AN EXPLORATORY STUDY OF ONLINE SOCIALISING AND HIV-RELATED HIGH-RISK SEXUAL BEHAVIOR AMONG UNIVERSITY STUDENTS IN CHENGDU, PEOPLE' S REPUBLIC OF CHINA

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การวิจัยเชิงสำรวจของการสื่อสารสังคมออนไลน์และพฤติกรรมเสี่ยงทางเพศที่เกี่ยวข้องกับเชื้อเอชไอวีของนักศึกษามหาวิทยาลัยในเมืองเฉิงตู สาธารณรัฐประชาชนจีน

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จิน โบ : การวิจัยเชิงสำรวจของการสื่อสารสังคมออนไลน์และพฤติกรรมเสี่ยงทางเพศที่เกี่ยวข้องกับเชื้อเอชไอวีของนักศึกษามหาวิทยาลัยในเมืองเฉิงตู สาธารณรัฐประชาชนจีน. (AN EXPLORATORY STUDY OF ONLINE SOCIALISING AND HIV-RELATED HIGH-RISK SEXUAL BEHAVIOR AMONG UNIVERSITY STUDENTS IN CHENGDU, PEOPLE' S REPUBLIC OF CHINA) อ.ที่ปรึกษาหลัก : ผศ.อนุชิต ภานุมาสวิวัฒน์

กลุ่มนักศึกษาในประเทศจีนนั้นเป็นกลุ่มเสี่ยงสูงสำหรับการติดเชื้อไวรัสเอชไอวี จากการศึกษาในปัจจุบัน พบว่า การมีคู่นอนหลายคนและการมีเพศสัมพันธ์แบบไม่ป้องกัน คือปัจจัยที่สำคัญต่อการติดเชื้อไวรัสเอชไอวี อย่างไรก็ตาม เกี่ยวกับการพัฒนาอย่างต่อเนื่องของการสื่อสารสังคมออนไลน์ในกลุ่มนักศึกษา นั้นส่งผลต่อการรับรู้โรคเอดส์และลักษณะเฉพาะในด้านทัศนคติและพฤติกรรมที่เกี่ยวกับโรคเอดส์ งานวิจัยนี้ได้ศึกษากลุ่มนักศึกษาที่เรียนอยู่ในเมืองเฉิงตู เพื่อทำเข้าใจต่อสถานการณ์ปัจจุบันและลักษณะเฉพาะเชิงพฤติกรรมาทางเพศและความเสี่ยง โดยเฉพาะสถานการณ์การสื่อสารสังคมออนไลน์และอิทธิพลต่อพฤติกรรมทางเพศที่มีความเสี่ยงต่อการติดเชื้อเอชไอวี จากนั้น วิเคราะห์ปัจจัยที่ส่งผลต่อพฤติกรรมทางเพศที่มีความเสี่ยงต่อการติดเชื้อเอชไอวี และสามารถใช้ในการอ้างอิงต่อการปรับปรุงการศึกษาด้านสุขภาพในการป้องกันเชื้อไวรัสเอชไอวีระดับวิทยาลัยและมหาวิทยาลัยอันดับแรก งานวิจัยได้ศึกษากลุ่มนักศึกษาที่เรียนอยู่ในเมืองเฉิงตูผ่านการสำรวจด้วยแบบสอบถามและการวิเคราะห์สถิติเชิงพรรณนา โดยคำถามประกอบไปด้วย สี่ประเด็น ได้แก่ ข้อมูลส่วนตัว การใช้อินเตอร์เน็ตและความสัมพันธ์บนโลกอินเตอร์เน็ต ความรู้ ทัศนคติ พฤติกรรมที่เกี่ยวกับโรคเอดส์ของผู้ตอบแบบสอบถาม จากนั้น งานวิจัยนี้ได้วิเคราะห์หาความสัมพันธ์ระหว่างสี่ประเด็นดังกล่าว สำหรับการวัดผลของการตอบโต้ออนไลน์ของนักศึกษา งานวิจัยนี้ได้วิเคราะห์ผลของความเต็มใจในการพัฒนาความสัมพันธ์ทางเพศในโลกออนไลน์ต่อความรู้ ทัศนคติ และพฤติกรรมทางเพศศึกษาของกลุ่มนักศึกษา ด้วยวิธีการวิเคราะห์ chi-square จากการวิเคราะห์ พบว่า ความรู้เกี่ยวกับเชื้อไวรัสเอชไอวีของผู้ตอบแบบสอบถาม ยังคงจำเป็นต้องให้ความรู้เพิ่มขึ้น และความรู้ที่น้อยจะส่งผลให้มีความเสี่ยงที่สูงขึ้นของทัศนคติและพฤติกรรมเกี่ยวกับเชื้อไวรัสเอชไอวี สำหรับการเชื่อมต่อทางสังคมมีผลเชิงบวกต่อความรู้เกี่ยวเชื้อเอชไอวีของผู้ตอบแบบสอบถาม แต่อย่างไรก็ตาม ยังคงมีผลเชิงลบกับทัศนคติและพฤติกรรมเกี่ยวกับเชื้อเอชไอวี นอกจากนี้ การเชื่อมต่อทางสังคมออนไลน์ยังมีผลเชิงบวกด้านพฤติกรรมที่กระตุ้นทางเพศ เพราะฉะนั้น งานวิจัยนี้ได้สรุปว่าความรู้ ทัศนคติและพฤติกรรมที่เกี่ยวกับเชื้อเอชไอวีของกลุ่มนักศึกษา ยังจำเป็นอย่างเข้มงวด โดยเฉพาะการใส่ใจต่อกลุ่มประชากรเฉพาะกลุ่ม สำหรับโปรแกรมเพสศึกษาในระดับครอบครัว สังคมและโรงเรียน มีความจำเป็นอย่างมาก และสื่ออินเตอร์เน็ตต้องทำหน้าที่หลัก นอกจากนี้ ภาครัฐควรแทรกแซงการจัดตั้งฐานข้อมูลที่ได้รับการตรวจสอบ เพื่อทำให้การป้องกันและการรักษาเชื้อเอชไอวีมีประสิทธิภาพ

ดังนั้น การศึกษานี้จึงสรุปได้ว่ามีความจำเป็นเร่งด่วนในการควบคุมความรู้ ทัศนคติ และพฤติกรรมที่เกี่ยวข้องกับเอชไอวีในหมู่นักศึกษามหาวิทยาลัยอย่างเข้มงวด โดยเน้นเฉพาะกลุ่มประชากรหลักรวมถึงชนกลุ่มน้อยทางเพศ ควรมีการดำเนินโครงการเพศศึกษาอย่างรอบด้านภายในครอบครัว ชุมชน และสถาบันการศึกษา ในยุคของเทคโนโลยีสารสนเทศ สื่ออินเทอร์เน็ตต้องมีบทบาทสำคัญ ในขณะที่รัฐบาลควรเข้าแทรกแซงตามความจำเป็น เพื่อสร้างแพลตฟอร์มข้อมูลที่เชื่อถือได้ซึ่งสนับสนุนความพยายามในการป้องกันและรักษาโรคเอชไอวี

สาขาวิชา	สาธารณสุขศาสตร์	ลายมือชื่อนิสิต .....
ปีการศึกษา	2565	ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

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Young students in China have emerged as a high-risk demographic for HIV infection. Recent research findings confirm that engaging in unprotected sex with multiple partners remains the primary contributor to HIV transmission. However, in light of the ever-evolving landscape of network socialization and the deepening comprehension of HIV among young students, their attitudes and behaviors towards the virus have exhibited distinct characteristics. This study focuses on university and college students in Chengdu as the target population, aiming to comprehensively comprehend the present state and distinctive patterns of their sexual conduct, particularly high-risk sexual behavior. Moreover, it investigates the influence of their Online Socialising status on engaging in HIV high-risk sexual behavior and analyzes the underlying factors contributing to such risky behavior. The insights gained from this study will serve as a valuable reference for enhancing health education initiatives on HIV prevention within the realm of higher education institutions. First and foremost, this paper employs young students in Chengdu as a representative sample and employs questionnaire surveys to facilitate a descriptive statistical analysis encompassing four key aspects: respondents' personal information, internet usage and online friendships, knowledge pertaining to HIV, as well as attitudes and behaviors regarding HIV. Subsequently, this study endeavors to analyze the correlation between respondents' personal information and their HIV-related knowledge, attitudes, and behaviors. Furthermore, it explores how respondents' personal information, along with their HIV-related knowledge and attitudes, collectively shape their HIV-related behaviors. In order to investigate the impact of online interactions on young students, this study conducted a detailed analysis of the influence of a willingness to engage in online sexual relationships on their sexual knowledge, attitudes, and behaviors using chi-square analysis. The findings underscore the need for strengthening respondents' HIV-related knowledge, as a lower level of HIV knowledge is associated with a heightened risk of HIV-related attitudes and behaviors. Notably, social networking platforms demonstrated a positive impact on respondents' HIV-related knowledge, while simultaneously exerting a negative influence on HIV-related attitudes and behaviors. Furthermore, online social networking exhibited a positive association with sexually motivated behaviors. Collectively, these findings shed light on the intricate dynamics between online interactions and the sexual health of young students.

Hence, this paper concludes that there is a pressing need for stringent regulation of HIV-related knowledge, attitudes, and behaviors among young students, with a specific focus on key populations including sexual minorities. Comprehensive sex education programs should be implemented within families, communities, and educational institutions. In the era of information technology, the Internet media must assume a significant role, while the government should intervene, as necessary, to establish authoritative information platforms that bolster HIV prevention and treatment efforts.

Field of Study:	Public Health	Student's Signature .....
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Chapter I INTRODUCTION

1.1. Background and Rationale

1.1.1. The Increasing HIV Infection Rate among Chinese Youth: A Growing Concern

Young people are increasingly emerging as a high-risk population for HIV infection.[1] In recent years, there has been a consistent annual increase in the global incidence of new HIV infections among young individuals, with a staggering 400,000 new cases reported worldwide among this demographic in 2021 alone. [1]In China, this demographic is witnessing notable growth. Statistical data reveals a significant surge in HIV prevalence among young school students aged 15-24, with a year-on-year increase of 35%. [2] Additionally, youths constitute over 20% of reported HIV infections in the cities of Shaoxing [3], Wuhan [4], Cangzhou [5] and Chongqing [6]. Surveillance at 65 sentinel sites for young students in China found that the HIV-positive rate among young students increased from 0.02% (95% CI: 0.01%-0.03%) in 2010 to 0.04% (95% CI: 0.02%-0.06%) in 2015 [7]. By the year 2020, a considerable influx of nearly 3,000 new cases is projected to be reported among young students aged 15-24 in China, of which 98.6% are attributed to sexually transmitted infections. [8]

On one hand, it is important to acknowledge that the aforementioned estimate of HIV transmission represents only a fraction of the actual burden, as there exists a substantial number of unreported cases and individuals living with HIV, which undoubtedly amplifies the potential risk. On the other hand, there is a concerning prevalence of HIV within localized regions and specific populations. According to the National Health Planning Commission of China, the key southwestern provinces of

[1] UN and WHO define 15-24 year olds as youth: WHO. Adolescent mental health [EB/OL]. (2019-11-01) [2020-01-01]. https://www.who.int/news-room/fact-sheets/ detail/adolescent-mental-health; The United Nations. Youth [EB/OL]. (2015-11-30) [2020- 01-01]. https://www. un. org/en/sections/issues-depth/ youth-0/index.html. This definition was used for the references cited in this article. In the Medium- and Long-term Youth Development Plan (2016-2025) issued by the Chinese government, the age range of youth is defined as 14-35 years old. http://www.gov.cn/zhengce/2017-04/13/content_5185555.htm#1 . This definition is more in line with the reality of Chinese people's education, employment, marriage and protection of minors laws. This definition was used in the questionnaire for this paper. At the same time, as this study deals with some more sensitive topics, young people under the age of 18 will not be included in the research population. Therefore, the final population of this study was defined as young people between the ages of 18 and 35.

Yunnan, Guangxi, and Sichuan collectively account for 45% of the nation's infected and affected individuals [9]. Significantly, Sichuan province emerges as a focal point due to its alarming incidence of new HIV infections and its substantial population of individuals living with the virus, thus necessitating dedicated attention. According to the 2017 Sichuan Population Health Status and Key Diseases Report, there are

110,400 documented cases of HIV infection in Sichuan Province, primarily concentrated in eight cities, namely Liangshan Prefecture, Chengdu, Yibin, Neijiang, Luzhou, Dazhou, Mianyang, and Zigong. During the period from 2012 to 2017, the HIV infection rate rose from 0.06% to 0.13%. It is noteworthy that the majority of the surviving individuals infected with HIV fall within the young adult age group, constituting approximately 70% of cases. Sexual transmission serves as the predominant mode of HIV transmission, with a notable increase observed in both heterosexual and homosexual transmissions. [10]

Figure 1 Distribution of the number of people with HIV in China in 2016

According to current research findings, engaging in sexual activity with multiple partners and failing to use protective measures during sexual encounters continue to be the foremost determinants in the acquisition of HIV infection.[11] The Chinese CDC's STD/HIV Prevention and Control Centre reports approximately 3,000 new HIV cases among young students (aged 15-24) annually in China, predominantly transmitted through sexual activity. A study conducted at five universities in Sichuan province revealed that 13.8% of respondents admitted to sexual experiences, with 25% engaging in extramarital or non-romantic encounters. Notably, 20.6% reported multiple sexual partners, while 28.5% and 28.6% respectively indicated "always" or "occasional" use of safe sex practices. Furthermore, 27.6% adopted safety measures solely for contraception purposes [12]. A separate survey in Chengdu highlighted that 14.79% of respondents admitted to sexual activity, of whom 67.74% used condoms during their first encounter and 78.63% during their most recent encounter. Condom usage was found to be higher for encounters with romantic partners than with other individuals. Similar patterns in sexual behavior were observed among university students in various cities [13].

Vigilant attention must be paid to the sexual behavior of young students in higher education, particularly regarding high-risk HIV-related behaviors. This scrutiny will facilitate the observation and prediction of HIV infection risks within this group. The "13th Five-Year Plan of Action for Curbing and Preventing HIV in China," issued by the General Office of the State Council of the People's Republic of China, explicitly acknowledges the rapid rise in HIV infections among young students, particularly those aged 18 to 24 who are in the stage of sexual maturation and activity. Their mental and psychological maturity is still developing, rendering them susceptible to the influence of the overtly open sexual attitudes prevailing in the social environment and the negative and decadent content prevalent in internet culture.

China's societal liberalization and economic progress have fostered a widespread notion of sexual freedom. Students in higher education, amidst their

sexual maturation, exhibit a keen curiosity towards sexual behavior. They readily embrace Western influences, fostering an open and expressive attitude towards sexuality. Nonetheless, Chinese schools and families lag in providing comprehensive sex education, resulting in limited sexual knowledge, immature attitudes, and a lack of sexual restraint [14]. Consequently, some university students lack awareness of self-protection and fail to adopt effective preventive measures during sexual encounters [15]. These factors collectively heighten the risk of HIV infection among higher education students.

Enhancing HIV interventions among university students is imperative to foster accurate sexual awareness, regulate behavior, and promote self-protection. This study focuses on students in universities in Chengdu as the target population, aiming to explore their sexual behavior, identify the prevalence and characteristics of high-risk sexual activities, and analyze the factors influencing such behaviors. The findings aim to inform and improve HIV prevention health education initiatives in universities.

1.1.2. Online social networking encourages high-risk sexual behavior

The Internet has evolved into a prominent medium for leisure and information, revolutionizing communication and lifestyles. A comprehensive sexuality research project conducted in the United States highlights the significant influence of ongoing social interactions within groups on sexual attitudes and behavior [16]. Among college students, multiple factors including health literacy, sensation seeking, personal values, social networks, and anxiety play pivotal roles in shaping high-risk sexual behavior [17]. Moreover, the Internet serves not only as an essential platform for information acquisition and social connections, but also as a space for value formation, emotional solace, and group identity development.

The proliferation of the Internet and the emergence of various dating applications have created a conducive environment for high-risk sexual behavior among students in higher education, rendering it a crucial factor to consider in relation to the risk of HIV infection within this population. Furthermore, the

distinction between online social networking and traditional social interactions presents novel challenges in the realm of HIV prevention and treatment. Presently, China boasts approximately 300 million Internet users aged 20-39, including 168 million students. With the increasing prevalence of mobile internet usage, today's university students have greater exposure to sexually related content. In fact, as early as 2012, a survey conducted during a seminar on sexual health education for Chinese youth revealed that 41% of respondents obtained sexual knowledge through the Internet [18], underscoring the Internet's significance as a vital source of sexual information for young individuals.

A collaborative study conducted in 2006 by the Shanghai Family Planning Research Association and the World Health Organization (WHO) revealed noteworthy findings. Secondary school and university students in the experimental group, who regularly accessed a sex education website developed by the China Family Planning Association, demonstrated higher knowledge levels regarding reproduction, contraception, HIV, and sexually transmitted diseases (STIs). Additionally, they exhibited a more positive and healthy attitude towards sex, along with a heightened sense of self-protection, in comparison to the control group. Notably, the experimental group also displayed more positive and healthy attitudes towards sex and greater awareness of self-protection. However, there was no significant difference observed between the experimental and control groups in terms of the prevalence of sexual activities and actual sexual encounters [19]. These findings suggest that Internet-based sex education offers a fruitful approach to imparting knowledge and can, to some extent, counteract the adverse effects of the widespread availability of sexual information and behavior on the Internet [20].

Consequently, directing our focus towards the online social landscape of college students holds the key to comprehending their information-seeking patterns and sexual behavioral traits. This understanding enables us to implement targeted intervention strategies aimed at fostering accurate sexual concepts, regulating their sexual behavior, and enhancing their self-protection awareness. The present study examines young students in Chengdu as research subjects, aiming to delve into the

influence of their online social interactions on HIV-risky sexual behavior. The insights derived from this research offer valuable references for enhancing HIV prevention health education efforts within universities and informing broader considerations of internet governance.

1.2. Research Questions

This thesis explores variations in HIV-related knowledge, attitudes, and behaviors, as well as the impact of internet use and online interactions, among young students in universities within Chengdu. By examining young students of different genders and majors as representative examples, it further investigates the extent to which online social interaction influences high-risk sexual behavior related to HIV among young students in Chengdu's universities. The thesis aims to address the following areas:

(1) Identifying the fundamental characteristics of HIV-related knowledge, attitudes, and behaviors among young students in Chengdu's universities.

(2) Investigating disparities in HIV-related knowledge, attitudes, and behaviors based on individual attributes among students.

(3) Analyzing the association between HIV-related knowledge, attitudes, and high-risk sexual behavior.

(4) Examining the relationship between internet use, online socializing, and HIV-risky sexual behavior among young students in Chengdu's universities.

1.3. Research Objectives

1.3.1. General Objective

This study aims to evaluate the knowledge, attitudes, and preventive practices pertaining to HIV/AIDS among young students in universities located in Chengdu.

1.3.2. Specific Objectives

This study aims to accomplish the following objectives:

①To provide a comprehensive overview of the personal information, internet usage patterns, sexual activity history, and the level of knowledge, attitudes, and preventive practices regarding HIV/AIDS among young students in universities located in Chengdu.

②To examine the factors influencing HIV-related knowledge among young students in Chengdu universities.

③To investigate the factors contributing to HIV-related attitudes among young students in Chengdu universities.

④To analyze the factors associated with HIV-related behaviors among young students in Chengdu universities.

⑤To assess the impact of the willingness to engage in online sexual relationships on HIV-related knowledge, attitudes, and behaviors.

⑥To explore the relationships between HIV-related knowledge, attitudes, HIV testing, and the occurrence of high-risk sexual behaviors related to HIV among young students in Chengdu universities.

1.4. Research Hypothesis

The following hypotheses are proposed for this study:

①There exists a correlation between personal information, internet usage, internet dating, and the level of HIV-related knowledge.

②An association can be observed between personal information, internet usage, internet dating, and individuals' attitudes towards HIV.

③A relationship exists between personal information, internet usage, internet dating, and individuals' behaviors related to HIV.

④A correlation is present between the willingness to engage in online sexual relationships and individuals' levels of HIV-related knowledge, attitudes, and behaviors.

⑤There is an association between individuals' knowledge of HIV, their attitudes towards HIV, their engagement in HIV testing, and their involvement in high-risk sexual behaviors related to HIV.

1.5. Operational Definitions[2]

Young students in universities	Young adults between the ages of 18 and 35, who are enrolled in tertiary and university-level educational institutions[3]
Social situation	The utilization of diverse media or channels for interpersonal communication by individuals.
sexually motivated behavior	Engaging in activities such as seeking sexual information, searching for sexual content, purchasing sexual paraphernalia online, seeking sexual partners, searching for facilities for sexually transmitted disease (STD) treatment, or consulting medical professionals for advice, among other related actions.
Sexual partners	An individual with whom sexual intercourse has occurred.
Fixed Sexuality	Engaging in sexual activity with a long-term partner, such as a spouse or opposite-sex cohabitant, irrespective of the duration of

[2] The definitions utilized in this study adhere to the definitional guidelines outlined in the 2017 edition of the China HIV Sentinel Surveillance Implementation Programme Operations Manual.

[3] As mentioned in the introduction, the Medium and Long Term Youth Development Plan (2016-2025) issued by the Chinese government defines the age range of youth as 14-35 years old: http://www.gov.cn/zhengce/2017-04/13/content_5185555.htm#1. This definition aligns more closely with the practical aspects of Chinese society, including education, employment, marriage, and the legal protection of minors. It was applied in the questionnaire for this research. As this study covers sensitive topics, individuals under 18 years of age were excluded from the research population. Consequently, the final study population consisted of individuals aged 18 to 35.

	marriage or cohabitation.
Commercial Sexuality	Engaged in sexual activity with a commercial partner, referring to a partner involved in sexual exchanges for monetary or trade purposes.
Temporary acts	Engaging in sexual activity with casual partners, distinct from regular or commercial partners, specifically referring to non-commercial, non-regular partners, such as individuals encountered in brief encounters or one-night stands.
Same-sex Sexuality	Engaging in sexual activity with a same-sex partner, referring to an individual of the same gender with whom one has had sexual intercourse.
High-risk sexual behaviour[4]	Engaging in sexual activity with a same-sex partner, referring to an individual of the same gender with whom one has had sexual intercourse.
Knowing about HIV	The 2017 edition of the questionnaire titled "Operation Manual of the National HIV Sentinel Surveillance Programme," released by the Chinese Centre for Disease Control and Prevention (CDC), was employed to assess HIV knowledge through eight questions. Individuals who provide correct answers to six or more questions are regarded as knowledgeable, while those who answer fewer than six questions correctly are considered to have insufficient knowledge.

Table 1 Operational Definition

[4] In fact, prostitution, prostitution, early initial sexual intercourse, multiple partners, and unprotected intercourse are all high risk factors for HIV infection through sexual contact. For the convenience of this study, we have uniformly defined sex without condoms as risky sex, under the assumption that condom use is effective in isolating HIV.

1.6. Conceptual Framework

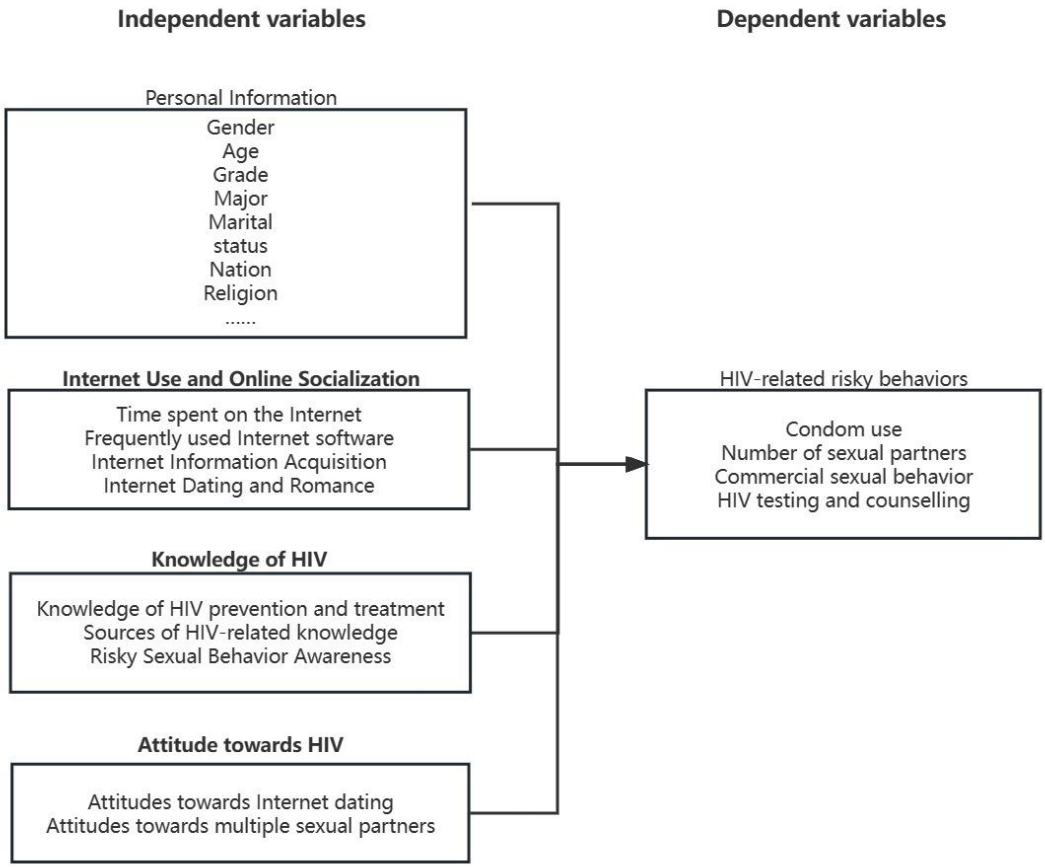


Figure 2 Conceptual Framework

Chapter II LITERATURE REVIEW

2.1. Characteristics of adolescent and youth sexual behavior

The prevalence of sexual behavior among adolescents and youth continues to rise steadily, accompanied by an increase in the incidence of risky sexual practices among younger individuals. Factors such as societal openness, comprehensive sexual education, and easy accessibility to sexual partners exert a significant influence on their sexual attitudes and behaviors [21]. Concurrently, inadequate condom use remains a crucial factor contributing to the heightened risk of HIV infection [22]. Statistical data indicates that more than 30% of adolescents and youth have engaged in sexual intercourse, with a notable proportion involved in high-risk sexual behaviors. For instance, over 20.0% reported having multiple sexual partners simultaneously [23], and more than 25.0% engaged in commercial sex. Alarmingly, nearly half of adolescents and youth did not utilize condoms during sexual activity, and their primary motivation for using condoms was contraception rather than disease prevention [24].

In general, individuals at a heightened risk of HIV infection commonly exhibit behaviors such as smoking, alcohol consumption, drug abuse, substance misuse, and other addictive behaviors [25]. Research suggests that the likelihood of engaging in high-risk sexual activities before or after engaging in addictive substance use increases approximately 2.76 times [26]. Moreover, addictive behaviors significantly influence the age at which adolescents and youth initiate sexual activity. Those more prone to engaging in harmful addictive behaviors tend to have an earlier age of sexual debut [27].

2.2. Demographic Factors Associated with High-risk Sexual Behavior.

① Age

Adolescents and young adults, specifically those aged 18 to 24, are particularly vulnerable to HIV infection due to their sexual activity and

transitional phase into adulthood, which exposes them to greater opportunities for engaging in high-risk sexual behaviors compared to younger teenagers [28]. Furthermore, an early age of sexual debut is associated with an increased risk of HIV infection [29].

② Gender

Generally, men exhibit a higher likelihood of HIV infection due to their increased engagement in high-risk sexual behaviors, such as early sexual debut, multiple sexual partners, and lower condom usage [30]. However, in countries where women face a lower risk of infection and commercial sex is prevalent, women experience a disproportionately higher rate of HIV infection compared to men. For instance, in certain African countries, nearly 70% of HIV-positive youth are women [31]. These women often face obstacles in accessing and using condoms during commercial sexual encounters, thereby increasing their vulnerability to HIV infection [32].

③ Race and Ethnicity

While studies have consistently demonstrated significantly higher HIV infection rates among black youth (20 times higher) compared to white youth and Latino youth (5 times higher), it is crucial to note that this disparity does not imply a biological predisposition among specific ethnic groups [33]. Rather, it is attributed to a confluence of economic and cultural factors that influence risk levels. Certain ethnic groups may face lower educational attainment, possess more permissive attitudes towards casual sexual encounters, and exhibit higher rates of impoverished and high-risk sexual behaviors, thereby increasing their collective susceptibility to HIV infection [34]. For instance, within regions like the Liangshan Prefecture of Sichuan Province and the mountainous areas of Yunnan Province in China, where numerous ethnic minority communities reside, the combination of socio-economic disadvantages, culturally marginalized circumstances, unregulated practices, and a more open mindset towards sexual behavior contributes to elevated rates of HIV infection [35].

④ Geographical area

Urban adolescents and young adults exhibit greater levels of HIV awareness and lower rates of HIV infection in comparison to their rural counterparts [36]. This difference can be attributed, in part, to improved access to medical care and testing facilities within urban areas, which contributes to a decreased likelihood of HIV transmission [37].

⑤ Occupation

HIV infection rates are significantly lower among school students compared to out-of-school mobile youth and adolescents [38]. Furthermore, when considering a broader age spectrum, it becomes evident that occupations characterized by mobility or instability carry a higher risk of HIV infection. This includes professions such as taxi drivers, long-distance freight and passenger drivers, itinerant traders, security personnel, service providers, sex workers, and others [39].

⑥ Family situation

The incidence of premarital sex is three to five times higher in single-parent families than in normal families [40]. The situation is even more complicated in foster homes, where the incidence of various offences, including commercial sex and drug trafficking, increases significantly once the adopted child leaves the foster home as a minor [41].

Adolescents or The youth from poorer families, who may face withdrawal from school or premature entry into society, are vulnerable to premarital sex, especially commercial sex [42]. Some families may have sexual violence that greatly affects adolescents' attitudes towards sex, which mostly occurs in the case of female adolescents [43].

Family education is an important foundation for The youth's development, including sex education. Proper and open parent-child communication can help The youth acquire better knowledge about sex and develop correct sexual

attitudes and concepts, thus reducing the probability of high-risk sexual [44]. Conversely, if there is a lack of communication between parents and children, or if there is no proper sex education, the risk of children having high-risk sex or even contracting HIV increases significantly.

2.3. Online socializing and high-risk sexual behavior

① University students' internet usage

The proliferation of smartphones and the advancement of other portable smart devices have contributed to a gradual rise in the number of Internet users in China, with a notable presence among individuals at a young age. By December 2020, approximately 70.4% of the Chinese population had casual access to the Internet. Among these users, teenagers aged 10 to 29 accounted for 31.3%, while students represented 21.1% [45]. It is worth noting that the online realm is replete with sexually motivated behaviors, encompassing activities such as searching for sexual knowledge, seeking sexual material, purchasing sex toys online, looking for sexual partners, inquiring about facilities for STD treatment, and consulting medical professionals, among others [46]. The potential for online grooming significantly heightens the likelihood of adolescents and young adults engaging in sexual activity, particularly high-risk behaviors, by a factor of 1.23 [47]. However, the dissemination of HIV-related knowledge across the population can play a pivotal role in enhancing self-protection awareness and fostering a greater willingness to participate in voluntary testing [48].

② Cyber Encounter Sex

Internet-mediated sexual encounters present a significant challenge to current HIV prevention efforts. The widespread availability of the internet has greatly amplified the opportunities for individuals to connect with strangers, thus facilitating the emergence of online casual sex encounters.[49] Online social encounter sex refers to the phenomenon where individuals who are unfamiliar

with each other meet and engage in sexual activities through online social media platforms, commonly referred to as "online one-night stands" by scholars. This trend of seeking sexual partners through online social media has gained momentum, with the anonymity and invisibility provided by the internet contributing to the growth of a population engaging in one-night stands. It is important to note that this behavior carries the potential risk of developing addictive patterns of sexual behavior.[50] Research studies have indicated that women tend to spend considerably more time engaging with online acquaintances on a daily basis compared to men. However, women are found to be less prone to engaging in high-risk sexual behavior when compared to men.[51]A survey conducted in Taiwan, China, revealed that approximately 7% of respondents reported having engaged in online one-night stands. Among those surveyed, 73.08% were men, while 26.92% were women. The majority of individuals involved in such encounters were younger, with 86% falling within the age range of 21 to 40. Furthermore, a significant proportion of these individuals had attained higher levels of education, likely at the specialist level or beyond. [52] A study conducted in Hong Kong regarding online one-night stands corroborates the aforementioned observations, and it further suggests that the higher prevalence of men in such encounters can be attributed to societal moral constraints imposed on women, coupled with men's inclination to demonstrate their charm and abilities.[53] Another significant group that merits attention is gay men.[54] Dating apps facilitate high-risk sexual behavior among male university students who engage in sexual relationships with other men (MSM).[55] This behavior is manifested through engaging in sexual intercourse with unfamiliar partners, participating in penetrative anal sex, and involving drug use.[56] In China, research pertaining to casual sex has predominantly revolved around theoretical discussions regarding the phenomenon, while empirical investigations on the association between this behavior and HIV risk remain limited. Conversely, Western scholars have primarily focused on the influence of online social networking development on sexual behavior and the risk of HIV transmission through non-marital activities. However, few studies have explored

the trajectory of casual sex, its underlying causes, the potential HIV infection risks it poses, and coping strategies associated with it.

③ Social Anxiety and High Risk Sexual Behavior

A noteworthy discovery reveals that the information anxiety arising from internet usage also manifests in individuals' sexual behavior. In the context of university students, their engagement in high-risk sexual behaviors is influenced by their social networks and their perceived attitudes towards these networks, which may have an impact on their sexual behavior. Extensive empirical analyses conducted by scholars both domestically and internationally suggest that health literacy, sensation seeking, personal values, social networks, and anxiety play crucial roles as factors influencing high-risk sexual behavior among university students [57]. Among these factors, Fear of Missing Out (FOMO) is particularly significant. FOMO represents a prevalent and contemporary psychological anxiety experienced by university students, wherein individuals feel anxious when they miss out on desired information or events they are not present for. This anxiety often manifests as persistent participation in social activities or frequent monitoring of social media platforms [58].

University students exhibit a prominent characteristic in their psychological makeup, characterized by a strong sense of engagement and emotional communication. This is demonstrated through a fear of missing out on potentially more stimulating, significant, or captivating experiences occurring elsewhere, coupled with a concern that they are not partaking in the same encounters as their peers. The impact of this psychological disposition on university students can yield both positive and negative outcomes. On one hand, university students are more prone to engaging in risky sexual behavior due to the influence of sexually liberal notions propagated by their peers. On the other hand, peer influence can also enhance their knowledge about HIV, as well as their willingness to undergo testing and seek appropriate treatment [59].

