigate the impacts of nutrition because of teacher support, academic accommodations and curriculum differences (Faught et al., 2020).

In addition, a Malaysian study did not identify any significant impact of breakfast on university GPA based on the premise that young adults can compensate missed meals by consuming caffeine, studying late, or engaging in other coping behaviors (Rahman et al., 2021). These results dispel the belief that nutritional practices are universal predictors of academic performance and indicate the necessity of regional studies, especially in the area of South Asia where the socioeconomic and cultural factors can define the relationship in a different way.

Based on some studies, other variables like socioeconomic status that may confound the relationship between diet and academic achievement are present. For instance it was discovered that there was no direct linear relationship between the status of students in nutrition and their academic performance when the other broad variables, such as socio-demographics, were taken into account (Ndolovu, 2017).

Also, a study conducted on first year university students revealed that the frequency of breakfast had a positive relationship with the GPA, but other dietary variables (fruit and vegetable intake) did not have a significant correlation with the academic performance (Devenyns et al., 2016).

2.8 Lifestyle and Stress Factors Influencing Diet and Academic Performance

Recent research highlights the fact that eating behaviors do not work in a vacuum but rather interact with other important lifestyle determinants including sleep, physical activity, screen time, and the level of stress. Sleep quality has a significant effect on the association between dietary and cognitive functional (Trovato et al., 2021). Students with poor sleep schedules as well as the ones with a balanced diet fared equally with those with poor diets and good sleep. This implies that sleep can be a mediating one or even an overriding factor in academic performance.

Moreover, a study has shown that sedentary lifestyles that are linked to excessive screen time contribute to snacking, especially of high-sugar foods, which causes emotional exhaustion and lack of concentration (Celik & Aydin, 2020). These results are in line with the evidence provided in the United States and Europe that the combined impact of unhealthy diet and lack of physical activity is even more harmful to the learning process than dietary factors (Hsu et al., 2022).

Furthermore, observed in the study on Pakistan that academic stress and a heavy workload raised the use of caffeinated drinks and fast foods, which temporarily enhanced alertness but eventually decreased the quality of sleep and caused fatigue during the day (Hussain et al., 2021). Such behavioral patterns make the direct correlation between eating habits and academic performance more difficult and also explain why a context specific study is necessary.

Academic stress may also have a great impact on eating habits among students and, as a result, academic performance. It was reported that food was missed or taken late at night or caffeine was used by many students under the influence of stress. These unhealthy eating habits were linked to fatigue, loss of concentration and poor performance at school. The results highlight the necessity of the knowledge of the interplay between stress and eating behavior and learning outcomes (Maqsood et al., 2022).

2.9 Socioeconomic and Cultural Influences

The socioeconomic status (SES) is critical in influencing the food choices of students. It was argued that because of their financial limitations, students with lower-income families are more likely to eat food rich in calories because it is cheaper, which could have a harmful impact on their future cognitive abilities (Silva et al., 2019). Nevertheless, the paper also concluded that parental education and academic support were stronger predictors of academic achievement in comparison with diet, which suggests that the impact of SES variables may outweigh nutritional effects.

Eating habits are also affected by cultural eating habits. In South Asia, dietary quality is determined by the timing of meals, family food culture, and the cuisine of the culture (Rizwan & Latif, 2020). As an example, students at Pakistani universities with culturally traditional diets who cooked their food at home, lentils, vegetables, and whole grains stated that they were more concentrated and mentally clear than their peers following Western fast-food trends (Shah et al., 2022). Access to these foods is however not usually very good among the hostel-dwelling students thus creating uneven eating habits.

The impacts of dietary behaviors on academic performance depend on environmental and socioeconomic aspects including access to healthy food, cost, and lifestyle. It was suggested that not only eating habits that are important predictors of the academic success but also the study habits and physical activity (Haris et al., 2024). It was discovered that self-esteem mediates the connection between the dietary attitude and lifestyle of students, as well as their academic performance, which implies that psychological and social aspects interact with eating behaviors to determine academic performance (Abuawad et al., 2023).

2.10 Nutritional Quality, Micronutrients and Cognitive Function

Besides the general eating habits, there are studies which have investigated the effect of certain nutrients on cognitive performance. The key element that has been associated with memory performance and attention is iron, zinc, folate and omega-3 fatty acids. Research conducted revealed that even a slight iron or omega-3 deficiency was associated with a slow information-processing among university students (Haider et al.,2019).

Conversely, a study in Norway found that, though there were slight improvement in the performance of students who took more omega-3 on cognitive assessment, the results were not significant enough to forecast the academic grades (Olsen et al., 2021). These inconclusive findings point to the fact that, although micronutrients have an effect on cognitive efficiency, their direct effects on academic achievement are inconclusive. It is not the quantity of meals but the quality of the diet that is important in cognitive functioning and academic achievement.

It has been reported that the intake of breakfast replenishes the blood glucose level of the body, which improves alertness and recollection, whereas the absence of proper eating is associated with fatigue, anxiety, and deteriorated mental strength (Shah et al., 2025).

A similar study was conducted which investigated diet mental health performance interaction. According to their discussion, the nutrients that contribute to a more stable mood state, working state, and subsequent academic achievements are omega-3 fatty acids, B-vitamins and antioxidants (Chak et al., 2025).

2.11 Eating Behavior Styles and Academic Performance

The choice of food is not the only variable influencing the eating behavior of an individual, but also patterns of behavior play an important role. The study examined the literature regarding the cognitive restraint, uncontrollable eating and emotional eating and their relationship with the academic performance of the students. It was discovered that students who scored higher in their GPAs were less likely to engage in uncontrolled eating or were more eager to restrain their eating, a notion, which the analysis of eating behavior could be self-regulated to succeed in making errors. These findings suggest that the amount and quality of the food consumed and the Behavioral pattern are significant factors, as far as academic performance is concerned (Rodriguez et al., 2017).

2.12 Cognitive Load & Meal Timing

Eating hours have been made one of the factors of cognitive efficiency among college students. According to the study, meal and breakfast in particular skipping influence the ability to be better alert, create memory, and be attentive in the long-term perspective when addressing academic

assignments (Adolphus et al., 2019). Due to unconsumed breakfast meals, students are at a higher risk of becoming a victim of the load of cognition, the working memory, and slower information-processing speed that directly correlate with their academic performance (Gibson & Green, 2020). Studies also establish a connection between inconsistent timing of meals and a quick change in the levels of glucose, which results in poor executive functioning and problem-solving skills (Rampersaud et al., 2018). Conversely, students with regular meal timing show uniform energy, better concentration and more involvement in their academic activities throughout the day (Zakrzewski et al., 2021). These results indicate that the quality of food as well as the timing of meals is a critical aspect in determining academic performance.

2.13 Peer and Family Influence on Eating Habits and Academic Performance

The peer and family factor has a great contribution to the eating habits of the university students that ultimately influences their academic results. During adolescence, the family eating practices tend to be replicated in adulthood and impact the preferences of the students, the frequency of meals, and their food-related knowledge (Scaglioni et al., 2018). Students with families that value balanced diets and eating patterns are also more positively inclined to continue with healthier diets in their university years, which promotes their cognitive performance and achievement of academic goals (Patrick & Nicklas, 2019).

The influence of peers is also strong: students of universities tend to change their food habits and social expectations so that they can fit in their friend circle, and this can result in both positive and negative eating patterns in accordance with those of their groups (Larsen et al., 2020). Study evidence indicates that peer can promote more intake of fast food, energy drinks, and convenience foods, which lead to low educational results due to uneven energy and nutrient deficiency (Fletcher et al., 2021).

On the other hand, those peers who demonstrate perfect examples of healthy behaviors, including fruit and vegetable consumption, home-cooked meals, help to improve the eating practices and increase the school activities of the students (Tan et al., 2020). Generally, family and peer networks are social factors that are highly influencing the dietary intake of students, which in turn, has an implication on concentration, learning ability and academic performance.

2.14 University Cafeteria Environment & Food Accessibility

The rates of food availability, prices, and quality at campus greatly determine the eating habits of students and, therefore, their performance. With multiple and well-balanced foods in cafeterias, students have a higher chance of eating balanced diets, staying energetic, and cognitively performing better (Sogari et al., 2018).

On the contrary, the majority of campuses that cater to fast-food, fried foods, and sweet drinks promote unhealthy eating habits that might lead to fatigue, lack of concentration, and low learning performance (MacFarlane et al., 2020). The structure and design of cafeterias are also a factor: aesthetically pleasing arrangement of fruits, vegetables, and whole grains make them more popular, and the lack of space or organization usually drives students to fast and processed foods (Grech et al., 2017).

Also, cost is a key factor students with low incomes can choose low-cost, high-calorie foods over nutritious ones in particular, in case healthier food is more expensive (Mehmood & Raza, 2021). These results point to the fact that the university food environment is not only a convenience factor but also a structural determinant of the nutritional intake as well as academic outcomes. Hence, health-related food policies that increase access and healthy cafeteria choices have the potential to positively influence the learning ability of students and their performance.

2.15 Nutrition Knowledge and Its Impact on Eating Behavior

The nutritional knowledge is a good indicator of what students at the university eat. The persons who are conscious of the role of vitamins, minerals, macronutrients, and the overall nutritional status of food are more inclined to choose those ones that can facilitate cognitive functioning, energy balance, and long-term health (Spronk et al., 2014).

