



The Influence of College Students' Acquisition of Sexual Knowledge on New Media Platforms on Their Willingness to Voluntarily Take Contraceptive Measures When They Have Sex - Based on the Theory of Planned Behavior

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Abstract. This study used a questionnaire survey to collect 510 questionnaires from different universities, different regions and different genders, of which 457 were valid. The questionnaire was based on the Theory of Planned Behavior, with questions and three hypotheses on attitudes, subjective norms, perceived behavioral control and the influence of these three factors on behavioral intention, to investigate the influence of university students' access to sexual knowledge on new media platforms on their willingness to voluntarily use contraception when having sex. In addition, the study also draws on cultivation theory and social learning theory. The study found a notable positive correlation between attitudes, subjective norms, perceived behavioral control and behavioral tendencies. The proof of these hypotheses shows the importance of sex education for university students, which is also important for the health of the students themselves, the prevention of acquired immunodeficiency syndrome (AIDS), the harmony of families, the stability of society and the alleviation of gender conflicts.

Keywords: University Student, New media Platform, Sex Knowledge, Sexual Behavior, Theory of Planned Behavior

1 Introduction

1.1 Research Background

In this era of highly developed internet technology, university students have increasingly diverse access to information. However, online information tends to be mixed, while the curiosity of university students and the relaxed restrictions they have been subjected to as adults have magnified the impact of the information they receive on their actions, especially in terms of the influence of sexual knowledge on sexual behavior. The number of users aged 18-35 on Bilibili accounts for 78% of the total number of users. Users on Weibo are predominantly post-90s and post-00s, with both accounting for nearly 80% of the total. The Target Group Index (TGI) of TikTok users aged 19-30 is very high [1]. Video sharing platforms such as Bilibili, TikTok and Weibo

have become the domain of young people, especially university students. The influence of these platforms on the sexual behavior of university students is undoubtedly far-reaching and long-lasting.

With the everchanging improvement of China's economic level and the rapid development of the substantial and cultural life of the society, people's ideology and cognition are gradually opening up. Especially in the area of sex, people's attitudes and concepts are undergoing unprecedented changes. In addition, since university students are at the stage of rapid physical and psychological growth and maturity, their attitude towards premarital sex and sexual transgressions is becoming more tolerant [2]. At the same time, nevertheless, the lack of a solid foundation in sex education in China does not seem to match the increasingly open mindset and behavior of university students, which is not conducive to the cultivation of a mature and rational understanding of sexuality among university students, nor to the popularization of safe sex.

1.2 Research Content and Significance

AIDS, a serious public health problem facing the world, has been spreading in China for more than 30 years [3]. As one of the major modes of transmission of the Human Immunodeficiency Virus (HIV), sexual behavior is also an important part of HIV prevention. Safe and healthy sexual behavior is an essential but neglected way to reduce the prevalence of HIV. This study focuses on the influence of students' access to sexual knowledge on various new media platforms on their willingness to voluntarily use contraception during sex, with the hope that the content of sexual knowledge disseminated on various platforms will play an important role in regulating the sexual behavior of students. What, is more, it is expected to provide more references on the ways and forms to popularize sex education. If students can receive sex education and regulate their sexual behavior in an interesting way that is more accessible to them, this will undoubtedly have a significant impact on their health, the prevention of AIDS, family harmony, social stability and the alleviation of gender conflicts.

2 Literature Review

2.1 Overview of the Theory of Planned Behavior

The Theory of Planned Behavior (TPB), which contends that human behavior is the product of conscious planning, may aid in our understanding of how people alter their behavioral patterns, according to Ajzen's (1991) paper. He contends that behavioral intentions indirectly affect all potential behavioral influencing elements. Three linked factors have an impact on behavioral intentions. They originate, in the first place, from an individual's attitudes, or from their "attitude" toward engaging in a certain conduct. Second, they come from outside "subjective norms" (Sub norms), or the "subjective norms" that have an impact on the adoption of a specific conduct. Last but not least, "Perceived Behavioral Control" (PBC) also has an impact [4].

2.2 Foreign Research Results

Foreign scholars' research on media and sex education and sexuality dates back as far as the 1980s and 1990s, and may be related to the earlier spread of sex education abroad, which is important for our country to absorb the essence from both the spread of sex education and research. Harsin, Gelino and Strickland's (2021) study not only notes the following major barriers, such as energy consumption, delayed access, and financial burden, but also verified that low discounted contraceptives is significantly correlated with higher willingness to engage in unprotected sex, which has essential implications for the hypothesis regarding perceived behavioral control proposed in this study [5]. In addition, two theories mentioned in Brown's (2002) study that are also instructive for this study are Cultivation Theory and Social Learning Theory [6]. According to Shanahan and James (1999), Cultivation Theory, a sociological and communication theoretical framework proposed by George Gerbenner and others in the 1970s, has been used to study the long-term effects of the media on people. This theory suggests that people who are regularly and chronically exposed to the media are more likely to perceive the world's social reality as it is presented in the media they follow, which in turn influences their attitudes and behavior [7]. According to Nabavi (2002), Social Learning Theory was developed by Alport Bandura in the 1970s. In accordance with this hypothesis, people pick which actions to mimic after witnessing others' behavior. Rewarding actions are more likely to be repeated, whereas punishing behaviors are less likely to be repeated [8]. Both theories emphasize how media content affects human behavior and how people mimic and adapt actions they see in the media.

