

# A Quantitative Study on the Influencing Factors of College Students' Sexual Knowledge

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## ABSTRACT

Based on the health belief model, this paper discusses the main factors affecting the dissemination and acceptance of college students' sexual knowledge. This paper mainly adopts the quantitative research method, through issuing questionnaires to college students living in Shanghai, Guangdong and Henan, and using SPSS for correlation analysis. At the same time, this paper also designed a study using Pearson correlation coefficient to determine the correlation between self-protection awareness and first contact education and perceived benefits, perceived barriers and self-efficacy. The study finds that the awareness of self-protection is related to perceived interests, and the strong support of sex education projects in Colleges and universities is related to perceived obstacles. The difference was significant ( $p < 0.05$ ). This paper holds that the dissemination of sexual knowledge is very important to the physical and mental health of college students. It is necessary to improve targeted interventions, strengthen sexual health education, reduce the spread of AIDS, and enable college students to understand correct sexual attitudes, effective attitudes and safe sexual behaviors. This paper will help to provide reference for the development of sex education in Colleges and universities.

**Keywords:** Sexual knowledge, Self-protection awareness, Health belief model

## 1. INTRODUCTION

According to Maslow's hierarchy of needs theory, physiological needs are the basic needs of human life. Sexual well-being is one of the basic physiological needs of human beings. Whether we have a healthy sexual life will affect our physical and mental health. College students, as the newborn representatives of adults, can engage in legal sexual behavior. In recent years, with the advancements of the social economy and social education, the incidence of sexual behavior among college students has grown significantly. Since 1990, the incidence of sexual behavior among Chinese college students has shown an upward trend, from 18% in 1990-1999 to 17.8% in 2011-2016 [1]. However, due to the immature development of College Students' sexual psychology, the school and society do not popularize systematic sex education, college students' sexual health knowledge reserve is insufficient, and their awareness of self-protection is weak. They are likely to have unhealthy sexual behaviors which in turn

lead to unwanted body conception, STDs, AIDS, and other diseases that endanger physical and mental health.

At the same time, the number of young students and elderly people infected with HIV has increased. The annual growth rate of diagnosed HIV infections among college students is about 30%-50%. Therefore, it is of great significance to study the sexual knowledge, sexual behavior and self-protection consciousness of college students at this stage.

In recent years, there are relatively more academic studies on college students' sexual concept and behavior, especially in sexual health education [2]. There are also relatively many researches on adolescent sexual behavior, school sex education and adolescent sexual diseases [3]. Compared with Chinese college students, foreign college students are more open to premarital sex in both attitudes and behaviors [4]. Some studies have shown that the number of college students receiving sex education courses in western countries such as Europe and the United States is significantly

higher than that in China, and the appropriate response rate of sexual knowledge such as how to use condoms and sexually transmitted diseases is higher than that in China [5]. However, influenced by social and cultural changes, economic development and information circulation in modern society, the sexual concepts and attitudes of contemporary Chinese college students are different from those before [6]. A study found that 77.3% of respondents showed high acceptance of premarital sex, and the incidence of sexual behavior among college students also showed an upward trend year by year [7]. The sexual knowledge of Chinese college students mainly comes from the Internet, newspapers, radio and television and other media, and relatively little sexual knowledge is obtained from schools and parents [8][9]. Therefore, the lack of systematic sex education is a common problem of sex education for Chinese college students. This leads to Chinese college students' low understanding of sexual problems, lack of self-protection consciousness and can not calmly deal with gender relations. In the future, it is necessary to carry out sex education in a timely, appropriate and appropriate manner [10].