This mechanism of influence extends beyond online platforms and is also evident in real-life situations, manifesting in the forms of peer education and peer pressure. Peer education plays a significant role in enhancing university students' understanding of HIV, their willingness to undergo testing, and their readiness to seek appropriate treatment [60]. However, interpersonal communication can also give rise to peer pressure, which, in turn, amplifies the risk of HIV infection [61]. Surveys indicate that over 10.0% of adolescents acknowledge the contribution of peer pressure to engaging in high-risk sexual behavior, while more than 45.0% admit their difficulty in resisting such pressures [62]. Consequently, when peers are involved in high-risk sexual behaviors, the likelihood of individuals engaging in such behaviors themselves increases exponentially. Moreover, peer pressure functions as a social risk factor, facilitating the proliferation of risky behaviors within the population and subsequently heightening the risk of HIV infection [63].

2.4. Factors influencing HIV knowledge and risk perceptions

① Knowing about HIV

A negative correlation has been found between literacy levels and HIV knowledge, indicating that higher literacy is associated with greater knowledge about HIV [64]. Studies have shown that the knowledge rate among adolescents and young adults regarding HIV is approximately 70%, but the proportion of individuals with comprehensive knowledge of HIV is less than 10% [65]. Enhanced HIV-related knowledge has been linked to increased willingness to undergo testing and a reduction in high-risk sexual behavior, consequently mitigating the risk of HIV infection [66]. However, it should be noted that some studies suggest that the relationship between knowledge and high-risk sexual behavior is not solely driven by youth curiosity for novelty and excitement [67].

② Risk perception

Adolescents and young adults often possess inadequate knowledge about HIV and exhibit poor HIV risk perception, rendering them susceptible to exposure within environments conducive to HIV transmission [68]. A study conducted in 2014 across 60 Chinese universities revealed that over 40.0% of students perceived the HIV epidemic as not serious, while more than 56.0% had never expressed concern about HIV [69]. Even among high-risk populations, such as young gay men, there was a low awareness of risk perception, with less than 10.0% demonstrating concern regarding HIV infection, and a substantial number holding significantly misconceived notions [70]. The combination of insufficient HIV-related knowledge and low perception of personal risk contributes to the heightened vulnerability to HIV infection.

Chapter III RESEARCH METHODOLOGY

3.1. Research Design

A quantitative cross-sectional study design was implemented to examine the levels of knowledge, attitudes, and preventive practices regarding HIV/AIDS among university students in Chengdu.

3.3. Study Area

The study was conducted within the survey area of Chengdu, located in Sichuan Province, where the author resides and works. This location is particularly advantageous as Chengdu is home to a majority of the colleges and universities in the province, facilitating the execution of the study. It is important to acknowledge that, as mentioned in Chapter 1, Sichuan Province has the highest HIV incidence rate in China, surpassing other provinces significantly. Consequently, the findings of this study may exhibit a certain degree of bias, yet they remain highly valuable for reference purposes.

3.3. Study Population

The target population of this thesis comprises young students enrolled in universities in Chengdu, encompassing undergraduate, master's, and doctoral students.

3.3.1. Inclusion Criteria

The inclusion criteria were

- Between the ages of 18 and 35.
- be able to fully understand the content of the questionnaire.

- Informed consent and voluntary participation in this study.

3.3.2. Exclusion Criteria

The exclusion criteria for this study are as follows:

—Individuals with a severe illness or health condition that renders them unable to participate in the survey.

—Individuals who are in an unconscious or involuntary state during the investigation.

Prior to participating in the survey, young students enrolled in universities are assessed to ensure they meet the inclusion criteria. Once confirmed, they are provided with the questionnaire. Before completing the questionnaire, participants are informed about the importance and purpose of the research study.

3.4. Sampling Technique and Sampling Size

The sampling technique used in this study is stratified sampling.

1st stage: In the first stage, stratification is based on the major of university students. The choice to stratify by major is motivated by the categorical nature of the students' majors, which has been shown in previous studies to exhibit notable variations in HIV-related knowledge, attitudes, and behaviors [71]. College majors are typically classified into five major categories: medicine, science and technology, agriculture and forestry, humanities and social sciences (including economics and management), and arts and sports. Given the abundance of colleges and universities in Chengdu, the author selected five institutions with strong specialization to facilitate the sampling process: Chengdu University of Traditional Chinese Medicine (Medicine), University of Electronic Science and Technology (Science and Technology), Sichuan Agricultural University (Agriculture and Forestry), Sichuan University (Comprehensive, with a large number of humanities and social sciences majors), and Chengdu Institute of Physical Education and Sports (Art and Physical Education).

2nd stage: In the second stage, the sample size and sampling ratio were determined. In 2022, Chengdu University of Traditional Chinese Medicine admitted a total of 6,112 undergraduate, master's, and doctoral students. The University of Electronic Science and Technology (UST) admitted 10,274 undergraduate, master's, and doctoral students. Sichuan Agricultural University (SAU) admitted 11,970 undergraduate, master's, and doctoral students. Sichuan University (SU) admitted 16,201 undergraduate, master's, and doctoral students. Chengdu Institute of Physical Education (CSI) admitted 1,286 students. The combined total of students across these institutions is 45,843.

The sampling ratio can be calculated using the formula:

Sampling Ratio = Sample Size / Total Population Size.

In this case, the sample size is 750, and the total population size is 45,843. Therefore, the sampling ratio is given by:

Sampling Ratio = 750 / 45,843 = 0.01636.

3nd stage: In the third stage, the number of samples to be taken from each stratum is determined proportionally. Based on the sampling ratio of 0.01636, the number of individuals sampled from each university is calculated as follows:

Chengdu University of Traditional Chinese Medicine: 6,112 x 0.01636 = 100 individuals.

University of Electronic Science and Technology: 10,274 x 0.01636 = 168 individuals.

Sichuan Agricultural University: 11,970 x 0.01636 = 196 individuals.

Sichuan University: 16,201 x 0.01636 = 265 individuals.

Chengdu Institute of Physical Education: 1,286 x 0.01636 = 21 individuals.

Therefore, the sample sizes for each university are determined as specified above.

4nd stage: In the fourth stage, simple random sampling was employed in the

aforementioned five colleges. The electronic link to the questionnaire was sent, and the sample was drawn based on the determined sample size using the sampling ratio.

During the actual sampling process, it should be noted that these five universities also offer majors other than the ones selected for this study. Therefore, there is a certain level of randomness in the online distribution of questionnaires, which is challenging to control with precision. Additionally, the elimination of invalid samples, supplemental sampling, and further elimination of invalid samples were conducted. As a result, a final sample of 728 participants was obtained. The distribution of majors in the sample is as follows:

Items	Categories	N	Percent (%)
Major	Medicine	129	17.72
	Science and Engineering	188	25.824
	Agriculture and Forestry	205	28.159
	Humanities and Social Sciences (including Economics and Management)	129	17.72
	Arts & Sports	65	8.929

Table 2 Sampling Size by major

3.5. Measurement Tools

The measurement tool utilized in this study was a self-report questionnaire. To develop the questionnaire, an extensive literature search and analysis of domestic and international sources were conducted through platforms such as China Knowledge Network and Vipshop Academic. This process involved examining research findings, collecting data on social industry factors, and gaining insights into the relevant background, development status, and user behavior. The information

obtained from these sources served as the foundation for shaping the research objectives of this survey.

To meet the research objectives, the "Questionnaire on the Health Situation of University Students in Chengdu City" was developed, consisting of three sections:

- Personal Information Questionnaire: This section, designed by the research group, collects general demographic characteristics (such as gender, age, ethnicity, marital status, religious beliefs, hobbies, etc.), information on smoking and alcohol consumption, family finances, parental literacy, and parental sex education.
- Internet socialisation. A specific questionnaire addressing internet socialization related to HIV-related high-risk sexual behavior is currently unavailable. However, drawing from the "Preliminary Development and Reliability Test of the Internet Interaction Questionnaire for College Students" by Pingping et al., this study proposes a questionnaire that assesses university students' internet interaction across four dimensions: relational, behavioral, cognitive, and outcome dimensions. These dimensions encompass Internet self-representation, Internet social self-perception, Internet interpersonal relationship, and Internet interaction dependence [72]. In accordance with the literature review and the objectives of this study, the questionnaire will be developed, focusing on various aspects such as frequently used online software, online information access, online dating, and relationship situations.
- HIV-related Knowledge, Attitude and Behaviour. To assess HIV-related knowledge, the questionnaire utilized in this study was the 2017 version of the National HIV Sentinel Surveillance Implementation Plan Operation Manual questionnaire, issued by the Chinese Center for Disease Control and Prevention (CDC). This questionnaire consists of eight questions on HIV knowledge, referred to as "Article 8." According to the "Eight National Rules," individuals who correctly answer six or more of these questions are considered to have knowledge, while those who answer fewer than six are considered to lack knowledge. Additionally, the sources

of knowledge were examined. In terms of HIV-related attitudes, the study focuses on assessing attitudes towards multiple sexual partners and high-risk sexual behavior. Furthermore, the study examines HIV-related behaviors, specifically the engagement in high-risk sexual behavior, as well as the willingness to undergo HIV testing and the test results.

3.6. Reliability and Validity Test of the Questionnaire

3.6.1. Reliability Analysis

Reliability in this study refers to the extent of consistency or stability of the measurement results. It entails ensuring that the data collected from the same group of subjects, when tested multiple times using the same questionnaire, exhibit consistency. To assess the reliability of the questionnaires used in this study, a reliability test was conducted on the collected data. Reliability, in this context, pertains to the level of consistency or stability of the questionnaire data obtained from the same group of subjects who were tested multiple times using the same instrument.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
.809	.811

Table 3 Reliability

The Alpha coefficient, chosen as the reliability indicator in the SPSS software, provides valuable insights into the consistency and dependability of the measurements. A higher Alpha coefficient signifies greater reliability. Generally, a coefficient above 0.9 indicates excellent reliability, while a range of 0.8 to 0.9 is considered acceptable. Coefficients falling between 0.6 and 0.8 are deemed marginally acceptable, and values below 0.6 necessitate questionnaire revision.

In the analysis of questionnaire reliability using SPSS, particular attention is given to the Cronbach's coefficient, which is based on the standardised items. For this study, the Cronbach's Alpha coefficient is 0.809 (refer to appendix 2 for detailed procedures). With a coefficient exceeding 0.8, the questionnaire successfully passes the reliability test and demonstrates a high level of internal consistency. This finding affirms the robustness and reliability of the variables measured in this study.

3.6.2. Validity analysis

To ensure the construct validity of the questionnaire's question items across the different variables in this study, factor analysis was employed. This analysis aimed to categorize the original variables based on their correlations, grouping together variables with high correlations within the same group and low correlations between different groups. Each group of variables was represented by an unobservable dummy variable. These shared factors captured the key information from the original variables. The validity analysis was performed using SPSS to assess the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the significance of Bartlett's test of sphericity for the study data, as outlined below:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.798
Bartlett's Test of Sphericity	Approx. Chi-Square	68395.925
	df	4656
	Sig.	.000

Table 4 Validity

The validity test is used to verify whether the variables are independent of each other by means of a sphericity test. A kmo value of 0.9 or above is apparently

very suitable for factor analysis; 0.8-0.9, very suitable; 0.7-0.8 suitable; 0.6-0.7 fair; 0.5-0.6 indicates very poor; and 0.45 or below, indicates that it should be discarded. A spherical test significance level of less than 0.05 rejects the original hypothesis and indicates suitability for factor analysis.

As can be seen from the table above, the data is considered to have good validity as the kmo value is greater than 0.7 according to its measurement criteria, while the probability of significance of the Bartlett's sphericity test statistic is 0.000<0.01.

3.7. Data Collection

Due to the sensitive nature of the questionnaire content, as well as the practicality and convenience of utilizing existing online network technology for distribution and data extraction, this study opted for the online production and dissemination of questionnaires.

The questionnaire was developed using the platform Questionnaire Star (https://www.wjx.cn/) and shared with respondents through WeChat and QQ links. The data provided by participants was automatically uploaded to the backend of Questionnaire Star (https://www.wjx.cn/).

3.7.1. Pre-survey

From the pool of potential respondents, a carefully chosen sample of 10 individuals was selected. Their background information was thoroughly examined and verified to ensure the accuracy and reliability of the data. Subsequently, the Questionnaire Star link was distributed to these selected participants. Prior to the main survey, a preliminary assessment was conducted to evaluate the question structure of the electronic questionnaire. This assessment aimed to determine the appropriateness of the logical flow, the comprehensiveness of information collection options, and the respondents' overall acceptance of the e-questionnaire.

Additionally, this phase provided insights into the respondents' level of cooperation and cooperation throughout the survey process.

3.7.2. Recruitment of Respondents

For university students who were willing to participate in the survey, it was confirmed that the inclusion criteria were met, and then the questionnaire star link was distributed. The significance of this survey study was informed before the survey.

3.7.3. Questionnaire Survey

QQ and WeChat are used to distribute online questionnaires. Survey respondents who enter through the use of questionnaire star links forwarded by others, after verifying the background information, and then recorded as a valid questionnaire, otherwise it will not be counted as this survey. After the questionnaire is returned, check if there is any wrong option, if possible let the respondents to fill in and submit the questionnaire again, otherwise it will be recorded as invalid questionnaire.

3.8. Data Analysis

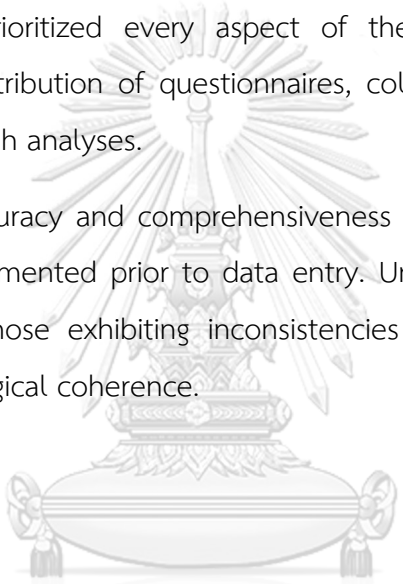
The retrieved information was created into a database and the data was cleaned and statistically analysed using SPSS 26.0 software.

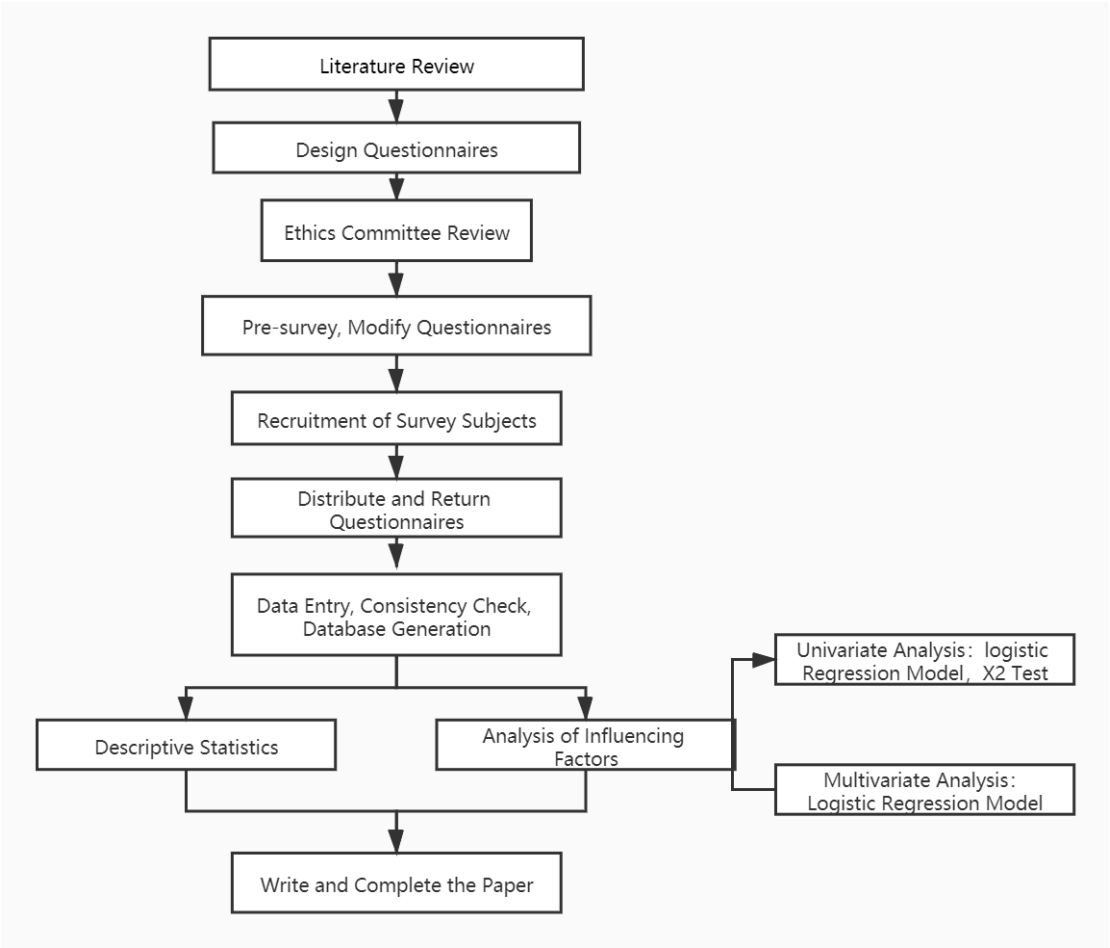
The continuous variables were analysed descriptively using means and standard deviations, and categorical variables using frequency distributions or percentages. One-way and multi-way analyses were conducted using chi-square tests and logistic regression models, and one-way analyses using X-tests or logistic regression models were included to screen independent variables prior to analysis, with the inclusion criterion of $P<0.20$. Ratio ratios (ORs) were calculated to estimate the strength of the association between influencing factors and outcome variables, and the results were assessed by the range of 95% confidence intervals reliability

was judged. P<0.05 was used as the criterion for a statistically significant difference (all statistical tests were two-sided with a test level of α=0.05).

3.9. Quality Control

- The questionnaire was meticulously designed in alignment with the study objectives, incorporating feedback from experts and respondents to enhance its content and structure.
- The researcher prioritized every aspect of the study, including personally overseeing the distribution of questionnaires, collating the gathered data, and conducting thorough analyses.
- To ensure the accuracy and comprehensiveness of the data, a rigorous review process was implemented prior to data entry. Unqualified questionnaires were eliminated, and those exhibiting inconsistencies underwent a thorough logic check to ensure logical coherence.





3.10. Technical Routes

Figure 3 Technical Route

3.11. Limitations

Several limitations may have influenced the results of this study.

- Firstly, the respondents may not fully represent the entire population of university students in Chengdu, as they were exclusively selected from five colleges and universities. The sampling ratio for stratified sampling was determined based on the enrollment figures of these five institutions in 2022. Additionally, these five universities are renowned and prestigious, which suggests that the respondents may possess a higher level of awareness and exhibit more

positive attitudes and behaviors.

- Secondly, the scope of this study is confined to the city of Chengdu. Given the vast land area of China and regional disparities, along with the time constraints faced by the author, the survey results from Chengdu may not be fully representative of the entire country.
- Thirdly, the study delves into private and sensitive topics, which could potentially make respondents feel uneasy or unwilling to provide honest and accurate responses. Consequently, the authenticity and accuracy of the survey results may be compromised.
- Lastly, the survey questionnaire includes subjective questions that lack uniform quantitative standards. Different respondents may interpret and understand these questions differently, leading to variations in their perceptions that may not accurately reflect the reality of the situation.
- Despite these limitations, it is important to consider and interpret the findings of this study within their specific context, acknowledging the potential impact of these constraints on the results.

3.12. Ethical Consideration

Prior to the survey, participants will receive a comprehensive briefing on the purpose, methodology, and content of the study. The researcher will assign a unique numerical identifier to each participant, ensuring that their real names remain confidential and are represented solely by alphabetical characters. It is assured that all personal information will be kept strictly confidential and utilized exclusively for scientific research purposes. The privacy of the respondents is of paramount importance and will be rigorously safeguarded, alleviating any concerns they may have.

Participants possess the right to discontinue their involvement in the study at any stage without any repercussions. The study has obtained approval from the

ethics committee of the researcher's institution, and participants will be requested to provide informed consent by signing a consent form, adhering to the ethical requirements and guidelines.

This paper has undergone the necessary ethical authorization procedures to ensure compliance with ethical standards.

3.13. Expected Benefits & Application

- Gathering comprehensive data on the specific characteristics and patterns of high-risk sexual behavior related to HIV among university students is of utmost importance in enhancing our capacity to anticipate and intervene promptly in the risk of HIV infection within this particular population.
- Moreover, this research endeavor seeks to serve as a valuable resource for health education campaigns that focus on HIV prevention, addressing the needs of families, universities, government agencies, and society as a whole. By providing evidence-based insights and recommendations, this study aims to contribute to the development of effective prevention strategies and educational programs.
- Furthermore, the findings of this study hold the potential to serve as a solid foundation for future literature reviews and academic inquiries. Through offering a comprehensive analysis of the characteristics and dynamics of high-risk sexual behaviors associated with HIV among university students, this study aids in enriching the existing body of knowledge and promoting further exploration and understanding in this significant domain.

CHAPTER IV RESULTS

In this chapter, the collected data will be rigorously analysed across the three sections covered by the questionnaire. Firstly, descriptive statistics will be employed to provide a comprehensive overview of the respondents' personal information and effectively summarize their demographic characteristics. Secondly, chi-square tests will be utilized to investigate the association between the willingness to engage in online sexual relationships and the respondents' perceptions and attitudes concerning gender relations, as well as their knowledge, attitudes, and behaviors related to HIV. Lastly, linear regression analysis will be employed to explore the influencing factors of HIV-related knowledge, attitudes, and behaviors, as well as to examine the interrelationships among HIV-related knowledge, attitudes, and behaviors.

4.1. Descriptive Analysis of Respondents' Personal Information in the Study

This section conducts a descriptive statistical analysis of various aspects related to young school students in Chengdu. Specifically, the analysis focuses on the following dimensions: respondents' personal information, internet usage and friendships, knowledge of HIV-related topics, and attitudes and behaviors related to HIV. Through this comprehensive examination, a detailed understanding of the target population's characteristics, patterns, and engagement with internet use and HIV-related matters is presented.

4.1.1. Personal Information of the Respondents

4.1.1.1. Gender, Age, Sexual Orientation, Grade, Major and Marital Status of the Respondents

Items	Categories	N	Percent (%)
Gender	male	393	53.98
	female	335	46.02

Items	Categories	N	Percent (%)
Age	18-20	375	51.51
	21-25	280	38.46
	26-30	45	6.18
	31-35	28	3.85
Sexual orientation	heterosexuality	208	28.57
	not fixed	158	21.70
	uncertain	151	20.74
	bisexual	128	17.58
	gay or lesbian	83	11.40
Grade	freshman	82	11.26
	sophomore	338	46.43
	Third-year undergraduate	136	18.68
	Fourth-year undergraduate	14	1.92
	master	90	12.36
	PhD	14	1.92
	Other	54	7.42
Major	Medicine	129	17.72
	Science and Engineering	188	25.82

Items	Categories	N	Percent (%)
	Agriculture and Forestry	205	28.16
	Humanities and Social Sciences (including Economics and Management)	129	17.72
	Arts & Sports	65	8.93
Marital status	Unmarried, never been in a relationship	248	34.07
	Unmarried, in a relationship, currently genuinely single	272	37.36
	Unmarried, with a regular lover and faithful to the partner	150	20.60
	Married and faithful to marriage	32	4.40
	Married but also having an extramarital or extra-marital sexual partner	10	1.37
	Unmarried, no regular lover, but sexual partners from time to time	10	1.37
	Divorced and with only one stable sexual partner	6	0.82
Total	728	100.0	100.0

Table 5 Respondents' gender, age, sexual orientation, grade, profession and marital status

An examination of the table above reveals key demographic characteristics of the 728 respondents. It is notable that the gender distribution is nearly balanced,

with slightly more men comprising 53.984% of the sample. The majority of respondents fall within the age range of 18 to 25, accounting for 89.97% of the total. Regarding academic standing, 78.3% of participants are university students, while 18.68% are pursuing master's degrees. The breakdown of respondents by major shows that 17.22% are medical students, 25.82% are science and technology students, 17.72% are in the humanities and social sciences, 8.929% are pursuing arts and sports, and 28.16% are studying agriculture and forestry.

Of particular interest is the exploration of sexual orientation. Among the respondents, 28.57% identified as heterosexual, 11.40% as homosexual, 17.58% as "bisexual," and 42.45% as "not fixed" or "uncertain." The percentage of individuals indicating "not fixed" or "uncertain" is noteworthy, reflecting the progressive and open-minded attitudes towards sexuality prevalent among today's young students. It is crucial to recognize that Chengdu, being a prominent city in southwest China, exhibits a higher prevalence of homosexuality compared to other cities in the country (earning it the title of "gay capital" of China). Moreover, the phenomenon of gender and sexual diversity is more pronounced in Chengdu. Thus, while the survey sample may slightly deviate from the national average, it still holds significant general relevance.

Considering marital status, 71.43% of respondents are currently in relationships without any partners, 25% are in relationships or married, and 0.82% are divorced but maintaining a sexual partner. None of these three categories reported engaging in infidelity. Moreover, 1.37% admitted to being unfaithful, while an additional 1.37% of single respondents reported having multiple sexual partners.

4.1.1.2. Family status, ethnicity (race) and religion of the respondents

Items	Categories	N	Percent (%)
Area	First-tier cities	224	30.77

Items	Categories	N	Percent (%)
	Other capital cities or big cities	104	14.29
	medium city or county	140	19.23
	small city or county rural	114	15.66
	rural	140	19.23
	foreign	6	0.82
Nationality and race	Chinese nationality (Han Chinese)	630	86.54
	Chinese Nationalities (55 other minorities)	86	11.81
	Non-Chinese but East Asian Yellow	12	1.64
	Not Chinese nor East Asian Yellow	0	0
Religious belief	Atheist	592	81.32
	Christian, Catholic or Orthodox	18	2.47
	Buddhism	50	6.87
	Taoism	36	4.95
	Other	32	4.40
Father's qualifications	Primary school and below	162	22.25
	Lower Secondary	270	37.09
	High School	154	21.15

Items	Categories	N	Percent (%)
	Tertiary	64	8.79
	University student	72	9.89
	Master's degree students	6	0.82
Mother's qualifications	Primary school and below	166	22.80
	Lower Secondary	290	39.84
	High School	140	19.23
	Tertiary	74	10.16
	University student	52	7.14
	Master's degree students	6	0.82
Monthly living expenses	Less than 150 USD	46	6.32
	150- 220 USD	338	46.43
	221- 300 USD	194	26.65
	301- 450 USD	54	7.42
	451- 600 USD	18	2.47
	601- 900 USD	36	4.95
	More than 900 USD	42	5.77
Major living family members	Living with parents	454	62.36
	Living with mother	60	8.24

Items	Categories	N	Percent (%)
until age 15	Living with my father	18	2.47
	Living with grandparents or grandparents	180	24.73
	Living with relatives or other people	10	1.37
	Living on your own	6	0.82
Total		728	100.0

Table 6 Respondents' family status, ethnicity (race) and religious affiliation

An analysis of the table above provides valuable insights into the characteristics of the sampled students. It is noteworthy that approximately 80% of the student participants hailed from urban areas. Among these students, 45.05% originated from first-tier cities such as Beijing, Shanghai, Shenzhen, and Guangzhou. Additionally, 14.29% came from provincial capitals or large cities with a population exceeding one million. Furthermore, 19.23% hailed from medium-sized cities or counties with a population ranging between 500,000 and one million. The remaining 15.66% represented smaller cities or rural areas with populations below 500,000. It is also worth mentioning that a small proportion (0.82%, n=6) of students originated from overseas.

In terms of ethnicity and race, the majority of students (86.54%, n=630) identified as Han Chinese. Approximately 11.81% belonged to one of the 55 ethnic minorities in China, excluding Han Chinese. Furthermore, 1.64% of the students belonged to the East Asian Yellow race. No individuals of races other than Yellow were included in the sample.

Regarding religious beliefs, the majority of students identified as atheists, while a small number adhered to Buddhist or Taoist faiths. Additionally, a minority of

students identified with other religious beliefs, including Christianity, Catholicism, or Orthodox Christianity.

Parental education levels varied among the students, with approximately 80% of parents having completed high school or possessing lower educational qualifications. Roughly 10% of parents held a college degree, while less than 10% had attained a bachelor's degree.

Concerning living expenses, the majority of students (73.08%) reported monthly expenditures between RMB 1,000 and 2,000. In terms of childhood experiences, 62.36% of students resided with their parents until the age of 15, while 24.73% lived with their grandparents during that period. In certain regions of China, particularly in counties and rural areas, it is common for individuals to seek employment in larger cities, necessitating that they leave their children in the care of grandparents. These children are often referred to as "left-behind children."

The aforementioned data presents a comprehensive overview of the fundamental characteristics of the majority of young Chinese students.

4.1.1.3. Addictive Behaviors of Respondents

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
Smoking (10 or more cigarettes per day)	18	2.47%	2.47%
Drinking	8	1.10%	1.10%
Use of drugs such as cannabis	8	1.10%	1.10%
Psychotropic drug dependence	0	0.00%	0.00%

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
Other addictive behaviors	4	0.55%	0.55%
None of the above habits	690	94.78%	94.78%
Total	728	100%	100.00%

Table 7 Addictive Behaviors of Respondents

The following question falls under the category of multiple choice. A comprehensive analysis was conducted to examine the distribution and proportions of choices for each option within this multiple choice question. The results displayed in the table above indicate a significant goodness of fit test (chi=1599.879, p=0.000<0.05), suggesting that the proportions of choices for each item differ significantly. Specifically, it is noteworthy that the response rate and prevalence of respondents who reported having no 'above habits' were significantly higher. This indicates that the majority of participants did not engage in any addictive behaviors. Among the few addictive behaviors reported, smoking and alcohol consumption were the most prevalent. Additionally, a small number of respondents admitted to having been exposed to drugs, while a few participants reported other types of addictive behaviors.

4.1.2. Respondents' internet usage

4.1.2.1. length of time respondents spent online and use of internet software

Items	Categories	N	Percent (%)
Hours of internet access per	Up to 1 hour	10	1.37

Items	Categories	N	Percent (%)
day.	1-3 hours	126	17.31
	3-5 hours	242	33.24
	5-7 hours	190	26.10
	7-9 hours	100	13.74
	9 hours or more	60	8.24
Total	728	100.0	100.0

Table 8 Length of time respondents spent online

The table above reveals that a majority of respondents allocate 3 to 7 hours for online activities. Additionally, some respondents dedicate their time to online engagement for durations between 1 to 3 hours or 7 to 9 hours. A minority of participants spend over 9 hours online, while only a small fraction of respondents devote less than 1 hour to online pursuits. These findings indicate that young university students, as a general trend, allocate a significant amount of time to their online presence.

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
WeChat, QQ and other chatting software	710	35.08%	97.53%
Video software such as Jitterbug and Racer	398	19.66%	54.67%

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
soul, stranger and other dating apps	40	1.98%	5.49%
Shopping software such as Jingdong, Taobao and Pinduoduo	408	20.16%	56.04%
Social forums such as Weibo, Zhihu and twitter	424	20.95%	58.24%
Other	44	2.17%	6.04%
Total	2024	100%	278.02%

Table 9 Respondents' use of web-based software

The usage of online software by the respondents was analyzed in this study. The software commonly used in China was categorized into different types, including instant messaging applications for real-time communication, video platforms for leisure and entertainment, dating platforms for social connections, e-commerce applications for shopping activities, and general social forums for information sharing and exchanging viewpoints. A multiple-choice question was administered to collect data on the respondents' preferences in software usage. The subsequent analysis revealed significant differences in the distribution of choices for each software item, as indicated by the significant results of the goodness-of-fit test (chi=488.415, p=0.000<0.05). Specifically, the response rates and popularity rankings were notably higher for four prevalent online software categories: instant messaging apps such as WeChat and QQ, video platforms like ShakeYin and Racer, e-commerce apps such as Jingdong, Taobao, and Pinduoduo, and social forums like Weibo, Zhihu, and Twitter.

However, it is important to note that this does not imply a lack of interest in social networking among young students. In fact, apart from e-commerce applications, the identified software categories encompass substantial social functionalities. Additionally, dating platforms such as "soul" and "stranger" primarily cater to individuals seeking potential marriage partners. Hence, it can be inferred that young students engage in a wide range of social interactions, with marriage not being their primary focus. Nonetheless, this does not preclude the possibility of seeking prospective partners across various online platforms.

4.1.2.2. Respondents' online friendships

Items	Categories	N	Percent (%)
You have an online friend of the opposite sex	Yes	212	29.12
	No	516	70.88
Are you more relaxed and casual when interacting with people of the opposite sex (n=212)	Couldn't agree more	56	26.42
	Relatively agree	76	35.85
	Neutral	58	27.36
	Rather disagree	12	5.67
	Strongly disagree	10	4.72
Have you ever been friends with someone of the opposite sex online (n=212)	Yes	52	24.53
	No	160	75.47
Do you think that current online social networking	Almost impossible	44	6.04
	Unlikely	102	14.01

Items	Categories		N	Percent (%)
software or channels increase the chances of getting someone to a sexual partner?		General	158	21.70
		More likely	224	30.77
		Very likely	200	27.47
Would you like to use the power of the internet to develop sexual relationships for yourself (n=692)	Willing		174	25.14
	Unwillingness		518	74.86
Total	728		100.0	100.0

Table 10 Respondents' online friendships

In the survey conducted on the online dating situation of the respondents, a "logical jump" was incorporated into the questionnaire. This jump allowed only those respondents who indicated having online friends of the opposite sex to proceed and answer specific questions related to their interactions. The questions included inquiries about the ease of communication with online friends of the opposite sex and whether they had previously developed friendships with individuals of the opposite sex. Prior to responding, participants were explicitly informed that "online friends" referred to individuals they had only met and interacted with on the internet, without any in-person meetings. Furthermore, it was specified that respondents had been in contact with their online friends for a considerable period, typically not less than three months.Based on this definition, a total of 212 respondents reported having online friends of the opposite sex. Among them, the majority acknowledged feeling more relaxed and casual when communicating with these individuals. Approximately 27.36% of the respondents considered their communication to be average, while only a small fraction expressed any

disagreement.

Interestingly, 52 respondents reported having experienced being in a romantic relationship with an online friend of the opposite sex. This finding indicates that although many individuals feel at ease chatting with the opposite sex online, it does not necessarily facilitate the development of a romantic connection. Moreover, despite nearly 80% of the respondents agreeing that the internet increases the chances of finding a sexual partner, approximately 80% of them expressed a lack of willingness to pursue a sexual relationship through online means. This may suggest that respondents prefer getting to know potential partners in person or that their needs are already fulfilled through offline interactions.

4.1.2.3. Respondents' sex-related behavior in reality versus online

The present study aims to investigate the disparities between respondents' behaviors in offline and online contexts. To achieve this objective, the following comparative questions have been formulated.

