



# Health Literacy Levels of Higher Vocational College Students in Beijing within the Context of the Healthy China Initiative

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**Abstract.** Health is fundamental to the comprehensive development of adolescents. To align with the educational policies of the Communist Party of China (CPC) and foster students' overall growth, it's crucial to enhance students' health literacy. Colleges and universities should strengthen health education to effectively cultivate talent. In the present work, a survey is conducted to assess students' health knowledge, lifestyle choices, and practical health skills. The findings reveal that students lack a thorough understanding of health and possess limited practical health skills. To improve students' health literacy, a comprehensive health education system is necessary to increase the effectiveness of health education. This can be achieved by optimizing physical education courses and innovating their content. Additionally, we should also develop online education platforms to enrich health education methods.

**Keywords:** Higher vocational colleges, college students, health literacy

## 1 Introduction

Health issues are a hot topic for the public today. Health is not only the very foundation of people's well-being but also the foundation for building the country. The Communist Party of China (CPC) and the country attach great importance to the healthy development of young people. In October 2016, the State Council released *the Outline of the Healthy China 2030 Plan*, hereinafter referred to as "the outline." This document emphasizes the need to "integrate health education into the national education system and establish it as a key component of quality education at all educational stages." The *Guidelines for Health Education in Higher Education Institutions* released by the Ministry of Education in April 2017, hereinafter referred to as "the guidelines," further emphasizes the need to "strengthen health education in colleges and universities and improve students' health literacy and physical health levels." Health literacy is divided into three types of literacy, namely basic health knowledge and concepts, healthy lifestyle and behavior, and basic skills. [1] College students are a key force in the nation's development, and their physical and mental health impacts the country's future. Therefore, health education for college students is of great importance. This

study aims to investigate the current health literacy challenges faced by students in higher vocational colleges through surveys, as well as to explore effective approaches and methods for health education.

## **2 Research Objects and Methods**

### **2.1 Research Objects**

This study focuses on the health literacy of students at Beijing Polytechnic.

### **2.2 Research Methods**

#### ***2.2.1 Literature Review***

By reviewing policies, laws, books, and relevant literature related to health education, and by analyzing and organizing the information gathered, this study establishes a theoretical foundation for the research.

#### ***2.2.2 Questionnaire Survey***

In this study, a questionnaire survey method was employed. Utilizing random sampling, 212 students from Beijing Polytechnic were selected to participate and received the survey questionnaires. A total of 212 questionnaires were distributed and collected, with 210 valid responses, resulting in a response rate of 100% and an effective rate of 99.05%. Statistical software was used to analyze the data obtained from the valid questionnaires.

#### ***2.2.3 Mathematical Statistics***

In this study, Excel software was employed for data sorting and statistical analysis.

#### ***2.2.4 Logical Analysis***

The inductive method was used to classify and organize the survey data. Additionally, relevant information was analyzed through comparison, analysis, and inference to identify problems and propose solutions.

## **3 Results and Analysis**

### **3.1 Basic Information of Students**

In this study, 148 male students and 62 female students were surveyed. The participants included 114 students from urban areas, 21 students from districts and counties, and 75 students from rural areas.

### 3.2 Methods for Acquiring Health Knowledge by Students

**Table 1.** Methods for Acquiring Health Knowledge (%)

Methods	Newspapers	Books	Magazines	Health brochures	The Internet
Percentage	3.33	6.19	1.90	12.38	77.14

College students not only receive health education, reflect the level of health education, but also become the main practitioners and disseminators of health education in the future, playing a crucial role in improving the national health literacy level. [2]As illustrated in Table 1, the Internet serves as the primary source for students to acquire health knowledge. With the advancement of modern information technology, the methods by which college students acquire knowledge have changed significantly. Traditional book knowledge alone can no longer satisfy their learning needs, and newspapers and magazines are no longer their primary sources of information. The Internet has emerged as a vital resource, offering a wealth of online educational materials that provide an excellent platform for college students to enhance their knowledge. The survey data reveals that 77.14% of students acquire health knowledge through the Internet, highlighting its role as a primary source for students’ learning.

