

## THOUGHTS ON THE IMPACT OF COLLEGE STUDENTS' DIETARY HABITS ON THEIR HEALTH STATUS

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### Abstract

This study used Kendall sample estimation method, questionnaire survey and other methods to explore the relationship between the dietary habits of college students and the occurrence of modern diseases. The aim is to explore how to improve the healthy eating literacy of college students, with the goal of summarizing a set of guidance plans for healthy eating.

**Keywords:** College students; eating habits; Dietary guidance

### Introduction

In the context of "Healthy China 2030", the country has provided guidance on how to guide reasonable diets in order to promote the construction of a healthy eating culture. It has proposed conducting research on food nutrition function evaluation, comprehensively popularizing dietary nutrition knowledge, issuing dietary guidelines suitable for different population characteristics, and guiding residents to form scientific dietary habits(CPC, 2016). As a special social group, the relationship between the dietary habits and health status of college students is increasingly receiving attention. Due to the high academic pressure and fast pace of life, many students tend to choose convenient but nutritionally imbalanced foods, which poses a potential threat to their physical health(Xiang & Jian-song, 2007). Therefore, studying the dietary habits of college students and their impact on health is of great significance for guiding them to establish a healthy lifestyle.

### Research objective

To study and summarize a set of guidelines for healthy eating, thereby improving the eating habits of college students and enhancing their health level.

### Scope of the Research

#### 1. Population and Sample

This study collected samples based on the Kendall sample estimation method according to the sample size.

Select samples with similar living conditions and health status based on the sample information collected through formal investigation; Then, through simple random sampling, select samples for tracking and investigation.

## 2. Variable Scope

### Dependent variable:

Physiological indicators: By measuring students' physiological indicators such as height, weight, blood pressure, blood sugar, and blood lipids, their physical health status can be evaluated. These indicators can reflect whether students are in a healthy weight range and whether they are at risk of chronic diseases such as hypertension and diabetes.

Psychological health status: In addition to physiological indicators, students' psychological health status is also an important aspect of their health status. Students' mental health status, such as anxiety, depression, stress, etc., can be evaluated through questionnaire surveys, psychological scales, and other methods.

### Independent variables:

Dietary structure: Study students' dietary structure, including the proportion of intake of staple foods, vegetables, fruits, meat, beans, and other foods. Different dietary structures may have varying impacts on health.

Food types: Understand the types of food that students consume, such as whether they prefer high sugar, high-fat, high salt foods, and whether they consume enough vegetables and fruits. These types of food may have a direct impact on health.

Meal time: Study students' meal time, such as the schedule and regularity of breakfast, lunch, and dinner. Irregular meal times may have adverse effects on health.

Meal frequency: Understand the frequency of students' three meals a day and their snack intake. Too little or too much frequency of meals may have an impact on health.

This study focuses on the cafeteria of a university in Nanning, the surrounding catering industry, and students. The research scope includes all canteens within universities, including environmental conditions, dish structure, nutritional structure, etc. This can provide a comprehensive understanding of the dietary characteristics of university canteens and analyze the impact of canteens on students' health status.

## Literature Review

Dietary health is of multifaceted importance to college students. By maintaining reasonable dietary habits, students can maintain physical health, promote growth and development, improve learning efficiency, enhance immunity, and cultivate good lifestyle habits.

Xie Shengyu conducted a study on the impact of dietary changes on the environment and health in 2019, and believed that a reasonable dietary structure has a significant impact on cardiovascular and cerebrovascular diseases as well as tumor diseases. Excessive intake of animal based foods, protein, fat, and saturated fat is positively correlated with the risk of cardiovascular and cerebrovascular diseases and tumor diseases, while the intake of plant-based foods and carbohydrates is negatively correlated with the risk of these two diseases. Maintaining a reasonable dietary structure is crucial for preventing cardiovascular and cerebrovascular diseases and tumor diseases(Xie, 2019). Yang Jiandang's research in 2021 suggests that students widely engage in unhealthy eating behaviors, such as skipping breakfast, eating late night snacks frequently, ordering takeout frequently, being picky or selective about food. This can lead to sub-health conditions such as imbalanced nutrition, overweight and obesity, susceptibility to gastrointestinal diseases, and oral problems among students(Yang, 2020). Li Chen conducted relevant research on the dietary behavior, health status, and health literacy of college students in 2022, and also believed that students' dietary behavior is poor, with many unhealthy dietary behaviors. Their physical fitness level is relatively poor in China, and most of them have symptoms of nutritional deficiency(Li, 2022).

Based on the above, if students do not pay attention to their dietary health in universities, it may lead to nutritional imbalance, obesity and chronic diseases, gastrointestinal discomfort, psychological problems, the formation of bad habits, and adverse consequences. Therefore, in order to ensure the physical health and comprehensive development of students, it is necessary to conduct research on the dietary habits and their impact on the health status of college students, in order to guide them on how to pay attention to dietary health, develop good dietary habits, and lay a solid foundation for their future comprehensive development.