Response and popularity rate

Categories (on the web)	Response		Popularity rate (n=728)
	n	Response rate	
Search for sexual knowledge	408	36.04%	56.04%
Watching erotic novels or videos, movies, etc.	394	34.81%	54.12%
Buy sex toys	124	10.95%	17.03%
Looking for casual sex partners	34	3.00%	4.67%
Find a specialist or institution that treats	0	0.00%	0.00%

Response and popularity rate

Categories (on the web)	Response		Popularity rate (n=728)
	n	Response rate	
STDs			
Other sex-related information or activities	12	1.06%	1.65%
None of the above	160	14.13%	21.98%
Total	1132	100%	155.49%

Response and popularity rate

Categories (in reality)	Response		Popularity rate (n=728)
	n	Response rate	
Search for sexual knowledge	286	27.34%	39.29%
Watching erotic novels or videos, movies, etc.	242	23.14%	33.24%
Buy sex toys	130	12.43%	17.86%
Looking for casual sex partners	30	2.87%	4.12%
Find a specialist or institution that treats STDs	0	0.00%	0.00%
Other sex-related information or	26	2.49%	3.57%

Response and popularity rate

Categories (in reality)	Response		Popularity rate (n=728)
	n	Response rate	
activities			
None of the above	332	31.74%	45.60%
Total	1046	100%	143.68%

Table 11 Comparison of respondents' behavior in reality and in the internet

This is a multiple choice question. The analysis was carried out for the distribution of the proportion of choices for each option of the multiple choice question. It can be seen that the goodness-of-fit tests for both the online and real data are significant (chi=559.367, p=0.000<0.05; chi=377.296, p=0.000<0.05). In the physical world, respondents' most prevalent behaviors were "searching for knowledge about sex" and "watching erotic novels, videos, or movies," with "none of the above" as the subsequent choice. Similarly, in the online realm, respondents' most frequent behaviors were also "searching for knowledge about sex" and "watching erotic novels, videos, or movies," followed by "none of the above." These findings indicate a consistent pattern in respondents' behaviors across both offline and online contexts. The pursuit of sexual knowledge and engagement with erotic media emerge as common interests regardless of the medium. Furthermore, the presence of "none of the above" as a notable choice suggests that a portion of respondents did not engage in any explicitly identified behaviors in relation to sex.

The comparison reveals a notable consistency in respondents' concerns, both in the online and offline realms. They demonstrate a desire to acquire knowledge about sex, and when it comes to fulfilling their sexual needs, respondents are more inclined to engage with erotic literature or media rather than actively seeking casual

sexual partners. Notably, a significant proportion of respondents reported no involvement in any explicit sexual behaviors. However, it is important to highlight that this group represents a larger proportion (31.74%) in the physical world compared to the online sphere (14.13%). This suggests that respondents indeed have sexual needs, but fulfilling them in reality may prove challenging. Conversely, the internet offers a more convenient avenue for satisfying those needs.

Furthermore, this study also endeavors to explore the disparities in respondents' friendships between the offline and online domains.

Items	Categories	N	Percent (%)
Have shared sex-related topics face-to-face with someone of the opposite sex whom you know in person	Yes	252	34.62
	No	476	65.38
Have shared sex-related topics online with someone of the opposite sex whom you know in person	Yes	252	34.62
	No	476	65.38
Have shared explicit or sexually suggestive images face-to-face with someone of the opposite sex that you know in person	Yes	50	6.87
	No	678	93.13
Shared explicit or sexually suggestive images online with a real person of the opposite sex	Yes	82	11.26
	No	646	88.74
Total		728	100.0

Items	Categories	N	Percent (%)
Shared a conversation about sex	Yes	88	41.51

Items	Categories	N	Percent (%)
with a heterosexual online friend (n=212)	No	124	58.49
To an Internet friend of the opposite sex, or if the person has sent you pictures of private parts (n=212)	Yes	64	30.19
	No	148	69.81
Total		212	100%

Table 12 Comparison of respondents' friendships in reality and on the internet

The above tables reveal that respondents exhibit more restrained behavior when interacting with their real friends of the opposite sex. They seldom share sensitive images with their real friends (although they show slightly more boldness online). However, it is worth noting that almost one-third of the respondents have engaged in discussions about sex with their real friends of the opposite sex, whether face-to-face or online.

Among the respondents, there were 212 individuals who had developed romantic relationships with internet friends of the opposite sex. It was found that 41.51% of the respondents had discussed sex-related topics with their online friends, and 30.19% had exchanged sensitive images with them. Interestingly, these behaviors were more prevalent in the context of online friendships. This observation aligns with the respondents' perception that communication with online friends is more relaxed and casual. Furthermore, a majority of respondents agreed that the internet is a valuable tool for facilitating connections with potential sexual partners.

4.1.3. Respondents' knowledge of HIV-related issues

4.1.3.1. Respondents' sources of HIV-related knowledge

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
Family	90	5.02%	12.36%
School	574	32.00%	78.85%
Friend or classmate	160	8.92%	21.98%
Brochures from government or neighbourhood councils or properties	192	10.70%	26.37%
TV, Radio	224	12.49%	30.77%
Newspapers, magazines	116	6.47%	15.93%
Network	412	22.97%	56.59%
Books purchased	26	1.45%	3.57%
Other	0	0.00%	0.00%
Total	1794	100%	246.43%

Table 13 Respondents' sources of HIV-related knowledge

This is a multiple-choice question where respondents were asked to select three answers (the answers are in no particular order) and the distribution of the proportion of choices for each option was analysed for the multiple choice question. The above table shows that the goodness of fit test is significant (chi=693.532, p=0.000<0.05), meaning that the proportion of choices for each item is significantly different. Specifically, respondents' knowledge about HIV came mainly from school

and the Internet, and the proportion of these two options was much higher than the other options. In addition, television, radio and government or neighbourhood committee or property brochures also played a significant role in the acquisition of knowledge about HIV. This shows the effectiveness of school education and social awareness in China.

It is worth noting that family education plays a small role in the acquisition of HIV-related knowledge by respondents (5.02%), and somewhat less than the publicity in newspapers and magazines (6.47%). Chinese parents, who are more influenced by traditional Eastern culture, rarely share topics related to sex education with their children. This shows that family sex education needs to be strengthened in China to help children develop a correct sexuality in their childhood.

4.1.3.2. Respondents' knowledge about HIV

Regarding the knowledge of young students in Chengdu about HIV, this thesis used eight questions on HIV knowledge from the 2017 edition of the Operation Manual of the National HIV Sentinel Surveillance Implementation Programme issued by the Chinese Centre for Disease Control and Prevention to conduct the survey. "Otherwise, the answer is "don't know". In the table below, the correct answers are marked with a tick.

Items	Categories	N	Percent (%)
Whether a person with HIV can be seen from the outside	Yes	58	7.97
	No √[5]	**556**	**76.37**
	Don’t know	114	15.66
You can get HIV by eating with someone who	Yes	60	8.24

[5] The bolded option is the correct answer to the question. For example, if the bolded option is "No", the correct answer to the question is "No". The number of people that follows is the number of people who chose the correct answer, and the percentage is the percentage of people who chose the correct answer.

Items	Categories	N	Percent (%)
is infected or sick with HIV	**No √**	**574**	**78.85**
	Don't know	94	12.91
Can mosquito bites transmit HIV?	Yes	118	16.21
	No √	**508**	**69.78**
	Don't know	102	14.01
Can you get HIV if you give blood with HIV?	**Yes √**	**402**	**55.22**
	No	278	38.19
	Don't know	48	6.59
Is it possible to get HIV from sharing syringes with people living with HIV?	**Yes √**	**408**	**56.04**
	No	264	36.26
	Don't know	56	7.69
Is it possible for a child born to an HIV-infected woman to have HIV?	**Yes √**	**374**	**51.37**
	No	280	38.46
	Don't know	74	10.16
Does the correct use of condoms reduce HIV transmission	**Yes √**	**382**	**52.47**
	No	292	40.11
	Don't know	54	7.42
Do you think having sex with only one partner	**Yes √**	**344**	**47.25**

Items	Categories	N	Percent (%)
can reduce the spread of HIV?	No	330	45.33
	Don’t know	54	7.42
Overall Awareness Rate		**728**	**65.37**

Table 14 Respondents' knowledge of HIV-related knowledge

In terms of the knowledge rate of individual questions, the knowledge rate of the symptoms of HIV, such as "whether a person can tell from the outside if he or she is infected with HIV", is relatively high at 76.37%. The other seven questions were all about the ways of HIV transmission, and their knowledge rates were low. However, for issues such as blood transfusion, shared syringes, mother-to-child transmission and condom use, the awareness rate was just over half. As for the knowledge that HIV can be transmitted by multiple partners, the awareness rate is only 47.25%.

Moreover, it can be seen that the proportion of respondents who chose "don't know" was also high compared to those who chose the wrong answer directly. This suggests that respondents may not have received formal and systematic education on sexual safety at all, and does not exclude the possibility that they may have been disturbed by information from various sources.

The overall knowledge rate, which is the probability of answering six out of eight questions correctly, was 67.35%. This is a significant difference compared to other researchers who have come up with a knowledge rate of around 90%.[6]

4.1.3.3. Awareness of risky sexual behavior

[6] Hu Y, Liu L, Luo YJ, et al. Analysis of the current situation of HIV epidemic among students in Sichuan Province[J]. Journal of Preventive Medicine Intelligence, 2016, 32(12): 1337-1340.

Items	Categories	N	Percent (%)
I think the more intimate a relationship is, the less condom use is needed	Couldn't agree more	28	3.85
	Relatively agree	18	2.47
	Neutral	50	6.87
	Rather disagree	216	29.67
	Strongly disagree	416	57.14
I think it's right for lovers to have pre-marital sex	Couldn't agree more	124	17.03
	Relatively agree	148	20.33
	Neutral	286	39.29
	Rather disagree	88	12.09
	Strongly disagree	82	11.26
I think it's right for a single person to have sex with someone they like	Couldn't agree more	118	16.21
	Relatively agree	160	21.98
	Neutral	210	28.85
	Rather disagree	136	18.68
	Strongly disagree	104	14.29
I think it's right for a single person to have sex with another person to satisfy a physical need	Couldn't agree more	64	8.79
	Relatively agree	42	5.77
	Neutral	132	18.13

Items	Categories	N	Percent (%)
	Rather disagree	174	23.90
	Strongly disagree	316	43.41
The belief that it is acceptable to have two or more sexual partners at the same time	Couldn't agree more	46	6.32
	Relatively agree	38	5.22
	Neutral	74	10.16
	Rather disagree	176	24.18
	Strongly disagree	394	54.12
In the last year, have you received or participated in HIV prevention awareness services?	Yes	422	57.97
	No	306	42.03
Total		728	100.0

Table 15 Respondents' perceptions of risky sexual behavior

As can be seen from the above table, 37.36% of respondents approved of pre-marital sex and 39.29% had a neutral attitude, which shows that young contemporary students are relatively open-minded about sex. However, they are generally more safety conscious, with 86.81% of respondents believing that even intimate male and female friends need to use condoms when engaging in sexual activity. 38.19% of respondents believe that a single person can have sex with someone they like who is not necessarily their lover, and 28.85% are neutral. However, when asked if they would be willing to have sex with another person in order to solve their physical needs, 67.31% of the respondents were against it, with

another 18.13% being neutral. It is evident that although most respondents approve of pre-marital sex, they still believe that the premise for having sex should be out of affection and not purely for physical needs.

When asked if it was acceptable to have two or more sexual partners at the same time, 78.3% of the respondents said it was not acceptable, with 10.16% being neutral.

When asked if they had received or participated in HIV prevention services in the past year, 57.97% of respondents said "yes" and 42.03% said "no". This shows that there is still much room for improvement in the promotion of HIV prevention and treatment in Chinese society.

4.1.4. Respondents' attitudes towards sex

4.1.4.1. Attitudes towards “cybersex”

Items	Categories	N	Percent (%)
Are you in a high-risk group?	Yes	10	1.37
	No	654	89.84
	Don’t know	64	8.79
Willingness to seek counselling and testing services after risky sexual behavior	Yes	530	72.80
	No	90	12.36
	Don’t know	108	14.84
The possibility of developing a sexual relationship through online chat after meeting someone of the opposite sex in real life	1.0	138	18.96
	2.0	62	8.52
	3.0	62	8.52

Items	Categories	N	Percent (%)
	4.0	58	7.97
	5.0	36	4.95
	6.0	122	16.76
	7.0	84	11.54
	8.0	70	9.62
	9.0	64	8.79
	10.0	32	4.40
Which is more likely to have sex online or face to face	Internet chat is better	118	16.21
	Face to face is better	466	64.01
	It’s the same	144	19.78
Total		728	100.0

Table 16 Respondents' attitudes towards ‘online dating’

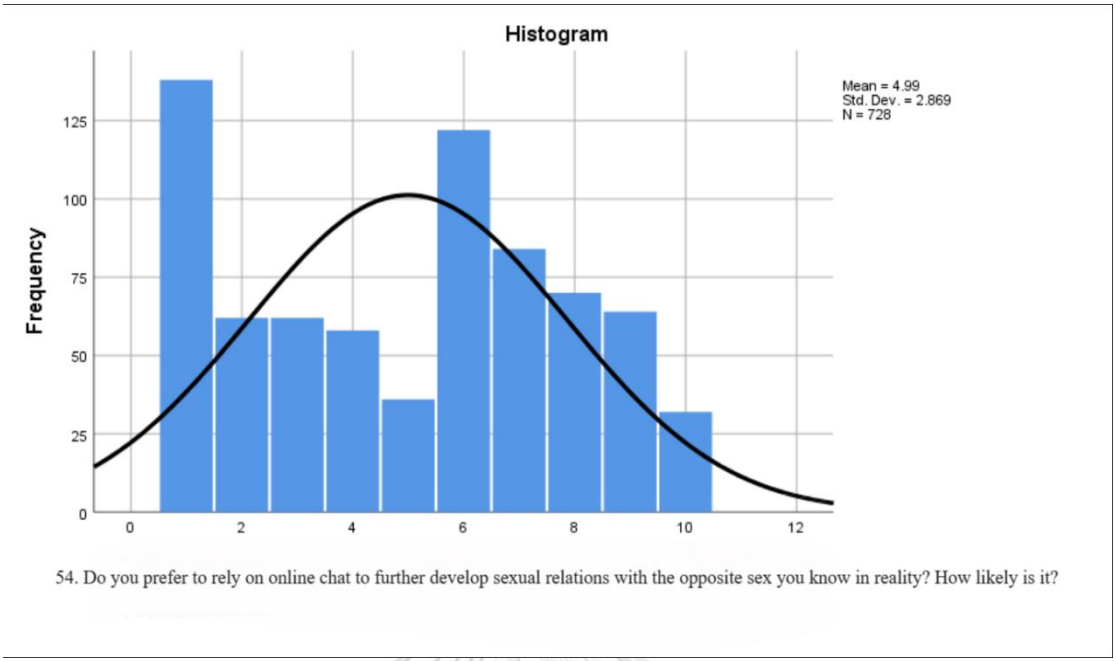


Figure 4 Respondents' attitudes towards developing the sexual relations with the net friend

As can be seen from the table above, the vast majority of respondents did not consider themselves to be in the high-risk category (89.84%) and 72.80% of respondents said that they would seek counselling and testing services afterwards if they had high-risk sex.

This paper also attempts to understand which is more conducive to promoting feelings, the real environment or the virtual environment online. Respondents were asked to answer whether they found the internet more conducive to expressing emotions and to score on a ten-point Likert scale, with higher levels of certainty being associated with higher scores (see bar chart). As can be seen, the respondents' attitudes are relatively neutral (mean=4.99). With the highest number of respondents scoring 1 and 6, it can be seen that respondents generally do not think that the internet is very effective in facilitating relationships. In response to the question "which is more likely to have sex online or face-to-face", over 60% of respondents said that face-to-face is better (64.01%). This shows that online dating is not as "dangerous" as it is often perceived to be.

This phenomenon is also mentioned by Pan Suiming in The Changing Face of Sex. His results of a nationwide questionnaire also show that Chinese people "have split into two largely evenly divided factions on the question of whether the Internet has increased the number of people having sex." [7]Those who hold a positive view believe that the internet is a beast and that people who are addicted to it are bound to behave more outlandishly in reality. Those with a negative view, on the other hand, believe that the internet is no different from the real world and that people follow the same behavioral norms on the internet as they do in the real world.

At the same time, Pan also points out that people are more likely to look for potential sexual partners in their real circle of friends than to have sex with online friends. The internet has facilitated communication, but people still prefer to develop relationships offline.

Pan Suiming published his research in 2012. Over the past decade, China's internet technology has changed dramatically, and the internet has gone from being a "supplement to everyday life" to being a "part of everyday life". But this does not mean that people's social relationships have shifted from the real to the virtual, rather it is the opposite, people have transposed their real social relationships to the internet and they continue to maintain their real social relationships in the virtual world.

We often think that the internet makes people more dependent on virtual worlds and virtual social relationships at the expense of real life. What is true is that people are using online technology to make their real lives and real social lives more convenient.

4.1.4.2. Attitudes towards multiple sexual partners

Items	Categories	N	Percent (%)
Your attitude and	Have tried it, feel good about it and	20	2.89

[7] Pan Suiming, The Change of Sexuality, Beijing: Renmin University Press, 2013, p. 212.

Items	Categories	N	Percent (%)
experience of 'spouse swapping' (n=692)	intend to continue.		
	Have tried it and it feels good, but don't take to keep trying.	6	0.87
	Have tried it, don't feel good about it and don't intend to try it	10	1.45
	I've tried it and it feels average, whether I try it in the future is up to me.	16	2.31
	Very exciting, very desirable and not ruling out trying it.	26	3.76
	It's corrupting and should never be attempted.	614	88.73
Your experience of 'group sex' (n=692)	Tried and tested, but rarely.	16	2.31
	No attempts have been made.	676	97.69
Your opinion about group sex (n=692)	Very exciting. Very yearning. Loved it.	10	1.45
	It's all right with or without.	78	11.27
	Extremely bad, never try it.	604	87.28
Total		728	100.0

Table 17 Respondents' attitudes towards multiple sexual partners

In HIV-related studies, multiple sexual partners have been identified as the most important cause of HIV infection. In this paper, several questions were designed to try to understand respondents' attitudes towards multiple sexual partners. On 'spousal exchange' and 'group sex'. Statistically, the vast majority of respondents

expressed a strong aversion to "spouse swapping" and "group sex". Only a very small number of people said they had "tried it", "felt good", "liked it" and "it was exciting". This indicates that respondents' attitudes towards multiple sexual partners are generally more averse.

4.1.5. Respondents' sexual behavior and condom use

4.1.5.1. Respondents' sexual behavior

Items	Categories	N	Percent (%)
Have you ever had sexual intercourse	Yes	252	34.62
	No	476	65.38
Age at first sexual intercourse (n=112)	15.0	4	3.57
	16.0	14	12.50
	17.0	2	1.79
	18.0	20	17.86
	19.0	20	17.86
	20.0	16	14.29
	21.0	10	8.93
	22.0	12	10.71
	23.0	2	1.79
	24.0	2	1.79

Items	Categories	N	Percent (%)
	25.0	2	1.79
	26.0	2	1.79
	27.0	4	3.57
	28.0	2	1.79
Length of interaction with the other person before the first sexual encounter (n=252)	More than half a year	82	32.54
	3-6 months	52	20.63
	1-3 months	54	21.43
	1 week~1 month	36	14.29
	Within 1 week	28	11.11
Awareness channels for first-time sex (n=252)	Network	50	19.84
	Classmates, colleagues	116	46.03
	Workplace	28	11.11
	Entertainment place or while travelling	20	7.94
	By chance through other means	38	15.08

Items	Categories	N	Percent (%)
You have had two or more sexual partners at the same time (n=252)	Yes	56	22.22
	No	196	77.78
Whether sex in the last two years involved money (n=252)	Yes, I paid the other guy	10	3.97
	Yes, the other guy paid me	10	3.97
	No	232	92.06
Total		728	100.0

Table 18 Basic information on respondents' sexual behavior

252 (34.62%) respondents admitted to having had sex, although 140 refused to answer when asked about the age of their first sexual encounter. 20.63% of respondents had sex after being in a relationship with the person they were having sex with for 3-6 months, and 32.54% had been in a relationship for more than six months, which adds up to more than half of the respondents. However, 11.11% of respondents also had sex within only one week of dating.

22.22% of respondents admitted to having had two or more sexual partners. Twenty respondents admitted that their sexual behavior in the last two years involved money, 10 of them paid each other and the other 10 paid themselves.

Overall, the incidence of sexual activity among respondents was not particularly high, and the incidence of multi-partner sex was relatively low.

4.1.5.2. Respondents' condom use

Items	Categories	N	Percent (%)
Frequency of condom use	Everytime	55	7.55
	Often	89	12.23
	Occasionally	132	18.13
	Rarely	194	26.65
	Never	258	35.44
Total		728	100.0

Table 19 Condom use among respondents

The table above shows that condom use is low, with only 7.55% of people choosing "use every time", 12.23% choosing "use often", 35.44% choosing "never use", 26.65% choosing "rarely use" and 18.13% choosing "occasionally use". The largest number of people chose "never use", accounting for 35.44%, while the percentages of people who "rarely use" and "occasionally use" were 26.65% and 18.13 respectively.

Safety measures other than condoms:

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
In vitro ejaculation	122	38.1%	48.4%

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
Having sex during a woman's safe period	54	16.9%	21.4%
Contraceptive plugs, liquid condoms	4	1.3%	1.6%
IUD or ligation	14	4.4%	5.6%
Use only condoms	114	35.6%	45.2%
Other	12	3.8%	4.8%
Total	320	100.0%	127.0%

Table 20 Respondents' safety measures other than condoms

This item is a multiple choice question. The analysis was carried out for the distribution of cross proportions for each option of the multiple choice question. As can be seen from the table above, the test of goodness of fit showed significance (chi=132.050, p=0.000<0.05), meaning that the cross-sectional proportions of the items were significantly different. Specifically, 38.1% of respondents chose "in vitro ejaculation", 35.6% said "condom only", 16.9% chose "sex during the female safe period "Only a small number of respondents chose other safety measures.

Reasons for condom use:

Response and popularity rate

Categories	Response	Popularity rate (n=728)

	n	Response rate	
Contraception	230	31.3%	91.3%
Prevention of sexually transmitted diseases	174	23.6%	69.0%
HIV prevention	132	17.9%	52.4%
Hygiene	152	20.7%	60.3%
The other party requested the use of	48	6.5%	19.0%
Total	736	100.0%	292.1%

Table 21 Respondents' reasons for using condoms

This is a multiple choice question. The analysis was carried out for the distribution of the proportion of choices for each option of the multiple choice question. As can be seen from the table above, the goodness-of-fit test is significant (chi=60.016, p=0.000<0.05), meaning that there is a significant difference in the proportion of choices for each item. Specifically, 'contraception' had the highest response rate, followed by 'prevention of STIs'. It can be seen that the respondents' definition of 'safe' was mainly 'not leading to pregnancy', rather than 'reducing the probability of contracting STIs'. In conjunction with the respondents' choice of safety measures in the previous section, "in vitro ejaculation" and "having sex during a woman's safe period" were all used to reduce the chance of pregnancy, suggesting that respondents were less likely to consider the possibility of contracting an STI when having sex.

Reasons for not using condoms:

Response and popularity rate

Categories	Response		Popularity rate (n=728)
	n	Response rate	
Not available for purchase	20	10.75%	2.75%
Too expensive	0	0.00%	0.00%
Not necessary	34	18.28%	4.67%
Already using contraceptive pills	4	2.15%	0.55%
I do not wish to use	26	13.98%	3.57%
The other party does not want to use	42	22.58%	5.77%
Forget to use	34	18.28%	4.67%
Other	26	13.98%	3.57%
Total	186	100%	25.55%

Goodness of fit: χ^2 =32.677 p=0.000

Table 22 Reasons for not using condoms

Likewise, we can analyse the reasons why respondents do not use condoms. The analysis was carried out for the distribution of the proportion of choices for each option of the multiple-choice question. As can be seen from the table above, the test of goodness of fit showed significance (chi=32.677, p=0.000<0.05), meaning that the proportion of choices for each item was significantly different. Specifically, "not necessary", "the other person is not willing to use", "forget to use", and "I am not

willing to use " a total of four items have a significantly higher response rate and prevalence. It can be seen that the respondents are indifferent to the use of condoms, and that they are not willing to use them personally or with each other.

4.1.6. Respondents' sexual relations and self-evaluation

Items	Categories	N	Percent (%)
Have a long-standing sexual relationship with someone of the opposite sex other than a lover or spouse (n=252)	Yes	66	26.19
	No	186	73.81
Have known someone of the opposite sex, other than a lover or spouse, for more than 3 months and had sexual relations with them (n=252)	Yes	84	33.33
	No	168	66.67
Time between meeting and having sex with a person of the opposite sex other than a lover or spouse (n=116)	1-3 months	20	17.24
	1 week - 1 month	32	27.59
	Within 1 week	22	18.97
	3-6 months	18	15.52
	More than half a year	24	20.69
Total		728	100.0

Table 23 Respondents' sexual relationships and self-assessment

In the previous survey, 252 respondents admitted to having had sex. Of these, 26.19% had been in a long-term sexual relationship with someone of the opposite

sex other than a lover or spouse, and 33.33% had had at least one sexual relationship with someone of the opposite sex other than a lover or spouse whom they had known for more than three months. When asked about the time interval between meeting and having sex, 116 respondents gave their answers. Most occurred within a week to a month (27.59%), followed by more than six months (20.69%), and many also occurred within one week (18.97%, possibly a one-night stand). This shows that respondents are still having chaotic sexual relationships, with multiple partners being more common.

4.2. Chi-square tests of the association between willingness to develop sexual relationships online and HIV-related knowledge, attitudes and behaviours

In order to examine the impact of online interactions on young students, this chapter will use chi-square analysis to further analyse the impact of willingness to develop sexual relationships online on young students' sexual knowledge, attitudes and behavior.

Synthesizing the literature review and the descriptive analysis of respondents' personal information in the previous chapter, this chapter attempts to analyse the relationship between respondents' personal information and knowledge of HIV, HIV-related attitudes and HIV-related behaviors, and how respondents' personal information, knowledge of HIV and related attitudes have influenced their HIV-related behaviors.

4.2.1. Impact on knowledge of HIV basics

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online		Total	χ^2	p
		Willing	Unwillingness			

"Can a person with HIV be seen from the outside?"	Yes	22(12.64)	28(5.41)	50 (7.23)	28.973	0.000**
	No	108 (62.07)	424 (81.85)	532 (76.88)		
	No	44 (25.29)	66 (12.74)	110 (15.90)		
Total		174	518	692		
"You can get HIV by eating with someone who is infected or sick with HIV"	Yes	26(14.94)	34 (6.56)	60 (8.67)	33.029	0.000**
	No	108 (62.07)	430 (83.01)	538 (77.75)		
	No	40(22.99)	54 (10.42)	94 (13.58)		
Total		174	518	692		
Can mosquito bites transmit HIV?	Yes	30 (17.24)	84 (16.22)	114 (16.47)	1.431	0.489
	No	114 (65.52)	362 (69.88)	476 (68.79)		
	No	30 (17.24)	72(13.90)	102 (14.74)		
Total		174	518	692		
"Can you get HIV by giving blood with HIV?"	Yes	106 (60.92)	262 (50.58)	368 (53.18)	10.156	0.006**
	No	52 (29.89)	224 (43.24)	276 (39.88)		
	No	16(9.20)	32 (6.18)	48(6.94)		
Total		174	518	692		
"Is it possible to get HIV from sharing syringes with people living with HIV?"	Yes	106 (60.92)	266 (51.35)	372 (53.76)	6.730	0.035*
	No	52 (29.89)	212 (40.93)	264 (38.15)		
	No	16(9.20)	40 (7.72)	56(8.09)		

Total		174	518	692		
"Is it possible for a child born to an HIV-infected woman to get HIV?"	Yes	92 (52.87)	246 (47.49)	338 (48.84)	12.214	0.002**
	No	54(31.03)	226 (43.63)	280 (40.46)		
	No	28(16.09)	46 (8.88)	74(10.69)		
Total		174	518	692		
"Does the correct use of condoms reduce HIV transmission"	Yes	96 (55.17)	250 (48.26)	346(50.00)	18.794	0.000**
	No	54(31.03)	238 (45.95)	292 (42.20)		
	No	24 (13.79)	30 (5.79)	54 (7.80)		
Total		174	518	692		
"Do you think having sex with only one partner can reduce the spread of HIV"	Yes	90 (51.72)	226 (43.63)	316 (45.66)	10.676	0.005**
	No	64 (36.78)	258 (49.81)	322 (46.53)		
	No	20 (11.49)	34 (6.56)	54 (7.80)		
Total		174	518	692		

* p<0.05 ** p<0.01

Table 24 Effect of willingness to develop sexual relationships online on HIV-related knowledge

The above table shows that the willingness to develop sexual relationships online does not show a significant relationship with whether mosquito bites transmit HIV (p>0.05), meaning that the willingness to develop sexual relationships online shows a consistent relationship with whether mosquito bites transmit HIV. There was no difference.

In addition, the willingness to develop sexual relationships on the Internet has been a major factor in the questions "Can you tell if you have HIV from the outside", "Can you get HIV if you eat with someone who is infected or sick with HIV? Can you get HIV by giving blood with HIV", "Is it possible to get HIV by sharing a syringe with someone who is infected with HIV", "Is it possible for a child born to a woman who is infected with HIV to get HIV", "($p<0.05$), and "Do you think that having sex with only one partner can reduce the spread of HIV?", meaning the willingness to develop sexual relationships online. For each of these seven items, differences were found, which can be compared with the percentages in brackets.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=28.973, $p=0.000<0.01$) for "whether a person with HIV can be seen from the outside", and the difference in percentages showed that 81.85% were not willing to choose no, which was significantly higher than the 62.07% who were willing to choose no. higher than the proportion willing to choose 62.07%. The percentage of those willing to choose don't know was 25.29%, which was significantly higher than the percentage of those willing to choose no, which was 12.74%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=33.029, $p=0.000<0.01$) for the statement "You can get HIV by eating with someone who is infected or sick with HIV", and the difference in percentages showed that 83.01% were not willing to choose no, which was significantly higher than the 62.07% who were willing to choose no. higher than the proportion willing to choose 62.07%. The percentage of those willing to choose don't know was 22.99%, which was significantly higher than the percentage of those willing to choose no, which was 10.42%.

The willingness to develop a sexual relationship online was significant at the 0.01 level (chi=10.156, $p=0.006<0.01$) for the question "Will I get HIV if I enter blood with HIV", and the difference in percentages showed that 60.92% were willing to choose yes, significantly higher than the 50.58% who were not willing to choose yes. The percentage of those willing to choose yes was 60.92%, significantly higher than the percentage of those unwilling to choose no at 50.58%. The percentage of those

who were not willing to choose no was 43.24%, which was significantly higher than the percentage of those who were willing to choose no, which was 29.89%.

The willingness to develop a sexual relationship online was significant at the 0.05 level (chi=6.730, p=0.035<0.05) for the question "Is it possible to get HIV by sharing a syringe with someone living with HIV". higher than the percentage of those willing to choose no at 51.35%. The percentage of those who were not willing to choose no was 40.93%, significantly higher than the percentage of those who were willing to choose 29.89%.

The willingness to develop a sexual relationship online was significant at the 0.01 level (chi=12.214, p=0.002<0.01) for the question "Is it possible for a child born to a woman with HIV to get HIV". significantly higher than the percentage of those willing to choose no, 47.49%. The percentage of those who were not willing to choose no was 43.63%, which was significantly higher than the percentage of those who were willing to choose 31.03%. The percentage of those willing to choose don't know was 16.09%, significantly higher than the percentage of those unwilling to choose 8.88%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=18.794, p=0.000<0.01) for the question "Does the correct use of condoms reduce HIV transmission", and the difference in percentages showed that the percentage of those willing to choose yes was 55.17%, which was significantly higher than the percentage of those unwilling to choose no. The percentage of those willing to choose yes was 55.17%, which was significantly higher than the percentage of those unwilling to choose no, 48.26%. The percentage of those who were not willing to choose no was 45.95%, significantly higher than the percentage of those who were willing to choose 31.03%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=10.676, p=0.005<0.01) for the question "Do you think having sex with only one partner can reduce the transmission of HIV". , which is significantly higher than the percentage of unwilling choices 43.63%. The percentage of those who were

not willing to choose no was 49.81%, significantly higher than the percentage of those who were willing to choose 36.78%.

In conclusion, it can be seen that there is no significant difference between the willingness to develop sexual relationships online and the willingness to transmit HIV from mosquito bites, and the willingness to develop sexual relationships online on the following questions: "Is it obvious that a person is infected with HIV? "Can I get HIV if I eat with someone who is infected with HIV", "Can I get HIV if I give blood with HIV", "Can I get HIV if I share a syringe with someone who is infected with HIV", "Is it possible to get HIV from a child born to an HIV-infected woman", "Can the correct use of condoms reduce the spread of HIV", "Do you think that having sex with only one partner can reduce the spread of HIV? Seven items in total showed significant differences.

4.2.2. Influence of attitudes towards risky sexual behavior

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online		Total	χ^2	p
		Willing	Unwillingness			
"I think it's right for lovers to have pre-marital sex."	Couldn't agree more	16(9.20)	12(2.32)	28(4.05)	55.680	0.000**
	Relatively agree	6(3.45)	8(1.54)	14(2.02)		
	Neutral	24 (13.79)	24(4.63)	48(6.94)		
	Rather disagree	64 (36.78)	138(26.64)	202 (29.19)		
	Strongly disagree	64 (36.78)	336 (64.86)	400 (57.80)		
Total		174	518	692		

	Couldn't agree more	46 (26.44)	64(12.36)	110 (15.90)		
	Relatively agree	44 (25.29)	96 (18.53)	140 (20.23)		
"I think it's right for lovers to have pre-marital sex."	Neutral	38 (21.84)	234 (45.17)	272 (39.31)	37.970	0.000**
	Rather disagree	22(12.64)	66 (12.74)	88(12.72)		
	Strongly disagree	24 (13.79)	58 (11.20)	82 (11.85)		
Total		174	518	692		
	Couldn't agree more	46 (26.44)	58 (11.20)	104(15.03)		
"I think it's right for a single person to have sex with someone they like."	Relatively agree	46 (26.44)	102 (19.69)	148 (21.39)		
	Neutral	42 (24.14)	162 (31.27)	204 (29.48)	37.280	0.000**
	Rather disagree	16(9.20)	116 (22.39)	132(19.08)		
	Strongly disagree	24 (13.79)	80 (15.44)	104(15.03)		
Total		174	518	692		
	Couldn't agree more	22(12.64)	28(5.41)	50 (7.23)		
I think it's right for a single person to have sex with another person to satisfy a physical need	Relatively agree	20 (11.49)	20(3.86)	40(5.78)		
	Neutral	46 (26.44)	80 (15.44)	126 (18.21)	61.967	0.000**
	Rather disagree	50 (28.74)	120 (23.17)	170 (24.57)		
	Strongly disagree	36 (20.69)	270 (52.12)	306 (44.22)		
Total		174	518	692		
The belief that "it is	Couldn't agree more	26(14.94)	14(2.70)	40(5.78)	57.129	0.000**

acceptable to have two or more sexual partners at the same time"	Relatively agree	14(8.05)	20(3.86)	34(4.91)
	Neutral	24 (13.79)	44 (8.49)	68 (9.83)
	Rather disagree	48 (27.59)	128 (24.71)	176 (25.43)
	Strongly disagree	62 (35.63)	312 (60.23)	374(54.05)
Total		174	518	692

* p<0.05 ** p<0.01

Table 25 Effect of willingness to develop sexual relationships online on attitudes towards risky sexual behavior

The cardinality test was used to examine the willingness to develop sexual relationships online for "I think it is right for lovers to have premarital sex with each other", "I think it is right for lovers to have premarital sex with each other", "I think it is right for a single person to I think it is right for a single person to have sex with someone they like", "I think it is right for a single person to have sex with someone else to satisfy a physical need", "It is acceptable to have two or more sexual partners at the same time " a total of 5 items of differential relationships.