2.3 Chinese Research Results

This study summarizes the definition of sexual knowledge and sexual behavior from numerous domestic works of literature. The studies by Zhang (2013) and He (2019) indicate that sexual knowledge refers to the general term of various scientific knowledge about the field of sexology, which is very broad, mainly including the history of sexual evolution, genesis of sexuality, developmental science, sexual anatomy, sexual physiology, sexual medicine, sex therapy and sexual psychology. All this sexual knowledge is indispensable content of sex education, however, which should be carried out in a focused and step-by-step manner according to the characteristics of the subjects of study, starting with the education of sexual physiology, sexual psychology, sexual morality and sexual legal system [9, 10]. According to Xi (2010), sexual behavior is the external expression of sexual psychology. In a broad sense, sexual behavior includes holding hands, hugging, kissing, oral sex, etc. It refers to a series of actions and processes taken to obtain pleasure and satisfy sexual desire, and sexual behavior produced by conditioned stimulation is also included in it. Some scholars divide sexual behavior into masturbatory sexual behavior, limbic sexual behavior and sexual intercourse sexual behavior [9, 11]. A study by Wang et al. (2017) shows that the number of HIV infections among young students aged 15 to 24 years has increased yearly over the past decade, with more than 3,000 new student infections reported in each of the past two years [12]. A survey by Peng et al. (2016) shows that the HIV epidemic situation among

college students in Chengdu has been on the rise year by year, with more than 95% of newly reported student cases in recent years being sexually transmitted [13]. A report by Yang, Luo and Liao (2016) illustrated that condom use is one of the important measures to effectively avoid sexual transmission of HIV among university students, but the current condom use rate among college students who have sex is low [14]. This alarming series of figures should be taken seriously, which means that action to regulate sexual behavior through university sex education for students is urgent. Huang's (2019) study points out that the popularity of mobile internet, which brings stronger impact, richer choices and a more diversified vision, has gradually replaced the traditional internet as an important path for college students to obtain sexual knowledge, also to communicate and interact with each other. During the survey, many university students confessed that they often follow some sex experts, as well as public websites or microblogs of sex education institutions to obtain sex knowledge, and occasionally participate in discussions and interactions. This type of approach is different from traditional sex education, as it is vivid and graphic, answering doubts in time through discussions [15]. It is thus clear that new media platforms such as Bilibili, TikTok and Weibo have incomparable advantages over traditional means (lectures, courses, etc.) in the aspect of popularizing sex education among university students.

3 Research Hypotheses

This paper, adopting a questionnaire-based research method, based on the theory of planned behavior (behavioral intention is influenced by three factors: attitudes, subjective norms and perceived behavioral control), specifically proposes the following hypotheses.

Hypothesis 1: The more interested university students are in sex education videos on various new media platforms, the stronger their willingness to voluntarily use contraception when engaging in sexual activity is.

Hypothesis 2: The more people around university students advocate for sex education videos on various new media platforms, the stronger their willingness to voluntarily use contraception when engaging in sexual activity is.

Hypothesis 3: Perceived behavioral control over contraception among university students is positively related to their willingness to voluntarily use contraception when engaging in sexual activity.

The perceived behavioral control refers to the university students' perceived financial ability to buy condoms, their ability to refrain from the pursuit of excitement and pleasure, and the ease of mastering the skills of condom use. The main new media platforms studied in this paper are TikTok, Weibo and Bilibili.

4 Research Findings and Analyses

4.1 Descriptive Data Analysis

The researcher asks three to four questions for each hypothesis, with the reliability between each set of questions greater than 0.7, which has passed reliability analysis and could therefore be combined and classified into four groups, such as attitudes, subjective norms, perceived behavioral control and a common behavioral intention. In addition to the above variables, this questionnaire also investigates the gender of the participants, whether the participants have ever had sex and the popularity of the new media platforms.

Among the 510 questionnaires, excluding the invalid samples that do not use the new media platforms and failed the attention check, there were 457 valid questionnaires, accounting for 89.6% of the total sample, which is sufficient to show that new media platforms have a high level of popularity among the university students. Of the valid questionnaires, 245 were from female students, accounting for 53.6%, while 212 were from male students, accounting for 46.4%, which shows a relatively balanced ratio of males and females. When asked whether they have ever had sex, 234 people answer "yes", accounting for 51.2% of the total number of people, which proves that, to some extent, university students are more tolerant and open-minded towards pre-marital sex.