According to a number of studies, students who are more nutrition literate eat more fruits, vegetables, and whole grains and less processed or sugar-rich foods, which is linked to an improved ability to concentrate, remember, and achieve higher grades (Gibson & Wong, 2019). Interventions such as nutrition education that includes workshops, web-based courses, and

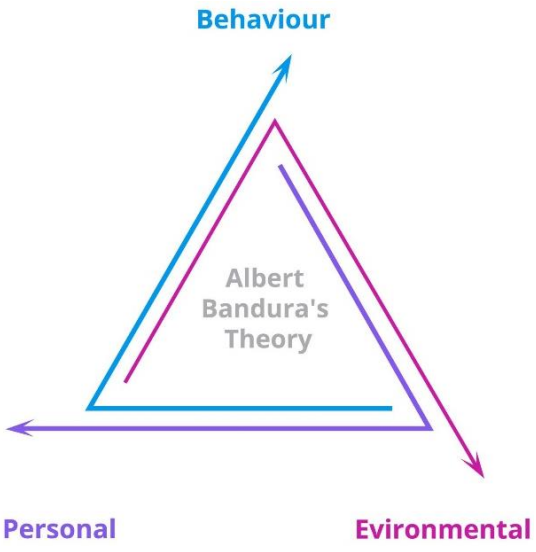
counseling have also been proven to enhance dietary patterns and academic performance that students self-report (Casagrande et al., 2021).

Additionally, knowledge is not always sufficient, since students also require practical skills that allow planning, budgeting, and preparing meals which contribute to the process of transforming awareness into the behavior (Contento, 2016). Altogether, these results indicate that nutrition education among university students is a successful method to promote healthier eating habits and indirectly affect the learning effectiveness and academic achievements.

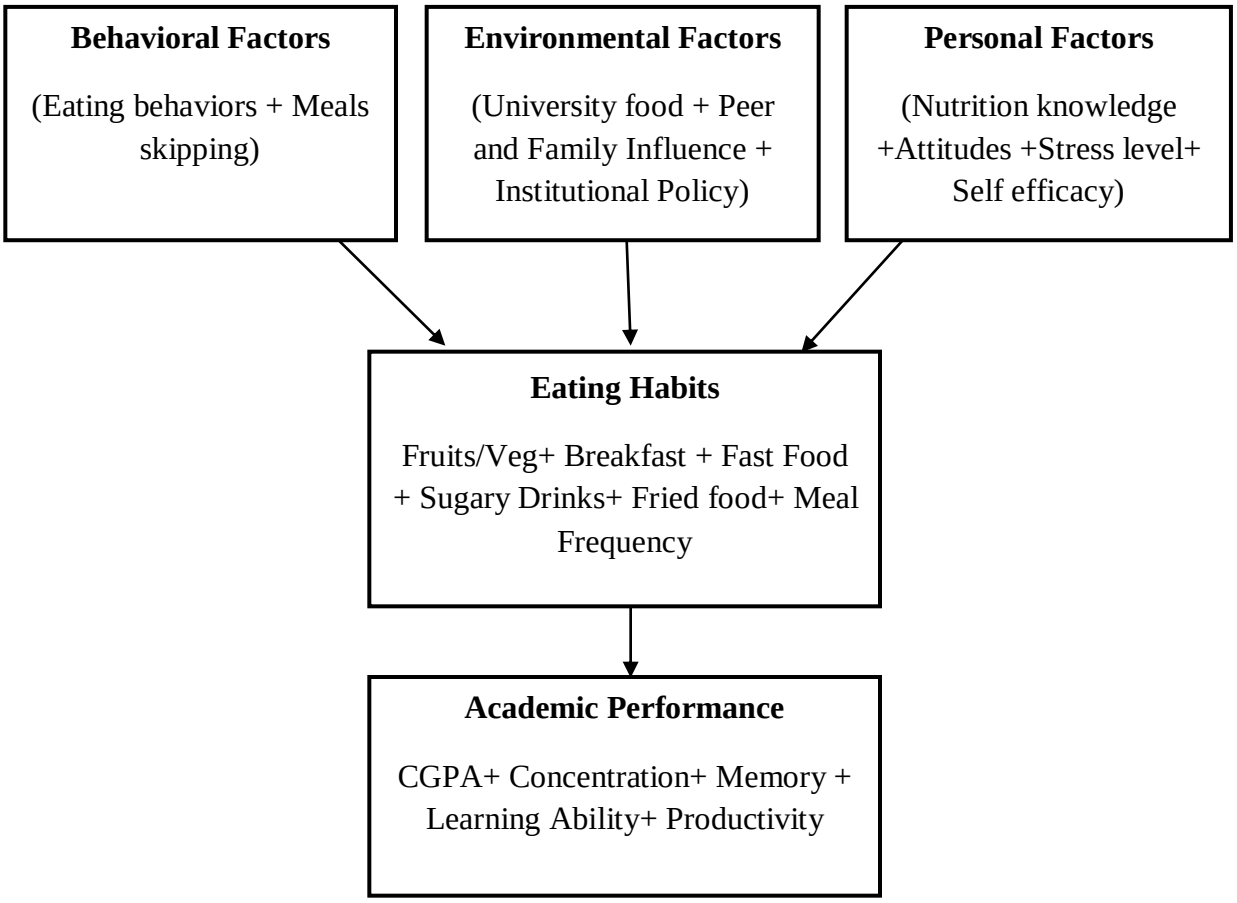
2.16 Theoretical Framework

Social Cognitive Theory (SCT) is incorporated in this theoretical framework in order to find out the correlation between eating habits and academic performance among the college students. SCT offers an elaborate framework of analyzing the way in which eating practices of students are moderated by personal, behavioral, and environmental influences, and the manner in which those influence academic performance.

According to the Social Cognitive Theory (Bandura, 1986), human behavior is the product of interaction of individual factors, behavior patterns and environmental factors. When applied to the students of the university, SCT allows explaining the way in which eating habits are developed and are related to the outcomes of learning and academic success.



2.17 Conceptual Framework



Using SCT, the present study acknowledges that nutrient intake alone is not a determinant of academic performance but rather a complicated combination of individual behavior and individual choices as well as the environment. The framework facilitates an in-depth investigation on the processes by which the eating habits affect the learning, cognitive functioning, and grade results among university students.

Individual variables comprise nutrition education, attitudes towards healthy eating, stress levels and self-efficacy to make an informed diet decision. Better informed students on the cognitive advantages of the balanced nutrition tend to embrace frequent and healthy eating habits.

Behavioral variables are actual eating habits, which include the frequency of meals, intake of fruits, vegetables, fast food and sweetened drinks and coping related habits such as emotional eating or skipping meals. These habits have a direct effect on concentration, retention of information, energy and the general academic performance.

These include environmental determinants such as the university food environment, peer and family, cultural norms, and institutional policies. As an example, healthy food options in cafeterias, peer influence of the dietary habits, and family support can be helpful in creating a healthier diet, and unhealthy foods, fast food, or snacks, are easily accessible, which may promote poor nutrition habits.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

My research uses the cross-sectional quantitative study design to explore the association between eating habits and academic performance among students in the Bahria University Islamabad E-8 Campus.

3.2 Sampling Technique

The research employed a convenience sampling method, which is a type of non-probability sampling that involves the sample being drawn from that part of the population that is close at hand. This sampling was found to be acceptable because it is practical and acceptable within the available time and as well as the constraint of resources. The participants were chosen according to their availability and desire to take part in the selection, and enough students of different departments and years of study were adequately represented.

Dependent Variable: Academic Performance

Independent Variable: Eating Habits

3.3 Data Collection Process

The data was collected by online survey that targeted the question of eating habits and the academic achievement of students, which was created in Google Forms. The university email was maintained as optional. The respondents were allowed to log in with their email address of Bahria University to confirm that they were students. No personally identifiable data which includes names, roll numbers, contacts were collected. All data was stored securely and used solely for academic research purposes in accordance with ethical research guidelines.

3.4 Universe

The study population comprised of students from Bahria University Islamabad E-8 Campus. The study focused exclusively on students enrolled in various academic programs (law, business, psychology, media, computer sciences, islamic studies and humanities) at Bahria University.

3.5 Population Frame

The population frame for my research consisted of students who were enrolled in undergraduate degree programs at the E-8 Campus of Bahria University Islamabad. To ensure a representative and diverse sample, undergraduate students of both genders from a variety of academic disciplines were included.

Exclusion Criteria

Postgraduate students and individuals who do not consent or decline to participate.

Inclusion Criteria

University students enrolled in undergraduate programs who consent to participate and complete the questionnaire.

3.6 Instrument for data collection

A validated, self-administered questionnaire was used to collect data, adapted from the tools developed by (Vesco et al., 2018), consisting of three sections was employed to collect the data. Age, gender, academic year, field of study, and residence comprised the initial phase. The second area concerned the eating behaviors such as the frequency of meals, food preference, use of dietary supplements and the perceived obstacles to healthy eating. The third section covered the academic performance where it measured variables like GPA, attendance, involvement in classes, and level of concentration.

3.7 Sample size collection

The Slovin formula (n = N/(1 + Ne 2)) was used to compute the sample size. The overall population of the undergraduates in the Bahria University E-8 Campus Islamabad was estimated to be about

8644 students and assuming the margin of error to be 5, the minimum sample size was estimated to be about 382 students with a 95% confidence level.