The table above shows that: the willingness to develop sexual relationships online is important for "I think it is right for lovers to have premarital sex with each other", "I think it is right for lovers to have premarital sex with each other", "I think it is right for a single person to have sex with I think it is right for a single person to have sex with someone they like", "I think it is right for a single person to have sex with someone else to satisfy a physical need," "It is acceptable to have two or more sexual partners at the same time "A total of five items showed significance (p<0.05), meaning that the willingness to develop sexual relationships online showed differences for all five items, and specific suggestions can be combined with the percentages in brackets to compare the differences.

The willingness to develop sexual relationships online showed a 0.01 level of

significance for "I think it is right for lovers to have premarital sex" (chi=55.680, p=0.000<0.01), and the difference in percentages shows that the percentage of those willing to choose to disagree is 36.78%, which is significantly higher than the percentage of those willing to choose to disagree. percentage of those willing to choose disagree 26.64%. The percentage of those who were not willing to choose strongly disagree was 64.86%, significantly higher than the percentage of those who were willing to choose 36.78%.

The willingness to develop sexual relationships online showed a 0.01 level of significance for "I think it is right for lovers to have premarital sex" (chi=37.970, p=0.000<0.01), and the difference in percentages shows that 26.44% were willing to choose strongly agree, which is significantly higher than the 12.36% who were not willing to choose. The percentage of those who were willing to choose to agree strongly was 26.44%, which was significantly higher than the percentage who were not willing to choose 12.36%. The percentage of those who were willing to choose relatively agree was 25.29%, significantly higher than the percentage of those who were not willing to choose 18.53%. The proportion of those who were not willing to choose neutral was 45.17%, significantly higher than the proportion of those who were willing to choose 21.84%.

The willingness to develop sexual relationships online showed a 0.01 level of significance for "I think it's right for a single person to have sex with someone they like" (chi=37.280, p=0.000<0.01), and the difference in percentages shows that the percentage of people willing to choose strongly agree 26.44%, which is significantly higher than the percentage of those who were willing to choose not willing to choose 11.20%. The percentage of those who were willing to choose to agree more was 26.44%, which was significantly higher than the percentage of those who were not willing to choose 19.69%. The proportion of those who were unwilling to choose neutral was 31.27%, significantly higher than the proportion of those who were willing to choose 24.14%. The proportion of those who were unwilling to choose to disagree more was 22.39%, significantly higher than the proportion of those who were willing to choose 9.20%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=61.967, p=0.000<0.01) for "I think it is right for a single person to have sex with someone else in order to address their physical needs", and the difference in percentages shows that the percentage of those willing to choose neutral 26.44%, which is significantly higher than the percentage of those willing to choose disagree at 15.44%. The percentage of those willing to choose to disagree more was 28.74%, significantly higher than the percentage of those unwilling to choose 23.17%. The percentage of those who were not willing to choose strongly disagree was 52.12%, significantly higher than the percentage of those who were willing to choose 20.69%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=57.129, p=0.000<0.01) for believing that "having two or more sexual partners at the same time is an acceptable thing to do", and the difference in percentages shows that the percentage of people who were not willing to choose strongly disagree 60.23%, which is significantly higher than the percentage of willing choices, 35.63%.

To summarize: the sample of willingness to develop sexual relationships online "I think it is right for lovers to have premarital sex with each other", "I think it is right for lovers to have premarital sex with each other", "I think it is right for a single person to have sex with someone they I think it is right for a single person to have sex with someone they like", "I think it is right for a single person to have sex with someone else to meet a physical need," "It is acceptable to have two or more sexual partners at the same time "All of them showed significant differences.

4.2.3. Impact on perceptions of gender perspectives

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online	Total	$\chi 2$	p

		Willing	Unwillingness			
"In the last year, have you received or participated in any awareness services about HIV prevention"	Yes	86 (49.43)	328 (63.32)	414 (59.83)		
	No	88 (50.57)	190 (36.68)	278 (40.17)	10.463	0.001**
Total		174	518	692		
"Having a heterosexual online friend"	Yes	84 (48.28)	118 (22.78)	202 (29.19)		
	No	90 (51.72)	400 (77.22)	490 (70.81)	40.962	0.000**
Total		174	518	692		
"Is it more relaxed and casual when interacting with people of the opposite sex online"	Couldn't agree more	18 (21.43)	36 (30.51)	54 (26.73)		
	Relatively agree	24 (28.57)	44 (37.29)	68 (33.66)		
	Neutral	26(30.95)	32 (27.12)	58 (28.71)	11.656	0.009**
	Rather disagree	16(19.05)	6(5.08)	22 (10.89)		
Total		84	118	202		
"Have you ever shared a conversation about sex with an online friend of the opposite sex?"	Yes	40 (47.62)	42 (35.59)	82 (40.59)		
	No	44 (52.38)	76 (64.41)	120 (59.41)	2.943	0.086
Total		84	118	202		
"Has the person sent you	Yes	32(38.10)	28(23.73)	60 (29.70)	4.850	0.028*

pictures of private parts to an online friend of the opposite sex, or to the other person"	No	52 (61.90)	90 (76.27)	142 (70.30)		
Total		84	118	202		
"Had experience of developing a relationship with an online friend of the opposite sex"	Yes	68 (39.53)	98 (18.92)	166(24.06)		
	None	104 (60.47)	420 (81.08)	524 (75.94)	30.038	0.000**
Total		172	518	690		
"Does it know anything about Vin-ai"	Understand that having tried	24(13.95)	30 (5.79)	54 (7.83)		
	Understood, curious, but not tried yet	16(9.30)	12(2.32)	28(4.06)		
					47.753	0.000**
	Understood, but not interested	44 (25.58)	76(14.67)	120 (17.39)		
	No knowledge	88(51.16)	400 (77.22)	488 (70.72)		
Total		172	518	690		
"Does it feel more comfortable to communicate casually online, even if you already know the opposite sex in reality"	Couldn't agree more	24 (13.79)	32 (6.18)	56(8.09)		
	Relatively agree	48 (27.59)	114 (22.01)	162 (23.41)	36.593	0.000**
	Neutral	42 (24.14)	244 (47.10)	286 (41.33)		
	Rather disagree	40(22.99)	102 (19.69)	142 (20.52)		

	Strongly disagree	20 (11.49)	26(5.02)	46 (6.65)		
Total		174	518	692		
"Does it feel that the internet facilitates people to find sexual partners and develop sexual relationships"	Couldn't agree more	28(16.09)	50 (9.65)	78 (11.27)	13.714	0.008**
	Relatively agree	50 (28.74)	110 (21.24)	160 (23.12)		
	Neutral	52 (29.89)	182 (35.14)	234 (33.82)		
	Rather disagree	22(12.64)	108 (20.85)	130 (18.79)		
	Strongly disagree	22(12.64)	68(13.13)	90(13.01)		
Total		174	518	692		
"Do you feel that the internet has given you the opportunity to improve communication and understanding with people around you and has given you the possibility to develop sexual relationships"	Couldn't agree more	36 (20.69)	50 (9.65)	86(12.43)	22.023	0.000**
	Relatively agree	44 (25.29)	104(20.08)	148 (21.39)		
	Neutral	52 (29.89)	198 (38.22)	250(36.13)		
	Rather disagree	22(12.64)	110 (21.24)	132(19.08)		
	Strongly disagree	20 (11.49)	56 (10.81)	76(10.98)		
Total		174	518	692		
"Do you feel that the internet has enriched your horizons and	Couldn't agree more	36 (20.69)	76(14.67)	112 (16.18)	21.314	0.000**
	Relatively agree	54(31.03)	160 (30.89)	214 (30.92)		

allowed you to better understand and integrate into the society of today"	Neutral	32 (18.39)	176 (33.98)	208(30.06)		
	Rather disagree	32 (18.39)	78(15.06)	110 (15.90)		
	Strongly disagree	20 (11.49)	28(5.41)	48(6.94)		
Total		174	518	692		
"Do you feel that networking has helped you to find more like-minded people"	Couldn't agree more	38 (21.84)	60 (11.58)	98(14.16)	34.051	0.000**
	Relatively agree	48 (27.59)	128 (24.71)	176 (25.43)		
	Neutral	34 (19.54)	212 (40.93)	246 (35.55)		
	Rather disagree	30 (17.24)	82 (15.83)	112 (16.18)		
	Strongly disagree	24 (13.79)	36(6.95)	60 (8.67)		
Total		174	518	692		

* p<0.05 ** p<0.01

Table 26 Impact of willingness to develop sexual relationships online on perceptions of gender perspectives

The cardinality test was used to examine the willingness to develop sexual relationships online for the questions "In the past year, have you received or participated in any HIV prevention services", "have you had friends of the opposite sex", "have you communicated with friends of the opposite sex in a relaxed and casual way", "have you shared any sexual topics with friends of the opposite sex? Have you ever shared sexually explicit topics with a friend of the opposite sex? Have

you ever been friends with someone of the opposite sex on the Internet?", "Do you know anything about sex?", "Do you feel more comfortable communicating with someone of the opposite sex online, even if you already know them in person? "Do you feel that the internet has made it easier for people to find sexual partners and to develop sexual relationships", "Do you feel that the internet has given you the opportunity to communicate and get to know people around you better and has given you the possibility to develop sexual relationships", "Do you feel that the internet has enriched your horizons and allowed you to better understand and integrate into the current society", "Do you feel that the internet has helped you to find more people with similar interests".

From the above table, it can be seen that: willingness to develop sexual relationships online does not show significance ($p>0.05$) for "whether or not they have shared topics about sex with people of the opposite sex online", which means that willingness to develop sexual relationships online is consistent and does not differ for "whether or not they have shared topics about sex with people of the opposite sex online". "There is no difference between the two samples. The other sample of willingness to develop sexual relationships online shows significance for these 11 items ($p<0.05$), implying that willingness to develop sexual relationships online shows variability for all 11 items.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=10.463, $p=0.001<0.01$) for the question "In the last year, have you received or participated in HIV prevention awareness services", and the difference in percentages shows that the percentage of those who were not willing to choose yes 63.32%, significantly higher than the proportion willing to choose yes 49.43%. The percentage of those willing to choose no was 50.57%, significantly higher than the percentage of those willing to choose no, which was 36.68%.

The difference in percentages shows that 48.28% were willing to choose yes, which is significantly higher than the 22.78% who were not willing to choose yes. The percentage of those who were not willing to choose no was 77.22%, significantly higher than the percentage of those who were willing to choose 51.72%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=11.656, p=0.009<0.01) for "whether it is easy and casual to communicate with people of the opposite sex", and the difference in percentages shows that 30.51% of respondents were not willing to choose strongly agree, which is significantly higher than percentage of those who were willing to choose willingly 21.43%. The percentage of those who were not willing to choose to agree more was 37.29%, which was significantly higher than the percentage of those who were willing to choose 28.57%. The proportion of those who were willing to choose to disagree more was 19.05%, which was significantly higher than the proportion of those who were unwilling to choose 5.08%.

The willingness to develop sexual relationships online was significant at the 0.05 level (chi=4.850, p=0.028<0.05) for "whether or not you have sent pictures of intimate parts of your body to a friend of the opposite sex, or to the other person", and the difference in percentages shows that the percentage of those willing to choose yes was 38.10%, significantly higher than the percentage of those who were willing to choose no at 23.73%. The percentage of those who were not willing to choose no was 76.27%, significantly higher than the percentage of those who were willing to choose 61.90%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=30.038, p=0.000<0.01) for "have had experience of developing friendships with people of the opposite sex", and the difference in percentages shows that the percentage of those willing to choose yes was 39.53%, significantly higher than the percentage of those not willing to choose yes. The percentage of those willing to choose yes was significantly higher than that of those unwilling to choose no at 18.92%. The percentage of those who were not willing to choose no was 81.08%, significantly higher than the percentage of those who were willing to choose 60.47%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=47.753, p=0.000<0.01) for "whether or not I know about Wenai", and the difference in percentages shows that the percentage of those willing to choose

to know but not interested was 25.58%, which was significantly higher than the percentage of those unwilling to choose 14.67%. The percentage of those who were not willing to choose not knowing was 77.22%, significantly higher than the percentage of those who were willing to choose 51.16%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=36.593, p=0.000<0.01) for the question "Do you feel more comfortable and casual communicating online, even if you already know the opposite sex in reality". The percentage of those who were willing to choose more agree was 27.59%, which was significantly higher than the percentage of those who were not willing to choose 22.01%. The percentage of those who were not willing to choose neutral was 47.10%, significantly higher than the percentage of those who were willing to choose 24.14%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=13.714, p=0.008<0.01) for the question "Do you feel that the internet facilitates people to find sexual partners and develop sexual relationships", and the difference in percentages shows that 16.09% were willing to choose strongly agree, which is significantly higher than the percentage of those willing to choose not willing to choose 9.65%. The percentage of those who were willing to choose to agree more was 28.74%, significantly higher than the percentage of those who were not willing to choose 21.24%. The proportion of those who were not willing to choose neutral was 35.14%, significantly higher than the proportion of those who were willing to choose 29.89%. The proportion of those who were unwilling to choose to disagree more was 20.85%, significantly higher than the proportion of those who were willing to choose 12.64%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=22.023, p=0.000<0.01) for the question "Do you feel that the Internet gives you the opportunity to communicate and get to know people around you better and gives you the possibility to develop sexual relationships", and the difference in percentage comparison shows that the willingness The difference in percentages shows that 20.69% were willing to choose strongly agree, which is

significantly higher than the 9.65% who were not willing to choose. The percentage of those who were willing to choose to agree more was 25.29%, which was significantly higher than the percentage of those who were not willing to choose 20.08%. The proportion of those who were not willing to choose neutral was 38.22%, significantly higher than the proportion of those who were willing to choose 29.89%. The proportion of those who were unwilling to choose to disagree more was 21.24%, significantly higher than the proportion of those who were willing to choose 12.64%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=21.314, p=0.000<0.01) for the question "Do you feel that the Internet has enriched your horizons and allowed you to better understand and integrate into the current society". proportion of 20.69% was significantly higher than the proportion of unwilling choices of 14.67%. The percentage of those who were not willing to choose neutral was 33.98%, which was significantly higher than the percentage of those who were willing to choose 18.39%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=34.051, p=0.000<0.01) for the question "Do you feel that the Internet has helped you find more like-minded people", and the difference in percentages shows that 21.84% were willing to choose strongly agree, which is significantly higher than the percentage of those who were willing to choose unwillingly at 11.58%. The percentage of those who were not willing to choose neutral was 40.93%, significantly higher than the percentage of those who were willing to choose 19.54%.

In conclusion, it can be seen that there is no significant difference between the willingness to develop sexual relationships online and "whether or not you have shared sexual topics with heterosexual Internet friends". ", "Have you ever had a friend of the opposite sex", "Have you ever communicated with a friend of the opposite sex in a casual way", "Have you ever sent pictures of your private parts to a friend of the opposite sex or to a friend of the opposite sex? ", "Have you ever been friends with someone of the opposite sex online", "Do you know anything about sex", "Do you feel that even if you already know someone of the opposite sex in real life,

it is more comfortable and casual to communicate with them online", "Do you feel more comfortable and casual to communicate with them online", "Have you ever been friends with someone of the opposite sex online? Do you feel that the internet makes it easier for people to find sexual partners and develop sexual relationships", "Do you feel that the internet gives you the opportunity to communicate and get to know people around you and gives you the possibility to develop sexual relationships? ", "Do you feel that the Internet has enriched your horizons and allowed you to better understand and integrate into the current society", "Do you feel that the Internet has helped you to find more people with similar interests", 11 items showed significant differences The 11 items of "Do you think the Internet has helped you find more like-minded people?

4.2.4. Impact on gender topics on the Internet

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online		Total	χ^2	p
		Willing	Unwillingness			
Have shared sex-related topics face-to-face with someone of the opposite sex whom you know in person	Yes	88 (50.57)	146 (28.19)	234 (33.82)		
	No	86 (49.43)	372 (71.81)	458 (66.18)	29.173	0.000**
Total		174	518	692		
"Have you shared sex-related topics online with someone of the opposite sex that you know in real life"	Yes	78 (44.83)	156 (30.12)	234 (33.82)		
	No	96 (55.17)	362 (69.88)	458 (66.18)	12.596	0.000**
Total		174	518	692		
"Have shared pictures of exposed parts	Yes	20 (11.49)	24(4.63)	44 (6.36)	10.298	0.001

or sexually suggestive images face-to-face with people of the opposite sex whom I know in real life"	No	154 (88.51)	494 (95.37)	648 (93.64)		**
Total		174	518	692		
"Have you ever shared explicit or sexually suggestive images online with a real person of the opposite sex"	Yes	34 (19.54)	40 (7.72)	74(10.69)		
	No	140 (80.46)	478 (92.28)	618 (89.31)	19.049	0.000 **
Total		174	518	692		

* p<0.05 ** p<0.01

Table 27 Impact of online willingness to develop sexual relationships on online gender topics

A chi-square test was used to examine the willingness to develop sexual relationships online for the items "whether you have shared sex-related topics face-to-face with someone you know in person", "whether you have shared sex-related topics online with someone you know in person", and "whether you have shared sex-related topics online with someone you know in person", The difference in the relationship between "have shared sexually explicit or sexually suggestive pictures face-to-face with someone you know in person" and "have shared sexually explicit or suggestive pictures online with someone you know in person".

The above table shows that the willingness to develop a sexual relationship online is a function of "whether or not you have shared sex-related topics face-to-face with someone you know in person", "whether or not you have shared sex-related topics online with someone you know in person", (p<0.05), "Have shared sexually explicit or sexually suggestive pictures face-to-face with someone you know in person", "Have shared sexually explicit or sexually suggestive pictures online with someone you know in person", and "Have shared sexually explicit or sexually suggestive pictures online with someone you know in person". This means that there

is a difference in the willingness to develop sexual relationships online for all four items, which can be compared with the percentages in brackets.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=29.173, p=0.000<0.01) for "whether or not you have shared sex-related topics face-to-face with someone you know in real life", and the difference in percentages showed that 50.57% were willing to choose yes, which was significantly higher than the 28.19% who were not willing to choose yes. significantly higher than the percentage of unwilling choices 28.19%. The percentage of those who were not willing to choose no was 71.81%, significantly higher than the percentage of those who were willing to choose 49.43%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=12.596, p=0.000<0.01) for "whether or not you have shared sex-related topics online with someone you know in real life", and the difference in percentages showed that 44.83% were willing to choose yes, which was significantly higher than the 30.12% who were not willing to choose yes. significantly higher than the percentage of those willing to choose no at 30.12%. The percentage of those who were not willing to choose no was 69.88%, significantly higher than the percentage of those who were willing to choose 55.17%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=10.298, p=0.001<0.01) for "shared some sexually explicit or sexually suggestive pictures face-to-face with someone you know in real life", and the difference in percentages showed that the percentage of those who were not willing to choose no 95.37%, which is significantly higher than the percentage of willing choices, 88.51%.

The willingness to develop sexual relationships online was significant at the 0.01 level (chi=19.049, p=0.000<0.01) for "whether or not you have shared sexually explicit or suggestive images online with a real person of the opposite sex", and the difference in percentages showed that 19.54% were willing to choose yes, which was significantly higher than the 7.72% who chose no. significantly higher than the

percentage of those willing to choose no at 7.72%. The percentage of those who were not willing to choose no was 92.28%, significantly higher than the percentage of those who were willing to choose 80.46%.

To summarize, it can be seen that the willingness to develop a sexual relationship online was found to be high for "whether you have shared sex-related topics face-to-face with someone you know in person", "whether you have shared sex-related topics online with someone you know in person", and "whether you have shared sex-related topics online with someone you know in person", There was a significant difference between "have shared sexually explicit or sexually suggestive pictures face-to-face with someone you know in person" and "have shared sexually explicit or suggestive pictures online with someone you know in person".

4.2.5. Impact on sexual behavior

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online		Total	χ^2	p
		Willing	Unwillingness			
"Has there been sexual intercourse"	Yes	88 (50.57)	140(27.03)	228(32.95)		
	None	86 (49.43)	378 (72.97)	464 (67.05)	32.691	0.000**
Total		174	518	692		
"Age at the time of first sexual intercourse"	15.0	4(11.76)	0(0.00)	4(4.55)		
	16.0	8 (23.53)	4 (7.41)	12(13.64)		
	17.0	0(0.00)	2(3.70)	2(2.27)	26.603	0.003**
	18.0	6(17.65)	10 (18.52)	16 (18.18)		

	19.0	4(11.76)	14(25.93)	18 (20.45)		
	20.0	6(17.65)	8 (14.81)	14 (15.91)		
	21.0	0(0.00)	6 (11.11)	6 (6.82)		
	22.0	2(5.88)	8 (14.81)	10 (11.36)		
	23.0	0(0.00)	0(0.00)	0(0.00)		
	24.0	0(0.00)	0(0.00)	0(0.00)		
	25.0	2(5.88)	0(0.00)	2(2.27)		
	26.0	0(0.00)	0(0.00)	0(0.00)		
	27.0	0(0.00)	2(3.70)	2(2.27)		
	28.0	2(5.88)	0(0.00)	2(2.27)		
Total		34	54	88		
"Length of interaction with the other person prior to initial sexual intercourse"	More than half a year	16 (18.18)	48(34.29)	64(28.07)	20.460	0.000**
	3-6 months	12(13.64)	38 (27.14)	50 (21.93)		
	1-3 months	28 (31.82)	22 (15.71)	50 (21.93)		
	1 week~1 month	16 (18.18)	20 (14.29)	36 (15.79)		
	Within 1 week	16 (18.18)	12 (8.57)	28 (12.28)		
Total		88	140	228		
"Awareness channels for sexual debut"	On the web (please fill in the specific social software)	22(25.00)	26(18.57)	48(21.05)	8.845	0.065
	Classmates, colleagues	30(34.09)	70(50.00)	100 (43.86)		

	Work-related formal situations (e.g. through business negotiations, participation in academic conferences, English language training, etc.)	8(9.09)	16(11.43)	24 (10.53)		
	met in a place of entertainment or on a trip	12(13.64)	8 (5.71)	20 (8.77)		
	Other casual acquaintances	16 (18.18)	20 (14.29)	36 (15.79)		
Total		88	140	228		
"Having two or more sexual partners at the same time"	Yes	30(34.09)	24 (17.14)	54 (23.68)		
	No	58 (65.91)	116 (82.86)	174 (76.32)	8.587	0.003**
Total		88	140	228		
How many people have you "you" had sex with in total (excluding commercial sex""	1	26 (29.55)	62 (44.29)	88(38.60)		
	3.0	36 (40.91)	40 (28.57)	76 (33.33)		
	4.0	22(25.00)	32 (22.86)	54 (23.68)	5.622	0.131
	21-40	4(4.55)	6(4.29)	10(4.39)		
Total		88	140	228		
"Total number of people you have had sex with (including	0 pcs	12(6.90)	22 (4.25)	34(4.91)		
	1pc	25 (14.37)	62 (11.97)	87 (12.57)	4.791	0.309
	2-4	42 (24.14)	119 (22.97)	161 (23.27)		

commercial sex)"	5-10	50 (28.74)	188 (36.29)	238 (34.39)		
	11-20	45 (25.86)	127 (24.52)	172 (24.86)		
Total		174	518	692		
"Having sexual relationships with up to several people at the same time"	0	30(34.09)	68 (48.57)	98 (42.98)	5.016	0.081
	1	34 (38.64)	46 (32.86)	80(35.09)		
	2-4	24 (27.27)	26(18.57)	50 (21.93)		
Total		88	140	228		
"Has there been any money involved in sexual activity in the last two years"	Yes, I pay the other side	4(4.55)	4(2.86)	8 (3.51)	2.559	0.278
	Yes, the person pays me	6 (6.82)	4(2.86)	10(4.39)		
	No	78 (88.64)	132 (94.29)	210 (92.11)		
Total		88	140	228		

* p<0.05 ** p<0.01

Table 28 Effect of willingness to develop sexual relationships online on sexual behavior

A chi-square test was used to examine the effects of online willingness to develop sexual relationships on "whether or not they had ever had sex", "age at first sex", "length of relationship with partner before first sex ", "Awareness channel of first sexual encounter", "Two or more sexual partners at the same time", "Total number of people with whom you have had sex (excluding commercial sex) ", "Total number of people with whom you have had sex (including commercial sex)", "Most number of

people with whom you have had sex at the same time", "Whether sex in the last two years involved money " for a total of 9 items of differential relationships.

The above table shows that the questions "Awareness channels for first sexual encounters", "Total number of people I have had sex with (excluding commercial sex)", "Total number of people I have had sex with (including commercial sex)", "Most number of people I have had sex with at the same time" and "Whether sex in the last two years involved money" are not significant (p>0). (including commercial sex)", "most number of people I have had sex with at the same time", "whether sex in the last two years involved money" do not show significance (p>0.05), implying that The willingness to develop sexual relationships online was consistent for all five items and did not differ.

In addition, the sample of willingness to develop sexual relationships online showed significant results for "whether or not you have ever had sex", "age when you first had sex", "duration of relationship with the partner before first sex", and "having two or more sexual partners at the same time". ", and "having two or more sexual partners at the same time" were significant (p<0.05), implying that there were differences in the willingness to develop sexual relationships online for all four items, which can be compared with the percentages in brackets.

The willingness to develop sexual relationships online was significant at the 0.01 level for "whether or not they have had sex" (chi=32.691, p=0.000<0.01), and the difference in percentages showed that 50.57% were willing to choose yes, which was significantly higher than the 27.03% who were unwilling to choose no. . The percentage of those who were not willing to choose no was 72.97%, which was significantly higher than the percentage of those who were willing to choose 49.43%.

The willingness to develop sexual relationships online was significant at the 0.01 level for "age at first sex" (chi=26.603, p=0.003<0.01), and the difference in percentages shows that the percentage of those willing to choose 16.0 was 23.53%, which was significantly higher than the percentage of those unwilling to choose proportion 7.41%. The percentage of those who were not willing to choose 19.0 was

25.93%, significantly higher than the percentage of those who were willing to choose 11.76%. The percentage of those who were not willing to choose 22.0 was 14.81%, significantly higher than the percentage of those who were willing to choose 5.88%.

The willingness to develop sexual relationships online showed a 0.01 level of significance (chi=20.460, p=0.000<0.01) for the "duration of interaction with the other person before the first sexual act", and the difference in percentages showed that the percentage of those who were not willing to choose more than six months was 34.29%, which was significantly higher than the percentage of those who were willing to choose more than six months. percentage of willingness to choose 18.18%. The percentage of those who were not willing to choose 3-6 months was 27.14%, significantly higher than the percentage of those who were willing to choose 13.64%. The proportion of those willing to choose 1-3 months was 31.82%, significantly higher than the proportion of those unwilling to choose 15.71%. The proportion of those willing to choose less than 1 week was 18.18%, significantly higher than the proportion of those unwilling to choose 8.57%.

The willingness to develop sexual relationships online was significant at the 0.01 level for "having two or more sexual partners at the same time" (chi=8.587, p=0.003<0.01), and the difference in percentages shows that 34.09% were willing to choose yes, which was significantly higher than the percentage of those who were not willing to choose 17.14%. The percentage of those who were not willing to choose no was 82.86%, significantly higher than the percentage of those who were willing to choose 65.91%.

In summary, it can be seen that there is no significant difference in the willingness to develop sexual relationships online for the items "Awareness channels for first sexual encounters", "Total number of people I have had sex with (excluding commercial sex)", "Total number of people I have had sex with (including The five items of "most sexual relationships with several people at the same time", "whether sex in the last two years involved money" did not show significant differences. For the items "ever had sex", "age when first had sex", "duration of relationship before first sex", There were also significant differences in the four items "having two or

more sexual partners at the same time".

4.2.6. Impact on self-evaluation of sexual relationships

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online		Total	χ^2	p
		Willing	Unwillingness			
"Is there a person of the opposite sex, other than a lover or spouse, who is in a long-term sexual relationship"	Available. Number of people	30(34.09)	32 (22.86)	62 (27.19)	3.444	0.063
	None	58 (65.91)	108 (77.14)	166 (72.81)		
Total		88	140	228		
"Is there a person of the opposite sex, other than a lover or spouse, whom you have known for no more than 3 months and with whom you have had at least one sexual relationship"	Yes. Number of people	44(50.00)	36 (25.71)	80(35.09)	13.993	0.000**
	None	44(50.00)	104 (74.29)	148 (64.91)		
Total		88	140	228		
"Time spent having sex with a person of the	More than half a year	14(25.93)	10 (17.86)	24 (21.82)	1.208	0.877
	3-6 months	8 (14.81)	10 (17.86)	18(16.36)		

opposite sex"	1-3 months	8 (14.81)	10 (17.86)	18(16.36)		
	1 week - 1 month	14(25.93)	16(28.57)	30 (27.27)		
	Within 1 week	10 (18.52)	10 (17.86)	20 (18.18)		
Total		54	56	110		
"Self-evaluation of sexual desire"	1.0	6 (6.82)	22 (15.71)	28 (12.28)	7.690	0.104
	2.0	24 (27.27)	22 (15.71)	46 (20.18)		
	3.0	18 (20.45)	30 (21.43)	48(21.05)		
	4.0	20 (22.73)	38 (27.14)	58 (25.44)		
	5.0	20 (22.73)	28(20.00)	48(21.05)		
Total		88	140	228		
"Self-assessment of sexuality"	1.0	10 (11.36)	16(11.43)	26(11.40)	1.156	0.885
	2.0	12(13.64)	20 (14.29)	32(14.04)		
	3.0	28 (31.82)	42(30.00)	70 (30.70)		
	4.0	26 (29.55)	36 (25.71)	62 (27.19)		
	5.0	12(13.64)	26(18.57)	38(16.67)		
Total		88	140	228		
"Sexual behavioral anxiety"	More worried about not being able to satisfy the other person and blaming themselves more	30(34.09)	30 (21.43)	60 (26.32)	16.688	0.002**

More worried that the other person will not be able to satisfy them, complaining that the other person is more	16 (18.18)	34 (24.29)	50 (21.93)
Worried about both situations, either having low self-esteem and self-loathing after sexual dissatisfaction or blaming the other person for incompetence	16 (18.18)	12 (8.57)	28 (12.28)
No worries about either and won't let sexual issues change the relationship.	16 (18.18)	54 (38.57)	70 (30.70)
Other	10 (11.36)	10 (7.14)	20 (8.77)
Total	88	140	228

* p<0.05 ** p<0.01

Table 29 Effect of willingness to develop sexual relationships online on self-evaluation of sexual relationships

A chi-square test was used to examine the willingness to develop sexual

relationships online for "whether there is a person of the opposite sex who has been in a long-term sexual relationship other than a lover or spouse", "whether there is a person of the opposite sex other than a lover or spouse who has known each other for no more than 3 months and has had at least one sexual relationship" , "Duration of sexual relations with the opposite sex", "Self-evaluation of sexual desire", "Self-evaluation of sexual ability", "Anxiety about sexual behavior "From the above table, it can be seen that the willingness to develop sexual relationships on the Internet is related to "whether there is a heterosexual person other than a lover or spouse who maintains a long-term sexual relationship", "time spent in sexual relationships with the opposite sex", The four items "self-evaluation of sexual desire" and "self-evaluation of sexual ability" do not show any significant relationship ($p>0.05$), which means that there is no difference between these four items and the willingness to develop sexual relationships online.

In addition, the willingness to develop sexual relationships online sample showed significant ($p<0.05$) for the items "whether or not you have known someone of the opposite sex other than a lover or spouse for less than 3 months and have had at least one sexual relationship" and "sexual anxiety". This means that there is a difference in the willingness to develop sexual relationships online for these two items.

The willingness to develop sexual relationships online was significant at the 0.01 level ($chi=13.993$, $p=0.000<0.01$) for "whether there is a person of the opposite sex other than a lover or spouse whom you have known for less than 3 months and have had at least one sexual relationship", and the difference in percentages shows that there is a willingness to choose . The percentage of people [Details] who are willing to choose yes is 50.00%, which is significantly higher than the percentage of those who are not willing to choose no, which is 25.71%. The percentage of those who were not willing to choose no was 74.29%, significantly higher than the percentage of those who were willing to choose 50.00%.

The willingness to develop sexual relationships online showed a 0.01 level of significance ($chi=16.688$, $p=0.002<0.01$) for "anxiety about sexual behavior", and the

difference in percentages showed that 34.09% of those who were willing to choose were more worried about not being able to satisfy the other person and blaming themselves more than he percentage of unwilling choices was 21.43%. The percentage of those who were not willing to choose to be more worried about the other person not being able to satisfy themselves and complaining more about the other person was 24.29%, which was significantly higher than the percentage of those who were willing to choose 18.18%. The percentage of those who were willing to choose that they were worried about both situations and that they would either feel inferior and give up on themselves or complain about the other person's incompetence if they were not satisfied sexually was 18.18%, significantly higher than the percentage of those who were unwilling to choose 8.57%. The reluctant choice was not worried about either and would not change their relationship because of sexual problems. The percentage of those who were willing to choose neither was 38.57%, significantly higher than the percentage of those who were willing to choose 18.18%.

In conclusion, it can be seen that there is no significant difference in the willingness to develop sexual relationships online for the items "whether there is a person of the opposite sex other than a lover or spouse who has maintained a long-term sexual relationship", "duration of sexual relationship with the opposite sex", "self-evaluation of sexual desire", and "self-evaluation of sexual ability". "Self-evaluation of sexuality" do not show significant differences, and the sample of willingness to develop sexual relationships online does not show significant differences for "whether you have known someone of the opposite sex other than a lover or spouse for less than 3 months and have had at least one sexual relationship". The other two items, "sexual anxiety" and "sexual behavior anxiety", showed significant differences.