## Research Methodology

### 1. Research Methodology

Kendall sample estimation method, questionnaire survey and other methods

### 2. Research Steps

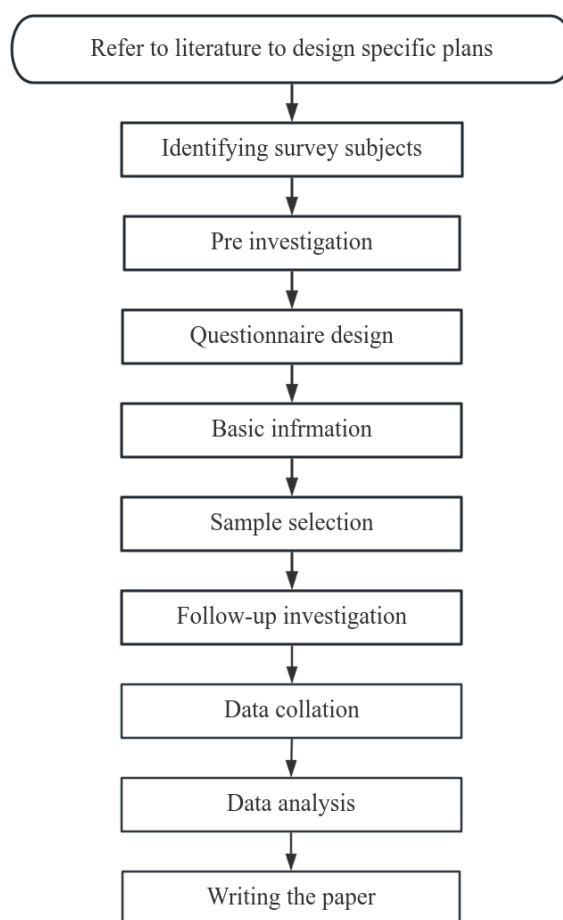


Figure 1: illustrates the roadmap of research steps, focusing on exploring the impact of college students' dietary habits on their health status

### 3. Data collection

The data collection is divided into two stages. In the first stage, from September to October 2023, a questionnaire survey will be conducted to collect basic information of freshmen at a university in Nanning. The questionnaire will mainly be distributed by the freshman class teacher and counselor, and research samples with similar conditions will be selected based on the collected information. In the second stage, during January 2024, 144 research subjects (male and female balanced) were selected through simple random sampling from research samples with similar conditions for follow-up investigation. The physical changes of students with different dietary habits since the beginning of the semester were collected.

### 4. Data analysis

#### 4.1 Quantitative analysis

According to the structural analysis method, by calculating the proportion of dietary habits in each sub-health influencing factor, the habit with the greatest relationship to the corresponding influencing factor is determined. The relationship between students' dietary habits and health status is analyzed, and a set of guidance plans for healthy eating is summarized to improve the dietary habits of college students and enhance their health level.

#### 4.2 Qualitative analysis

Exploring the relationship between dietary habits and health status by understanding the dietary habits and health status of the survey subjects, identifying factors that affect dietary habits and health status, and conducting qualitative analysis by interviewing the sample and understanding social and cultural influences.

## Research results

Through tracking and investigating 144 research samples, the results were divided into samples with sub-health status and samples without sub-health status. The number of samples with sub-health status was 60, and the main dietary choices were night market barbecue, snacks, and fast food; The number of people who did not show sub-health status was 84, and their main dietary choices were popular dishes, noodles, and stir fried dishes.

Tracking survey data table				
Sub health status	Number of people (person times)	Dietary options	Number of dietary choices	Proportion of dietary choices
ONE. Psychological condition				
1. Symptoms of depression and anxiety	24	Noodle dots	3	4.17%
		Popular cuisine	3	4.17%
		special stir-fried dish	4	5.56%
		Halal food	2	2.78%
		Fast Food	12	16.67%
		Night market barbecue	27	37.50%
		street food	21	29.17%
2. Lack of concentration occurs	21	Noodle dots	7	11.11%
		Popular cuisine	5	7.94%
		special stir-fried dish	5	7.94%