3.8 Data Analysis Technique

My study was analytical in nature. The SPSS software was used to analyze the obtained data. Socio-demographic characteristics, eating habits as well as academic performance were described using descriptive statistics such as frequencies, percentages, means, and standard deviations. In addition, inferential statistics, especially, Chi Square Test, was applied to test the association between eating habits and the academic performance of undergraduate students at the Bahria University Islamabad E-8 Campus. The p-value of less than 0.05 was considered statistically significant.

3.9 Ethical Considerations

The ethical concerns regarding this study involved the informed consent of all the participants in the study, making them well informed of the purpose, procedures, risks, and benefits of the study. Participation was voluntary and the participants were free to leave at any phase without providing any justification. The results were used solely for academic and research purposes. Findings were reported honestly and transparently, ensuring that data were not manipulated, exaggerated, or misused. The study ensured that no student was judged, labeled, or stigmatized based on their eating behaviors, academic performance, or personal lifestyle. Results were presented in aggregate form only.

CHAPTER 4

RESULTS

The total population of 382 students of the university was used in this study and the data were gathered to determine the correlation between eating and academic performance. No questionnaire was left incomplete and invalid during the data entry and screening process, hence, 382 responses were selected to be subjected to analysis.

4.1 Descriptive Analysis

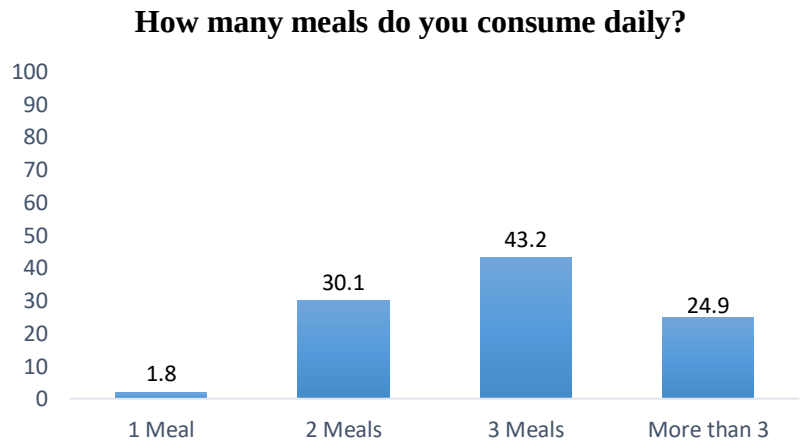
Table 4.1 *Demographic Characteristics of Participants*

Item	Category	n	%
Age	18–20	130	34.0
	21–23	149	39.0
	24–27	103	27.0
Gender	Female	133	34.8
	Male	249	65.2
Year of Study	First Year	53	13.9
	Second Year	80	20.9
	Third Year	121	31.7
	Final Year	128	33.5
Field of Study	Business Studies	49	12.8
	Computer Science	15	3.9
	HSS	166	43.5
	Islamic Studies	7	1.9
	Law	43	11.3
	Management	15	3.9
	Media Studies	38	9.9
	Psychology	49	12.8
Residence	Hostel	114	29.8

	With Family	250	65.4
	Other	18	4.7

Table 4.1 shows that participants in the study were 382 in total, and they had varied demographic characteristics. The respondents aged 21-23 years were the largest (39.0%), then 18- 20 years (34.0%), and 24-27 years (27.0). Following gender distribution, most of the participants were male (65.2%) with (34.8%) being the females. Year of study showed that the majority of the study participants were in their final year (33.5%), third year (31.7%), a smaller number of participants were in their second year (20.9%) and first year (13.9%). The respondents belonged to different disciplines, as the highest percentage of participants were Humanities and Social Sciences (43.5%), Business Studies and Psychology (both 12.8%), Law (11.3%), Media Studies (9.9%), Computer Science (3.9%), Management (3.9%) and Islamic Studies (1.9%). Most of the students were staying with their family (65.4 %), other forms of accommodation were 29.8 percent in hostels and 4.7 percent in other developmental setups. These results suggest that the sample was quite diverse in terms of age, academic level, and study area, as there were more male students and those students who live with their families.

Figure 4.1 *Daily Meal Consumption among University Students*



The breakdown of the participants in regard to the number of meals taken on a daily basis is as shown in Figure 4.1. Most participants reported consuming three meals per day, accounting for 43.2% of the sample. A smaller proportion of respondents consumed two meals daily (30.1%), while 24.9% reported having more than three meals per day. Only a minimal number of participants (1.8%) consumed just one meal daily.

Table 4.2 *Frequent Consumption of the Food Items*

Food Item	Never (n/ %)	1–3x/month (n/ %)	1–2x/week (n/ %)	3–4x/week (n/ %)	Daily (n/ %)
Fruits	1 (0.3%)	32 (8.4%)	171 (44.8%)	134 (35.1%)	44 (11.5%)
Fast Food	2 (0.5%)	51 (13.4%)	144 (37.7%)	140 (36.6%)	45 (11.8%)
Breakfast	7 (1.8%)	4 (1.0%)	18 (4.7%)	193 (50.5%)	160 (41.9%)
Whole Grains	2 (0.5%)	17 (4.5%)	100 (26.2%)	158 (41.4%)	105 (27.5%)
Fried Foods	7 (1.8%)	51 (13.4%)	110 (28.8%)	132 (34.6%)	82 (21.5%)
Energy Drinks	33 (8.6%)	57 (14.9%)	140 (36.6%)	119 (31.2%)	33 (8.6%)
Sugar-Sweetened Beverages	9 (2.4%)	46 (12.0%)	168 (44.0%)	121 (31.7%)	38 (9.9%)
Vegetables	5 (1.3%)	27 (7.1%)	203 (53.1%)	125 (32.7%)	22 (5.8%)

Table 4.2 above shows the frequency consumption of various food items among participants. Regarding fruit intake, most participants reported consuming fruits 1–2 times per week (44.8%), followed by 3–4 times per week (35.1%) and daily (11.5%), with very few (0.3%) never consuming fruits. Fast food was consumed 1–2 times per week by 37.7% of respondents, 3–4 times per week by 36.6%, and daily by 11.8%, whereas only 0.5% reported never eating fast food.

Breakfast consumption was high, with the majority taking it 3–4 times per week (50.5%) or daily (41.9%), and very few skipping it completely (1.8%). Whole grains were consumed 3–4 times per week by 41.4% of participants, daily by 27.5%, and 1–2 times per week by 26.2%, while 0.5% never included them in their diet. Fried foods were eaten 3–4 times per week by 34.6%, 1–2 times per week by 28.8%, and daily by 21.5%, with 1.8% never consuming them. The consumed energy drinks had a mixed trend, with more individuals (36.6) drinking it 1- 2 times per week, (31.2) 3-4 times per week, (8.6%) daily and (8.6%) never. The proportion of 44.0%, 31.7% and 9.9% took 1-2 times per week, 3-4 times per week and day respectively and 2.4% never took sugary drinks. A significant proportion of participants (53.1%) consumed vegetables 1-2 times per week, 3-4 times per week, daily and 1.3 never ate vegetables.

Figure 4.2 *Change of Eating habits during Exams*

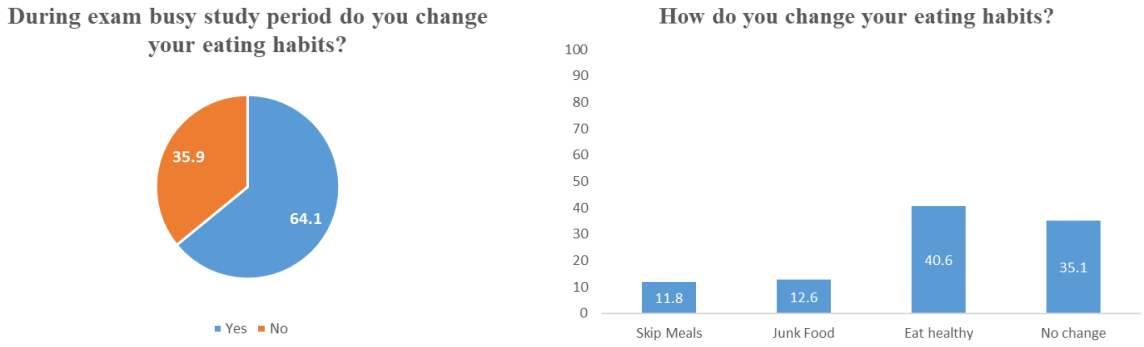


Figure 4.2 findings indicate that a majority of students modify their dietary behavior during exams. Specifically, 245 students (64.1%) reported that they do change their eating habits, while 137 students (35.9%) stated that they do not make any changes. This shows that exam-related stress and academic pressure significantly influence the dietary patterns of most students.

Among the students who reported changes in their eating habits, further analysis revealed variation in the type of change adopted. The most frequently reported adjustment was eating healthy foods, indicated by 155 students (40.6%). This suggests that a considerable proportion of students attempt

to improve their nutrition during demanding academic periods, possibly to enhance focus, energy levels, and overall academic performance.

However, not all changes were positive. 48 students (12.6%) reported increased consumption of junk food, while 45 students (11.8%) mentioned skipping meals during exams. These behaviors may be linked to stress, limited time, or irregular study schedules, indicating that academic pressure may also negatively impact eating habits for a notable subset of students.