4.2.7. Impact of perceptions and attitudes towards risky sexual behavior

Chi-Square Analysis

Items	Categories	Willingness to develop sexual relationships online		Total	$\chi 2$	p
		Willing	Unwillingness			
"Frequency of condom use"	Each time	16(9.20)	34 (6.56)	50 (7.23)	3.645	0.456
	Regular use	19(10.92)	62 (11.97)	81(11.71)		
	Occasional use	31 (17.82)	97 (18.73)	128(18.50)		
	Rarely used	40(22.99)	147 (28.38)	187(27.02)		
	Never used	68(39.08)	178 (34.36)	246 (35.55)		
Total		174	518	692		
"Are you in a high-risk group?"	Yes	2(1.15)	8(1.54)	10(1.45)	3.288	0.193
	No	150 (86.21)	468 (90.35)	618 (89.31)		
	No	22(12.64)	42 (8.11)	64 (9.25)		
Total		174	518	692		
"Willingness to seek counselling and testing services after risky sexual behavior"	Yes	98 (56.32)	398 (76.83)	496 (71.68)	27.488	0.000**
	No	32 (18.39)	56 (10.81)	88(12.72)		
	3.0	44 (25.29)	64(12.36)	108 (15.61)		
Total		174	518	692		
"The possibility of developing a sexual relationship through online chat when you	1.0	20 (11.49)	110 (21.24)	130 (18.79)	26.962	0.001**
	2.0	8(4.60)	52(10.04)	60 (8.67)		
	3.0	20 (11.49)	36(6.95)	56(8.09)		

meet nice people of the opposite sex in reality"	4.0	16(9.20)	42 (8.11)	58 (8.38)		
	5.0	12(6.90)	24(4.63)	36 (5.20)		
	6.0	28(16.09)	90 (17.37)	118(17.05)		
	7.0	26(14.94)	56 (10.81)	82(11.85)		
	8.0	24 (13.79)	40 (7.72)	64 (9.25)		
	9.0	10(5.75)	50 (9.65)	60 (8.67)		
	11.0	10(5.75)	18(3.47)	28(4.05)		
Total		174	518	692		
"Which is more likely to have sex, online chat or face-to-face?"	Internet chat is much more useful	52 (29.89)	58 (11.20)	110 (15.90)	63.089	0.000**
	Face to face is better	68(39.08)	372 (71.81)	440 (63.58)		
	All similar	54(31.03)	88(16.99)	142 (20.52)		
Total		174	518	692		
"Ways to test for HIV"	Go to a hospital or the CDC	92 (52.87)	410 (79.15)	502 (72.54)	55.598	0.000**
	Buy your own test strips	82 (47.13)	98 (18.92)	180(26.01)		
	Other □ [Details]	0(0.00)	10(1.93)	10(1.45)		
Total		174	518	692		
"Latest HIV test results"					14.438	0.001**

	Negative	30 (17.24)	38 (7.34)	68 (9.83)		
	No test	142 (81.61)	474 (91.51)	616 (89.02)		
Total		174	518	692		
"How to get infected with HIV"	Sexuality	0(0.00)	2(33.33)	2(25.00)		
	Other □ [Details]	2(100.00)	4 (66.67)	6(75.00)	0.889	0.346
Total		2	6	8		
"The pleasure of using condoms during sex"	It feels better to not use a rubber condom during sex.	68(39.08)	188 (36.29)	256 (36.99)		
	It feels better to use a rubber condom during sex.	38 (21.84)	92 (17.76)	130 (18.79)	2.815	0.245
	It's pretty much the same whether you use it or not	68(39.08)	238(45.95)	306 (44.22)		
Total		174	518	692		
Your attitudes and experiences with 'spouse swapping'	Have tried it, feel good about it and intend to continue.	12(6.90)	8(1.54)	20(2.89)		
	Have tried it and it feels good, but don't take to keep trying.	4(2.30)	2(0.39)	6(0.87)	34.802	0.000**

	Have tried it, don't feel good about it and don't intend to try it	4(2.30)	6(1.16)	10(1.45)		
	I've tried it and it feels average, whether I try it in the future is up to me.	10(5.75)	6(1.16)	16(2.31)		
	Very exciting, very desirable and not ruling out trying it.	8(4.60)	18(3.47)	26(3.76)		
	It's corrupting and should never be attempted.	136 (78.16)	478 (92.28)	614 (88.73)		
Total		174	518	692		
"Your views and experiences of 'group sex'	Tried and tested, but rarely.	6(3.45)	10(1.93)	16(2.31)		
	No attempts have been made.	168 (96.55)	508 (98.07)	676 (97.69)	1.328	0.249
Total		174	518	692		
Your views on group sex	Very exciting. Very yearning. Loved it.	8(4.60)	2(0.39)	10(1.45)	29.249	0.000**
	It's all right with or without.	32 (18.39)	46 (8.88)	78 (11.27)		

	Extremely bad, never try it.	134 (77.01)	470 (90.73)	604 (87.28)
Total		174	518	692

* p<0.05 ** p<0.01

Table 30 Effect of willingness to develop sexual relationships online on perceptions of and attitudes towards risky sexual behavior

As indicated in the aforementioned table, the cardinality test was employed to assess the impact of the willingness to engage in online sexual relationships on various factors. These factors include "frequency of condom use," "membership in a high-risk group," "willingness to seek counseling and testing after engaging in risky sexual behavior," "likelihood of pursuing online sexual relationships after meeting someone in person," "preference for online or face-to-face sexual encounters," "methods of HIV testing," "sources of HIV infection," "satisfaction with condom use during sex," "attitudes and experiences regarding 'spouse swapping'," and "perceptions and experiences of 'group sex'". A total of 12 items were examined for differential relationships.

Based on the table, the willingness to develop sexual relationships online does not exhibit any statistical significance ($p > 0.05$) for the following items: "frequency of condom use," "membership in a high-risk group," "sources of HIV infection," "satisfaction with condom use during sex," and "perceptions and experiences of 'group sex'". This indicates that the willingness to pursue online sexual relationships does not differ significantly across these five items.

However, in relation to the willingness to seek counseling and testing after engaging in risky sexual behavior, the likelihood of pursuing online sexual relationships after meeting someone in person, preference for online or face-to-face sexual encounters, methods of HIV testing, results of the last HIV test, attitudes and experiences regarding 'spouse swapping', and perceptions and experiences of 'group sex', there were statistically significant differences ($p < 0.05$). These findings imply

that the willingness to develop sexual relationships online varies across these seven items.

The willingness to develop sexual relationships online exhibited a significant level of 0.01 (chi=27.488, p=0.000<0.01) regarding the "willingness to seek counseling and testing services after risky sexual behavior." The percentage difference was notable, with 76.83% respondents showing a disinclination to choose "yes," surpassing the 56.32% who were willing to choose "yes." Conversely, the proportion of respondents unwilling to choose "no" was 18.39%, significantly higher than the 10.81% who were willing to choose "no." Additionally, the proportion of those willing to choose "3.0" was 25.29%, significantly higher than the proportion of those unwilling to choose "12.36%."

The willingness to develop a sexual relationship online demonstrated a significant level of 0.01 (chi=26.962, p=0.001<0.01) in terms of "the likelihood of developing a sexual relationship through online chat after having met someone of the opposite sex in reality." The discrepancy in percentages revealed that 21.24% of respondents were disinclined to choose "1.0," significantly higher than the 11.49% who were willing to choose it.

The willingness to develop sexual relationships online displayed a significant level of 0.01 (chi=63.089, p=0.000<0.01) concerning the question "Which is more likely to have sex online or face-to-face." The percentage comparison indicated that 71.81% of respondents were unwilling to choose "face-to-face is better," significantly surpassing the 39.08% who were willing to choose it. The proportion of respondents willing to choose "both is similar" was 31.03%, significantly higher than the 16.99% who were disinclined to choose it.

The percentage difference between the willingness to develop a sexual relationship online and the willingness to "test for HIV" showed a significant level of 0.01 (chi=55.598, p=0.000<0.01), with 79.15% of respondents disinclined to choose "go to a hospital or CDC," significantly higher than the 52.87% who were willing to choose it. Conversely, the proportion of respondents willing to choose "buy their

own test strips" was 47.13%, significantly higher than the 18.92% who were willing to choose it.

The willingness to develop a sexual relationship online demonstrated a significant level of 0.01 (chi=14.438, p=0.001<0.01) in relation to "last HIV test result," with 91.51% of respondents disinclined to choose "no test," significantly higher than the 81.61% who were willing to choose it.

The willingness to develop sexual relationships online showed a significant level of 0.01 (chi=34.802, p=0.000<0.01) for "attitudes and experiences of 'changing spouses'," with the discrepancy in percentages indicating a reluctance to choose this option. The proportion of respondents willing to choose it was 92.28%, significantly higher than the 78.16% who were disinclined to choose it.

The willingness to develop sexual relationships online exhibited a significant level of 0.01 (chi=29.249, p=0.000<0.01) regarding "perceptions and experiences of 'group sex'," and the percentage comparison revealed a divergence in willingness to choose it. The percentage of respondents unwilling to choose it was 18.39%, significantly higher than the 8.88% who were disinclined to choose it. Conversely, the proportion of respondents willing to choose it was 90.73%, significantly higher than the 77.01% who were willing to choose it.

In conclusion, it can be observed that the willingness to develop sexual relationships online does not show any significant differences in relation to "frequency of condom use," "membership in a high-risk group," "methods of HIV infection," "pleasure of using condoms during sex," and "perceptions and experiences of 'group sex'." Furthermore, the willingness to develop sexual relationships online does not display significant differences in the items of "willingness to seek counseling and testing services after risky sex," "likelihood of developing sexual relationships through online chat after meeting someone of the opposite sex in reality," "which is more likely to have sex online or face-to-face," "methods of HIV testing," "results of the last HIV test," "attitudes and experiences of 'spouse swapping'," and "perceptions and experiences of 'group sex'.

4.3. Factors influencing knowledge of HIV

4.3.1. Impact of personal information on HIV awareness

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	*t*	*p*	VIF	Adjustment *R* 2
	B	Standard error	*Beta*				
Constants	0.674	0.059	-	11.381	0.000**	-	
Gender	-0.015	0.02	-0.028	-0.773	0.44	1.011	
Grade Level	-0.006	0.006	-0.034	-0.916	0.36	1.113	
Place of origin	-0.01	0.007	-0.053	-1.444	0.149	1.059	
Sexual orientation	0.041	0.007	0.227	6.204	0.000**	1.052	0.077
Marital status	0.007	0.008	0.034	0.793	0.428	1.49	
Religious beliefs	-0.017	0.009	-0.078	-1.928	0.054	1.284	
Ethnicity and race	-0.045	0.026	-0.074	-1.738	0.083	1.431	

Specialities	-0.02	0.008	-0.087	-2.371	0.018*	1.061
Average monthly cost of living	0.001	0.008	0.007	0.172	0.864	1.413
Father's qualifications	0.067	0.016	0.307	4.183	0.000**	4.248
Mother's qualifications	-0.068	0.017	-0.294	-4.035	0.000**	4.189

Dependent variable: Awareness rate

D-W value: 0.681;F (11,716)=6.527,p=0.000

* p<0.05 ** p<0.01

Table 31 Impact of personal information on HIV awareness

From the above table, we can see that the 11 variables: gender, grade, place of origin, sexual orientation, marital status, religion, ethnicity and race, major, average monthly cost of living, father's education, mother's education were used as independent variables, while the awareness rate was used as the dependent variable for linear regression analysis, from the above table, we can see that the model formula is: awareness rate = 0.674 - 0.015*gender - 0.006* grade - 0.010* origin + 0.041* sexual orientation + 0.007* marital status - 0.017* religion - 0.045* ethnicity and race - 0.020* profession + 0.001* average monthly cost of living + 0.067* father's education - 0.068* mother's education, with a model R-squared value of 0.091, meaning that these 11 variables explain 9.1% of the variation in the knowledge rate was explained. An F-test of the model revealed that the model passed the F-test (F=6.527, p=0.000<0.05), which means that at least one of these variables would have an influential relationship on the knowledge rate.

The value of the regression coefficient for gender was -0.015 (t=-0.773, p=0.440>0.05), implying that gender does not have an influential relationship on the awareness rate.

The value of the regression coefficient for grade was -0.006 (t=-0.916, p=0.360>0.05), implying that grade does not have an influential relationship on the rate of awareness.

The regression coefficient value for place of origin was -0.010 (t=-1.444, p=0.149>0.05), implying that place of origin does not have an influential relationship on the awareness rate.

The value of the regression coefficient for sexual orientation was 0.041 (t=6.204, p=0.000<0.01), implying that sexual orientation can have a significant positive relationship on the rate of knowledge.

The value of the regression coefficient for marital status was 0.007 (t=0.793, p=0.428>0.05), implying that marital status does not have an influential relationship on the rate of awareness.

The regression coefficient value for religiosity was -0.017 (t=-1.928, p=0.054>0.05), implying that religiosity does not have an influential relationship on the rate of awareness.

The regression coefficient value for ethnicity and race was -0.045 (t=-1.738, p=0.083>0.05), implying that ethnicity and race do not have an influential relationship on the awareness rate.

The value of the regression coefficient for major was -0.020 (t=-2.371, p=0.018<0.05), implying that major can have a significant negative relationship on the awareness rate.

The regression coefficient value for the average monthly cost of living was 0.001 (t=0.172, p=0.864>0.05), implying that the average monthly cost of living does not have an influential relationship on the rate of awareness.

The value of the regression coefficient for father's education was 0.067

(t=4.183, p=0.000<0.01), implying that father's education would have a significant positive relationship on the rate of knowledge.

The value of the regression coefficient for mother's education was -0.068 (t=-4.035, p=0.000<0.01), implying that mother's education would have a significant negative relationship on the awareness rate.

4.3.2. Impact of Internet use on HIV awareness

Linear regression analysis results

	Non-standardized coefficients		Standardisation factor	t	p	VIF	Adjustment R^2
	B	Standard error	Beta				
Constants	-0.291	0.336	-	-0.866	0.387	-	
Hours of Internet access per day	0.006	0.008	0.026	0.733	0.464	1.068	
Availability of heterosexual internet friends	0.741	0.242	1.226	3.061	0.002**	138.465	
Are you more relaxed and casual when interacting with people of the opposite sex online	-0.055	0.018	-0.489	-2.994	0.003**	23.038	0.157
Has a heterosexual internet friend shared a conversation about sex	0.087	0.038	0.663	2.303	0.022*	71.587	
Have you ever sent	0.134	0.039	1.051	3.403	0.001**	82.332	

pictures of your private parts to each other with internet friends of the opposite sex						
Whether or not you have developed a relationship with an online friend of the opposite sex	-0.024	0.018	-0.089	-1.336	0.182	3.865
Do you know about "love"?	-0.015	0.012	-0.086	-1.279	0.201	3.937
The perception that it is more comfortable and casual to communicate online with someone you already know in real life	0.051	0.013	0.189	3.963	0.000**	1.956
Does it feel that the internet has facilitated people to find sexual partners and develop sexual relationships	0.001	0.01	0.002	0.055	0.956	1.721
Do you feel that the internet has given you the possibility to develop a sexual relationship	0.032	0.01	0.136	3.143	0.002**	1.61
Has the internet allowed you to better understand and integrate into the current society	-0.063	0.011	-0.258	-5.66	0.000**	1.798

Do you feel that networking has helped you find more like-minded people	-0.034	0.011	-0.142	-3.23	0.001**	1.667

Dependent variable: Awareness rate

D-W value: 0.946;F (12,715)=12.319,p=0.000

* p<0.05 ** p<0.01

Table 32 Impact of internet use on HIV awareness

From the above table, 12 variables were used: length of time spent on the Internet per day, whether or not you have online friends of the opposite sex, whether or not you communicate with online friends of the opposite sex in a more casual manner, whether or not you share sexual topics with online friends of the opposite sex, whether or not you send pictures of your private parts with online friends of the opposite sex, whether or not you have become friends with online friends of the opposite sex, and whether or not you are aware of "lovemaking", Do you think it is more comfortable and casual for people of the opposite sex to communicate with each other online, do you think the Internet has made it easier for people to find sexual partners and develop sexual relationships, do you think the Internet has given you the possibility to develop sexual relationships, do you think the Internet has helped you better understand and integrate into the current society, do you think the Internet has helped you find more people with similar interests as the independent variable, and the awareness rate as the dependent variable for linear regression analysis? .

From the table above, the model formula is: Awareness rate = -0.291 + 0.006* Hours spent online per day + 0.741* Whether or not you have a heterosexual online friend - 0.055* Whether or not you are more relaxed and casual when

communicating with a heterosexual online friend + 0.087* Whether or not a heterosexual online friend has shared topics about sex + 0.134* Whether or not you have sent pictures of your private parts with a heterosexual online friend - 0.024* Whether or not have become friends with someone of the opposite sex on the Internet - 0.015* Do you know anything about "sex" + 0.051* Do you think it is more comfortable and casual to communicate with someone of the opposite sex you already know in real life on the Internet + 0.001* Do you think the Internet makes it easier for people to find sexual partners and develop sexual relationships + 0.032* Do you think the Internet gives you the possibility to develop sexual relationships - 0.032* Do you think the Internet gives you the possibility to develop sexual relationships sexual relationships - 0.063* Whether the internet has helped you to better understand and integrate into current society - 0.034* Whether you feel that the internet has helped you to find more like-minded people

The R-squared value of the model was 0.171, meaning that these 12 variables could explain 17.1% of the variation in awareness rates. When the F-test was conducted on the model, it was found that the model passed the F-test ($F=12.319$, $p=0.000<0.05$), which means that the number of hours spent on the Internet per day, whether there were heterosexual Internet friends, whether communication with heterosexual Internet friends was easy and casual, whether heterosexual Internet friends had shared topics about sex, whether they had sent pictures of their private parts to each other, whether they had developed into Do you think that the internet has made it easier for people to find sexual partners and develop sexual relationships, do you think that the internet has given you the possibility to develop sexual relationships, has the internet helped you to better understand and integrate into the current society, do you think that the internet has helped you to find more people who are interested in the same things? At least one of the following would have an impact on awareness rates.

The value of the regression coefficient for the number of hours spent online per day was 0.006 ($t=0.733$, $p=0.464>0.05$), implying that the number of hours spent online per day does not have an influential relationship on the awareness rate.

The value of the regression coefficient for the presence or absence of heterosexual Internet friends was 0.741 (t=3.061, p=0.002<0.01), implying that the presence or absence of heterosexual Internet friends would have a significant positive relationship on the awareness rate.

The value of the regression coefficient for whether it is easier and more casual to communicate with the opposite sex online friend is -0.055 (t=-2.994, p=0.003<0.01), implying that whether it is easier and more casual to communicate with the opposite sex online friend will have a significant negative relationship on the awareness rate.

The value of the regression coefficient of whether or not heterosexual Internet users had shared topics about sex was 0.087 (t=2.303, p=0.022<0.05), implying that whether or not heterosexual Internet users had shared topics about sex had a significant positive effect on the awareness rate.

The regression coefficient value of whether or not they had sent pictures of private parts to each other with heterosexual Internet users was 0.134 (t=3.403, p=0.001<0.01), implying that whether or not they had sent pictures of private parts to each other with heterosexual Internet users would have a significant positive relationship on the awareness rate.

The value of the regression coefficient for whether or not to develop boyfriend/girlfriend with a heterosexual online friend was -0.024 (t=-1.336, p=0.182>0.05), implying that whether or not to develop boyfriend/girlfriend with a heterosexual online friend did not have an influential relationship on the awareness rate.

The regression coefficient for knowing or not knowing about "love" was -0.015 (t=-1.279, p=0.201>0.05), implying that knowing or not knowing about "love" did not have an impact on the awareness rate.

The regression coefficient value of 0.051 (t=3.963, p=0.000<0.01) for the perception that people of the opposite sex who already know each other in reality are more comfortable and casual in online communication implies that the

perception that people of the opposite sex who already know each other in reality are more comfortable and casual in online communication has a significant positive relationship on the awareness rate.

The regression coefficient value of 0.001 (t=0.055, p=0.956>0.05) for whether or not one feels that the internet facilitates people to find sexual partners to develop sexual relationships implies that whether or not one feels that the internet facilitates people to find sexual partners to develop sexual relationships does not have an impact relationship on the awareness rate.

The regression coefficient value of whether or not you feel that the internet gives you the possibility of developing a sexual relationship was 0.032 (t=3.143, p=0.002<0.01), implying that whether or not you feel that the internet gives you the possibility of developing a sexual relationship has a significant positive relationship on the rate of knowing.

The regression coefficient value of -0.063 (t=-5.660, p=0.000<0.01) for whether or not you feel that the internet has made you better informed and integrated into the current society implies that whether or not the internet has made you better informed and integrated into the current society has a significant negative relationship on the awareness rate.

The regression coefficient value of -0.034 (t=-3.230, p=0.001<0.01) for whether or not you feel the internet has helped you find more like-minded people means that whether or not you feel the internet has helped you find more like-minded people will have a significant negative relationship on the awareness rate.

4.3.3. Influence of dating status on HIV awareness

Linear regression analysis results

	Non-standardized coefficients	Standar disation	t	p	VIF	Adjust ment *R*

			factor				2
	B	Standard error	Beta				
Constants	2.653	2.643	-	1.004	0.316	-	
Has a real person of the opposite sex ever shared (in person) a sex-related topic	0.034	0.028	0.057	1.216	0.224	1.455	
Does the opposite sex you know in real life share sex-related topics online	-0.011	0.027	-0.019	-0.405	0.686	1.419	
Has the opposite sex you know in reality ever shared pictures of exposed parts face to face	0.124	0.059	0.11	2.106	0.036*	1.789	0.101
Have you shared pictures of exposed parts online with someone of the opposite sex that you know in real life	0.005	0.047	0.005	0.106	0.916	1.728	
Sexuality	-1.672	1.906	-2.43	-0.877	0.381	5010.647	
Age of first sexual intercourse	0.007	0.009	0.247	0.855	0.393	54.469	
Time spent with the other person before the first	-0.018	0.023	-0.132	-0.752	0.452	20.258	

sexual encounter						
Place of contact with the person who first had sex	-0.017	0.028	-0.133	-0.607	0.544	31.198
Whether you have two or more sexual partners at the same time	0.028	0.121	0.197	0.228	0.819	485.775
Number of people having sex (excluding business)	-0.004	0.05	-0.035	-0.083	0.934	113.93
Number of people who have had sexual intercourse	-0.001	0.01	-0.004	-0.093	0.926	1.054
Having a sexual relationship with several people at the same time	0.015	0.054	0.1	0.277	0.782	85.536
Is there money involved in the sexual act	0.017	0.089	0.143	0.186	0.853	388.941
Whether there is a non-romantic person of the opposite sex who is in a long-term sexual relationship	-0.128	0.147	-0.908	-0.87	0.385	711.728
Any person of the opposite sex whom you have known for less than 3 months and had sexual relations with	-0.212	0.204	-1.497	-1.039	0.299	1354.673

Length of contact in which non-romantic heterosexuals had sexual relations	-0.027	0.034	-0.131	-0.795	0.427	17.682

Dependent variable: Awareness rate

D-W value: 0.832;F (16,571)=5.110,p=0.000

* p<0.05 ** p<0.01

Table 33 Effect of dating status on HIV awareness

From the table above, the 16 variables were: whether the opposite sex met in real life shared sex-related topics (in person), whether the opposite sex met in real life shared sex-related topics online, whether the opposite sex met in real life shared some pictures of exposed parts face to face, whether the opposite sex met in real life shared some pictures of exposed parts online, sexual behavior, first sexual encounter age of first sexual encounter, duration of relationship before first sexual encounter, location of first sexual encounter, whether two or more partners had sex at the same time, number of people who had sex (excluding business), number of people who had sex, number of people who had sex at the same time, whether sex involved money, whether there were non-romantic heterosexuals who had sex for a long time, whether there were heterosexuals who had sex for less than 3 months The length of contact with non-romantic heterosexuals who have had sex was used as the independent variable, and the rate of awareness was used as the dependent variable for linear regression analysis. 0.124* Whether the person you know in person has shared some sexually explicit pictures face to face + 0.005* Whether the person you know in person has shared some sexually explicit pictures online - 1.672* Sexual activity + 0.007* Age at first sex - 0.018* Time spent with the person before first sex - 0.017* Place of contact with the person at first sex place of contact + 0.028*

Whether two or more sexual partners had sex at the same time - 0.004* Number of people who had sex (excluding business) - 0.001* Number of people who had sex + 0.015* Maintained sexual relationships with several people at the same time + 0.017* Whether sex involved money - 0.128* Whether there was a non-romantic person of the opposite sex who had a long-term sexual relationship - 0.212* Whether there were heterosexuals who had known each other for no more than 3 months who had sex - 0.027* Length of contact in which non-romantic heterosexuals had sex The model R-squared value was 0.125, implying that these 16 variables explained 12.5% of the variation in the rate of knowing.

An F-test of the model revealed that the model passed the F-test (F=5.110, p=0.000<0.05), which means that at least one of them would have an influential relationship on the awareness rate, and the final specific analysis reveals that

The value of the regression coefficient for whether or not the opposite sex known in reality had shared sex-related topics (in person) was 0.034 (t=1.216, p=0.224>0.05), implying that whether or not the opposite sex known in reality had shared sex-related topics (in person) did not have an influential relationship on the awareness rate.

The value of the regression coefficient for whether or not the opposite sex known in reality had shared sex-related topics online was -0.011 (t=-0.405, p=0.686>0.05), implying that whether or not the opposite sex known in reality had shared sex-related topics online did not have an influential relationship on the awareness rate.

The regression coefficient value for whether or not the opposite sex known in reality had shared some pictures of exposed parts face to face was 0.124 (t=2.106, p=0.036<0.05), implying that whether or not the opposite sex known in reality had shared some pictures of exposed parts face to face would have a significant positive relationship on the awareness rate.

The regression coefficient value for whether or not one had shared some pictures of exposed parts online with a real person of the opposite sex was 0.005

(t=0.106, p=0.916>0.05), implying that whether or not one had shared some pictures of exposed parts online with a real person of the opposite sex did not have an influential relationship on the awareness rate.

The regression coefficient value for sexual behavior status was -1.672 (t=-0.877, p=0.381>0.05), implying that sexual behavior status does not have an influential relationship on the rate of knowledge.

The regression coefficient value for age at first sexual intercourse was 0.007 (t=0.855, p=0.393>0.05), implying that age at first sexual intercourse does not have an influential relationship on the rate of knowledge.

The value of the regression coefficient for the duration of interaction with the other person prior to the initial sexual act was -0.018 (t=-0.752, p=0.452>0.05), implying that the duration of interaction with the other person prior to the initial sexual act did not have an influential relationship on the rate of knowledge.

The regression coefficient value of -0.017 (t=-0.607, p=0.544>0.05) for the location of contact of the first time sex object means that the location of contact of the first time sex object does not have an influential relationship on the rate of knowledge.

The regression coefficient value for the presence of two or more concurrent sexual partners was 0.028 (t=0.228, p=0.819>0.05), implying that the presence of two or more concurrent sexual partners did not have an impact on the relationship between awareness rates.

The value of the regression coefficient for the number of people having sex (excluding business) was -0.004 (t=-0.083, p=0.934>0.05), implying that the number of people having sex (excluding business) does not have an influential relationship on the rate of awareness.

The regression coefficient value for the number of people who had sex was -0.001 (t=-0.093, p=0.926>0.05), implying that the number of people who had sex did not have an impact relationship on the rate of knowledge.

The value of the regression coefficient for being in a sexual relationship with several people at the same time was 0.015 (t=0.277, p=0.782>0.05), implying that being in a sexual relationship with several people at the same time did not have an impact relationship on the rate of knowledge.

The value of the regression coefficient for whether sex involves money was 0.017 (t=0.186, p=0.853>0.05), implying that whether sex involves money does not have an influential relationship on the rate of knowledge.

The regression coefficient value of -0.128 (t=-0.870, p=0.385>0.05) for the presence or absence of non-romantic heterosexuals in a long-term sexual relationship implies that the presence or absence of non-romantic heterosexuals in a long-term sexual relationship does not have an influential relationship on the rate of awareness.

The regression coefficient value for the presence or absence of knowing someone of the opposite sex who has had sexual relations for no more than 3 months was -0.212 (t=-1.039, p=0.299>0.05), implying that the presence or absence of knowing someone of the opposite sex who has had sexual relations for no more than 3 months did not have an influential relationship on the rate of knowledge.

The regression coefficient value for the length of contact with non-romantic heterosexuals was -0.027 (t=-0.795, p=0.427>0.05), implying that the length of contact with non-romantic heterosexuals did not have an influential relationship on the rate of knowledge.

4.3.4. Impact of self-evaluation on HIV knowledge awareness

Linear regression analysis results

	Non-standardised coefficients	Standardisation factor	t	p	VIF	Adjustment *R* 2

	B	Standard error	Beta				
Constants	0.951	0.083	-	11.434	0.000**	-	
Self-assessment of sexual desire	0.001	0.011	0.011	0.09	0.929	12.218	
Self-assessment of sexuality	-0.01	0.011	-0.109	-0.87	0.384	12.143	
Are you in a high risk group	-0.105	0.034	-0.118	-3.108	0.002**	1.128	
Willingness to seek counselling and testing services after risky sexual behavior	0.015	0.014	0.041	1.075	0.283	1.143	
Levels of dependency in developmental relationships webchat	-0.002	0.003	-0.02	-0.544	0.587	1.03	0.065
Which is considered easier to develop a sexual relationship online or face to face	-0.005	0.017	-0.01	-0.283	0.777	1.042	
Perception that the variety of online social networking software or channels available today is conducive to increasing the chances of finding a sexual	-0.013	0.008	-0.055	-1.518	0.129	1.017	

partner						
Willingness to use the power of the internet to develop sexual relationships for themselves	-0.059	0.009	-0.241	-6.478	0.000**	1.072

Dependent variable: Awareness rate

D-W value: 0.583;F (8,719)=7.268,p=0.000

* p<0.05 ** p<0.01

Table 34 Effect of self-evaluation on knowledge of HIV

From the above table, the eight variables: self-evaluation of sexual desire, self-evaluation of sexual ability, whether one is a high-risk group, willingness to seek counselling and testing services after risky sexual behavior, reliance on online chat to develop sexual relationships, which is easier to develop sexual relationships with online chat or face-to-face, perception that the various forms of online social networking software or channels available today are beneficial in increasing the chances of finding a sexual partner, and willingness to use the power of the internet for oneself. The above table shows that the model formula is: Awareness rate = 0.951 + 0.001* self-evaluation of sexual desire - 0.010* self-evaluation of sexual ability - 0.105* whether one is a high-risk group + 0.015* willingness to seek counselling and testing services after risky sexual behavior - 0.002* willingness to seek counselling and testing services after risky sexual behavior 0.002* Reliance on online chat to develop sexual relationships - 0.005* Perception that it is easier to develop sexual relationships online or face-to-face - 0.013* Perception that the variety of online social networking software or avenues available today is conducive to increasing the chances of finding a sexual partner - 0.059* Willingness to use the

power of the internet to develop sexual relationships for oneself, with a model R-squared value of 0.075, meaning that these eight variables explain 7.5% of the variation in awareness rates.

An F-test of the model revealed that the model passed the F-test (F=7.268, p=0.000<0.05), which means that at least one of them would have an influential relationship on the awareness rate, and the final specific analysis reveals that

The regression coefficient value of 0.001 (t=0.090, p=0.929>0.05) for the self-evaluation of sexual desire implies that the self-evaluation of sexual desire does not have an influential relationship on the rate of knowledge.

The regression coefficient value for the self-assessment of sexual competence was -0.010 (t=-0.870, p=0.384>0.05), implying that the self-assessment of sexual competence does not have an influential relationship on the rate of knowledge.

The regression coefficient value of -0.105 (t=-3.108, p=0.002<0.01) for belonging to a high-risk group implies that belonging to a high-risk group has a significant negative relationship on the awareness rate.

The regression coefficient value for willingness to seek counselling and testing services after risky sexual behavior was 0.015 (t=1.075, p=0.283>0.05), implying that willingness to seek counselling and testing services after risky sexual behavior did not have an impact on the relationship between awareness rates.

The regression coefficient value of -0.002 (t=-0.544, p=0.587>0.05) for the degree of developmental relationship webchat dependency implies that the degree of developmental relationship webchat dependency does not have an influential relationship on the rate of awareness.

The regression coefficient value of -0.005 (t=-0.283, p=0.777>0.05) for the perception of which is easier to develop a sexual relationship, online chat or face-to-face, implies that the perception of which is easier to develop a sexual relationship, online chat or face-to-face, does not have an influential relationship on the rate of awareness.

The regression coefficient value of -0.013 (t=-1.518, p=0.129>0.05) for the perception that the current format of online social networking software or avenues is conducive to increasing the chances of finding a sexual partner implies that the perception that the current format of online social networking software or avenues is conducive to increasing the chances of finding a sexual partner does not have an impact on the relationship of awareness.

The value of the regression coefficient for willingness to develop sexual relationships for oneself through the power of the internet is -0.059 (t=-6.478, p=0.000<0.01), implying that willingness to develop sexual relationships for oneself through the power of the internet has a significant negative relationship on the rate of knowing.

4.4. Factors influencing HIV-related attitudes

4.4.1. Impact of personal information on HIV-related attitudes

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	t	p	VIF	Adjustment R^2
	B	Standard error	Beta				
Constants	2.305	0.264	-	8.716	0.000**	-	
Gender	0.171	0.088	0.067	1.944	0.052	1.011	
Grade Level	-0.017	0.028	-0.022	-0.614	0.54	1.113	0.14
Place of origin	0.015	0.029	0.017	0.493	0.622	1.059	
Sexual orientation	0.251	0.029	0.301	8.547	0.000**	1.052	

Marital status	0.02	0.038	0.022	0.522	0.602	1.49
Religious beliefs	-0.058	0.04	-0.057	-1.473	0.141	1.284
Ethnicity and race	-0.079	0.117	-0.028	-0.675	0.5	1.431
Specialities	0.196	0.037	0.186	5.249	0.000**	1.061
Average monthly cost of living	-0.005	0.035	-0.006	-0.143	0.886	1.413
Father's qualifications	-0.044	0.072	-0.043	-0.614	0.54	4.248
Mother's qualifications	0.018	0.075	0.017	0.237	0.813	4.189
Dependent variable: HIV-related attitudes						
D-W value: 1.553;F (11,716)=11.803,p=0.000						

* p<0.05 ** p<0.01

Table 35 Impact of personal information on HIV-related attitudes

From the above table, we can see that the 8 variables: gender, grade, place of origin, sexual orientation, marital status, religion, ethnicity and race, major, average monthly cost of living, father's education, mother's education were used as independent variables, while HIV-related attitudes were used as dependent variables in the linear regression analysis. 0.017* Grade + 0.015* Place of origin + 0.251* Sexual orientation + 0.020* Marital status - 0.058* Religion - 0.079* Ethnicity and race + 0.196* Major - 0.005* Average monthly cost of living - 0.044* Father's education + 0.018* Mother's education, with a model R-squared value of 0.154, meaning that these eight variables could explain 15.4% of the variation in HIV-related attitudes.

An F-test of the model revealed that the model passed the F-test (F=11.803, p=0.000<0.05), which means that at least one of the items would have an influential relationship on HIV-related attitudes.