Tracking survey data table				
Sub health status	Number of people (person times)	Dietary options	Number of dietary choices	Proportion of dietary choices
		Halal food	3	4.76%
		Fast Food	16	25.40%
		Night market barbecue	15	23.81%
		street food	12	19.05%
TWO.Physical condition				
1. The occurrence of functional disorders	11	Noodle dots	4	12.12%
		Popular cuisine	4	12.12%
		special stir-fried dish	3	9.09%
		Halal food	0	0.00%
		Fast Food	7	21.21%
		Night market barbecue	5	15.15%
		street food	10	30.30%
2. The occurrence of immune imbalance	7	Noodle dots	0	0.00%
		Popular cuisine	2	9.52%
		special stir-fried dish	1	4.76%
		Halal food	0	0.00%
		Fast Food	7	33.33%
		Night market barbecue	6	28.57%
		street food	5	23.81%
3. Frequent occurrence of physical pain	9	Noodle dots	1	3.70%
		Popular cuisine	2	7.41%
		special stir-fried dish	3	11.11%
		Halal food	2	7.41%
		Fast Food	6	22.22%
		Night market barbecue	8	29.63%
		street food	5	18.52%
4. Frequent occurrence of constipation	8	Noodle dots	1	4.17%
		Popular cuisine	4	16.67%
		special stir-fried dish	2	8.33%
		Halal food	0	0.00%
		Fast Food	5	20.83%
		Night market barbecue	10	41.67%
		street food	2	8.33%
5. Easy to experience fatigue	22	Noodle dots	6	9.09%
		Popular cuisine	8	12.12%
		special stir-fried dish	4	6.06%
		Halal food	3	4.55%
		Fast Food	10	15.15%
		Night market barbecue	23	34.85%
		street food	12	18.18%
	16	Noodle dots	3	6.25%

Tracking survey data table				
Sub health status	Number of people (person times)	Dietary options	Number of dietary choices	Proportion of dietary choices
6. Frequent occurrence of indigestion		Popular cuisine	3	6.25%
		special stir-fried dish	5	10.42%
		Halal food	2	4.17%
		Fast Food	10	20.83%
		Night market barbecue	13	27.08%
		street food	12	25.00%
7. Frequent occurrence of metabolic disorders	13	Noodle dots	1	2.56%
		Popular cuisine	2	5.13%
		special stir-fried dish	4	10.26%
		Halal food	1	2.56%
		Fast Food	8	20.51%
		Night market barbecue	13	33.33%
		street food	10	25.64%
8. Poor sleeping conditions	26	Noodle dots	6	7.69%
		Popular cuisine	2	2.56%
		special stir-fried dish	2	2.56%
		Halal food	4	5.13%
		Fast Food	12	15.38%
		Night market barbecue	30	38.46%
		street food	22	28.21%
THREE. Social performance				
1. Dissatisfied with society	6	Noodle dots	1	5.56%
		Popular cuisine	2	11.11%
		special stir-fried dish	1	5.56%
		Halal food	0	0.00%
		Fast Food	4	22.22%
		Night market barbecue	8	44.44%
		street food	2	11.11%
2. There is pressure in campus life	22	Noodle dots	5	7.58%
		Popular cuisine	9	13.64%
		special stir-fried dish	2	3.03%
		Halal food	2	3.03%
		Fast Food	3	4.55%
		Night market barbecue	33	50.00%
		street food	12	18.18%
	84	Noodle dots	62	24.60%
		Popular cuisine	75	29.76%
		special stir-fried dish	53	21.03%
		Halal food	32	12.70%
		Fast Food	12	4.76%

Tracking survey data table				
Sub health status	Number of people (person times)	Dietary options	Number of dietary choices	Proportion of dietary choices
FOUR. No sub health conditions mentioned above have occurred		Night market barbecue	5	1.98%
		street food	13	5.16%

## Discussion

From the research, it can be understood that the dietary patterns of college students are undergoing significant changes, showing a trend of diversification, pursuit of convenience, and high dependence on food delivery services. These emerging dietary habits not only reflect the accelerated pace of modern life, but also quietly establish a close connection with the emergence of modern health problems.

On the one hand, the diversification of diet provides students with more choices, ranging from traditional Chinese dishes to Western fast food, from vegetarianism to various specialty snacks. The rich choices meet the taste preferences and nutritional needs of different students. However, this diversity is also accompanied by potential risks. For example, excessive intake of high calorie, high-fat and high sugar foods may lead to unbalanced nutrition and increase the risk of obesity, diabetes and other metabolic diseases.

On the other hand, fast-paced eating habits have become the first choice for many students. Under the pressure of intense study and life, they are more inclined to choose ready to eat and fast food products to save time. Although this dietary habit is convenient, it often sacrifices the nutritional value and taste of food, which may have adverse effects on physical health in the long run.

What is particularly prominent is that the popularity of food delivery services has greatly changed the way students dine. Takeout is highly favored by students due to its convenience, diversity, and round the clock service. However, the quality of takeaway food varies greatly, and some businesses may use excessive seasonings, additives, and even unhealthy cooking methods such as frying and high salt in order to pursue taste and profit. These factors all increase the risk of students consuming unhealthy food, which is closely related to the occurrence of modern diseases.

In addition, there are other methods to improve the health literacy level of college students, such as the study by Zhang Wei et al. [6], which combines health education with exercise prescription to conduct a comprehensive intervention experiment in teaching.

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