Figure 4.3 *Intake of dietary supplements among students*

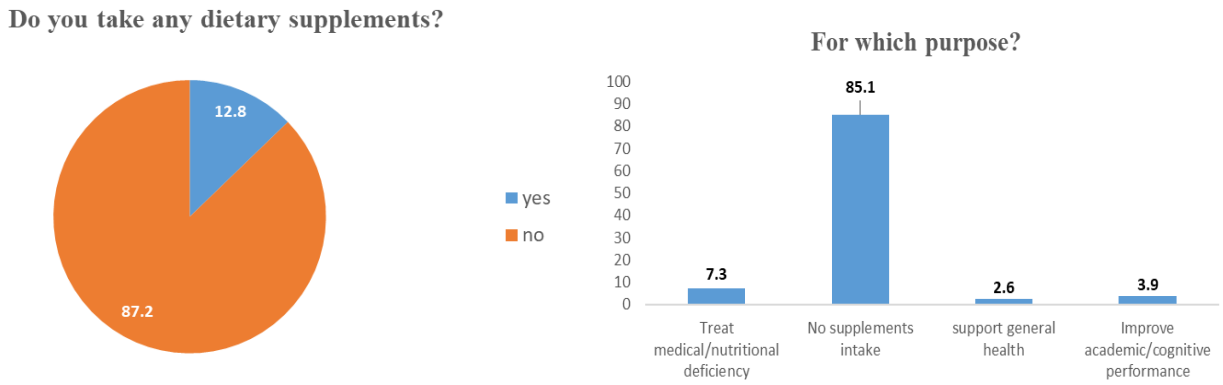


Figure 4.3 results show that dietary supplement use was relatively uncommon among the students, with 87.2% reporting that they did not take any supplements and only 12.8% indicating that they did. Among those who provided reasons, the most frequently reported motive for supplement use was to treat medical or nutritional deficiencies (7.3%), followed by improving academic or cognitive performance (3.9%) and supporting general health (2.6%).

A large proportion (85.1%) selected “no supplements intake,” which is consistent with the overall finding that supplement use is low among the study population. Overall, the data indicate that only a small segment of students rely on supplements, primarily for health-related reasons rather than academic enhancement.

Figure 4.4 *Effect of Healthy Eating on Academic Performance*

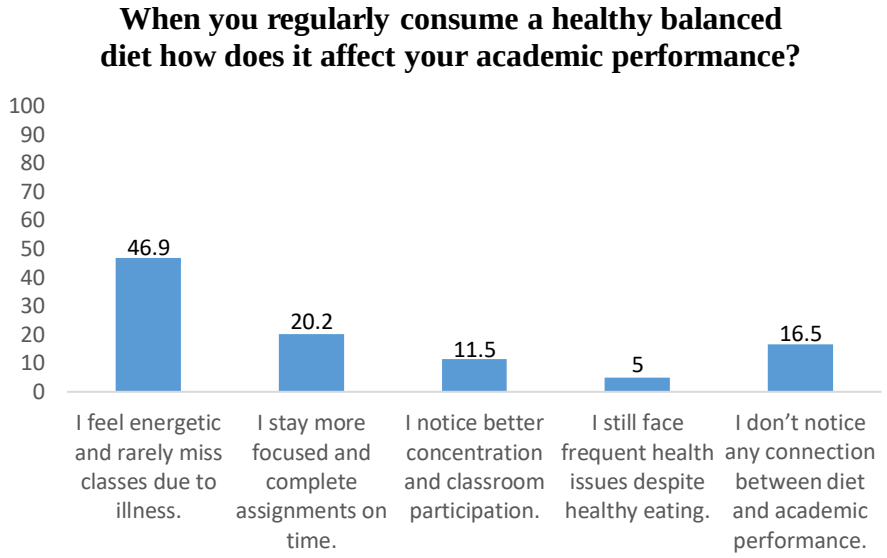


Figure 4.4 findings reveal that the majority of students perceive a positive link between consuming a healthy, balanced diet and their academic performance. The largest proportion, 46.9%, reported that healthy eating makes them feel energetic and helps them avoid frequent illnesses, enabling them to attend classes regularly. This suggests that good nutrition contributes significantly to physical well-being, which in turn supports academic engagement.

Additionally, 20.2% of students stated that maintaining a balanced diet helps them stay more focused and complete academic assignments on time, indicating improved productivity and time management. A further 11.5% noticed better concentration and enhanced classroom participation when consuming a healthy diet, highlighting the cognitive benefits of good nutrition.

A smaller group, 5%, reported that they continue to face frequent health issues despite eating healthily, suggesting that other health factors may influence their well-being beyond diet alone. Meanwhile, 16.5% indicated that they do not notice any connection between diet and academic performance, reflecting individual differences in perceived dietary impact.

Figure 4.5 *Barriers to Healthy Eating Among University Students*

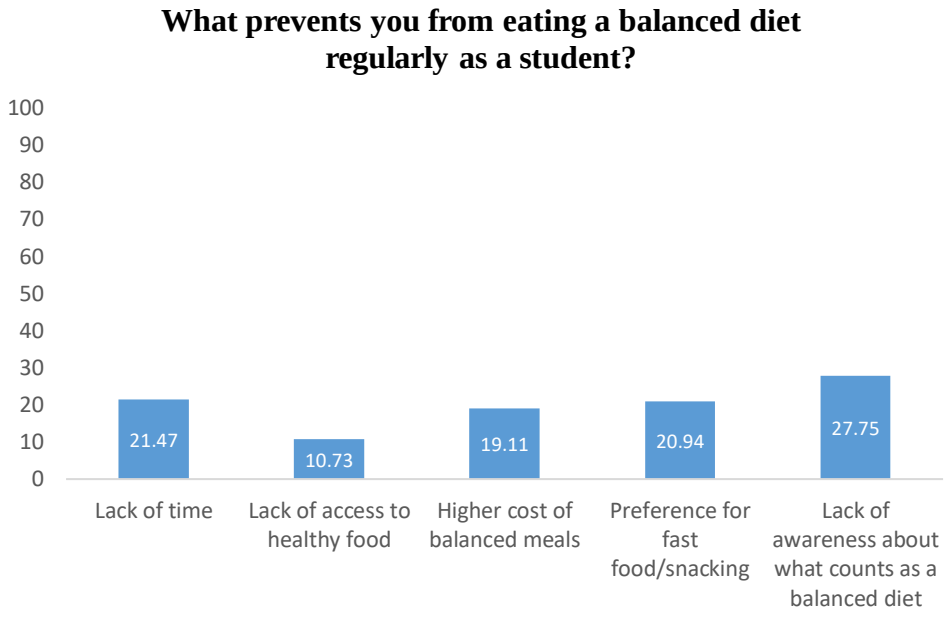


Figure 4.4 above findings revealed that the most commonly mentioned barrier was lack of awareness of what constitutes a balanced diet which was reported by 106 participants (27.75%). This means that over a quarter of the respondents have difficulties as to what makes healthy eating. Time scarcity has been reported by 82 participants (21.47%), indicating that students are not allowed by academic commitments and busy timetable to prepare or eat healthy food. Eighty (20.94%) of the respondents cited preference to fast food or snacking as a barrier, which is indicative of the predisposition of students to eat something easy but not healthy.

Besides, increased price of balanced meals was observed in 73 participants (19.11%), which suggests that healthier options are not more available due to financial limitations. Lastly, 41 people (10.73%) indicated that the inability to have healthy food is a problem, indicating that there are students who have environmental or availability-induced factors that limit their access to healthy food.

Table 4.3 *Academic Performance Indicators of University Students*

Item	Category	n	%
Current GPA/CGPA	2.0–2.5	15	3.9
	2.6–3.0	84	22.0
	3.1–3.5	154	40.3
	3.6–4.0	129	33.8
Average Marks in Last Major Exam	80–100%	121	31.7
	60–79%	174	45.5
	40–59%	59	15.4
	Below 40%	28	7.3
Average Class Attendance Rate	Below 50%	21	5.5
	50–75%	147	38.5
	Above 75%	214	56.0

Table 4.3 shows that the number participants who fell within the 3.1-3.5 category was 154 (40.3%). This was preceded by 129 students (33.8%) who had a GPA of 3.6-4.0. Furthermore, 84 participants (22.0%) were in the range of 2.6-3.0 GPA, and only 15 participants (3.9%) were in the range of 2.0-2.5.

In terms of the average score in the last major exam, 174 participants (45.5%) scored between 60-79%, which is the most widespread range. The 121 students received marks between 80-100% (31.7%) and those with marks between 40-59% (15.4%) was 59 respectively. The number of those who scored below 40 was only 28 (7.3%), and when speaking of class attendance, 214 (56.0%), and 147 (38.5%), were those who stated their attendance was over 75% and 50-75%. The percentage of the attendance level was less than 50, and the number of the participants who admitted it made only 21 (5.5%).