The regression coefficient value for gender was 0.171 (t=1.944, p=0.052>0.05), implying that gender does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for grade was -0.017 (t=-0.614, p=0.540>0.05), implying that grade does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for place of origin was 0.015 (t=0.493, p=0.622>0.05), implying that place of origin does not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for sexual orientation was 0.251 (t=8.547, p=0.000<0.01), implying that sexual orientation can have a significant positive relationship on HIV-related attitudes.

The regression coefficient value for marital status was 0.020 (t=0.522, p=0.602>0.05), implying that marital status does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for religiosity was -0.058 (t=-1.473, p=0.141>0.05), implying that religiosity does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for ethnicity and race was -0.079 (t=-0.675, p=0.500>0.05), implying that ethnicity and race do not have an influential relationship on HIV-related attitudes.

The regression coefficient value for major was 0.196 (t=5.249, p=0.000<0.01), implying that major would have a significant positive relationship on HIV-related attitudes.

The regression coefficient value for the average monthly cost of living was -0.005 (t=-0.143, p=0.886>0.05), implying that the average monthly cost of living does

not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for father's education was -0.044 (t=-0.614, p=0.540>0.05), implying that father's education does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for maternal education was 0.018 (t=0.237, p=0.813>0.05), implying that maternal education does not have an influential relationship on HIV-related attitudes.

4.4.2. Impact of Internet use on HIV-related attitudes

Linear regression analysis results

	Non-standardized coefficients		Standardisation factor	t	p	VIF	Adjustment R^2
	B	Standard error	Beta				
Constants	1.719	1.691	-	1.016	0.31	-	
Hours of Internet access per day	0.055	0.041	0.052	1.345	0.179	1.068	
Availability of heterosexual internet friends	1.067	1.22	0.381	0.875	0.382	138.465	0.002
Are you more relaxed and casual when interacting with people of the opposite sex online	0.043	0.093	0.081	0.457	0.648	23.038	
Has a heterosexual Internet	0.108	0.19	0.179	0.57	0.569	71.587	

friend shared a conversation about sex						
Have you ever sent pictures of your private parts to each other with internet friends of the opposite sex	0.069	0.199	0.116	0.345	0.73	82.332
Whether or not you have developed a relationship with an online friend of the opposite sex	0.001	0.092	0.001	0.012	0.99	3.865
Do you know about "love"?	0.039	0.061	0.047	0.637	0.525	3.937
The perception that it is more comfortable and casual to communicate online with someone you already know in real life	-0.111	0.064	-0.089	-1.72	0.086	1.956
Does it feel that the internet has facilitated people to find sexual partners and develop sexual relationships	0.024	0.051	0.023	0.464	0.643	1.721
Do you feel that the internet has given you the possibility to develop a sexual relationship	0.034	0.051	0.031	0.661	0.509	1.61
Has the internet allowed you to better understand and integrate into the current society	0.09	0.056	0.079	1.599	0.11	1.798

Do you feel that networking has helped you find more like-minded people	0.04	0.054	0.036	0.748	0.455	1.667

Dependent variable: HIV-related attitudes

D-W value: 1.638;F (12,715)=1.119,p=0.341

* p<0.05 ** p<0.01

Table 36 Impact of internet use on HIV-related attitudes

From the above table, 11 variables were used: length of time spent on the Internet per day, whether or not you have online friends of the opposite sex, whether or not you communicate with online friends of the opposite sex in a more casual manner, whether or not you share sexual topics with online friends of the opposite sex, whether or not you send pictures of your private parts with online friends of the opposite sex, whether or not you have become friends with online friends of the opposite sex, and whether or not you are aware of "lovemaking", Do you think it is more comfortable and casual to communicate with the opposite sex online, do you think the Internet facilitates people to find sexual partners and develop sexual relationships, do you think the Internet gives you the possibility to develop sexual relationships, do you think the Internet has helped you understand and integrate better into the current society, do you think the Internet has helped you find more people with similar interests as the independent variable, and HIV-related attitudes as the dependent variable for linear regression analysis? From the above table, we can see that the model equation is: HIV-related attitude = 1.719 + 0.055*time spent on the Internet per day + 1.067*whether you have heterosexual Internet friends + 0.043*whether you communicate with heterosexual Internet friends in a casual manner + 0.108*whether heterosexual Internet friends have shared topics about sex + 0.069*whether you have sent pictures of your private parts with

heterosexual Internet friends + 0.001*whether you have shared pictures of your private parts with heterosexual Internet friends 0.001* Whether you have become friends with someone of the opposite sex online + 0.039* Whether you know about "sex" - 0.111* Whether you think it is more comfortable and casual to communicate with someone of the opposite sex you already know in real life online + 0.024* Whether you think the Internet makes it easier for people to find sexual partners and develop sexual relationships + 0.034* Whether you think the internet has given you the possibility to develop sexual relationships + 0.090* whether the internet has helped you to better understand and integrate into current society + 0.040* whether you feel that the internet has helped you to find more like-minded people, with a model R-squared value of 0.018, meaning that these 11 variables explain 1.8% of the variation in HIV-related attitudes.

An F-test of the model revealed that the model did not pass the F-test (F=1.119, p=0.341>0.05), which means that the 11 items do not have an influential relationship on HIV-related attitudes, and therefore the relationship between the independent variable and the dependent variable cannot be specifically analysed, and the analysis was concluded.

4.4.3. The influence of dating status on HIV-related attitudes

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	t	p	VIF	Adjustment R^2
	B	Standard error	Beta				
Constants	30.118	10.986	-	2.741	0.006**	-	0.322

Has a real person of the opposite sex ever shared (in person) a sex-related topic	0.107	0.115	0.038	0.93	0.353	1.455
Has a real person of the opposite sex ever shared a sex-related topic online?	0.027	0.112	0.01	0.239	0.811	1.419
Has the opposite sex you know in reality ever shared pictures of exposed parts face to face	0.085	0.245	0.016	0.346	0.729	1.789
Have you shared pictures of exposed parts online with someone of the opposite sex that you know in real life	-0.304	0.197	-0.069	-1.545	0.123	1.728
Sexuality	-20.974	7.923	-6.369	-2.647	0.008**	5010.647
Age of first sexual intercourse	0.016	0.036	0.112	0.445	0.657	54.469
Time spent with the other person before the first sexual encounter	-0.151	0.097	-0.238	-1.553	0.121	20.258
Place of contact with the person for the first sexual encounter	-0.146	0.117	-0.237	-1.248	0.212	31.198
Whether you have two or more sexual partners at the same time	0.033	0.503	0.049	0.065	0.948	485.775

Number of people having sex (excluding business)	-0.173	0.207	-0.303	-0.835	0.404	113.93
Number of people who have had sexual intercourse	0.619	0.04	0.542	15.522	0.000**	1.054
Having a sexual relationship with several people at the same time	-0.012	0.223	-0.017	-0.053	0.958	85.536
Is there money involved in the sexual act	-0.489	0.371	-0.884	-1.318	0.188	388.941
Whether there is a non-romantic person of the opposite sex who is in a long-term sexual relationship	-0.93	0.611	-1.381	-1.523	0.128	711.728
Any person of the opposite sex whom you have known for less than 3 months and had sexual relations with	-2.326	0.848	-3.43	-2.742	0.006**	1354.673
Length of contact in which non-romantic heterosexuals had sexual relations	-0.323	0.142	-0.326	-2.284	0.023*	17.682

Dependent variable: HIV-related attitudes

D-W value: 1.849;F (16,571)=18.423,p=0.000

* p<0.05 ** p<0.01

Table 37 Impact of dating status on HIV-related attitudes

From the table above, the 16 variables were: whether the opposite sex met in real life shared sex-related topics (in person), whether the opposite sex met in real life shared sex-related topics online, whether the opposite sex met in real life shared some pictures of exposed parts face to face, whether the opposite sex met in real life shared some pictures of exposed parts online, sexual behavior, first sexual encounter age of first sexual encounter, duration of relationship before first sexual encounter, location of first sexual encounter, whether two or more partners had sex at the same time, number of people who had sex (excluding business), number of people who had sex, number of people who had sex at the same time, whether sex involved money, whether there were non-romantic heterosexuals who had sex for a long time, whether there were heterosexuals who had sex for less than 3 months The length of contact with non-romantic heterosexuals who have had sex was used as the independent variable, and HIV-related attitudes were used as the dependent variable for linear regression analysis. 0.085* Whether the person you met in person shared some sexually explicit pictures face to face - 0.304* Whether you shared some sexually explicit pictures online with the person you met in person - 20.974* Sexual behavior + 0.016* Age at first sex - 0.151* Duration of relationship with the person before first sex - 0.146* Place of contact with person with whom first sexual intercourse took place + 0.033* Whether had two or more sexual partners at the same time - 0.173* Number of people who had sexual intercourse (excluding business) + 0.619* Number of people who had sexual intercourse - 0.012* Maintained sexual intercourse with several people at the same time - 0.489* Whether sexual intercourse involved money - 0.930* Whether there was a non-romantic person of the opposite sex who maintained a long-term sexual relationship - 2.326*Have known a heterosexual person who has had sex for no more than 3 months-0.323*Non-romantic heterosexual person who has had sex Duration of contact, model R-squared value of 0.340, implies that these 16 items explain 34.0% of the variation in HIV-related attitudes.

An F-test of the model revealed that the model passed the F-test (F=18.423,

p=0.000<0.05), which means that at least one of these would have an influential relationship on HIV-related attitudes, and the final specific analysis revealed that

The regression coefficient value for whether or not the opposite sex known in reality had shared sex-related topics (in person) was 0.107 (t=0.930, p=0.353>0.05), implying that whether or not the opposite sex known in reality had shared sex-related topics (in person) did not have an influential relationship on HIV-related attitudes.

The regression coefficient value for whether or not the opposite sex known in reality had shared sex-related topics online was 0.027 (t=0.239, p=0.811>0.05), implying that whether or not the opposite sex known in reality had shared sex-related topics online did not have an influential relationship on HIV-related attitudes.

The regression coefficient value of 0.085 (t=0.346, p=0.729>0.05) for whether or not the opposite sex met in reality had shared some exposed pictures face to face, implies that whether or not the opposite sex met in reality had shared some exposed pictures face to face did not have an impact on HIV-related attitudes.

The regression coefficient value of -0.304 (t=-1.545, p=0.123>0.05) for whether or not they had shared some pictures of exposed parts online with someone they knew in real life, implies that whether or not they had shared some pictures of exposed parts online with someone they knew in real life did not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for sexual behavioral profile was -20.974 (t=-2.647, p=0.008<0.01), implying that sexual behavioral profile can have a significant negative relationship on HIV-related attitudes.

The regression coefficient value for age at first sex was 0.016 (t=0.445, p=0.657>0.05), implying that age at first sex did not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for the duration of interaction with the other person prior to the first sexual act was -0.151 (t=-1.553, p=0.121>0.05), implying that the duration of interaction with the other person prior to the first sexual act did

not have an influential relationship on HIV-related attitudes.

The regression coefficient value of -0.146 (t=-1.248, p=0.212>0.05) for the contact location of the first time sex object implies that the contact location of the first time sex object does not have an influential relationship on HIV related attitudes.

The regression coefficient value for having two or more sexual partners at the same time was 0.033 (t=0.065, p=0.948>0.05), implying that having two or more sexual partners at the same time did not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for the number of people having sex (excluding business) was -0.173 (t=-0.835, p=0.404>0.05), implying that the number of people having sex (excluding business) does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for the number of people who have had sex was 0.619 (t=15.522, p=0.000<0.01), implying that the number of people who have had sex has a significant positive effect on HIV-related attitudes.

The value of the regression coefficient for being in a sexual relationship with several people at the same time was -0.012 (t=-0.053, p=0.958>0.05), implying that being in a sexual relationship with several people at the same time did not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for whether sex involves money was -0.489 (t=-1.318, p=0.188>0.05), implying that whether sex involves money does not have an influential relationship on HIV-related attitudes.

The regression coefficient value of -0.930 (t=-1.523, p=0.128>0.05) for non-romantic heterosexuality with or without a long-standing sexual relationship implies that non-romantic heterosexuality with or without a long-standing sexual relationship does not have an influential relationship on HIV-related attitudes.

The regression coefficient value of -2.326 (t=-2.742, p=0.006<0.01) for the

presence or absence of knowing someone of the opposite sex who has had sexual relations for no more than 3 months implies that the presence or absence of knowing someone of the opposite sex who has had sexual relations for no more than 3 months has a significant negative effect on HIV-related attitudes.

The value of the regression coefficient for the length of contact for non-romantic heterosexuals who had sex was -0.323 (t=-2.284, p=0.023<0.05), implying that the length of contact for non-romantic heterosexuals who had sex had a significant negative effect on HIV-related attitudes.

4.4.4. the impact of self-evaluation on HIV-related attitudes

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	t	p	VIF	Adjustment *R 2*
	B	Standard error	Beta				
Constants	2.382	0.424	-	5.624	0.000**	-	
Self-assessment of sexual desire	-0.018	0.053	-0.043	-0.338	0.735	14.333	
Self-assessment of sexuality	-0.016	0.053	-0.039	-0.306	0.76	14.408	
Self-perception of sexuality	0.032	0.044	0.072	0.738	0.461	8.582	0.187
Are you in a high risk group	-0.148	0.15	-0.036	-0.988	0.323	1.19	
Willingness to seek counselling and	-0.072	0.065	-0.042	-1.107	0.268	1.266	

testing services after risky sexual behavior						
Levels of dependency in developmental relationships webchat	-0.004	0.015	-0.009	-0.253	0.8	1.075
Which is considered easier to develop a sexual relationship online or face to face	0.043	0.073	0.02	0.584	0.559	1.053
Detecting behavioral predisposition to HIV	-0.087	0.094	-0.033	-0.932	0.352	1.135
HIV testing	0.027	0.075	0.017	0.356	0.722	2.074
How to get infected with HIV	0.03	0.061	0.022	0.484	0.628	1.915
Perception of whether condoms provide pleasure	-0.016	0.049	-0.017	-0.316	0.752	2.648
Attitudes and experiences of 'spouse swapping'	-0.022	0.049	-0.037	-0.455	0.65	5.931
HIV-related behavior	0.083	0.152	0.086	0.549	0.583	21.69
Views on group sex	0.068	0.126	0.071	0.544	0.587	15.357

Perception that the variety of online social networking software or channels available today is conducive to increasing the chances of finding a sexual partner	0.468	0.036	0.441	13.02	0.000**	1.026
Willingness to use the power of the internet to develop sexual relationships for themselves	-0.097	0.105	-0.085	-0.92	0.358	7.605

Dependent variable: HIV-related attitudes

D-W value: 1.869;F (16,711)=11.473,p=0.000

* p<0.05 ** p<0.01

Table 38 Impact of self-evaluation on HIV-related attitudes

From the above table, eight variables were used: self-assessment of sexual desire, self-assessment of sexual ability, self-perception of sexual behavior, whether one is a high-risk group, willingness to seek counselling and testing services after risky sexual behavior, dependence on online chat to develop sexual relationships, perception of which is easier to develop sexual relationships online or face-to-face, behavioral tendency to test for HIV, HIV testing, how to get HIV, perception of whether condoms bring Pleasure, Attitude and experience of "spouse swapping", HIV-related behavior, Perception of group sex, Perception that the various forms of

online social networking software or channels are conducive to increasing the chances of finding a sexual partner, Willingness to use the power of the Internet to develop sexual relationships for oneself as the independent variable, and HIV-related attitude as the dependent variable. From the above table, we can see that the formula of the model is: HIV-related attitude = 2.382 - 0.018* self-evaluation of sexual desire - 0.016* self-evaluation of sexual ability + 0.032* self-perception of sexual behavior - 0.148* whether one is a high-risk group - 0.072* willingness to seek counselling and testing services after having risky sexual behavior - 0.004* development of 0.043* Perceived that it is easier to develop a sexual relationship online or face-to-face - 0.087* Behavioral tendency to test for HIV + 0.027* HIV testing + 0.030* How to get HIV - 0.016* Perceived pleasure from condoms - 0.022* Attitudes and experiences about "spouse swapping attitudes and experiences of "changing spouses" + 0.083* HIV-related behaviors + 0.068* perceptions of group sex + 0.468* perceptions that current online social networking software or channels in various formats are conducive to increasing the chances of finding a sexual partner - 0.097* willingness to use the power of the internet to develop sexual relationships for oneself, with a model R-squared value of 0.205. This means that these eight variables explain 20.5% of the variation in HIV-related attitudes.

An F-test of the model revealed that the model passed the F-test (F=11.473, p=0.000<0.05), which means that at least one of these would have an influential relationship on HIV-related attitudes, and the final specific analysis revealed that

The regression coefficient value of -0.018 (t=-0.338, p=0.735>0.05) for the self-evaluation of sexual desire implies that the self-evaluation of sexual desire does not have an influential relationship on HIV-related attitudes.

The regression coefficient value of -0.016 (t=-0.306, p=0.760>0.05) for the self-assessment of sexual competence implies that the self-assessment of sexual competence does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for sexuality self-perception was 0.032 (t=0.738, p=0.461>0.05), implying that sexuality self-perception does not have an

influential relationship on HIV-related attitudes.

Being in a high-risk group does not have an influential relationship with HIV-related attitudes.

The regression coefficient value for willingness to seek counselling and testing services after risky sex was -0.072 (t=-1.107, p=0.268>0.05), implying that willingness to seek counselling and testing services after risky sex did not have an influential relationship on HIV-related attitudes.

The regression coefficient value of -0.004 (t=-0.253, p=0.800>0.05) for the degree of developmental relationship webchat dependency implies that the degree of developmental relationship webchat dependency does not have an influential relationship on HIV-related attitudes.

The regression coefficient value of 0.043 (t=0.584, p=0.559>0.05) for the perception of which is easier to develop a sexual relationship, online chat or face-to-face, implies that the perception of which is easier to develop a sexual relationship, online chat or face-to-face, does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for the behavioral propensity to test for HIV was -0.087 (t=-0.932, p=0.352>0.05), implying that the behavioral propensity to test for HIV does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for HIV testing was 0.027 (t=0.356, p=0.722>0.05), implying that HIV testing does not have an influential relationship on HIV-related attitudes.

The regression coefficient value for how to get infected with HIV was 0.030 (t=0.484, p=0.628>0.05), implying that how to get infected with HIV does not have an influential relationship on HIV-related attitudes.

The regression coefficient value of -0.016 (t=-0.316, p=0.752>0.05) for the perception of whether condoms bring pleasure means that the perception of whether condoms bring pleasure does not have an influential relationship on HIV-

related attitudes.

The regression coefficient value for attitudes and experiences of 'spouse switching' was -0.022 (t=-0.455, p=0.650>0.05), implying that attitudes and experiences of 'spouse switching' do not have an impact on HIV-related attitudes. relationship.

The regression coefficient value for HIV-related behavior was 0.083 (t=0.549, p=0.583>0.05), implying that HIV-related behavior does not have an influential relationship on HIV-related attitudes.

The value of the regression coefficient for perceptions of group sex was 0.068 (t=0.544, p=0.587>0.05), implying that perceptions of group sex did not have an influential relationship on HIV-related attitudes.

The regression coefficient of 0.468 (t=13.020, p=0.000<0.01) for the perception that the current format of online social networking software or avenues is conducive to increasing the chances of finding a sexual partner implies that the perception that the current format of online social networking software or avenues is conducive to increasing the chances of finding a sexual partner has a significant positive effect on HIV-related attitudes.

The regression coefficient value for willingness to develop sexual relationships for oneself through the power of the internet was -0.097 (t=-0.920, p=0.358>0.05), implying that willingness to develop sexual relationships for oneself through the power of the internet does not have an influential relationship on HIV-related attitudes.

4.5. Factors influencing HIV-related behavior

4.5.1. Impact of personal information on HIV-related behavior

Linear regression analysis results

	Non-standardized coefficients		Standardisation factor	t	p	VIF	Adjustment *R* 2
	B	Standard error	Beta				
Constants	3.334	0.271	-	12.312	0.000**	-	
Gender	0.058	0.09	0.022	0.644	0.52	1.011	
Grade Level	-0.179	0.028	-0.229	-6.335	0.000**	1.113	
Place of origin	0.035	0.03	0.041	1.165	0.244	1.059	
Sexual orientation	0.008	0.03	0.009	0.268	0.789	1.052	
Marital status	-0.184	0.038	-0.201	-4.8	0.000**	1.49	
Religious beliefs	-0.047	0.041	-0.045	-1.151	0.25	1.284	0.144
Ethnicity and race	0.409	0.12	0.14	3.413	0.001**	1.431	
Specialities	0.011	0.038	0.01	0.287	0.774	1.061	
Average monthly cost of living	0.004	0.035	0.004	0.101	0.92	1.413	
Father's qualifications	-0.378	0.074	-0.362	-5.118	0.000**	4.248	
Mother's	0.233	0.077	0.214	3.047	0.002**	4.189	

qualifications

Dependent variable: HIV-related behavior

D-W value: 0.383;F (11,716)=12.098,p=0.000

* p<0.05 ** p<0.01

Table 39 Impact of personal information on HIV-related behavior

From the above table, we can see that the 8 variables: gender, grade, origin, sexual orientation, marital status, religion, ethnicity and race, major, average monthly cost of living, father's education, mother's education were used as independent variables, while HIV-related behavior was used as the dependent variable for linear regression analysis. 0.179* Grade + 0.035* Place of origin + 0.008* Sexual orientation - 0.184* Marital status - 0.047* Religious affiliation + 0.409* Ethnicity and race + 0.011* Major + 0.004* Average monthly cost of living - 0.378* Father's education + 0.233* Mother's education, with a model R-squared value of 0.157, implying that these eight variables can explain 15.7% of the variation in HIV-related behavior.

An F-test of the model revealed that the model passed the F-test (F=12.098, p=0.000<0.05), which means that at least one of them would have an influential relationship on HIV-related behavior.

The regression coefficient value for gender was 0.058 (t=0.644, p=0.520>0.05), implying that gender does not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for grade was -0.179 (t=-6.335, p=0.000<0.01), implying that grade level can have a significant negative relationship on HIV-related behavior.

The regression coefficient value for place of origin was 0.035 (t=1.165, p=0.244>0.05), implying that place of origin does not have an influential relationship on HIV-related behavior.

The regression coefficient value for sexual orientation was 0.008 (t=0.268, p=0.789>0.05), implying that sexual orientation does not have an influential relationship on HIV-related behavior.

The regression coefficient value for marital status was -0.184 (t=-4.800, p=0.000<0.01), implying that marital status can have a significant negative relationship on HIV-related behavior.

The regression coefficient value for religiosity was -0.047 (t=-1.151, p=0.250>0.05), implying that religiosity does not have an influential relationship on HIV-related behavior.

The regression coefficient value for ethnicity and race was 0.409 (t=3.413, p=0.001<0.01), implying that ethnicity and race can have a significant positive relationship on HIV-related behavior.

The regression coefficient value for profession was 0.011 (t=0.287, p=0.774>0.05), implying that profession does not have an influential relationship on HIV-related behavior.

The regression coefficient value for the average monthly cost of living was 0.004 (t=0.101, p=0.920>0.05), implying that the average monthly cost of living does not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for father's education was -0.378 (t=-5.118, p=0.000<0.01), implying that father's education can have a significant negative relationship on HIV-related behavior.

The value of the regression coefficient for maternal education was 0.233 (t=3.047, p=0.002<0.01), implying that maternal education can have a significant positive relationship on HIV-related behavior.

4.5.2. Impact of internet use on HIV-related behavior

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	t	p	VIF	Adjustment *R 2*
	B	Standard error	Beta				
Constants	-1.131	1.102	-	-1.026	0.305	-	
Hours of Internet access per day	0.073	0.026	0.067	2.748	0.006**	1.068	
Availability of heterosexual internet friends	1.198	0.795	0.417	1.507	0.132	138.465	
Are you more relaxed and casual when interacting with people of the opposite sex online	0.148	0.061	0.275	2.438	0.015*	23.038	
Has a heterosexual Internet friend shared a conversation about sex	0.077	0.124	0.125	0.626	0.531	71.587	0.597
Have you ever sent pictures of your private parts to each other with internet friends of the opposite sex	0.018	0.13	0.03	0.141	0.888	82.332	
Whether or not you have developed a relationship with an online friend of the opposite	0.741	0.06	0.572	12.359	0.000**	3.865	

sex						
Do you know about "love"?	0.174	0.04	0.205	4.399	0.000**	3.937
The perception that it is more comfortable and casual to communicate online with someone you already know in real life	-0.059	0.042	-0.047	-1.414	0.158	1.956
Does it feel that the internet has facilitated people to find sexual partners and develop sexual relationships	0.05	0.034	0.046	1.481	0.139	1.721
Do you feel that the internet has given you the possibility to develop a sexual relationship	0.048	0.033	0.043	1.434	0.152	1.61
Has the internet allowed you to better understand and integrate into the current society	0.036	0.037	0.031	0.984	0.325	1.798
Do you feel that networking has helped you find more like-minded people	-0.019	0.035	-0.017	-0.551	0.582	1.667

Dependent variable: HIV-related behavior

D-W value: 1.168;F (12,715)=90.796,p=0.000

* p<0.05 ** p<0.01

Table 40 Impact of internet use on HIV-related behavior

From the above table, 16 variables were used: length of time spent on the Internet per day, whether or not you have online friends of the opposite sex, whether or not you communicate with online friends of the opposite sex in a more casual manner, whether or not you have shared sexual topics with online friends of the opposite sex, whether or not you have sent pictures of your private parts with online friends of the opposite sex, whether or not you have become friends with online friends of the opposite sex, and whether or not you are aware of "lovemaking", Do you think it is more comfortable and casual to communicate with the opposite sex online, do you think the Internet facilitates people to find sexual partners and develop sexual relationships, do you think the Internet gives you the possibility to develop sexual relationships, do you think the Internet has helped you understand and integrate into the current society better, do you think the Internet has helped you find more people with similar interests as the independent variable, and HIV-related behavior as the dependent variable for linear regression analysis? From the above table, we can see that the formula of the model is: HIV-related behavior = -1.131 + 0.073*time spent online per day + 1.198*whether you have heterosexual friends + 0.148*whether you communicate with heterosexual friends in a casual way + 0.077*whether heterosexual friends have shared sex-related topics + 0.018*whether you have sent pictures of private parts with heterosexual friends + 0.741*whether you have shared private parts with heterosexual friends 0.741* Whether you have become friends with someone of the opposite sex online + 0.174* Whether you know about "sex" - 0.059* Whether you think it is more comfortable and casual to communicate with someone of the opposite sex you already know in real life online + 0.050* Whether you think the Internet makes it easier for people to find sexual partners and develop sexual relationships + 0.048* Whether you think the internet has given you the possibility to develop sexual relationships + 0.036* whether the internet has helped you to better understand and integrate into current society - 0.019* whether you feel that the internet has helped you to find more like-minded people The model R-squared value of 0.604 means that these 11 variables explain 60.4% of the variation in HIV-related behavior.

An F-test of the model revealed that the model passed the F-test (F=90.796, p=0.000<0.05), which means that at least one of them would have an influential relationship on HIV-related behavior. The final specific analysis revealed that.

The regression coefficient value of 0.073 (t=2.748, p=0.006<0.01) for the number of hours spent online per day implies that the number of hours spent online per day has a significant positive relationship on HIV-related behavior.

The regression coefficient value for the presence or absence of heterosexual Internet friends was 1.198 (t=1.507, p=0.132>0.05), implying that the presence or absence of heterosexual Internet friends did not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for whether or not to be more relaxed and casual when communicating with heterosexual Internet friends was 0.148 (t=2.438, p=0.015<0.05), implying that whether or not to be more relaxed and casual when communicating with heterosexual Internet friends would have a significant positive relationship on HIV-related behavior.

The regression coefficient value for whether or not heterosexual Internet users had shared topics about sex was 0.077 (t=0.626, p=0.531>0.05), implying that whether or not heterosexual Internet users had shared topics about sex did not have an influential relationship on HIV-related behavior.

The regression coefficient value of whether or not they had sent pictures of private parts to each other with heterosexual Internet friends was 0.018 (t=0.141, p=0.888>0.05), implying that whether or not they had sent pictures of private parts to each other with heterosexual Internet friends did not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for whether or not to develop boyfriend/girlfriend relationship with a heterosexual Internet friend was 0.741 (t=12.359, p=0.000<0.01), implying that whether or not to develop boyfriend/girlfriend relationship with a heterosexual Internet friend would have a significant positive effect on HIV-related behavior.

The regression coefficient of 0.174 (t=4.399, p=0.000<0.01) implies that knowing or not knowing about "love" has a significant positive effect on HIV-related behavior.

The regression coefficient value of -0.059 (t=-1.414, p=0.158>0.05) for the perception that heterosexuals already known in reality are more comfortable and casual in online communication, implies that the perception that heterosexuals already known in reality are more comfortable and casual in online communication does not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for whether or not one feels that the internet facilitates people to find sexual partners to develop sexual relationships was 0.050 (t=1.481, p=0.139>0.05), implying that whether or not one feels that the internet facilitates people to find sexual partners to develop sexual relationships does not have an influential relationship on HIV-related behavior.

The regression coefficient value for whether or not you feel that the internet gives you the possibility of developing sexual relationships was 0.048 (t=1.434, p=0.152>0.05), implying that whether or not you feel that the internet gives you the possibility of developing sexual relationships does not have an influential relationship on HIV-related behavior.

The regression coefficient value of 0.036 (t=0.984, p=0.325>0.05) for whether the internet has made you better informed and integrated into the current society implies that whether the internet has made you better informed and integrated into the current society does not have an influential relationship on HIV-related behavior.

The regression coefficient value for whether or not you feel that the internet has helped you find more like-minded people was -0.019 (t=-0.551, p=0.582>0.05), implying that whether or not you feel that the internet has helped you find more like-minded people does not have an influential relationship on HIV-related behavior.

4.5.3. The impact of dating on HIV-related behavior

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	t	p	VIF	Adjustment *R* 2
	B	Standard error	Beta				
Constants	37.064	13.383	-	2.77	0.006**	-	
Has a real person of the opposite sex ever shared (in person) a sex-related topic	0.134	0.14	0.043	0.955	0.34	1.455	
Has a real person of the opposite sex ever shared a sex-related topic online?	0.044	0.136	0.014	0.322	0.748	1.419	
Has the opposite sex you know in reality ever shared pictures of exposed parts face to face	0.194	0.299	0.032	0.649	0.517	1.789	0.189
Have you shared pictures of exposed parts online with someone of the opposite sex that you	-0.074	0.24	-0.015	-0.307	0.759	1.728	

know in real life						
Sexuality	-24.99	9.651	-6.815	-2.589	0.010**	5010.647
Age of first sexual intercourse	-0.202	0.044	-1.266	-4.614	0.000**	54.469
Time spent with the other person before the first sexual encounter	0.612	0.118	0.867	5.181	0.000**	20.258
Place of contact of the person with whom you first had sex	-0.287	0.143	-0.418	-2.013	0.045*	31.198
Whether you have two or more sexual partners at the same time	0.021	0.613	0.028	0.034	0.973	485.775
Number of people having sex (excluding business)	-0.571	0.252	-0.898	-2.264	0.024*	113.93
Number of people who have had sexual intercourse	0.001	0.049	0.001	0.017	0.987	1.054
Having a sexual relationship with several people at the same time	-0.434	0.272	-0.549	-1.595	0.111	85.536
Is there money involved in the sexual act	0.918	0.451	1.49	2.033	0.043*	388.941

Whether there is a non-romantic person of the opposite sex who is in a long-term sexual relationship	-1.929	0.744	-2.572	-2.593	0.010**	711.728
Any person of the opposite sex whom you have known for less than 3 months and had sexual relations with	-2.76	1.033	-3.655	-2.671	0.008**	1354.673
Length of contact in which non-romantic heterosexuals had sexual relations	-0.434	0.172	-0.394	-2.517	0.012*	17.682

Dependent variable: HIV-related behavior

D-W value: 0.482;F (16,571)=9.524,p=0.000

* p<0.05 ** p<0.01

Table 41 Impact of dating status on HIV-related behavior

From the table above, the 11 variables were: whether the opposite sex met in real life shared sex-related topics (in person), whether the opposite sex met in real life shared sex-related topics online, whether the opposite sex met in real life shared some pictures of exposed parts face to face, whether the opposite sex met in real life shared some pictures of exposed parts online, sexual behavior status, first sexual encounter age of first sexual encounter, duration of relationship before first sexual encounter, location of first sexual encounter, whether two or more partners had sex

at the same time, number of people who had sex (excluding business), number of people who had sex, number of people who had sex at the same time, whether sex involved money, whether there were non-romantic heterosexuals who had sex for a long time, whether there were heterosexuals who had sex for less than 3 months The length of contact with non-romantic heterosexuals who have had sex was used as the independent variable, and HIV-related behavior was used as the dependent variable for linear regression analysis. 0.194* Whether the person you met in person shared some sexually explicit pictures face to face - 0.074* Whether you shared some sexually explicit pictures online with the person you met in person - 24.990* Sexual behavior - 0.202* Age at first sex + 0.612* Duration of relationship with the person before first sex - 0.287* Place of contact with the person with whom the first sexual intercourse took place + 0.021* Whether two or more sexual partners had sex at the same time - 0.571* Number of people who had sex (excluding business) + 0.001* Number of people who had sex - 0.434* Maintained sexual relations with several people at the same time + 0.918* Whether sex involved money - 1.929* Whether there was a non-romantic person of the opposite sex who had a long-term sexual relationship - 2.760* Whether there is a heterosexual person who has known someone for no more than 3 months who has had sex - 0.434* Length of contact where a non-romantic heterosexual person has had sex The model R-squared value of 0.211 implies that these 11 variables explain 21.1% of the variance in HIV-related behavior.

An F-test of the model revealed that the model passed the F-test (F=9.524, p=0.000<0.05), which means that at least one of them would have an influential relationship on HIV-related behavior, and the final specific analysis shows that

The regression coefficient value for whether or not the opposite sex known in reality had shared sex-related topics (in person) was 0.134 (t=0.955, p=0.340>0.05), implying that whether or not the opposite sex known in reality had shared sex-related topics (in person) did not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for whether or not the opposite sex

known in reality had shared sex-related topics online was 0.044 (t=0.322, p=0.748>0.05), implying that whether or not the opposite sex known in reality had shared sex-related topics online did not have an influential relationship on HIV-related behavior.

The regression coefficient value for whether or not the opposite sex had shared some exposed pictures face-to-face was 0.194 (t=0.649, p=0.517>0.05), implying that whether or not the opposite sex had shared some exposed pictures face-to-face did not have an impact on HIV-related behavior.

The regression coefficient value of -0.074 (t=-0.307, p=0.759>0.05) for whether or not they had shared some pictures of exposed parts online with the opposite sex they knew in reality, implies that whether or not they had shared some pictures of exposed parts online with the opposite sex they knew in reality did not have an influential relationship on HIV-related behavior.