4.2 Research Results

The researcher imported all valid samples from the questionnaire into the data analysis software SPSS, and analyzed the influence of university students' acquisition of sexual knowledge on major new media platforms on their safe sex behavior through reliability tests, independent sample t-tests and regression analysis to verify whether the hypothesis was valid.

Independent sample t-tests (no correlation exists between the experimental treatment groups, i.e., they are independent samples) were used to test for differences in data obtained from two groups of unrelated sample subjects, such as the correlation between gender and attitudes, subjective norms, perceived behavioral control, and behavioral intentions.

The quantitative link between two or more variables that are dependent on one another is determined using the widely used statistical analysis technique known as linear regression. Depending on how closely the independent and dependent variables are related to one another, the study can be separated into linear and non-linear regression studies. The relationship between attitudes, subjective norms, perceived behavioral control, and behavioral intentions has been studied using this methodology.

When this paper used linear regression analysis to explore the correlation between attitudes, subjective norms, perceived behavioral control and behavioral intention, the model was found to be significant, (4, 452, $F = 8.923$, $p < 0.001$).

Table 1. The ANOVA^a Table of the Model

	Sum of Squares	df	Mean Squares	F	Sig.
Regression	4.2	4	1.05	8.923	<.001 ^b
Residuals	400.142	452	0.118		
Total	404.342	456			

a. Dependent Variable: Intention
b. Predictors: (Constant), Attitude, Sub norm, PBC)

4.3 Hypothesis Validation and Analysis

Hypothesis 1: There is a significant positive correlation between attitudes and behavioral intention ($\beta=0.136$, $t=1.069$, $p=0.011<0.05$), so hypothesis 1 holds. Analyses of the data revealed that the sexual knowledge gained by college students through their watching sex education videos on new media platforms had a greater impact on their willingness to actively use contraception when engaging in sexual activity.

Hypothesis 2: There is a great positive correlation between subjective norms and behavioral intention ($\beta=0.251$, $t=2.934$, $p=0.004<0.01$), so hypothesis 2 holds. The validity of the second hypothesis suggests that the positive acceptance of sex education content disseminated by new media platforms created by those around the university students also has a strong influence on the university students themselves to engage in safe sex practices.

Hypothesis 3: Perceived behavioral control is significantly correlated with behavioral tendencies ($\beta=0.192$, $t=4.037$, $p<0.001$), so hypothesis 3 holds. The validity of the final hypothesis would suggest that if college students perceive themselves to have more favorable conditions for practicing contraception, the more likely they are to adopt safe sex.

Table 2. Linear regression tables for the correlation between attitudes, subjective norms, perceptual behavioral control and behavioral intention

	Unstandardized Coefficients		Standardized Coefficients	t	Sig. ^a
	B	Std. Error	Beta		
(Constant)	3.832	0.179		21.375	0
Attitude	0.136	0.088	0.113	1.069	0.011
Sub Norm	0.251	0.086	0.218	2.934	0.004
PBC	0.192	0.047	0.234	4.037	0

a. Dependent Variable: Intention

These results may be explained by the Cultivation Theory and Social Learning Theory mentioned in the literature review, which suggests media content and the environment created by those around people have a subtle and far-reaching effect on human behavior.

5 Conclusions

5.1 Research findings

This study find that the more interested university students are in sex education videos on new media platforms, the more likely they were to take the initiative to use contraception when having sex. This shows that it is necessary and important for university students to actively obtain sex knowledge on new media platforms to develop healthy and safe sexual behavior. What is more, it also implies that sex education is an integral part of university students' study life.

5.2 Future Prospects and Advice

All three hypotheses were proven, suggesting that subjective initiative is important for university students, both in terms of acquiring sexual knowledge through new media platforms and in terms of engaging in safe sex practices. Therefore, this study calls on the majority of university students to give full play to their subjective initiative and take the initiative to learn and understand sexual knowledge in a way that they are more inclined to. Knowing the necessary knowledge about sex is a responsibility to oneself, as well as to others and society.

At the same time, experts and scholars who create sex education videos can also appropriately use funny and humorous styles and popular formats, such as auto-tune remix-themed videos, raps or interactive videos, to improve the quality and sustainable viewability of the videos. In addition, based on the widespread popularity and strong influence of various new media platforms among university students, this study also argues that these platforms should take up the responsibility of advocating positive sexual messages and increase the publicity of sex education and sex science videos so that students can learn about sex information, put what they learn into practice when necessary, and be as rational and tolerant as possible about all things that are about sex and gender.

It is reasonable to believe that with the joint efforts of many individuals and organizations, safe sex and contraception will become more widespread among university students. Great progress will surely be made in the prevention and control of AIDS, and family disputes along with social problems caused by unsafe sex will be further resolved.

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