Because of their strong curiosity and thirst for knowledge, college students are vulnerable to the influence of the external world. In the face of gender relations, once college students lack appropriate guidance, it will lead to sexual mental health deviation and extreme psychology. If we only suppress sexual impulse, it will lead to serious psychological obstacles and develop into sexual perversion or sexual fault. On the contrary, excessive indulgence in sexual impulse will also lead to college students' wrong sexual consciousness and even sexual crime [11]. Therefore, it is very important to correctly guide college students' sexual concept. For the main problems of college students' sex education, some studies show that college sex education courses are mainly elective courses and cramming teaching. Students can only understand some basic concepts of sexual behavior, and lack relevant knowledge such as safe sexual behavior, dangerous behavior, contraception, self-protection of sexual minorities, sexually transmitted diseases and so on. Other students reported that the knowledge learned in class was out of touch with reality [12]. In addition, parents and teachers avoid talking about sexual behavior and gender relations with college students, and the society has a contradictory attitude towards popularizing reproductive health knowledge among adolescents. Previous studies have shown that the dissemination of sexual knowledge through official channels such as school, family and society plays a vital role in properly handling the sexual relationship between college students.

To sum up, schools and society should popularize college students' sex education in a way easy for college students as soon as possible, scientifically and

systematically publicize sex related health problems, and ensure the development of sex education and sexual concepts [13]. Combined with the existing research, this paper uses the questionnaire survey method based on health belief model to study the factors affecting students' dissemination and acceptance of college students' sexual knowledge.

Based on the theoretical framework and literature arrangement, the following assumptions are put forward.

- 1) The higher the perceived interests of college students, the higher the awareness of self-protection in the face of sexual relations
- 2) The higher the perceived barriers for college students to accept sex education, the more they support colleges and universities to carry out sex education courses.
- 3) The earlier college students contact sex education, the higher their sense of self-efficacy.

## 2. METHOD

This study was based on Health Belief Model. HBM is a psychological model that tries to explain and predict health behaviors with people's beliefs about health and diseases as the research core and can be applied to various health education topics including sex education. A large number of literature on sexual education and reproductive health at home and abroad have included this model, which reflects the authority of this model in the field of health promotion. The HBM consists of three parts: influencing and restricting factors, personal health beliefs and actions. Influence and restriction factors refer to demographic factors, knowledge structural factors and other social factors. Personal health beliefs include five factors: perceived susceptibility, perceived severity, perceived benefits, perceived barriers and self-efficacy. The possibility of adopting healthy behaviors is obtained [14]. HBM believes that individuals who feel susceptible to illness think that the disease will be serious, the benefits of protective behavior are greater than the obstacles of implementing protective behavior, and they can implement protective behavior will adopt healthy behaviors to protect themselves [15].

This study adopted the questionnaire method. Questionnaires were created through an app called so jump and distributed to the subjects using social media. The questionnaire consisted of two parts. Firstly, general information was collected on the subject's grade, gender and time period of first-time sex education. Secondly, questions were designed to measure perceived susceptibility, perceived barriers, perceived benefits and self-efficacy of college students using the Richter Five-Item Scale, where the subject selected

"strongly disagree", "disagree", "average", "agree", "strongly agree" to express their level of agreement with the question. This study selected the students currently studying in Colleges and universities, including undergraduates, postgraduates and doctoral students. There are 27 freshmen, 71 sophomores, 114 junior students, 55 senior students, 32 postgraduates and 1 doctoral student.

The study focuses on the following issues in the questionnaire stage:

1) Basic information of the subjects, including gender, grade level and location.

2) Subjects' views on sex education, including the importance of sex education, the extent to which sex education affects physical health, and the relationship between sex education and healthy sexual behavior.

3) Subjects' needs for sex education, including whether they have received sex education courses, the age at which they first received sex education, the extent to which they have acquired sex knowledge, and their attitudes towards asking for and learning about sex on their own.

4) Subjects' sexual attitudes and behavior, including unsafe sex, sexual partners, condom use, etc.

5) Subjects' practices after being sexually harassed, including suffering in silence, reporting to the police, solving the problem in private, telling others, etc.

6) Subjects' knowledge of sexuality, including their knowledge of effective contraceptive methods.

7) Analysis of the influence of factors such as gender, grade, age of first sex education, and whether or not they have been sexually harassed on the Subjects' views on sex education, sex knowledge and sexual behavior.