The regression coefficient value of -24.990 (t=-2.589, p=0.010<0.01) for sexual behavioral profile implies that sexual behavioral profile can have a significant negative relationship on HIV-related behavior.

The value of the regression coefficient for age at first sex was -0.202 (t=-4.614, p=0.000<0.01), implying that age at first sex has a significant negative relationship on HIV-related behavior.

The value of the regression coefficient for the duration of interaction with the other person prior to the initial sexual act was 0.612 (t=5.181, p=0.000<0.01), implying that the duration of interaction with the other person prior to the initial sexual act has a significant positive relationship on HIV-related behavior.

The regression coefficient value of -0.287 (t=-2.013, p=0.045<0.05) for the contact location of the first-time sexual object implies that the contact location of the first-time sexual object can have a significant negative relationship on HIV-related behavior.

The regression coefficient value for the presence of two or more concurrent sexual partners was 0.021 (t=0.034, p=0.973>0.05), implying that the presence of two

or more concurrent sexual partners did not have an influential relationship on HIV-related behavior.

The value of the regression coefficient for the number of people having sex (excluding business) was -0.571 (t=-2.264, p=0.024<0.05), implying that the number of people having sex (excluding business) has a significant negative relationship on HIV-related behavior.

The regression coefficient value for the number of people who had sex was 0.001 (t=0.017, p=0.987>0.05), implying that the number of people who had sex did not have an influential relationship on HIV-related behavior.

The regression coefficient value for being in a sexual relationship with several people at the same time was -0.434 (t=-1.595, p=0.111>0.05), implying that being in a sexual relationship with several people at the same time did not have an influential relationship on HIV-related behavior.

The regression coefficient value for whether sex involves money was 0.918 (t=2.033, p=0.043<0.05), implying that whether sex involves money has a significant positive effect relationship on HIV-related behavior.

The regression coefficient value of -1.929 (t=-2.593, p=0.010<0.01) for the presence or absence of non-romantic heterosexuals in long-term sexual relationships implies that the presence or absence of non-romantic heterosexuals in long-term sexual relationships has a significant negative relationship on HIV-related behavior.

The regression coefficient value of -2.760 (t=-2.671, p=0.008<0.01) for the presence or absence of knowing someone of the opposite sex who has had sexual relations for no more than 3 months implies that the presence or absence of knowing someone of the opposite sex who has had sexual relations for no more than 3 months has a significant negative effect on HIV-related behavior.

The value of the regression coefficient for the length of exposure to non-romantic heterosexuals who had sex was -0.434 (t=-2.517, p=0.012<0.05), implying that the length of exposure to non-romantic heterosexuals who had sex had a significant negative effect on HIV-related behavior.

4.5.4. Impact of self-evaluation on HIV-related behavior

Linear regression analysis results

	Non-standardized coefficients		Standardisation factor	t	p	VIF	Adjustment R^2
	B	Standard error	Beta				
Constants	-0.269	0.106	-	-2.528	0.012*	-	
Self-assessment of sexual desire	-0.038	0.013	-0.088	-2.913	0.004**	14.167	
Self-assessment of sexuality	0.036	0.013	0.084	2.763	0.006**	14.257	
Self-perception of sexuality	0.011	0.011	0.024	1.034	0.302	8.575	
HIV-related attitudes	0.005	0.009	0.005	0.549	0.583	1.258	
Are you in a high risk group	0.139	0.037	0.033	3.79	0.000**	1.168	0.953
Willingness to seek counselling and testing services after risky sexual behavior	0.051	0.016	0.028	3.165	0.002**	1.25	
Levels of dependency in developmental relationships webchat	0.016	0.004	0.034	4.137	0.000**	1.05	
Which is considered easier to develop a sexual	-0.012	0.018	-0.005	-0.648	0.517	1.053	

relationship online or face to face						
Detecting behavioral predisposition to HIV	0.122	0.023	0.045	5.351	0.000**	1.093
HIV testing	-0.045	0.018	-0.028	-2.425	0.016*	2.057
How to get infected with HIV	-0.002	0.015	-0.002	-0.157	0.875	1.915
Perception of whether condoms provide pleasure	0.056	0.012	0.06	4.677	0.000**	2.569
Attitudes and experiences of 'spouse swapping'	0.108	0.011	0.177	9.579	0.000**	5.255
Views on group sex	0.572	0.022	0.581	25.494	0.000**	8.026
Perception that the variety of online social networking software or channels available today is conducive to increasing the chances of finding a sexual partner	-0.006	0.01	-0.005	-0.564	0.573	1.27
Willingness to use the power of the internet to develop sexual relationships for themselves	0.241	0.024	0.206	9.896	0.000**	6.692

Dependent variable: HIV-related behavior

D-W value: 2.047;F (16,711)=919.811,p=0.000

* p<0.05 ** p<0.01

Table 42 Impact of self-evaluation on HIV-related behavior

From the above table, eight variables were used: self-assessment of sexual desire, self-assessment of sexual ability, self-perception of sexual behavior, HIV-related attitudes, whether one is a high-risk group, willingness to seek counseling and testing services after risky sexual behavior, degree of reliance on online chat to develop sexual relationships, which one is easier to develop sexual relationships with online chat or face-to-face, behavioral tendency to test for HIV, HIV testing, how to get HIV, perception of whether condoms bring pleasure, attitudes and experiences of "spouse swapping", perceptions of group sex, perceptions that the various forms of online social networking software or channels are conducive to increasing the chances of finding sexual partners, willingness to use the power of the Internet to develop sexual relationships for themselves as the independent variable, and HIV-related behaviors as the dependent variable. From the above table, the model equation is: HIV-related behavior = -0.269-0.038* self-evaluation of sexual desire + 0.036* self-evaluation of sexual ability + 0.011* self-perception of sexual behavior + 0.005* HIV-related attitudes + 0.139* whether they belong to a high-risk group + 0.051* willingness to seek counselling and testing services after risky sexual behavior with testing services + 0.016*Reliance on online chat to develop sexual relationship - 0.012*Think it is easier to develop sexual relationship online or face-to-face + 0.122*Behavioral tendency to test for HIV - 0.045*HIV testing - 0.002*How to get infected with HIV + 0.056*Perception of whether condom brings pleasure + 0.108*Attitude towards "attitudes and experiences of 'spouse swapping' + 0.572* perceptions of group sex - 0.006* perceptions that the various forms of online social networking software or channels available today are conducive to increasing the chances of finding a sexual partner + 0.241* willingness to use the power of the internet to develop sexual relationships for themselves, with a model R-squared value of 0.954. This means that these eight variables explain 95.4% of the variation in HIV-related behavior. An F-test of the model revealed that the model passed the F-test ($F=919.811$, $p=0.000<0.05$), meaning that at least one of the variables would

have an influential relationship on HIV-related behavior, and the final specific analysis revealed that

The regression coefficient value of -0.038 (t=-2.913, p=0.004<0.01) for the self-evaluation of sexual desirability implies that self-evaluation of sexual desirability can have a significant negative influence relationship on HIV-related behaviors.

The regression coefficient value of 0.036 (t=2.763, p=0.006<0.01) for the self-assessment of sexual competence implies that the self-assessment of sexual competence produces a significant positive relationship on HIV-related behavior.

The value of the regression coefficient for self-perception of sexual behavior was 0.011 (t=1.034, p=0.302>0.05), implying that self-perception of sexual behavior does not have an influential relationship on HIV-related behavior.

The regression coefficient value for HIV-related attitudes was 0.005 (t=0.549, p=0.583>0.05), implying that HIV-related attitudes do not have an influential relationship on HIV-related behaviors.

The regression coefficient value of 0.139 (t=3.790, p=0.000<0.01) for being in a high-risk group implies that being in a high-risk group has a significant positive relationship on HIV-related behavior.

The regression coefficient value for willingness to seek counselling and testing services after risky behaviors was 0.051 (t=3.165, p=0.002<0.01), implying that willingness to seek counselling and testing services after risky behaviors had a significant positive relationship on HIV-related behaviors.

The regression coefficient value of 0.016 (t=4.137, p=0.000<0.01) for the degree of developmental relationship webchat dependency implies that the degree of developmental relationship webchat dependency produces a significant positive relationship on HIV-related behavior.

The regression coefficient value of -0.012 (t=-0.648, p=0.517>0.05) for the perception of which is easier to develop a sexual relationship, online chat or face-to-face, implies that the perception of which is easier to develop a sexual relationship,

online chat or face-to-face, does not have an influential relationship on HIV-related behavior.

The regression coefficient value for the behavioral propensity to test for HIV was 0.122 (t=5.351, p=0.000<0.01), implying that the behavioral propensity to test for HIV has a significant positive relationship on HIV-related behavior.

The regression coefficient value for HIV testing was -0.045 (t=-2.425, p=0.016<0.05), implying that HIV testing can have a significant negative relationship on HIV-related behavior.

The regression coefficient value for how to get infected with HIV was -0.002 (t=-0.157, p=0.875>0.05), implying that how to get infected with HIV does not have an influential relationship on HIV-related behavior.

The regression coefficient value of 0.056 (t=4.677, p=0.000<0.01) for the perception of whether condoms bring pleasure implies that the perception of whether condoms bring pleasure has a significant positive relationship on HIV-related behavior.

The regression coefficient of 0.108 (t=9.579, p=0.000<0.01) for attitudes and experiences of 'spouse swapping' implies that attitudes and experiences of 'spouse swapping' have a significant positive effect on HIV-related behavior The coefficient of 0.108 (t=9.579, p=0.000<0.01) implies that attitudes and experiences of 'spouse switching' have a significant positive effect on HIV-related behavior.

The value of the regression coefficient for perceptions of group sex was 0.572 (t=25.494, p=0.000<0.01), implying that perceptions of group sex have a significant positive relationship on HIV-related behavior.

The value of the regression coefficient for the perception that the current format of online social networking software or avenues is conducive to increasing the chances of finding a sexual partner was -0.006 (t=-0.564, p=0.573>0.05), implying that the perception that the current format of online social networking software or avenues is conducive to increasing the chances of finding a sexual partner does not have an impact on HIV-related behavior.

The regression coefficient value for willingness to develop sexual relationships for oneself through the power of the internet was 0.241 (t=9.896, p=0.000<0.01), implying that willingness to develop sexual relationships for oneself through the power of the internet has a significant positive relationship on HIV-related behavior.

4.6. Factors influencing HIV testing

Linear regression analysis results

	Non-standardised coefficients		Standardisation factor	t	p	VIF	Adjustment R^2
	B	Standard error	Beta				
Constants	2.566	0.143	-	17.904	0.000**	-	
Awareness rate	-0.006	0.114	-0.002	-0.051	0.959	1.073	
HIV-related behavior	0.056	0.024	0.089	2.339	0.020*	1.066	0.004
HIV-related attitudes	0.006	0.024	0.009	0.241	0.81	1.012	

Dependent variable: HIV testing

D-W value: 2.024;F (3,724)=2.011,p=0.111

* p<0.05 ** p<0.01

Table 43 Factors influencing HIV testing

From the above table, it can be seen that a linear regression analysis was conducted with awareness rate, HIV-related behavior and HIV-related attitudes as independent variables and HIV testing as the dependent variable, and from the above table, the model formula is: HIV testing = 2.566 - 0.006*awareness rate + 0.056*HIV-related behavior + 0.006*HIV-related attitudes, and the model R-squared value is 0.008, implying that awareness rate, HIV-related behaviors, and HIV-related attitudes explain 0.8% of the variation in HIV testing.

The model did not pass the F-test (F=2.011, p=0.111>0.05), which means that awareness, HIV-related behavior and HIV-related attitudes do not influence HIV testing, and therefore the relationship between the independent variables and the dependent variable cannot be specifically analysed.

4.7. Relationship between knowledge of HIV, HIV-related attitudes, HIV testing and HIV-related high-risk sexual behavior

Hypothesis 1: Personal factors of the respondent positively influence the use of protective measures.

Hypothesis 2: Perceived risk of HIV infection positively influences the use of protective measures.

Hypothesis 3: HIV testing has a positive impact on the use of protective measures.

Assign the following values.

Name		Explanation
Personal factors		
X1	Gender of the respondent	Female = 1, Male = 2
X2	Respondent's grade	Freshman = 1, Sophomore = 2, = 3, Senior = 4, Master's = 5, PhD

		= 6, Other = 7
X3	City of the respondent	Tier 1 cities = 1, other provincial or large cities = 2, medium cities or counties = 3, small cities or counties = 4, rural areas = 5, foreign countries = 6
X4	Sexual orientation of the respondent	Homosexuality = 1, Bisexuality = 2, Heterosexuality = 3, Irregularity = 4, Uncertainty = 5
X5	Respondents' marital status	Unmarried, never been in a relationship = 1, Unmarried, in a relationship, currently genuinely single = 2, Unmarried, with a regular lover and faithful partner = 3, De facto or cohabiting = 4, Married and faithful to marriage = 5, Married but also having an affair or sex outside of marriage = 6, Divorced and no sexual partner = 7, Unmarried, no regular lover but from time to time all have sexual partners = 8, Divorced and only one stable sexual partner = 9, divorced and has had multiple sexual partners over time = 10
X6	Religious affiliation of the respondent	Atheist = 1, Christian, Catholic or Orthodox = 2, Buddhist = 3, Taoist = 4, Islamic = 5, Other = 6
X7	Respondent's profession	Medicine = 1, Science and Technology = 2, Arts and Sports = 3, Humanities and Social Sciences (including Economics and Management) = 4, Others = 5
X8	Respondents' living expenses	Below $1000 = 1, $1000-1500 = 2, $1501-2000 = 3, 2001-3000 = 4, $3001-4000 = 5, 4001-6000 = 6, 6000+ = 7
X9	Respondent's father's education	Primary and below = 1, Middle school = 2, High school = 3, College = 4, Bachelor's degree = 5, Master's degree = 6, Doctoral degree = 7
HIV infection risk perception		

X10	Knowledge of HIV transmission	Yes=1, No=2, Don't know=3
X11	Intimacy Identity	Strongly agree = 1, Somewhat agree = 2, Neutral = 3, Somewhat disagree = 4, Strongly disagree = 5
X12	Is involved in HIV awareness	Yes=1, No=2
	Information on social and sexual behavior	
X13	Number of hours of internet access per day	Up to 1 hour = 1, 1-3 hours = 2, 3-5 hours = 3, 5-7 hours = 4, 7-9 hours = 5, 9+ hours = 6
X14	Is it easy and casual to communicate with people of the opposite sex online?	Strongly agree = 1, Somewhat agree = 2, Neutral = 3, Somewhat disagree = 4, Strongly disagree = 5
X15	Have you ever had sexual intercourse?	Yes = 1, no = 2, not sure what sex is = 3
X16	How many people have you had sex with in total so far?	0=1, 1=2, 2-4=3, 5-10=4, 11-20=5, 21-40=6, 41-60=7, 61-99=8, 100 or more=9
HIV testing		
X17	How do you prefer to be tested for HIV	Go to a hospital or CDC = 1, buy your own test strips = 2, other = 3, chain beauty shops = 4, mall counters/brand name shops = 5
X18	"How to get infected with HIV"	Sexual intercourse = 1, mother-to-child transmission = 2, drug use = 3, medical malpractice = 4, accidental contact with a

		person with HIV or an object with HIV = 5, other = 6
X19	In terms of sensory pleasure alone, do you feel	Not using a rubber condom during sex feels better = 1, using a rubber condom during sex feels better = 2, using or not using it is about the same = 3
X20	What are your thoughts on group sex?	Very exciting and desirable and enjoyable = 1, either with or without = 2, extremely bad, never try = 3
X21	The variety of online social networking software or ways to find a sexual partner today	Hardly increases effective chances = 1, Not very much increases effective chances = 2, Average probability of increasing effective chances = 3, Fairly increases effective chances = 4, Very much increases effective chances = 5
Y	"Frequency of condom use"	Never = 1, Rarely = 2, Occasionally = 3, Often = 4, Every time = 5

Table 44 Value of Independent and dependent variables

Presenting the model $Y = b_0 + b_1x_1 + b_2x_2 + \ldots\ldots + b_nx_n$

After several regressions, the following model was obtained.

Multiple Linear Regression(n=728)

	Unstandardized Coefficients		Standardized Coefficients	t	p	VIF	R^2	Adj R^2	F
	B	Standard error	Beta						
Constant	0.394	0.295	-	1.338	0.181	-			F (5, 722)=
Gender	0.205	0.081	0.080	2.520	0.012*	1.007	0.270	0.265	53.540
Sexual orientation	0.191	0.029	0.230	6.635	0.000**	1.186			, p=0.000

Multiple Linear Regression(n=728)

	Unstandardized Coefficients		Standardized Coefficients	t	p	VIF	R^2	Adj R^2	F
	B	Standard error	Beta						
Specialities	0.133	0.035	0.127	3.844	0.000**	1.072			
Several people have had sexual relations	0.363	0.036	0.342	9.985	0.000**	1.160			
Networking for companionship opportunities	0.407	0.127	0.106	3.201	0.001**	1.080			

Dependent variable "frequency of condom use"

D-W value 1.788

* p<0.05 ** p<0.01

Table 45 Relationship between knowledge of HIV, HIV-related attitudes, HIV testing and HIV-related high-risk sexual behavior

Frequency of condom use = -0.181 + 0.151*gender + 0.160*sexual orientation + 0.091*profession + 0.450*having sex with several people + 0.173*chances of finding a partner online + 0.372*channels of HIV transmission

The model R-squared value of 0.385 implies that gender, sexual orientation, profession, how many people they have had sex with, online opportunities to find partners, and HIV transmission channels explain 38.5% of the variation in condom use frequency.

An F-test of the model found that the model passed the F-test (p=0.000<0.05), which means that at least one of gender, sexual orientation, having

sex with net friend, niche hobbies and circles, HIV knowledge, HIV risk perception, and knowledge of HIV testing facilities had an influential relationship on condom use frequency.

In addition, the model was tested for multicollinearity and found that all VIF values in the model were less than 5, implying that there was no co-collinearity; and the D-W values were around the number 2, thus indicating that the model was not autocorrelated and there was no correlation between the sample data and the model was good.

The final specific analysis reveals that.

The regression coefficient for gender was 0.205 (t=2.520, p=0.012<0.05), implying that gender has a significant positive effect on "frequency of condom use".

The regression coefficient for sexual orientation was 0.191 (t=6.635, p=0.000<0.01), implying that sexual orientation has a significant positive effect on "frequency of condom use".

The regression coefficient for profession was 0.133 (t=3.844, p=0.000<0.01), implying that there was a significant positive relationship between profession and "frequency of condom use".

The regression coefficient for the chance of finding a sexual partner with various online social networking software or channels is 0.363 (t=9.985, p=0.000<0.01), implying that the chance of finding a sexual partner with various online social networking software or channels has a significant positive effect on the "frequency of condom use". A significant positive relationship was found between the frequency of condom use and the availability of social networking software.

The regression coefficient for HIV knowledge was 0.407 (t=3.201, p=0.001<0.01), implying that HIV knowledge had a significant positive effect on "frequency of condom use".

In summary, the analysis shows that gender, sexual orientation, profession, the availability of various online social networking software or channels, the opportunity

to find a sexual partner, and knowledge of HIV awareness have a significant positive effect on the frequency of condom use.

4.8. Summary

The present study involved a survey of 728 participants, representative of young university students in China. Demographic analysis revealed that this group is fairly typical. Consequently, the findings of this survey hold some degree of reference significance.

Firstly, the young university students exhibit a notable dependence on the internet, particularly for online socializing and the exploration of sexual relationships. More than half of the respondents spend an average of three to seven hours daily engaged in internet activities, primarily focused on instant messaging, chatting, shopping, entertainment, and browsing forums. However, it is important to note that this inclination toward the internet does not indicate a lack of social and sexual needs. On the contrary, the students actively seek sex-related knowledge, read erotic content, and watch erotic works online, recognizing the convenience offered by the digital platform. They also acknowledge that the internet serves as a tool for finding potential sexual partners, leading them to exhibit bolder behavior online, such as engaging in discussions on private topics and sharing intimate pictures. However, when asked if they are willing to personally develop sexual relationships through the internet, 80% of the respondents expressed a negative inclination. This survey further revealed that only 52 individuals had experience in developing romantic relationships with online acquaintances of the opposite sex. These findings indicate a preference among respondents to establish connections and understanding in the real world, suggesting that their romantic and sexual needs are predominantly met through traditional means.

Secondly, the young university students possess limited knowledge regarding HIV, with discernible cognitive biases in specific areas. Although they exhibit a certain degree of understanding, their responses to questions related to HIV display

inconsistencies. Questions such as identifying HIV infection from appearance, the risk of transmission through shared meals with HIV-infected individuals, and the possibility of HIV transmission via mosquito bites garnered correct response rates exceeding 80%. Conversely, questions about HIV transmission through exposure to infected blood, sharing needles with HIV-infected individuals, childbirth from an HIV-infected mother, the effectiveness of condom use in reducing HIV transmission, and the impact of having sex with only one partner on reducing HIV transmission had correct response rates of approximately 50%. These findings indicate that young university students possess vague knowledge regarding HIV transmission routes and lack awareness of HIV prevention and control measures.

The acquisition of HIV-related knowledge primarily occurs through school and the internet, while family education plays a minor role. This trend raises concerns, as proper sexual concepts should be developed during childhood to foster appropriate sexual attitudes and behaviors in adulthood. The limited emphasis on family education poses a risk for engaging in high-risk sexual behaviors among young individuals.

Thirdly, the young university students display a permissive attitude toward sex while demonstrating limited awareness of HIV prevention. Approximately 37.36% of the respondents approve of pre-marital sex, with 39.29% adopting a neutral stance. Moreover, 38.19% expressed their willingness to engage in sexual activities outside of their committed relationships, while 28.85% held a neutral stance. Interestingly, when asked about accepting the idea of having multiple sexual partners simultaneously, 78.3% of the respondents expressed disapproval, while 10.16% maintained a neutral attitude. Similarly, the majority of respondents strongly opposed the notion of partner swapping or engaging in group sex. However, these responses contradict their answers regarding their willingness to have sex with someone other than their current partner, suggesting a tendency to conceal or deceive when responding to this sensitive question. Although nearly 70% of the respondents claimed they would not seek extramarital affairs to satisfy their physical needs, their tolerance for multiple sexual partners indicates a certain level of

ambivalence, suggesting a relatively open attitude toward marriage and sex. Furthermore, when asked about their perspective on the necessity of condom use in closer relationships between men and women, nearly 90% of the respondents strongly disagreed or disagreed, indicating their awareness of condoms' role in preventing HIV infection.

Fourthly, the incidence of sexual intercourse among the respondents is not particularly high, and the occurrence of high-risk sexual behavior is relatively low. However, the consistent use of condoms remains inadequate. Approximately 30% of the respondents admitted to having engaged in sexual activity, all within the context of long-term relationships. Additionally, 22.22% of the respondents acknowledged having had two or more sexual partners, and another 22 respondents admitted to engaging in commercial sex.

Regarding condom use, contrary to the previously observed high level of safety awareness, only 7.55% of respondents reported using condoms "every time" during sexual intercourse, while 12.23% indicated "often" usage. Remarkably, the largest group of respondents chose "never" as their preference. When queried about reasons for using condoms, the most prevalent responses were "contraception," followed by the "prevention of sexually transmitted diseases." Conversely, when asked about reasons for not using condoms, responses indicating that condoms were "not necessary" or that their partner was unwilling to use them, along with reasons such as forgetfulness or personal preference, were significantly more common. These findings suggest that young university students' perceived level of safety awareness does not align with their actual behavior.

Lastly, the chi-square test unveiled significant differences in HIV-related knowledge, attitudes, and behaviors among young university students with varying demographic characteristics, such as sexual orientation, major, and parents' education. Additionally, the willingness to develop sexual relationships through the internet displayed a notable association with HIV-related knowledge, attitudes, and behaviors. Regression analysis indicated that internet use and dating did not influence HIV-related attitudes but exhibited a significant association with HIV-related

knowledge and high-risk behaviors. Finally, multiple regression modeling revealed that gender, sexual orientation, profession, the possibility of developing sexual relationships online, and HIV-related knowledge exerted a significant positive effect on condom use.

CHAPTER VI DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1. DISCUSSION

5.1.1. The Increasing Presence of Sexual Minorities

A total of 728 respondents were surveyed, with roughly equal proportions of men and women, albeit slightly higher representation of men (53.98%). Nearly 90% of the respondents fell within the age range of 18 to 25, comprising mostly young students (78.3%) and a significant portion holding master's degrees (18.68%). The majority of respondents (71.43%) reported not currently having any partners, while 25% were married. It is worth noting that the vast majority of respondents did not report any addiction to alcohol, tobacco, marijuana, or drugs.

Approximately 80% of the respondents hailed from urban areas and identified as Han Chinese and atheist. Regarding parental education, 80% of the respondents had parents with a high school education or lower. Additionally, 62.36% of the respondents lived with their parents until the age of 15, and nearly a quarter primarily resided with their grandparents.

Interestingly, within this sample, 11.4% identified as homosexual, 17.58% as "bisexual," 42.45% as "not fixed" or "uncertain," and only 28.57% explicitly identified as heterosexual. It is important to consider that beyond the potential influence of young students seeking novelty or deliberately choosing non-traditional options to express their individuality and fashion, objectively speaking, today's young Chinese students are increasingly influenced by ideologies such as "gender diversity" and "diversity of orientation." Unlike in the Western context, these concepts have not gained significant traction in mainstream education or family upbringing in Chinese society. As a result, the dissemination of such ideas primarily occurs online, exerting a considerable impact on the sexual education of young Chinese students. The questionnaire results indicate that a tendency towards gender and sexual orientation "pluralism" is prevalent among young Chinese students. This trend not only potentially leads to changes in marriage styles, sexual attitudes, and behavior, posing new challenges to HIV prevention and treatment, but it may also have wider

implications for the gender division of labor in society.

The chi-square and linear regression analyses revealed that sexual orientation indeed has a positive effect on sexual knowledge, attitudes, and behavior. This suggests that certain sexual minorities may have heightened awareness of their association with HIV risk. However, due to the limitations of the survey instruments and the scope of this paper, further exploration and discussion of these "sexual minorities" were not conducted. Consequently, there exists a degree of discrepancy between the follow-up questionnaire results and the actual situation. Despite this, not excluding the responses of these sexual minorities allows for the collection of valuable information about their sexual knowledge, attitudes, and behavior, thus providing some insights.

5.1.2. The Moderately Significant Influence of the Internet on Sexual Behavior

The respondents' online activities were concentrated between 3 and 7 hours, with 17.31% spending 1 to 3 hours online, 13.74% spending 7 to 9 hours online, and 8.24% spending more than 9 hours online. Only 1.37% of the respondents spent less than 1 hour online.

As of June 2022, China had nearly 1.1 billion internet users, accounting for a staggering 74.4% of the total population of 1.4 billion. This widespread internet penetration extends beyond urban areas to remote rural and mountainous regions. On average, Chinese internet users spend 29.5 hours per week online, engaging in activities such as instant messaging, accessing information, watching live broadcasts, and seeking medical care. The internet is no longer viewed as merely a supplement to real life, but rather an integral part of it. For individuals with a high level of internet dependency, their daily activities, including studies and work, revolve around the internet. In essence, the internet has become an inseparable part of their daily lives.

According to the questionnaire results, the most commonly used software by respondents includes popular chat platforms like WeChat and QQ, video

entertainment apps like Jieyin and Crypto, and online shopping platforms like Taobao and Jingdong. These applications fulfill the daily and emotional communication needs of young students. Interestingly, young students are less inclined to use dedicated dating apps, preferring to establish connections through daily interactions and self-presentation to meet their social and romantic needs. It is worth noting that there is no significant correlation between online dating and high-risk sexual behavior. Factors such as HIV risk perception and sub-HIV awareness play a more significant role in influencing condom usage among university students. Online relationships for university students are primarily an extension of their real-life connections, and they are less likely to engage in sexual activities with complete strangers online. However, the survey could not determine if respondents were more cautious when interacting with unfamiliar online friends.

The subsequent questionnaire responses support these findings. While nearly 80% of the respondents believed that the internet was helpful in finding sexual partners, an equal percentage expressed their reluctance to develop sexual relationships through online means. The reasons behind this reluctance are unclear. It could be attributed to the lack of increased privacy offered by the internet in today's transparent world, the fulfillment of their needs within their existing social networks, or their preference for more genuine and reliable offline connections. Only 29.12% of respondents reported having online friendships lasting more than three months, and among them, only 52 developed romantic relationships with their online friends.

The internet serves as a convenient resource for respondents to access sexual knowledge and erotic content, with 22.9% of respondents acquiring sexual knowledge through online sources. However, school education accounts for 32%, indicating that Chinese schools continue to prioritize sexual education, although there is room for improvement. In reality, 31.74% of respondents refrain from engaging in sexually motivated behavior, while online, this percentage decreases to 14.13%. Respondents tend to exhibit greater restraint in their offline interactions, whereas online, they are more inclined to discuss intimate topics or share pictures

with individuals of the opposite sex, regardless of their offline acquaintance.

5.1.3. Complex information in the internet age affects HIV knowledge, attitudes and behavior of young students in higher education

This study reveals that young students in higher education possess limited knowledge about HIV and demonstrate a high degree of illiteracy regarding the modes of HIV transmission. Furthermore, disparities in knowledge levels were observed based on variables such as gender, grade, and family background.

In contrast to previous research where knowledge rates surpassed 80%, the respondents in this paper exhibited a knowledge rate of only 65.37%, with the highest rate achieved for a single question being 76.3%. These findings evoke contemplation and merit further investigation. Over the past years, the prevalence of sex education, particularly HIV-related education, has been on the rise in educational institutions, society, government, and families. University campuses frequently feature HIV prevention slogans, posters, informative talks, and various related activities (refer to the details below).

However, within the context of the prevailing social ideology of "anti-discrimination," the dissemination of knowledge has shifted its focus from highlighting the dangers of HIV and imparting knowledge to young individuals to regulate their morality and behavior, towards promoting messages such as "HIV is not frightening," "HIV can be cured," and "HIV does not have a cure." Similarly, views advocating that "HIV can be cured," "HIV is not easily transmissible," and "HIV patients can lead a normal lifespan if they adhere to their medication regimen" have gained prominence. While these perspectives and knowledge are not entirely erroneous, they inadvertently diminish individuals' awareness of HIV prevention and treatment, potentially leading to an escalation in high-risk sexual behaviors.

Figure 5 AIDS prevention posters on Chinese university campuses

The prevalence of similar statements on the internet is even more pronounced, making it challenging to ascertain the authenticity of information and the interest groups involved. In contemporary China, the pervasiveness of 'sexual freedom' within society, the decreasing age at which individuals engage in sexual activity, and the rising number of multiple partners are all significant factors that contribute to the

rapid spread of HIV. These circumstances present a serious challenge to traditional ethical and moral viewpoints. While the disease itself may be seen as conservative, advocates for societal liberalism also strive to foster a more 'liberal and open' environment by emphasizing the 'preventability' of HIV.

It is crucial to recognize that simply raising awareness about HIV does not necessarily lead to a decrease in risky sexual behavior. In a sexually permissive society, rebellious teenagers may take more risks in engaging in unsafe sex due to their perception that they possess adequate knowledge about HIV. This misconception fuels their excitement and thrill-seeking behavior. Thus, the mere dissemination of information about the disease is insufficient to achieve an effective HIV response. Research has demonstrated that regardless of the awareness rate, young individuals' desire for "sexual freedom" remains unaffected.

Therefore, it becomes imperative to reinforce the moral fabric of society, promoting an understanding of the health and social issues arising from excessive liberalization. Advocacy for a proper conception of marriage and sexuality is necessary, emphasizing the importance of fostering love rather than merely indulging in sex. These measures aim to reduce the incidence of high-risk sexual behavior.

Furthermore, the internet has facilitated the emergence of new forms of sexuality, as exemplified by the following survey question: "Have you ever engaged in sexting?" This particular question received responses from 700 participants.

	Items	N	%	Cumulative Percent
Do you know Wenai (n=700)	Understand that having tried	58	8.29	8.29
	Understood, curious, but not tried yet	30	4.29	12.57
	Understood, but not	120	17.14	29.71

	interested			
	No knowledge	492	70.29	100.00

Table 46 Attitude towards the “text love”

The term "text love" is a recent internet phenomenon that refers to engaging in virtual sexual encounters through written communication. Both parties involved use this term to describe and tease each other as a means of fulfilling their sexual desires. Among the respondents, 29.71% reported being aware of the term, 8.29% admitted to having tried it, and 4.29% expressed an interest in it.

This concept shares similarities with the long-established term "nude chatting," which entails displaying naked bodies or engaging in explicit acts using video equipment and online chat tools. In this practice, individuals transmit real-time video images of their bodies or specific body parts to one another, accompanied by bold and explicit text and actions. While the Chinese authorities have taken strict measures against "nude chatting," the emerging phenomenon of "sexting" presents greater challenges in terms of tracking and providing evidence, as it has not yet been defined within relevant legal frameworks.

While "sexting" does not directly contribute to the transmission of sexually transmitted diseases, it undoubtedly reflects the ideas of "sexual openness" and "sexual freedom," thereby stimulating individuals' sexual desires and influencing their attitudes and perceptions related to sex. Consequently, it also has an impact on their actual sexual behaviors.

In today's world, as the Internet has become deeply ingrained in daily life, understanding the relationship between the internet and the spread of HIV requires examining more than just knowledge, attitudes, and behaviors. It necessitates exploring how the internet has transformed interpersonal relationships, reshaped social structures, and influenced broader social and cultural norms. These factors, in turn, deeply affect the everyday behavior of individuals in matters of love, sex, marriage, and family. Such a macroscopic investigation falls within the purview of

disciplines like economics, sociology, management, and political science. Due to limitations in length and the author's expertise, this article offers only a preliminary understanding and does not delve deeper into analysis. This presents an avenue for further research in future studies.

5.1.4. Overall HIV-related knowledge, attitudes and behaviors of young students need to be improved

A significant gap exists between knowledge, attitudes, and behaviors, often referred to as the "knowledge-behavior gap." The primary findings indicate that while knowledge is relatively comprehensive, there are evident blind spots. Attitudes towards HIV are not taken seriously, reflecting a sense of luck and a lack of strong risk awareness. Early sexual activity and multiple sexual partners are common among young students, with a high occurrence of unprotected high-risk sexual behavior.

The study revealed that a high percentage of young students correctly identified the signs of HIV infection, but their knowledge of HIV transmission routes was low. This suggests that the information young students obtain from various media sources lacks systematic, comprehensive, and comprehensive coverage of HIV and its transmission.

Furthermore, the study found that nearly 20% of young students are willing to engage in and have had multiple sexual partners. Over 70% of young students believe they are not at risk of contracting HIV. During their most recent sexual encounter, 12.18% and 9.66% of young students had sex with casual or commercial partners, and only 63.87% used condoms. Reasons for engaging in high-risk sexual behavior included forgetting to use condoms, perceiving no need for them, or having a lack of desire to use them with their partner. These findings highlight the open sexual attitudes among young students, their limited awareness of HIV risks, and a lack of self-protection. Additionally, the high level of HIV knowledge among young students does not align with their low condom usage, underscoring a clear "knowledge-practice gap." The persistence of high-risk sexual behaviors, such as

unprotected and casual sex, among young students, coupled with their disregard for the risk of HIV infection, creates a significant potential for the growth and spread of HIV within this population.