Figure 4.6 *Illness related Academic Disruptions*

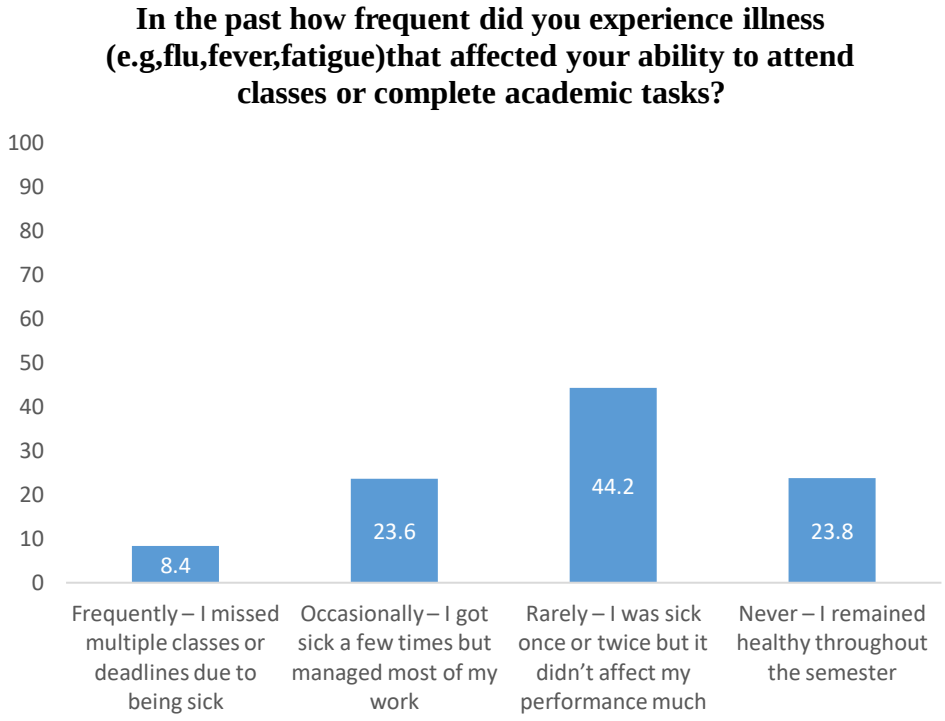


Figure 4.6 responses indicate varying levels of illness among students and its impact on their academic performance. A majority of students (44.2%) reported that they rarely experienced illness, noting that they were sick once or twice but it did not significantly affect their academic performance. This reflects good resilience and minimal academic disruption.

Additionally, 23.6% mentioned that they occasionally fell ill but were still able to manage most of their academic work, suggesting mild illness with manageable consequences. Interestingly, 23.8% of students reported that they did not experience any illness throughout the semester, which indicates stable health and no academic interference.

However, a small yet important portion (8.4%) stated that they frequently missed classes or deadlines due to being sick, highlighting a group that may require additional academic or health support.

Figure 4.7 *Perceived Impact of Eating Before an Exam on Concentration and Recall*

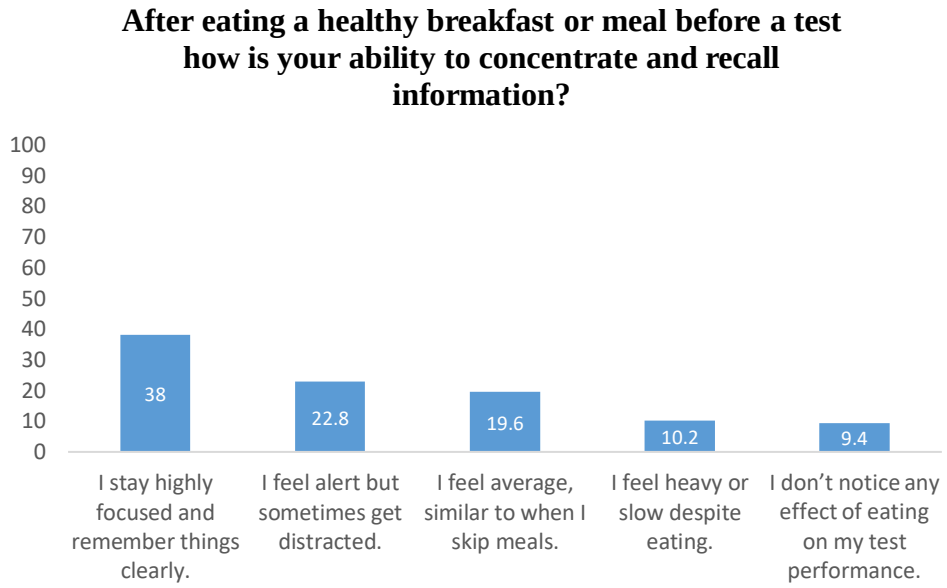


Figure 4.7 findings show how students perceive their concentration and recall ability after eating a healthy meal before a test or exam, based on frequency and percentage.

A significant portion of students, 145 (38.0%), reported that they stay highly focused and remember things clearly after eating a healthy meal, indicating a strong positive association between proper nutrition and cognitive performance. Meanwhile, 87 students (22.8%) stated that they feel alert but sometimes get distracted, suggesting that while eating helps, it may not fully optimize concentration for everyone.

Additionally, 75 students (19.6%) felt average similar to when they skip meals, showing that for nearly one-fifth of respondents, eating does not produce a noticeable improvement in concentration. Furthermore, 39 students (10.2%) reported feeling heavy or slow despite eating, which may indicate overeating or consuming heavy meals that potentially hinder alertness. Lastly, 36 students (9.4%) mentioned that they do not notice any impact of eating on their test performance, suggesting that the perceived benefit of eating before exams varies across individuals.

Figure 4.8 *Benefit of Lunch Break during Long Class Hour*

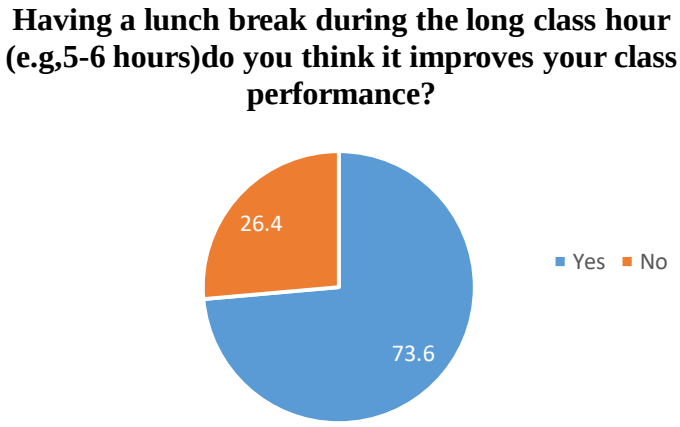


Figure 4.8 results indicate that most of the respondents had answered Yes and 281 students (73.6%) did so. Conversely, 101 participants (26.4%) said No. This means that almost three-quarters of the respondents confirmed the item whereas a small fraction just above a quarter denied.

Figure 4.9 *Student Perceptions on how a healthy, balanced diet influences their performance.*

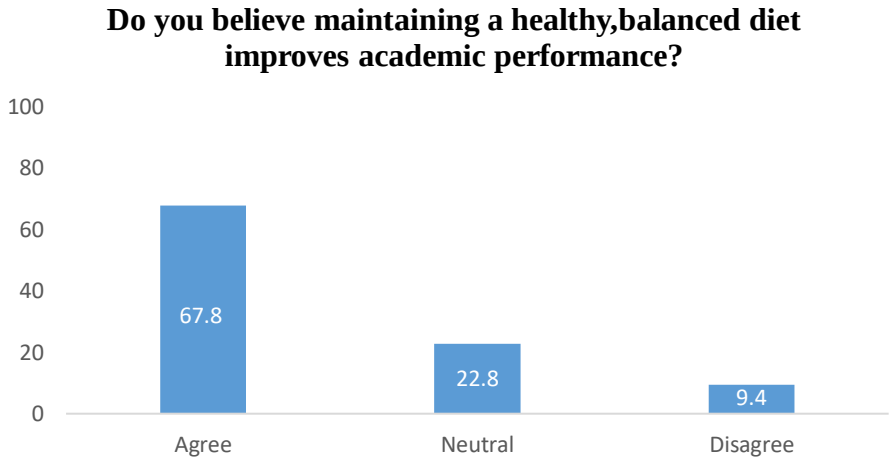


Figure 4.9 shows that, on the question of whether an academic performance is improved by having a healthy, balanced diet, most of the participants said they concurred, with 259 students (67.8%)

agreeing on this fact. Only 87 persons (22.8%) experienced a neutral position meaning they are uncertain or not strongly inclined on the issue. In the meantime, 36 participants (9.4%) do not agree, as they state that a balanced diet does not influence academic achievements.

4.2 Statistical Analysis

Table 4.4 *Association between Eating Habits and Academic Performance*

Eating Habits	Poor Academic Performance n (%)	Good Academic Performance n (%)	Total n (%)	Chi-Square Value	p-Value
Poor Eating Habits (n = 99)	49 (13.0%)	50 (13.1%)	99 (25.9%)		
Good Eating Habits (n = 283)	129 (33.8%)	154 (40.3%)	283 (74.1%)		
Total (N = 382)	178 (46.6%)	204 (53.4%)	382 (100%)	**0.451**	**0.503**

χ^2 (1) = 0.451, p = **0.503**

Note: No cells (0 percent) have an expected value of less than 5. Minimum expected count = 46.13.

In Table 4.4, the cross tabulation of eating habits and academic performance revealed that in the group of participants who had poor eating habits (n=99), 49 students (13.0%) had poor academic performance, and 50 students (13.1%) had good academic performance. Conversely, of the individuals who have good eating habits (n = 283) 129 (33.8%) had poor academic performance and 154 (40.3%) had good academic performance. In general, of all the sample size (N = 382), 178 students (46.6%) had poor academic performance, and 204 students (53.4) had good academic performance. The chi-square test value revealed that the relationship between eating habits and academic performance is not significant, χ^2 (1) = 0.451, p = 0.503. The number of expected cells satisfied the requirement of the assumption, as none of the counts were below 5 and a minimum number of expected cells was 46.13.