### 3.3 Survey on Students’ Health Knowledge and Concepts

#### 3.3.1 Students’ Understanding of Health

**Table 2.** Students’ Understanding of Health

Items	Agree	Disagree	Unsure
Health is having a strong body without physical illnesses	46.19	48.10	5.71
People with good health do not need to pay attention to health issues	14.29	83.33	2.38
The fatter a person is, the healthier they may appear	4.76	92.86	2.38
Psychological issues are not illnesses and do not require medical attention	8.09	90.48	1.43

Health literacy refers to an individual's ability to obtain and understand basic health information and services, and use these information and services to make correct decisions in order to maintain and promote their own health. [3]As shown in Table 2, students generally possess a clear understanding of health; however, some still lack a deeper comprehension. The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being, rather than merely the absence of disease or infirmity. The survey results indicate that 46.19% of students still perceive health as merely physical strength and the absence of illness, reflecting an incomplete understanding of the concept. Additionally, approximately 8.09% of students believe that mental health issues do not qualify as illnesses and therefore do not require medical attention, demonstrating a lack of depth in their understanding. This highlights the need to address the significant concern of mental health among contemporary college students. The university period is a critical period for the formation of healthy personality, health knowledge, behavior, and skills among college students,

and it will also have an important impact on their future healthy development. Therefore, it is very necessary to enhance the health literacy of college students. [4]

### 3.3.2 Basic Health Knowledge of Students

**Table 3.** Students' Understanding of Blood Donation (%)

Items	Agree	Disagree	Unsure
Donating 200 milliliters of blood at a time is harmless to healthy adults	65.24	13.33	21.43

**Table 4.** Students' Understanding of Blood Pressure (%)

Items	140/95 mm Hg	120/80 mm Hg	150/100 mm Hg	Unsure
Which group of data do you think is the normal value?	12.38	56.19	1.91	29.52

**Table 5.** Students' Understanding of Body Temperature (%)

Items	35-36°C	36-37°C	37-38°C	Unsure
What do you think is the normal range of adult armpit temperature?	33.81	59.52	0.95	5.72

**Table 6.** Students' Understanding of HIV Transmission Routes

Items	Transmission routes of HIV (number of people)
Injecting infected blood and blood products with HIV	196
Sharing needles with HIV-infected individuals	190
HIV-infected mother can transmit the virus to the baby through childbirth or breastfeeding	174

As illustrated in Tables 3 to 6, 65.24% of students understand the health benefits of regular blood donation. However, 13.33% express doubts, believing that donating 200 milliliters of blood at a time could be harmful to healthy adults. This indicates that there is still a lack of clear understanding among students regarding regular blood donation, highlighting the need for enhanced promotion and education on this topic. More than half of the students have a correct understanding of normal blood pressure and body temperature, however, some remain unclear about the specific values. It is essential for students to have a solid grasp of basic health knowledge, and their awareness needs improvement. We need to strengthen the promotion and education of this knowledge to enhance their health literacy. Regarding awareness of AIDS, students generally demonstrate a correct understanding, but some lack clarity on the transmission routes. Consequently, further education and guidance in this area are necessary.

**3.4 Students’ Understanding of Healthy Lifestyles and Behaviors**

**3.4.1 Students’ Understanding of Healthy Lifestyles**

**Table 7.** Students’ Understanding of Healthy Lifestyles

Items	Number of people
Quitting smoking and drinking	176
Balanced diet	194
Getting along well with others	174
Taking more health and nutritional supplements	83
Weight control	174
Getting more sleep and eating more	39
Regular exercise	191
Unsure	6

**Table 8.** Students’ Understanding of Smoking Cessation

Items	Number of people
The earlier you quit smoking, the better	198
Quitting smoking is beneficial to health	152
The addiction to smoking is hard to quit	15
There is no need for elderly people to quit smoking	14
Unsure	8

**Table 9.** Students’ Understanding of Taking Antibiotics

Items	Number of people
Colds must be treated with antibiotics immediately	33
Purchasing antibiotics based on the condition	58
Antibiotics should be used under the guidance of a doctor	178
Antibiotics can kill bacteria and viruses	52
Unsure	19

As shown in Tables 7 to 9, only six individuals have a vague attitude toward healthy lifestyles, indicating that the majority of students have a clear understanding of how to maintain a healthy lifestyle. In terms of smoking cessation, a small number of students believe that nicotine addiction cannot be overcome, suggesting that their understanding of quitting smoking is insufficient and requires enhanced education. Regarding antibiotic use, most students recognize that antibiotics should be taken under a doctor’s guidance. However, some still lack clarity on this topic, highlighting the need for strengthened education in this area. Unhealthy lifestyle is not only the main reason for chronic diseases such as hypertension, diabetes and cancer, but also the basic factor for the occurrence and prevalence of various infectious diseases. The disease caused by unhealthy lifestyle is the most important cause of death for human beings. [5]