8) To make reasonable suggestions based on the findings of the survey, so that university students can obtain more diversified channels of sex education, more professional sex knowledge and more scientific and safe sexual behavior, thus promoting their physical and mental health.

### 3. RESULTS

#### 3.1. Relevance of perceived benefits to self-protection awareness

Issues related to perceived benefits: 1) I will avoid contracting relevant STI if I receive systematic sex education. 2) If I receive systematic sex education, I will have a healthy sex life. 3) Universal sex education courses can significantly reduce the rate of HIV infection. 4) Which of the following do you think is an effective form of contraception (rhythm method). 5)

Which of the following do you think is an effective form of contraception (oral contraceptive pills). 6) Which of the following do you think is an effective form of contraception (vaginal douche). 7) Which of the following do you think is an effective form of contraception (condoms). 8) Which of the following do you think is an effective form of contraception (topical contraceptive pills or spermicides). 9) Which of the following do you think is an effective form of contraception: (coitus interruptus). 10) Which of the following do you think is an effective form of contraception: (contraceptive diaphragm).

**Table 1.** Perceived benefits to self-protection awareness

		perceived benefits	self-protection awareness
perceived benefits	Pearson Correlation	1	.128*
	Significance (two-tailed)		.027
	Number of cases	300	300
self-protection awareness	Pearson Correlation	.128*	1
	Significance (two-tailed)	.027	
	Number of cases	300	300

\*.at 0.05 level (two-tailed), the correlation is significant

The scores of the first three issues were averaged as the score of perceived benefits. The last seven issues were scored positively/inversely according to correct/incorrect contraceptive measures (e.g. taking oral contraceptive pills was scored positively and rhythm method was scored negatively) and the scores were averaged as the self-protective awareness score. The correlation coefficient between perceived benefits and self-protection awareness was found to be  $r = 0.128$  and  $p = 0.027$ . So hypothesis 1 was supported.

#### 3.2. Correlation between perceived barriers and the level of support for delivering sex education courses

Issues related to perceived barriers: 1) It is difficult for me to receive systematic sex education because of limited access to sexual knowledge. 2) Asking teachers or parents for information about sex makes me feel ashamed. 3) I think I should learn about sex on my own, and I feel embarrassed to be taught about sex in school classes or by my parents. 4) Not receiving systematic sex education prevents me from having healthy sexual behavior. 5) The inability to have healthy sexual

behavior affects my health. 6) If I have systematic sex education, I will avoid contracting relevant STI. 7) If I receive systematic sex education, I will have a healthy sex life. 8) Universal sex education courses can significantly reduce the rate of HIV infection.

**Table 2.** Perceived barriers and sex education

		perceived barriers	support for delivering sex education courses
perceived barriers	Pearson Correlation	1	.274**
	Significance (two-tailed)		.000
	Number of cases	300	300
support for delivering sex education courses	Pearson Correlation	.274**	1
	Significance (two-tailed)	.000	
	Number of cases	300	300

\*.at 0.01 level (two-tailed), the correlation is significant

The scores of the first three issues were averaged as the score of perceived barriers. The scores of the last five issues were averaged as the score of supporting for conducting sex education. The correlation coefficient between perceived barriers and supporting for sexuality education was found to be  $r = 0.274$ ,  $p < 0.01$ . So hypothesis 2 was supported.

### 3.3. Correlation between age of receiving sex education and self-efficacy

Issues related to self-efficacy: 1) If I have sex during college, I insist on using condoms. 2) When having sex, I will ask that the partner and me to be in a sole sexual partnership. 3) I make sure that both partners are free from infectious diseases before having sex. 4) I will ensure that I do not have sex after drinking.

**Table 3.** Age of receiving sex education and self-efficacy

		age of receiving sex education	self-efficacy
age of receiving	Pearson Correlation	1	-.066

sex education	Significance (two-tailed)		.251
	Number of cases	300	300
self-efficacy	Pearson Correlation	-.066	1
	Significance (two-tailed)	.251	
	Number of cases	300	300

The time of first exposure to sex education was coded from late to early as 1-6. And the scores of the four questions above were then averaged as the self-efficacy score. The correlation coefficient between time and self-efficacy was found to be  $r = -0.066$ ,  $p = 0.251$ . Therefore, hypothesis 3 was not supported.