Table 4.5 *Cross tabulation of Demographics variables with Eating Habits*

Demographic Variable	Poor Eating Habits n (%)	Good Eating Habits n (%)	Chi-Square Value	p-value
Gender			**0.044**	**0.834**
Female	61 (45.9%)	72 (54.1%)		
Male	117 (47.0%)	132 (53.0%)		
Age Group			**4.946**	**0.084**
18–20	65 (50.0%)	65 (50.0%)		
21–23	59 (39.6%)	90 (60.4%)		
24–27	54 (52.4%)	49 (47.6%)		
Year of Study			**2.259**	**0.520**
First Year	22 (41.5%)	31 (58.5%)		
Second Year	33 (41.3%)	47 (58.8%)		
Third Year	60 (49.6%)	61 (50.4%)		
Final Year	63 (49.2%)	65 (50.8%)		
Field of Study			**5.971**	**0.818**
Business Studies	21 (42.9%)	28 (57.1%)		
Computer Science	7 (46.7%)	8 (53.3%)		
HSS	78 (47.0%)	88 (53.0%)		
Islamic Studies	4 (57.1%)	3 (42.9%)		
Law	21 (48.8%)	22 (51.2%)		
Management	9 (60.0%)	6 (40.0%)		
Media Studies	19 (50.0%)	19 (50.0%)		
Psychology	19 (38.8%)	30 (61.2%)		
Residence			**8.622**	**0.013**
Hostel	64 (56.1%)	50 (43.9%)		
With Family	103 (41.2%)	147 (58.8%)		
Other	11 (61.1%)	7 (38.9%)		

Table 4.5 shows that the gender and eating habits were also associated with the following results where the female participants were found to have poor eating habits 61(45.9%) and 72 (54.1%) good eating habits. In the male respondents, 117 (47.0 %) of them were found to be poor eaters and 132 (53.0%) were found to be good eaters. Chi-square test has shown that there is no significant association, $\chi^2 = 0.044$, $p = 0.834$.

For age groups, participants aged 18–20 years demonstrated 65 (50.0%) poor and 65 (50.0%) good eating habits. In the 21–23 age group, 59 (39.6%) had poor eating habits while 90 (60.4%) had good eating habits. Among those aged 24–27 years, 54 (52.4%) reported poor eating habits and 49 (47.6%) reported good eating habits. The chi-square value indicated no statistically significant association, $\chi^2 = 4.946$, $p = 0.084$.

Regarding year of study, 22 (41.5%) first-year students had poor eating habits and 31 (58.5%) had good eating habits. Among second-year students, 33 (41.3%) reported poor eating habits while 47 (58.8%) reported good habits. In the third year, 60 (49.6%) had poor eating habits and 61 (50.4%) had good eating habits, while in the final year, 63 (49.2%) had poor and 65 (50.8%) had good eating habits. The chi-square test showed no significant association, $\chi^2 = 2.259$, $p = 0.520$.

Across fields of study, 21 (42.9%) students in Business Studies reported poor eating habits and 28 (57.1%) reported good habits. In Computer Science, 7 (46.7%) had poor and 8 (53.3%) had good eating habits. Among HSS students, 78 (47.0%) reported poor eating habits and 88 (53.0%) reported good eating habits. For Islamic Studies, 4 (57.1%) had poor and 3 (42.9%) had good eating habits. Law students showed 21 (48.8%) poor and 22 (51.2%) good eating habits, while Management students reported 9 (60.0%) poor and 6 (40.0%) good eating habits. Media Studies students had 19 (50.0%) poor and 19 (50.0%) good eating habits, and Psychology students reported 19 (38.8%) poor and 30 (61.2%) good eating habits. The chi-square test again showed no significant association, $\chi^2 = 5.971$, $p = 0.818$.

For residence, 64 (56.1%) hostel residents reported poor eating habits and 50 (43.9%) reported good eating habits. Among students living with family, 103 (41.2%) had poor eating habits while 147 (58.8%) had good eating habits. The respondents who were classified as other in residence

recorded 11 (61.1%) and 7 (38.9%) poor and good eating habits respectively. The result of the chi-square test showed that the relationship between residence and the eating habits was statistically significant, $\chi^2 = 8.622$, $p = 0.013$.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Discussion

This study examined the dietary behaviors of university students and their association with academic performance, along with the influence of demographic factors. The results provide valuable insights into students' nutritional habits, perceived barriers, and academic outcomes.

The findings revealed that most respondents reported consuming three meals per day, indicating a generally consistent eating habits. However, the frequency of consumption of various food items suggested mixed dietary behaviors. While a notable proportion of students regularly consumed fruits, vegetables, whole grains, and breakfast foods indicators of a healthy diet (Fernandes et al., 2018). There was also prevalent intake of fast food, fried items, and sugar-sweetened beverages. This dual trend reflects ambivalence in dietary choices, suggesting that although students may understand the importance of healthy eating, lifestyle constraints and convenience often influence their food decisions (Sogari et al., 2018).

Barriers to healthy eating were a prominent theme. Lack of nutritional knowledge emerged as a key obstacle, implying that many students were not well-informed about the components of a balanced diet. Time limitations, preference for fast food, financial constraints, and limited availability of healthy food options were also commonly reported findings consistent with prior literature on student eating behaviors (Yahia et al., 2016). These results emphasize the role of both individual and environmental factors in shaping dietary habits.

Dietary habits were also found to change during examination periods. Many students reported consuming healthier foods to improve focus and memory, while others skipped meals or opted for junk food due to stress and time pressure. Similar trends have been highlighted in previous studies, suggesting that exams significantly influence dietary decisions among university students (Lema et al., 2019). Supplement usage was low and was mainly associated with medical reasons rather than academic enhancement, which aligns with existing evidence (Sontakke et al., 2015).

Additionally, although most students reported minimal illness, a small subset experienced frequent health issues leading to missed classes. Eating a nutritious meal before exams was generally linked with better concentration and recall (Adan et al., 2019). However, individual differences were noted.

Regarding academic performance indicators, over half of the respondents reported an average GPA between 3.1–3.5 and more than 75% classroom attendance. Despite this, the statistical analysis revealed **no significant association** between eating habits and academic performance. This finding contradicts many previous studies that have reported a positive relationship between eating habits and academic outcomes (Burrows et al., 2017). Possible explanations include the reliance on self-reported data, limited variability in academic scores, and the influence of confounding variables such as study habits, sleep quality, and stress factors that have been shown to affect academic achievement (Gilbert & Weaver, 2010).

The demographic variables (e.g., age, gender, year of study, field of study) showed no significant influence on eating habits. However, residential status was significantly associated with dietary behavior. Students living in hostels exhibited poorer eating habits than those staying with family a finding consistent with studies that reported poorer meal planning, increased consumption of convenience foods, and lack of access to home-cooked meals among hostel or dormitory students (Yahia et al., 2016).

Interestingly, while students strongly believed that a balanced diet improves academic performance, statistical evidence did not support this perception. This reflects a gap between nutritional awareness and behavioral practice, suggesting that knowledge alone may not translate into healthy habits due to barriers such as time, cost, and convenience (Sogari et al., 2018).

Overall, these results indicate that despite positive attitudes toward nutrition, practical constraints and lifestyle patterns exert a stronger influence on dietary choices. The absence of a significant statistical association between eating habits and academic performance suggests that academic success is multifactorial, and nutrition while important may not be the sole determinant. Promoting

nutritional awareness, providing affordable healthy food options, and incorporating supportive strategies within university settings could be effective in improving students' eating behaviors and overall well-being.

5.2 Limitations

There are a number of limitations in this study. First, this research adopted the cross-sectional research design, which does not allow the determination of cause-effect relationships among eating habits and academic performance. The outcomes are merely associations at a given point in time.

Second, the research was based on self-reports on eating habits and academic performance. Self-reporting is prone to recall bias and social desirability bias since respondents can overestimate the healthy behaviors and underreport the unhealthy ones. This could have affected the validity of the responses.

Third, the academic performance was established based on self-reported GPA and exam scores instead of the official records, which can decrease the data accuracy.

Fourth, the study sample was selected in one university, which could restrict the extrapolation of study results. The eating habits, food access, and academic demands may be different in different universities or regions thus the findings may not be representative of all the university students.

Fifth, the research concentrated on a number of eating habits variables and failed to assess the other factors that influence eating habits like sleep quality, stress, physical activity, socioeconomic background, or study habits which are known to influence academic performance. The lack of these variables can be the reason of the lack of significant association.

5.3 Future Recommendations

Several recommendations are suggested for future research and practical implementation based on the findings of the current study. It is also advisable that longitudinal research should be undertaken to develop causal relationships between eating habits and student grades, which can give a better insight as to the effect of nutrition on student performance over a duration of time.

To improve the accuracy and reliability of the data, the studies done in the future must implement the objective and comprehensive measures of dietary consumption and academic performance including the food diaries, dietary recalls that last at least 24 hours, and official academic records.

It is advised to increase the area of influence to various universities or different geographical locations because it would enhance external validity of results and the differences in food accessibility, cultural customs, and academic setting.

It is also recommended that future research should consider the interrelated factors in studying sleep patterns, stress, physical activity, and socioeconomic status that might mediate or moderate the relationship between eating habits and academic performances.

Lastly, specific interventions would be necessary, addressing nutrition education, knowledge of healthy diets, and realistic measures to address barriers, including lack of time, expensive nature, and low access to healthy foods. An assessment of the efficiency of such interventions would be informative to policy and program formulation to ensure students in the university adopt healthy eating.