### 3.5 Students' Competence in Practical Health Skills

#### 3.5.1 Students' Management of Dog and Cat Bites and Scratches

**Table 10.** Students' Management of Dog and Cat Bites and Scratches

Items	Number of people
Injecting rabies vaccine immediately	171
Washing the wound with soap and water immediately and getting the rabies vaccine injected as soon as possible	157
Rinsing with water to clean	23
Using folk remedies for post-injury treatment	16
Unsure	5

#### 3.5.2 Students' Management of Gas Poisoning

**Table 11.** Students' Management of Gas Poisoning

Items	Number of people
Opening the window	185
Moving the gas-poisoned person to a place with fresh air and good ventilation as soon as possible	192
Dialing emergency number	186
Moving the gas-poisoned person to a cool place and instilling waxing	56
Unsure	6

#### 3.5.3 Students' Management of Fire Incidents

**Table 12.** Students' Management of Fire Incidents

Items	Number of people
Covering your mouth and nose with a wet towel	202
Evacuating the fire in a prone position	190
Calling 119 immediately	189
Taking the elevator to evacuate	29
Evacuating from the fire after dressing and gathering valuables	22

As indicated in Tables 10 to 12, most students know how to handle cat and dog bites and have a clear understanding of emergency procedures for gas poisoning and fire incidents. However, some students still choose to take the elevator, put on clothes, and gather valuable items during a fire, which is inadvisable. No item is more valuable than life itself. In the face of danger, preserving life should be the top priority.

#### 3.5.4 Students' Use of Automated External Defibrillators

According to the survey, 36.67% of students are able to use an automated external defibrillator (AED), while 62.86% are unable to operate it effectively. This indicates

that many students lack a clear understanding of the correct use of AEDs and do not know how to operate them in emergency situations. An AED is a portable, user-friendly device designed for early defibrillation following a sudden cardiac arrest, helping to restore heartbeats. Effective cardiopulmonary resuscitation within the “golden four minutes” can significantly increase a patient’s survival rate. Therefore, equipping students with the ability to operate an AED not only enhances their first-aid skills but also improves their effectiveness in assisting others. We should make AED training a mandatory course for all college students.

## **4 Conclusions and Recommendations**

### **4.1 Conclusions**

Students primarily acquire health knowledge through the Internet, but their understanding is often superficial. Some lack awareness of the norms surrounding adult blood donation. While many students hold a positive attitude toward healthy lifestyles, some still have insufficient knowledge about the correct use of antibiotics. Generally, students possess a basic understanding of emergency response in daily life; however, half do not know how to use an AED, indicating a need for enhanced training in this area.

### **4.2 Recommendations**

#### ***4.2.1 Developing a Comprehensive Health Education System to Improve Educational Effectiveness***

College health education is a continuation and deepening of primary and secondary school health education, and an important component of national health education. Schools can build a comprehensive health education system based on actual situations, and carry out various health practice activities according to the characteristics of disciplines and majors. [6]Guided by the *Guidelines for Health Education in Higher Education Institutions*, a comprehensive health education system can be established. This system should encompass health education objectives, teaching content, instructional methods, evaluation mechanisms, and management and supervision mechanisms, aiming to provide students with well-rounded health education and improve their health literacy and overall physical well-being.

#### ***4.2.2 Enhancing Physical Education Courses Through Innovative Teaching Content***

Physical education courses should not only teach sports skills and promote physical and mental well-being but also take on the responsibility of disseminating health knowledge. To enhance their effectiveness, we should innovate course content by integrating basic health knowledge, health skills, and healthy lifestyles. This approach enriches educational resources and helps improve college students’ health literacy. Physical education teachers should combine the characteristics of the subject, trans-

form theoretical teaching into practical teaching, and focus on the transformation of college students from health awareness to health behavior. [7] Encourage students to acquire health knowledge, develop health awareness, form health concepts, cultivate healthy behaviors, and gradually elevate them to comprehensive and proactive health behaviors. [8] In the process of cultivating health literacy, mental health literacy is also an important part that cannot be ignored. [9] Physical education courses have a promoting effect on the mental health of college students, and teachers can use sports activities to enhance the mental health level of college students.

#### ***4.2.3 Developing Online Education Platforms to Enrich Health Education Methods***

With the advancement of information and media technology, books are no longer the only means for students to acquire knowledge. Survey results indicate that 77.14% of students obtain health information online. Consequently, colleges and universities can enhance health education by establishing online platforms to promote and disseminate health knowledge and skills to students.

The level of health literacy among college students has profound significance and impact on the development of both the country and individuals. Therefore, it is necessary to establish a campus online and offline health education model to enhance the health literacy level of college students. [10]

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