## 4. DISCUSSION

The purpose of this study is to investigate the influence of sexual knowledge dissemination on college students' proper handling of sexual relations based on the health belief model. The prediction results should be: the higher the perceived benefit, the stronger the self-protection awareness when facing sexual relations; the higher the barrier to obtaining sex education, the more it supports the development of sex education courses in colleges and universities; the earlier the contact sex education, the higher the self-efficacy of healthy sexual behavior. The results show that the first two hypotheses have been proved, along with the third hypothesis, which has been proved to be wrong.

Failure to test hypotheses is followed by further reflection. There are many interfering factors between the age of contact sex education and the self-efficacy of healthy sexual behavior of college students, without so-called linear law. For example, some research results mentioned that men and women have different attitudes towards sex, and the concept of "men are active and women are passive" generally exists, which is accompanied by women's self-efficacy of healthy sex being easily influenced by men [16]. Alcohol interference during sexual behavior also affects self-efficacy in healthy sexual behavior [17]. Therefore, it is concluded that the self-efficacy of healthy sexual behavior is related to the attitude towards sex combined with the previous authoritative related research, including the time when contact sex education begins, the environmental factors when sexual behavior occurs, etc. This study should be further studied and understood on this basis. This study still has some limitations, such as the collection of sample data is not large enough, the gender of the sample also has a large difference, and the

source of the sample is not included in the results of the analysis of the influencing factors.

The analysis of the existing results and related research shows that the current sex education in China has gradually matured after several stages of continuous exploration and development, but there are still some problems: 1)Sex education started late. 2)There is a "self-taught theory" in sex education, which holds that students can acquire sex-related knowledge by themselves and lack proper guidance and scientific education direction. 3)There is still prejudice against sex-related issues, which can not be used as propaganda content. 4)There is a cognitive bias in sex education, which only stays in primary physiological hygiene and does not involve morality, style and other aspects [18].

Following suggestions are put forward after working in the literature and this study [19]. Firstly, a three-dimensional education system composed of family, school and society should be established. Family is the basic place of sex education, school is the main undertaker of sex education, and society is the background of sex education. As the saying goes, parents are the first teachers of children, playing a vital role in the enlightenment of sex education. While schools are responsible for the further scientific education of students in more professional terms, society emphasizes the importance of sex education through media propaganda, to form a systematic way of education. Secondly, sex education is not simply about the introduction of the physiological structure but involves the moral level. Proper sex education should enable college students to understand the moral norms and self-discipline of sexual behavior while properly understanding the relevant knowledge. Finally, adolescent sex education should be carried out in multiple ways and periods. Sex education is characterized by stages, and students' cognitive level and practice scope are different in different periods. Therefore, corresponding sex education should be carried out in multiple ways and periods, and the transition from shallow to deep should be carried out in every stage of primary school, junior high school, senior high school and university, aiming at teenagers of different ages.

## 5. CONCLUSION

To sum up, universities play a bridge role for teenagers, connecting campus life and social life. Most college students get rid of the pressure of the college entrance examination when they grow up. Young people have strong hormone secretion, and the relationship between men and women is relatively free and open. In this case, it is necessary to treat the gender relationship correctly in order to avoid physical or psychological harm. This study holds that schools and parents should take the responsibility of sex education for students and

guide students to learn gender knowledge, so as to protect them more effectively in the future. As Maslow's hierarchy of human needs theory shows, sex is human instinct and reproductive channel. Systematic sex education enables college students to face the future gender relations more calmly. This paper has great research value, which will be of great significance to promote the dissemination of sexual knowledge, correctly deal with the impact of sexual relations on college students' behavior, and avoid the harm caused by sexual life to college students' body and mind.

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