5.4 Conclusion

The study revealed that while students generally recognize the importance of healthy eating, their actual dietary behaviors are strongly shaped by practical barriers such as time constraints, convenience, cost, and lack of nutritional awareness. Although many students reported modifying their diet during exams and believed that eating habits enhances academic performance, no significant statistical association was found between eating habits and academic performance. Demographic factors also showed no major influence, except for residential status, where hostel students exhibited poorer dietary practices than those living with family. Overall, the findings suggest that positive perceptions alone are not enough to ensure healthy eating, and that lifestyle limitations, environmental factors, and competing priorities often hinder students from maintaining good dietary habits.

References

Adan, A., Natale, V., Caci, H., & Prat, G. (2019). Impact of nutrition on cognition and academic performance. *Nutrients, 11*(6), 1240.

Adolphus, K., Lawton, C. L., & Dye, L. (2016). The effects of breakfast on behavior and academic performance in children and adolescents. *Frontiers in Human Neuroscience, 10,* 595.

Al-Rethaiaa, A. S., Fahmy, A.-E. A., & Al-Shwaiyat, N. M. (2020). Food habits and nutritional status of university students in Saudi Arabia. *Nutrition & Health, 26*(3), 297–305.

Alzahrani, S. G., Saeedi, A. A., & Baig, M. (2019). Dietary habits among university students in the Middle East: A cross-sectional study. *Journal of Public Health Research, 8*(2), 45–52.

Aslam, H., Shahzadi, I., & Nadeem, M. (2021). Breakfast skipping and academic performance among undergraduate students in Pakistan. *Pakistan Journal of Nutrition, 20*(4), 250–257.

Bhattacharjee, S., Roy, S., & Varghese, M. (2025). Meal patterns and academic performance among postsecondary students: A cross-sectional study. *Clinical Nutrition ESPEN, 58,* 112–119.

Burrows, T., Warren, J. M., Colyvas, K., & Collins, C. (2017). Impact of eating habits on academic performance in university students. *Journal of Nutrition Education and Behavior, 49*(3), 204–212.

Casagrande, G., Zullo, S., & Marchini, F. (2021). Effectiveness of nutrition education interventions among university students: A systematic review. *Nutrients, 13*(7), 2455.

Centers for Disease Control and Prevention (CDC). (2019). *Breakfast consumption and academic outcomes among U.S. students.*

El Ansari, W., Stock, C., & John, J. (2017). Health complaints and eating habits in university students across 26 countries. *Public Health Nutrition, 14*(4), 644–651.

Farooq, F., Rehman, R., & Malik, R. (2020). Changing dietary patterns and nutritional issues among Pakistani youth. *Journal of Asian Public Health, 7*(2), 89–97.

Fernandes, A. C., De Oliveira, R. C., Rodrigues, A. M., & Lopes, C. P. (2018). Dietary habits and academic performance among young adults. *Nutrients, 10*(11), 1538.

Fernández, M., Ramírez, A., & Díaz, R. (2022). Stress eating and academic performance during university years. *Journal of Behavioral Health, 11*(1), 33–41.

Fotiadis, A., Koutra, S., & Drakou, A. (2021). University students' reliance on convenience foods: Effects on diet quality and cognitive outcomes. *Journal of Nutrition & Behavior Science, 5*(2), 98–107.

Global Nutrition Report. (2021). *The state of global nutrition 2021.* Development Initiatives.

Haider, L. M., Vasileva, M., & Holm, L. (2019). Micronutrient deficiencies and cognitive impairment in young adults: A review. *Nutrients, 11*(3), 655.

Hassan, S., Nisar, S., & Qureshi, S. (2021). Dietary habits and academic performance among Pakistani university students. *Pakistan Journal of Public Health, 11*(2), 88–95.

Khan, N., & Ahmed, S. (2020). Shifts in eating habits among Pakistani university students: A cross-sectional survey. *Journal of Nutrition & Health Sciences, 7*(1), 1–6.

Kim, S. Y., Sim, S., Kim, S. G., & Choi, H. G. (2018). Breakfast consumption and academic performance in Korean adolescents. *Nutrients, 10*(9), 1185. López-Olivares, M., Guerra, A., & García, R. (2020). Dietary patterns and cognitive performance in university students. *Appetite, 155,* 104844.

López, R., Zazpe, I., & Ruiz, L. (2018). Mediterranean diet adherence and cognitive function in university students. *Journal of Nutrition Education and Behavior, 50*(6), 558–567.

Mansouri, A., Rezq, A., & Ahmed, S. (2021). Global patterns of unhealthy eating among university students: A systematic review. *Journal of Global Health Studies, 3*(1), 57–74.

Musaiger, A. O., Zagzoog, N., & Al-Mannai, M. (2017). Influences of peers and stress on eating habits among university students. *Nutrition & Food Science, 47*(2), 249–256.

Naeem, U., Raza, A., & Habib, M. (2022). Dietary differences between hostel-living and home-living undergraduate students in Pakistan. *Pakistan Journal of Medical Sciences, 38*(4), 912–918.

Peltzer, K., & Pengpid, S. (2015). Dietary behaviors and weight status among university students in 23 countries. *Journal of Public Health, 24*(5), 321–330.

Rampersaud, G. C., Kim, H., & Gao, Z. (2018). Breakfast patterns and academic performance in young adults. *Journal of the American College of Nutrition, 37*(8), 631–638.

Raza, S., Fatima, H., & Shah, A. (2022). Dietary patterns, nutritional deficiencies and academic performance of Pakistani adolescents. *Asian Journal of Nutrition, 14*(2), 67–76.

Riasat, R., Suleman, M., & Tariq, R. (2025). Sugary beverage consumption and academic functioning among Pakistani university students. *Journal of Behavioral Nutrition, 9*(1), 22–29.

Schallert, E., & Daily, E. (2025). Impact of experiential nutrition education on college students' cognitive and academic performance. *Journal of the Academy of Nutrition and Dietetics, 125*(1), 45–55.

Sogari, G., Velez-Argumedo, C., Gómez, M. I., & Mora, C. (2018). College students and eating habits: A study of daily challenges and stressors. *Nutrients, 10*(12), 1930.

Sogari, G., Wansink, B., & Mora, C. (2021). COVID-19 and dietary changes among university students. *Frontiers in Nutrition, 8,* 646.

Syahrir, A., Rahman, N., & Yusuf, M. (2025). BMI, hemoglobin level, and academic performance of public health students. *International Journal of Public Health Research, 12*(1), 33–41.

Taheri, S., Afaghi, A., & Badran, M. (2019). Sleep disruption, appetite hormones, and food choices among university students. *Sleep Medicine Reviews, 48,* 101209.

Taras, H. (2016). Nutrition and student performance at school. *Journal of School Health, 76*(10), 673–678.

Trovato, G., Catalano, D., & Scavo, S. (2021). Lifestyle habits, diet, sleep, and academic performance in university students. *BMC Nutrition, 7*(1), 18.

UNESCO. (2022). *Nutrition, learning, and youth development: Global education monitoring.* United Nations Educational, Scientific and Cultural Organization.

World Health Organization (WHO). (2020). *Healthy diet: Key facts.*

Yahia, N., Wang, D., Rapley, M., & Dey, R. (2016). Assessment of eating habits and lifestyle among university students. *Nutrition, 32*(3), 324–330.

Alam, S., Syahrir, S., Yasin, M., & Aswadi, A. (2025). Body mass index, hemoglobin levels and grade-point average for public health students: Cross sectional study. *Journal of Public Health and Pharmacy, 5*(3), 635–644.

Aydın, E., Tanrıverdi, M., Pasin, Ö., Heybeli, C., Kirazoğlu, D. A., Boyer, L., … Soysal, P. (2025). The impact of malnutrition and associated nutritional deficiencies on mortality in older adults. *Clinical Nutrition ESPEN.*

Bhattacharjee, B., Dutta, I., & Nandan, J. (2025). Associations between meal-skipping behaviors and academic outcomes in higher education: A cross-sectional study. *Clinical Nutrition ESPEN.*

Holly, S., Olivia, C., Smaranda, D., Louise, M., Jamie, S., & Jason, G. (2025). Enhancing postsecondary students' dietary behaviours: A systematic review of mobile health interventions. *Journal of Human Nutrition and Dietetics, 38*(5), e70130.

Riasat, T., Bilal, A., Iftikhar, A., & Zafar, M. (2025). An empirical analysis of carbonated beverage consumption trends and health consequences among tertiary education students. *J Curr Sign, 3*(3), 1421–1446.

Schallert, M., & Daily, K. (2025). Tiger bites: Using an applied and hands-on education process to improve athlete nutritional knowledge and dietary habits. *Journal of the Academy of Nutrition and Dietetics, 125*(10), A42.

Vasco, P., Allocca, S., Casella, C., Colecchia, F. P., Ruberto, M., Mancini, N., … Polito, R. (2025). Nutrition and physical activity in the university population: A scoping review of combined impacts on psychological well-being, cognitive performance, and quality of life. *Journal of Functional Morphology and Kinesiology, 10*(4), 374.

Bhattacharjee, B., Dutta, I., & Nandan, J. (2025). Associations between meal-skipping behaviors and academic outcomes in higher education: A cross-sectional study. *Clinical Nutrition ESPEN*.

Holly, S., Olivia, C., Smaranda, D., Louise, M., Jamie, S., & Jason, G. (2025). Enhancing postsecondary students’ dietary behaviours: A systematic review of mobile health interventions. *Journal of Human Nutrition and Dietetics, 38*(5), e70130.

Vasco, P., Allocca, S., Casella, C., Colecchia, F. P., Ruberto, M., Mancini, N., ... & Polito, R. (2025). Nutrition and physical activity in the university population: A scoping review of combined impacts on psychological well-being, cognitive performance, and quality of life. *Journal of Functional Morphology and Kinesiology, 10*(4), 374.

Research Questionnaire

Association between Eating Habits and Academic Performance among University Students –A Quantitative Study

Informed Consent

- I am **Uswa Ilyas** student of BSPH, doing my research under the supervision of **Bahria University, Islamabad**.
- Participation in this study is **completely voluntary**.
- Participants have the **right to withdraw** from the study at any point
- All information provided by participants will be kept **strictly confidential** and used **solely for academic purposes**.
- No personal identifiers (such as name, roll number, contact information) will be collected to ensure **anonymity**.
- The data will be stored securely and will only be accessible to the research team.
- By proceeding to answer this questionnaire, participants are providing their **informed consent** to participate in the study

---

Section 1: Demographic Information

1. Age: _____ years
2. Gender:

   ☐ Male

   ☐ Female
3. Year of Study:

   ☐ First Year

   ☐ Second Year

   ☐ Third Year

   ☐ Final Year

4. Field of Study: _____
5. Residence: ☐ Hostel ☐ With Family ☐ Other
6. **University Email ID: _____(by choice)**

Section 2: Eating Habits

1. **How many meals do you consume daily?**

   ☐ 1 meal

   ☐ 2 meals

   ☐ 3 meals

   ☐ More than 3 meals

2. **During exams or busy study periods, do you change your eating habits?**

   ☐ Yes ☐ No

   How? ----------

3. **How frequently do you consume the following?**

   (Mark one option per row)

Food Item	**Never**	**1–3x/month**	**1–2x/week**	**3–4x/week**	**Daily**
Fruits	☐	☐	☐	☐	☐
Vegetables	☐	☐	☐	☐	☐
Fast Food (e.g., burgers, fries)	☐	☐	☐	☐	☐
Sugar-Sweetened Beverages	☐	☐	☐	☐	☐
Breakfast	☐	☐	☐	☐	☐
Energy Drinks	☐	☐	☐	☐	☐
Whole Grains (roti, oats)	☐	☐	☐	☐	☐
Fried Foods	☐	☐	☐	☐	☐

4. **Do you take any dietary supplements (e.g., vitamins)?**

   ☐ Yes ☐ No

   Why? ----------

5. **On the days you feel more confident and active in class, what best describes your eating habits before class?**

   ☐ I had a full, balanced meal (e.g., including protein, carbs, and fruits/vegetables).

   ☐ I ate something light (e.g., snack or tea only).

   ☐ I skipped the meal before class.

   ☐ I was hungry or felt low on energy.

   ☐ I don't notice a connection between my eating and class participation.

6. **When you regularly consume a healthy, balanced diet (including fruits, vegetables, and sufficient meals), how does it affect your academic performance?**

   <u>You can choose more than one option</u>

   ☐ I feel energetic and rarely miss classes due to illness.

   ☐ I stay more focused and complete assignments on time.

   ☐ I notice better concentration and classroom participation.

   ☐ I still face frequent health issues despite healthy eating.

☐ I don't notice any connection between diet and academic performance.

7. **Imagine it's a high-stress exam week. Which best describes your eating behavior?**

   ☐ I eat healthy to stay focused

   ☐ I skip meals due to stress

   ☐ I snack constantly

   ☐ I don't pay attention to diet

8. **What prevents you from eating a balanced diet regularly as a student?**

   You can choose more than one option

   ☐ Lack of time

   ☐ Lack of access to healthy food options on campus/hostel

   ☐ Higher cost of balanced meals

   ☐ Preference for fast food/snacking

   ☐ Lack of awareness about what counts as a balanced diet

Section 3: Academic Performance

1. **What is your current GPA/CGPA?**

   ☐ Below 2.0

   ☐ 2.0 – 2.5

   ☐ 2.6 – 3.0

   ☐ 3.1 – 3.5

   ☐ 3.6 – 4.0

2. **What were your average marks in your last major exam?**

   ☐ 80–100% ☐ 60–79% ☐ 40–59% ☐ Below 40%

3. **What is your average class attendance rate?**

   ☐ Below 50%

☐ 50–75%

☐ Above 75%

4. **When are most of your classes held?**

   ☐ Morning ☐ Afternoon ☐ Evening

5. **In the past semester, how often did you experience illness (e.g., flu, fever, fatigue) that affected your ability to attend classes or complete academic tasks?**

   ☐ Frequently – I missed multiple classes or deadlines due to being sick.

   ☐ Occasionally – I got sick a few times but managed most of my work.

   ☐ Rarely – I was sick once or twice but it didn't affect my performance much.

   ☐ Never – I remained healthy throughout the semester.

6. **During lectures, when your teacher asks questions or encourages discussion, how often do you actively respond or share your opinion in front of the class?**

   ☐ Always – I actively respond and share my opinions regularly.

   ☐ Often, I participate when I feel confident or interested in the topic.

   ☐ Sometimes, I occasionally respond but prefer to stay quiet.

   ☐ Rarely – I usually do not participate in classroom discussions.

   ☐ Never – I avoid speaking or responding during class.

7. **Imagine you are assigned to a group project where you have to brainstorm and contribute ideas. How do you usually participate in such situations?**

   ☐ I take a leading role and actively contribute ideas.

   ☐ I contribute when asked but don't take the lead.

   ☐ I listen more than I speak.

   ☐ I avoid participation unless necessary.

   ☐ I feel anxious or uncomfortable in group tasks.

8. **After eating a healthy breakfast or meal before a test/exam, how is your ability to concentrate and recall information?**

☐ I stay highly focused and remember things clearly.

☐ I feel alert but sometimes get distracted.

☐ I feel average, similar to when I skip meals.

☐ I feel heavy or slow despite eating.

☐ I don't notice any effect of eating on my test performance.

9. **Having a lunch break during the long class hour (e.g., 5-6 hours), do you think it improves your class performance?**

   ☐ Yes

   ☐ No

   WHY

   ---

10. **Do you think there is an association between eating habits and academic performance?**

    ☐ Yes

    ☐ No

    WHY

    ---

11. **Do you believe maintaining a healthy, balanced diet improves academic performance?**

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

Thank you for your participation. Your responses will remain confidential and will only be used for academic research purposes.

uswa

by Sohima Naveed .

Submission date: 20-Nov-2025 02:59PM (UTC+0500)
Submission ID: 2330475301
File name: Final_writing_Autosaved.docx (644.18K)
Word count: 15732
Character count: 89852

uswa

ORIGINALITY REPORT

7%	6%	3%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Aldubaybi, Afnan Abdullah. "Factors Affecting Mental Wellbeing Among UK University Students", University of Nottingham (United Kingdom) Publication	<1%
2	Submitted to Higher Education Commission Pakistan Student Paper	<1%
3	ir.knust.edu.gh Internet Source	<1%
4	123dok.net Internet Source	<1%
5	openrepository.aut.ac.nz Internet Source	<1%
6	Submitted to University College Dublin (UCD) Student Paper	<1%
7	ir.uitm.edu.my Internet Source	<1%
8	repository.up.ac.za Internet Source	

*% detected as AI

AI detection includes the possibility of false positives. Although some text in this submission is likely AI generated, scores below the 20% threshold are not surfaced because they have a higher likelihood of false positives.

Caution: Review required.

It is essential to understand the limitations of AI detection before making decisions about a student's work. We encourage you to learn more about Turnitin's AI detection capabilities before using the tool.

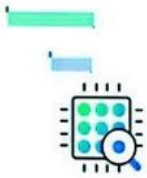
Disclaimer

Our AI writing assessment is designed to help educators identify text that might be prepared by a generative AI tool. Our AI writing assessment may not always be accurate (i.e., our AI models may produce either false positive results or false negative results), so it should not be used as the sole basis for adverse actions against a student. It takes further scrutiny and human judgment in conjunction with an organization's application of its specific academic policies to determine whether any academic misconduct has occurred.

Frequently Asked Questions

How should I interpret Turnitin's AI writing percentage and false positives?

The percentage shown in the AI writing report is the amount of qualifying text within the submission that Turnitin's AI writing detection model determines was either likely AI-generated text from a large-language model or likely AI-generated text that was likely revised using an AI paraphrase tool or word spinner.



False positives (incorrectly flagging human-written text as AI-generated) are a possibility in AI models.

AI detection scores under 20%, which we do not surface in new reports, have a higher likelihood of false positives. To reduce the likelihood of misinterpretation, no score or highlights are attributed and are indicated with an asterisk in the report (*%).

The AI writing percentage should not be the sole basis to determine whether misconduct has occurred. The reviewer/instructor should use the percentage as a means to start a formative conversation with their student and/or use it to examine the submitted assignment in accordance with their school's policies.

What does 'qualifying text' mean?

Our model only processes qualifying text in the form of long-form writing. Long-form writing means individual sentences contained in paragraphs that make up a longer piece of written work, such as an essay, a dissertation, or an article, etc. Qualifying text that has been determined to be likely AI-generated will be highlighted in cyan in the submission, and likely AI-generated and then likely AI-paraphrased will be highlighted purple.

Non-qualifying text, such as bullet points, annotated bibliographies, etc., will not be processed and can create disparity between the submission highlights and the percentage shown.