The study also observed notable variations in HIV-related knowledge, attitudes, and behaviors based on demographic characteristics, primarily grade level and field of study. Students majoring in arts and sports demonstrated lower HIV knowledge compared to those in science and technology fields. Moreover, the incidence of high-risk sexual behavior was considerably higher among arts and sports students than among science and technology students. This discrepancy may be attributed to differing educational backgrounds, curricula, and learning environments among these student groups. Additionally, junior students exhibited more positive attitudes towards HIV than senior students, and the incidence of high-risk sexual behavior was lower among juniors. These findings indicate a significant correlation between HIV awareness levels and grade level and field of study among young students.

5.1.5. Family sex education must not be neglected

The study revealed significant correlations between young students' knowledge, attitudes, and behaviors concerning HIV and parental education, as well as whether they lived with their parents before the age of 15. However, no significant correlations were found between these factors and family economic status or urban/rural differences. Respondents who resided with their parents before the age of 15 exhibited higher levels of sexual knowledge, more positive sexual attitudes, and a reduced likelihood of engaging in high-risk sexual behavior.

Left-behind children, defined as minors under the age of 16 whose parents are both working or one of them is working without guardianship, are predominantly found in rural areas or towns. These children often live with their grandparents or relatives as their parents work in distant large cities. The physical and psychological development of left-behind children has long been a critical concern in Chinese society, with the lack of sex education being just one aspect of this multifaceted

developmental issue. While the number of left-behind children in China has declined significantly over the past decade, statistics from 2019 still indicate approximately 6.97 million children left behind. It's worth noting that children in urban areas also experience similar circumstances, with their parents frequently occupied with work and relying on grandparents or specialized caregivers for support, such as transportation, cooking, and academic guidance. The parent-child relationship in families with left-behind children often exhibits distance or strain, resulting in unfulfilled emotional needs during adolescence and a heightened compensatory psychology in adulthood, which can contribute to engaging in high-risk sexual behavior.

Traditional Chinese culture maintains a relatively conservative stance on discussing "sex" openly in public, and even within families, sex-related topics are seldom addressed among members. The absence of sex education between parents and children has been a longstanding issue. In recent years, Chinese parents have gradually recognized the importance of sex education for their children. However, standardized training on teaching children about sex is lacking, leaving most parents to navigate this subject on their own. It is essential for parents to acknowledge that children as young as three years old begin to develop sexual awareness. Hence, parents should provide their children with the necessary knowledge to comprehend sex better and establish appropriate rules and boundaries. Consequently, home-based sex education cannot be overlooked, and parents must undergo training in this field.

5.2. CONCLUSION

The findings of this study indicate a growing openness among young university students towards sexual attitudes and behavior. However, this shift is not attributed to improved sex education or knowledge, and consequently, there is an increasing risk of HIV infection. Therefore, the situation for young university students is deemed critical. Due to privacy concerns surrounding HIV prevention and treatment, significant

obstacles arise in obtaining information from respondents, providing education and publicity, as well as conducting testing and treatment. Throughout the questionnaire administration, the author observed two prominent phenomena: inconsistent answers from respondents and their frequent refusal to address certain questions, leading to biased questionnaire results.

Moreover, further detailed investigation is required to determine the impact of the internet on young university students' knowledge, attitudes, and behaviors related to HIV. Initial findings suggest that the internet can exert both positive and negative influences. However, this paper did not extensively explore how it ultimately affects the sexual behaviors of young university students, as limited paper length and research time posed constraints.

This study's strength lies in highlighting the paradoxical "inconsistency of words and deeds" among young university students, alongside discussing the influence of online social networking on their HIV-related knowledge, attitudes, and behaviors. However, the study has not sufficiently explored or analyzed these two aspects, which constitutes a limitation. In future research, the author intends to optimize the questionnaire to delve into respondents' underlying motivations for their "inconsistent words and deeds" and their genuine thoughts. Additionally, more effective research methods and tools will be employed to analyze the influence of young university students' online social networking on their sexual behaviors.

5.3. RECOMMENDATION

5.3.1. Response recommendations focus on key populations to reduce the incidence of high-risk sexual behavior

This study revealed significant variations in HIV-related knowledge among young students based on gender, grade level, and major. The analysis results indicate that male students had a considerably higher awareness rate compared to female students, but also a significantly higher incidence of high-risk sexual behavior. Boys exhibited a more pronounced "separation of knowledge and behavior" than girls. This

disparity may be attributed to the greater curiosity and higher sexual drive of male students, leading them to prioritize sexual knowledge. Concerning grade levels, freshmen displayed the lowest awareness rate, whereas seniors exhibited a higher awareness rate, suggesting that sex education efforts in colleges and universities have yielded some positive outcomes. In terms of majors, science and technology students, particularly those in medical programs, demonstrated the highest awareness rate. Humanities students ranked second, while art and sports students had the lowest awareness rate. This discrepancy may arise from the technically focused curriculum of art and sports students, which places less emphasis on cultural and sexual aspects, thus contributing to a higher incidence of high-risk sexual behavior among them.

To address key populations with low sexual knowledge and a high prevalence of high-risk sexual behaviors, it is crucial for the government, community, schools, and families to implement targeted education and observation methods, increase interventions for these populations, and encourage regular HIV testing. Although this paper does not specifically examine sexual minorities such as MSM, various studies have shown that MSM constitute a high-risk group in terms of sexual behavior and susceptibility. To tackle issues related to perceived identity distress in the sexual orientation of contemporary young students, as well as the social acceptance and resulting psychological problems faced by MSM groups, universities should offer relevant mental health counseling interventions. These interventions aim to alleviate cognitive anxiety, regulate sexual attitudes and behaviors, and foster a supportive environment.

Educating young people can be challenging due to their strong and diverse personalities, as well as their sensitivity. Particularly in the sensitive areas of mental health and HIV prevention education, staff members must strive to bridge the psychological distance with young students and create a relaxed and caring atmosphere. They should leverage the advantages of peer education, complemented by other educational tools, and develop engaging activities that resonate with young people. Utilizing lively and innovative communication methods,

they can effectively impart knowledge and ideas to students. Additionally, offering a variety of extracurricular activities can divert students' attention, channel their energy, and foster positive social circles. This holistic approach helps young individuals develop a correct, positive, and optimistic attitude towards academic pursuits and life, thereby mitigating excessive engagement in "sex" and preventing high-risk sexual behavior from its root cause.

5.3.2. Strengthen HIV prevention education and increase HIV awareness

While schools continue to play a vital role in providing sexuality education to young students, the growing influence of online media in this realm cannot be disregarded. Specifically, the internet's fast information dissemination and easy access have significantly contributed to meeting the sexual needs of young students in various aspects. Compared to traditional classroom teaching or face-to-face lectures, online media's privacy can help alleviate students' embarrassment and better protect their private information. However, it is crucial to consider the dual nature of online information dissemination. On one hand, the internet effectively enhances young students' HIV knowledge by facilitating access to relevant information. On the other hand, the fragmented nature of online information, coupled with the lack of supervision and verification, may result in low authenticity and authority, potentially reinforcing misconceptions about HIV among young students.

Consequently, effective government monitoring of online information is necessary, as are efforts from professional and authoritative organizations to utilize online channels for promoting HIV prevention and treatment knowledge. In recent years, some schools have started utilizing online media platforms to deliver diverse forms of HIV prevention and treatment courses, yielding relatively positive outcomes. Moreover, attempts have been made to incorporate these courses into students' performance assessments. However, these courses are currently limited to university settings and are not truly open online courses. Renowned online platforms like MOOC, which feature excellent courses from top Chinese universities such as

Tsinghua University, Peking University, Nanjing University, Renmin University of China, and Sichuan University, provide a means of sharing educational resources through online lectures and expanding the educational horizons of Chinese university students. Including HIV prevention and treatment courses on prestigious platforms like MOOC would allow young students nationwide to participate in the learning process.

It is essential to recognize that the promotion of HIV prevention and control necessitates collective societal engagement. The influence of a single school is limited, and optimal publicity effects cannot be achieved through education within a few schools alone. By utilizing online platforms, information sharing can be facilitated, fostering an environment where society as a whole prioritizes HIV prevention and control. This approach will assist students in developing a more accurate attitude towards sex.

5.3.3. Building authoritative media platforms and enhancing government guidance

In the era of self-media, where virtually everyone serves as a conduit for information dissemination, the threshold for sharing information on the internet is remarkably low. Consequently, ensuring the objectivity, authority, and authenticity of information becomes challenging. Therefore, it is imperative for government agencies and relevant medical organizations to establish a scientifically grounded and authoritative platform for science popularization. This entails harnessing the potential of online media information dissemination while addressing and mitigating its inherent limitations.

While some official platforms for HIV prevention and treatment exist in China, their information dissemination methods remain rooted in traditional paper-based communication, lacking appeal and interactivity. Consequently, these platforms receive minimal attention from young students and fail to achieve their intended impact in terms of publicity and education. Online information dissemination offers

advantages such as speed and versatility, effectively capturing the attention of diverse audiences. In contrast to traditional print media and official websites, private media messages can be visually captivating, incorporating elements such as images, music, videos, and humorous expressions, making them engaging and interactive. However, uncritical and unserious depictions, along with accompanying music, can lead to misconceptions among viewers, thus distorting the original purpose of communication. Therefore, while capitalizing on the entertainment value, online media must prioritize the objectivity and rigor of information, particularly when disseminating popular science information that requires a certain level of seriousness.

It is vital for online media to recognize the significance of purifying information on the internet. Prior to dissemination, falsehoods must be identified and removed, ensuring the veracity of shared content. Nevertheless, relying solely on the self-awareness of online media is insufficient; the government must assume a supervisory and corrective role. This article advocates for the establishment of a government-supervised sex education network, led by universities and facilitated by online media, with the active participation of society as a whole. Such a network should emphasize authority, enjoyment, rigor, and interactivity. By doing so, it will cultivate the enthusiasm of young students, enhance their understanding of sexuality, and help them develop accurate attitudes and behaviors.

5.3.4. Strengthening parental training in family sex education methods

Grassroots government organizations, primary and secondary schools have the opportunity to implement a range of lectures or training courses to enhance parental awareness of sex education and educate them on effective approaches to sex education within the home. Alternatively, establishing counseling rooms that provide parents with readily available advice can be considered. It is crucial to establish effective channels of communication with parents and intervene in families where issues arise. Leveraging the Education Digitalization Strategy initiative, national primary and secondary school platforms can facilitate the creation of public interest online

parenting schools and courses. This enables parents to access information on their children's psychology, development, and educational principles at any time and from anywhere, facilitating the cultivation of a scientific understanding of family education and practical methods.

Furthermore, counseling rooms can be promoted through government-funded services, extending their reach into communities. By utilizing public service facilities in urban and rural areas, tangible on-site family service guidance can be provided, offering parents convenient, face-to-face, scientifically grounded, and diverse family education services. Additionally, emphasis should be placed on enhancing the professional development of family education guidance service teams. The establishment of a "four-in-one" team, led by experts and supported by teachers, parents, and volunteers, can be pursued. This team brings together theoretical knowledge, professional skills, and practical experience, enhancing the theoretical understanding, knowledge base, guidance capabilities, and practical expertise of family education guidance personnel.

Tailored service solutions should be devised to address specific challenges, common problems, and parental concerns in family education across different urban and rural areas and socio-economic classes. Simultaneously, while providing precise and personalized solutions, it is essential to summarize and refine classic cases and solutions to common issues. This includes establishing age-specific and categorized family records, strengthening targeted guidance, and maximizing the effectiveness of parenting support.

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APPENDIX

APPENDIX 1: QUESTIONNAIRE

Revision of questionnaire

The purpose of this questionnaire is to understand the knowledge, behaviour and attitude of the young student population in relation to sexual behaviour and HIV, to explore suitable HIV prevention programs for young students and to protect the health of university students. This questionnaire is anonymous and there is no need to write your name or class. What we desire is your sincere response. It does not matter whether the answers to the questions are correct or not, as long as they are true to your personal situation. The entire content of the questionnaire will be kept confidential and the data will be entered into a computer for statistical analysis. Although the data analysis is focused on young students as a group rather than an individual, we promise you that your privacy will be strictly protected and that no non-programme staff will have access to the data and information. Thank you for your cooperation and participation in this survey!

I. Personal information

1. What is your gender? [Multiple choice] *

○Men

○Women

2. Grade level [multiple choice] *

○ Freshman year

○Sophomore year

○Third year

○Fourth year

○Masters students

○PhD student

o Other (please fill in) _____ *

3. you are from [optional] *

Tier 1 cities: Beijing, Shanghai, Guangzhou, Shenzhen, Chengdu, Hangzhou, Chongqing, Xi'an, Suzhou, Wuhan, Nanjing, Tianjin, Zhengzhou, Changsha, Dongguan, Foshan, Ningbo, Qingdao, Shenyang

Note: If you were born and raised in more than one city, fill in the last city you lived in before going to university.

○Tier 1 cities (see instructions for completion)

○Other provincial capitals or large cities (population 1 million or more)

o Medium-sized cities or counties (population 500,000-1,000,000)

o Small cities or counties (population under 500,000)

○Rural

○Foreign _____

4. your sexual orientation? [Multiple choice] *

○Gay

○Bisexual

o Heterosexual

○Variable

○Uncertain

5. Your marital status? [Multiple choice] *

o Unmarried, never been in a relationship

o Unmarried, in a relationship, currently truly single

o Unmarried, with a regular lover and faithful to the partner

o De facto marriage or cohabitation

o Married and faithful to the marriage

o Married but also having an extramarital affair or sex outside of marriage

o Divorced and no sexual partner

o Unmarried, no regular lovers, but have sexual partners from time to time

o Divorced and with only one stable sexual partner

o Divorced and had multiple sexual partners over a long period of time

6. religious beliefs [multiple choice] *

○Atheist

○Christian, Catholic or Orthodox

○Buddhism

○Daoism

○Islam

○Other (please fill in) _____

7. nationality and ethnicity [multiple choice] *

○Chinese ethnic group (Han Chinese)

○Chinese ethnic groups (55 other minorities) _____

○Non-Chinese but East Asian yellow

○Not a Chinese nation nor a yellow East Asian race

8. Your profession (please fill in) [Multiple choice] *

○Medical Sciences

○Polytechnic

○Arts and Sports

○Humanities and Social Sciences (including Economics and Management)

○Other _____

9. Your average monthly living expenses (in RMB) [Single-choice] *

○Under $1000

○$1000-1500

○$1501-2000

○2001-3000RMB

○$3001-4000

○4001-6000RMB

○$6000 or above

10. father's education [Single-choice] *

○ Primary and below

○Junior High School

○High School

○Tertiary

○University student

○Masters students

○PhD students

11. mother's education [Single-choice] *

○ Primary and below

○Junior High School

○High School

○Tertiary

○University student

○Masters students

○PhD students

12. Which family member did you live mainly with until the age of 15? [ONE CHOICE] *

○Living with parents

○Lives with mother

○Living with my father

o Living with C or

○Living with relatives or others

○Living on your own

○Living in a welfare institution

13. have the following habits: [multiple choice] *

To determine if you have a drinking habit: average daily intake of more than 750 ml of beer, or 250 ml of wine, or 75 ml of 38 proof white wine, or 50 ml of 50 proof white wine

☐ Smoking (10 or more cigarettes per day)

☐ alcohol consumption (see fill in the prompt)

☐ Smoking drugs such as cannabis

☐ Psychotropic drug dependence

☐ Other addictive behaviours _____

☐ None of the above habits

II. Risk perception of HIV infection

14. Please answer each of the following questions: [matrix single-choice] *

	Yes	No	No
Can a person with HIV be seen from the outside?	○	○	○
Can I get HIV by eating with someone who is infected or sick with HIV?	○	○	○
Can mosquito bites transmit HIV?	○	○	○
Can I get HIV if I give blood with HIV?	○	○	○
Is it possible to get HIV from sharing a syringe with someone who is infected with HIV?	○	○	○
Is it possible for a child born to an HIV-infected woman to get HIV?	○	○	○

Can correct condom use reduce HIV transmission?	○	○	○
Can having sex with only one partner reduce the spread of HIV?	○	○	○

15. Please answer the following questions to the extent that you agree with them [Matrix Single Choice] *

	Couldn't agree more	Relatively agree	Neutral	Rather disagree	Strongly disagree
I think the more intimate a relationship is, the less condom use is needed	○	○	○	○	○
I don't think there is anything wrong with lovers having pre-marital sex	○	○	○	○	○
I don't think there's anything wrong with a single person having sex with someone they like	○	○	○	○	○
I don't think there's anything wrong with a single person having	○	○	○	○	○

sex with another person to satisfy a physical need					
I think it is acceptable to have two or more sexual partners at the same time	○	○	○	○	○

16. In the last year, have you received or participated in any awareness services about HIV prevention? [Multiple choice] *

○Yes

○No

17. Your knowledge about HIV comes mainly from [multiple choice]*

☐ Family

☐ School

☐ Friend or classmate

☐ brochures from government or neighbourhood councils or properties

☐ TV, Radio

☐ newspapers, magazines

☐ Network

☐ Books purchased

☐ Other (please fill in) _____

III. Information on social and sexual behaviour (this section will involve some private questions and you have the right not to answer them. However, in order to obtain the most truthful information, we sincerely hope that you will answer and we will protect your privacy)

Before answering this part of the question, please read the following instructions carefully.

Netflix: simply refers to the way in which you and the other person first met. You have never had any contact with the other person in real life before you met them.

Sexual partner:refers to someone with whom you have had sexual intercourse (vaginal, anal, oral).

Regular partner: A spouse who is married or lives with someone of the opposite sex, regardless of the length of the marriage or cohabitation.

Commercial partner: A sexual partner who has traded money or goods for sex.

Same sex partner: A person of the same sex who has had sexual intercourse with him/her.

Temporary sexual partner: A heterosexual partner other than those listed above, i.e. a non-commercial, non-regular sexual partner, a heterosexual partner who occasionally has a sexual relationship that is not commercial, such as a one-night stand.

18. Number of hours you spend online per day (except for Internet classes): [Single-

choice] *

○Under 1 hour

○1-3 hours

○3-5 hours

○5-7 hours

○7-9 hours

○9 hours or more

19. You often use the following internet software: [multiple choice] *

☐ WeChat, QQ and other chatting software

☐ Video software such as ShakeYin and Racer

☐soul, stranger and other dating apps

☐ Jingdong, Taobao, Jindo and other shopping software

☐ Weibo, Zhihu, twitter and other social forums

☐ Other (please fill in) _____

20. Have you ever done any of the following in reality? [Multiple choice] *

In reality, this means using your real name or being able to let your friends and family know it is you, and is not limited to a physical shop or physical environment.

Example: Following and following a Twitter account that contains friends close to you is real.

☐ Search for sexual knowledge

☐ watching erotic novels or videos, movies, etc.

☐ Purchase of sex toys (condoms, pills, etc.)

☐ Looking for casual sex partners

☐ Search for a specialist or institution that treats STDs

☐ Other sex-related information or activities (please complete) _____

☐ None of the above

21. Have you ever done any of the following on the Internet? [Multiple choice] *

In the internet, this refers to the use of non-real identities such as pseudonyms and virtual accounts, which do not lock you in by those around you.

☐ Search for sexual knowledge

☐ watching erotic novels or videos, movies, etc.

☐ Purchase of sex toys (condoms, pills, etc.)

☐ Looking for casual sex partners

☐ Search for a specialist or institution that treats STDs

☐ Other sex-related information or activities (please complete) _____

☐ None of the above

22. Do you have any online friends of the opposite sex (who have been seeing each other for more than 3 months)? [Multiple choice] *

○Yes. Number of people _____

○No (Please skip to question 26)

23. Do you communicate with people of the opposite sex online in a relaxed and casual way? [Single question] *

○Strongly agree

○Rather agree

○Neutral

○Rather disagree

○Strongly disagree

24. Have you ever shared a conversation about sex with a friend of the opposite sex online? [Multiple choice] *

○Yes

○No

25. Have you ever sent a picture of your private parts to an Internet friend of the opposite sex, or to a person who sent you a picture of your private parts? [Multiple choice] *

○Yes

○No

26. Have you ever developed a boyfriend or girlfriend with an online friend of the opposite sex? [Multiple choice] *

○Yes. Number of people _____

○No

27. do you know anything about "love"? [Multiple choice] *

o Understand that having tried

o Understood, curious but not tried yet

○Knowledgeable, but not interested

○Unaware of

28. Please answer the following questions as you really think they should be answered. [Matrix Single Choice] *

	Couldn't agree more	Relatively agree	Neutral	Rather disagree	Strongly disagree
Do you feel more comfortable and casual communicating online, even if you already know the opposite sex in reality?	○	○	○	○	○
Do you feel that the internet has facilitated people to find sexual partners and develop sexual relationships?	○	○	○	○	○
Do you feel that the internet has given you the opportunity to communicate and get to know the people around you better, and has given	○	○	○	○	○

you the possibility to develop sexual relationships?					
Do you feel that the internet has enriched your horizons and allowed you to better understand and integrate into the society of today?	○	○	○	○	○
Do you feel that networking has helped you to find more like-minded people?	○	○	○	○	○

29. have you done any of the following? [Matrix radio question] *

	Yes	No
You have shared sex-related topics in real life (in person) with someone you know in real life of the opposite sex	○	○
You have shared sex-related topics online with someone of the opposite sex that you know in person	○	○
You have shared pictures of exposed parts or sexually suggestive images face to face with someone you know in person	○	○
You have shared sexually explicit images or sexually suggestive	○	○

images online with someone you know in person		

30. have you ever had sex? [Multiple choice] *

○There are

○No (Please skip to question 52)

○Unsure what sexuality is

31. How old were you when you first had sex? [fill in the blank] *

_____

32. how long had you been involved with the other person before the first sexual encounter? [Multiple choice] *

○Six months or more

○3-6 months

○1 to 3 months

○1 week~1 month

○1 week or less

33. Where did you and the person you first had sex with meet? [Multiple choice] *

○On the internet (please fill in the specific social networking software) _____

o Classmates and colleagues

○Work-related formal situations (e.g. through business negotiations, participation in academic conferences, English language training, etc.)

○Meeting at entertainment venues or on trips (please fill in) _____

○Other casual acquaintances (please fill in) _____

34. you have had two or more sexual partners at the same time [multiple choice] *

○Yes

○No

35. As of today, how many people have you had sex with in total? (not including commercial sex) [ONE CHOICE] *

○0

○1

○2-4

○5-10

○11-20

○21-40

○41-60

○61-99

○100 or more

36. As of today, how many people have you had sex with in total? (including commercial sex) [Single question] *

○0

○1pc

o2-4

o5-10

o11-20

○21-40

○41-60

o61-99

○100 or more

37. How many people do you have sexual relationships with at the same time (other than formal lovers or spouses.) ? [ONE CHOICE] *

○Other

○More than 4 in addition to spouse

○There are 2-4 in addition to the spouse

o 1 in addition to spouse

○Only spouse

38. In the last three years, who have you been sexually active with mainly? [Multiple choice] *

☐ Not having any other sexual partners. Only formally open, sighted lovers or spouses

I am celibate and have never had sex with anyone in the last three years

☐ classmates, colleagues, teachers, students, relatives

☐ regular "fuck buddies" or regular sexual partners (physiologically oriented, less emotionally involved) _____

Temporary "fuck buddies" or casual sex partners (physical oriented, less emotionally involved)

Lovers other than spouses and formal lovers

☐ Purchase of commercial sex

39. Has your sexual behaviour in the last two years involved money (including cash and obviously expensive gifts) [ONE CHOICE] *

○Yes, I pay the other side

○Yes, the other party pays me

○No

40. Where did you meet the main person you had sex with in the last two years? [Multiple choice] *

☐ On the internet (please fill in the specific social software, games count too)

☐ acquaintances in life or classmates who have shared a common schooling experience

☐ met in a work-related context (e.g. colleagues, or at a career-related business event, academic conference, etc.)

☐ met during recreation or travel (please fill in) _____

☐ other casual acquaintance (please fill in) _____

☐ Other _____*

Dependent on options 3;4;5;6;7 of question 38

41. why did you have sex with the other person? [Multiple choice] *

☐ We are officially lovers/couple and it's normal

☐ Not a spouse or official lover, but have a crush on each other that is difficult to control

☐ not a spouse or lover, looking for excitement and solving a physical need

☐ Either spouse or lover, very suddenly, or on a whim

☐ Not a spouse or lover, other reasons _____

42. Have you had a long term (more than 3 months) sexual relationship with someone of the opposite sex other than a lover or spouse? [ONE CHOICE] *

○Yes. Number of people _____

○No

43. Have you known someone of the opposite sex, other than a lover or spouse, for no more than 3 months and had at least one sexual relationship? [Multiple choice] *

○Yes. Number of people _____

○No

44. How long have you had sexual relations with someone of the opposite sex who is not your lover/spouse, after you met them? [ONE CHOICE] *

○Six months or more

○3-6 months

○1 to 3 months

○1 week - 1 month

○1 week or less

Dependent on option 1 of question 42, option 1 of question 43

45. please self-assess your own sexual desires [multiple choice] *

○Very light ○Rather light ○General ○Stronger ○Very strong

46. please self-assess your sexuality [multiple choice] *

○Very weak ○Weak ○General ○Stronger ○Very strong

47. Are you more worried that you will not be able to satisfy the other person, or that the other person will not be able to satisfy you? If you have had a sexual relationship, please answer in relation to the actual situation. If you have not had even one sexual relationship, please answer in relation to your philosophy or ideas.

[Multiple choice] *

o More worried about not being able to satisfy the other person and blaming themselves more

o More worried about the other person not being able to satisfy themselves and complaining about the other person more

o Worried about both, either having low self-esteem and self-loathing after sexual dissatisfaction or blaming the other person for incompetence

ONot worried about either of these and won't let sexual issues change the relationship.

o Other _____ *

48. how often do you use condoms [multiple choice] *

OEvery time

OFrequently used

OOccasional use

ORarely used

ONever use

49. What is the purpose of your condom use? [Multiple choice] *

☐ Contraception

☐ STD prevention

☐ HIV prevention

☐ Health

☐ The other party requests the use of

Relies on options 1;2;3;4 of question 48

50. When you did not use a condom, what was the reason? [Multiple choice] *

☐ Not available for purchase

☐ Too expensive

☐ Not necessary

☐ Already on the pill

☐ I do not want to use

☐ The other party is not willing to use

☐ Forget to use

☐ Other _____

Dependent on question 48, options 2;3;4;5

51. What other protective measures have you tried besides condoms? [Multiple choice] *

☐ In vitro ejaculation

☐ having sex during safe periods

☐ Plugs that melt when inserted, liquid condoms, etc.

☐ IUD or ligation

☐ None of the above, condom only

☐ Other _____*

IV. HIV testing

52. Do you consider yourself to be in a high-risk group? [Multiple choice] *

○Yes

○No

○Unknown

53. would you be willing to seek counselling and testing services after risky sexual behaviour [multiple choice] *

○Yes

○No

○Unknown

54. If you met someone you felt good about in reality and you wanted to develop a sexual relationship with them, would you prefer to rely on online chatting (e.g. WeChat) for this purpose? How likely would you be? (The higher the score, the more likely you are to "flirt" online; e.g. you think you would be more likely to say certain things online) [Multiple choice] *

○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 o 10

55. If you were to "flirt" with someone to successfully develop a sexual relationship, do you think it would be more useful to chat online or face-to-face? [Multiple choice] *

○Web chat is more useful

○Face to face is better

○All similar

56. How do you prefer to be tested for HIV? [Multiple choice] *

○Go to the hospital or the CDC

○Buy your own test strips

○Other _____

57. The results of your most recent test were: [ONE CHOICE]

○Negative (Please skip to question 59)

○positive (Please skip to question 58)

○No test (Please skip to question 59)

58. How did you become infected with HIV? [Multiple choice] *

○Sexuality

○Mother-to-child transmission

○Drug use

○Medical malpractice

o Accidental contact with a person with HIV or an object with HIV

○Other _____

59. In terms of sensory pleasure alone, do you feel that [multiple choice] *

○Feeling better without a rubber condom during sex.

o Use a rubber condom during sex for a better feeling.

OIt's pretty much the same whether you use it or not

60. Your attitudes and experiences of 'spouse swapping' are: [multiple choice] *

o Have tried it, feel good about it and intend to continue.

o Have tried it and felt good, but don't take to keep trying.

OAlready tried, felt bad, not going to try

OI have tried it and it feels average, whether I try it in the future is up to me.

OVery exciting, very desirable, not ruling out trying it.

OThis is very corrupting and should never be attempted.

61. your experience of 'group sex' is: [multiple choice] *

o Tried and tested and often.

o Tried, but rarely.

o Haven't tried it.

62. your views on group sex are: [multiple choice] *

o Very exciting. Very yearning. Loved it.

oWith or without.

OExtremely bad, never try it.

63. Do you think that the variety of online social networking software or avenues that are available today give people the opportunity to find a sexual partner: [ONE CHOICE] *

Little to no increase in effective opportunity	O1	O2	O3	O4	O5	Very good at increasing the chances of being effective

64. Would you like to use the power of the internet to develop sexual relationships for yourself? [Single question] *

OWilling

OUnwilling

65. your age [multiple choice] *

O18-20 years old

O21-25 years old

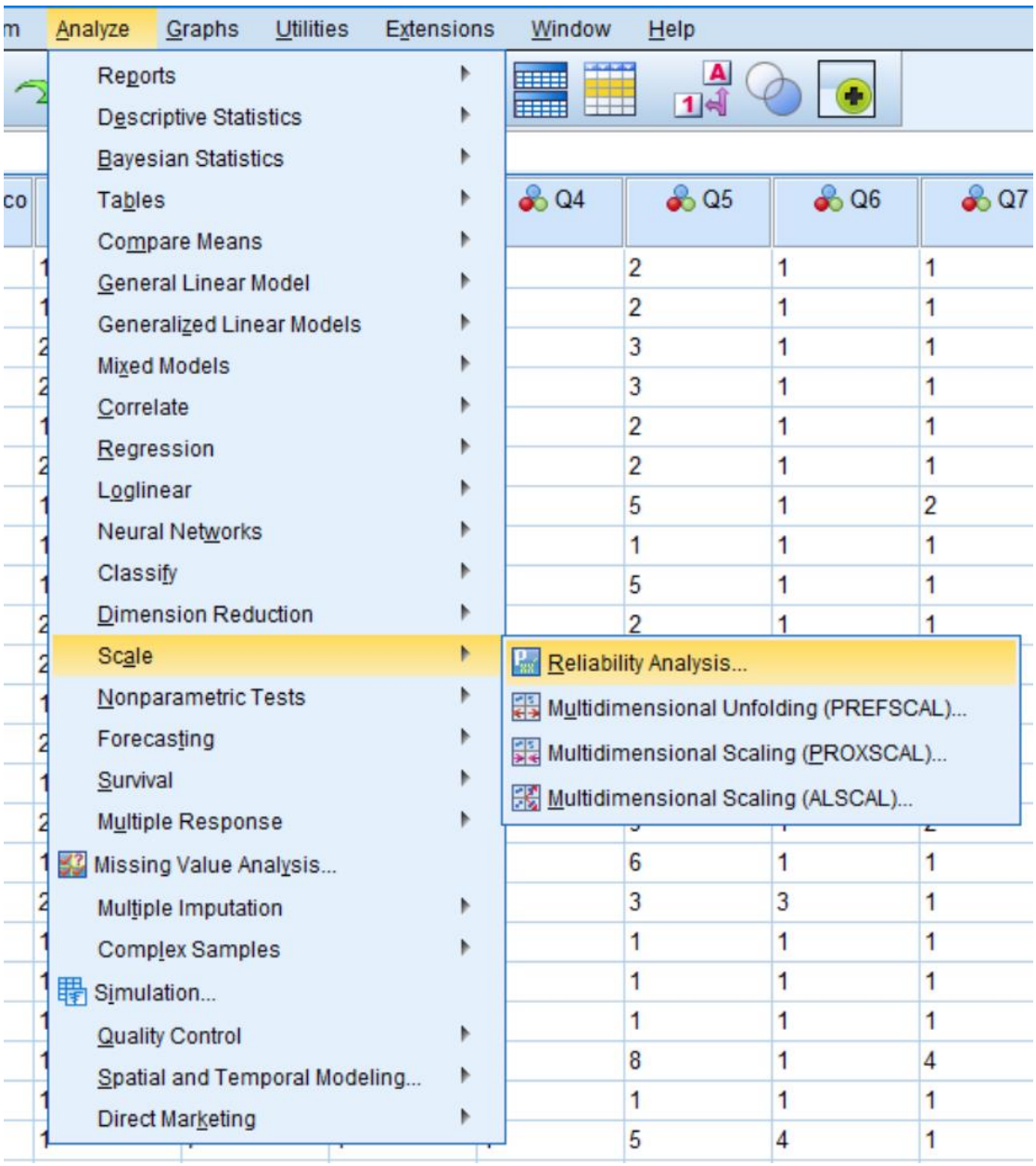
O26-30 years old

○31-35 years old

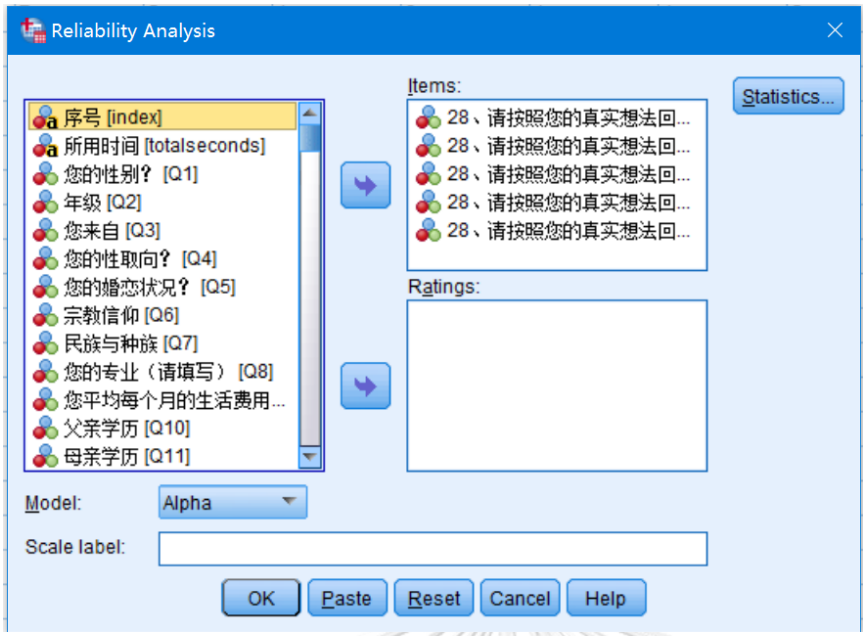
○Over 35 years old

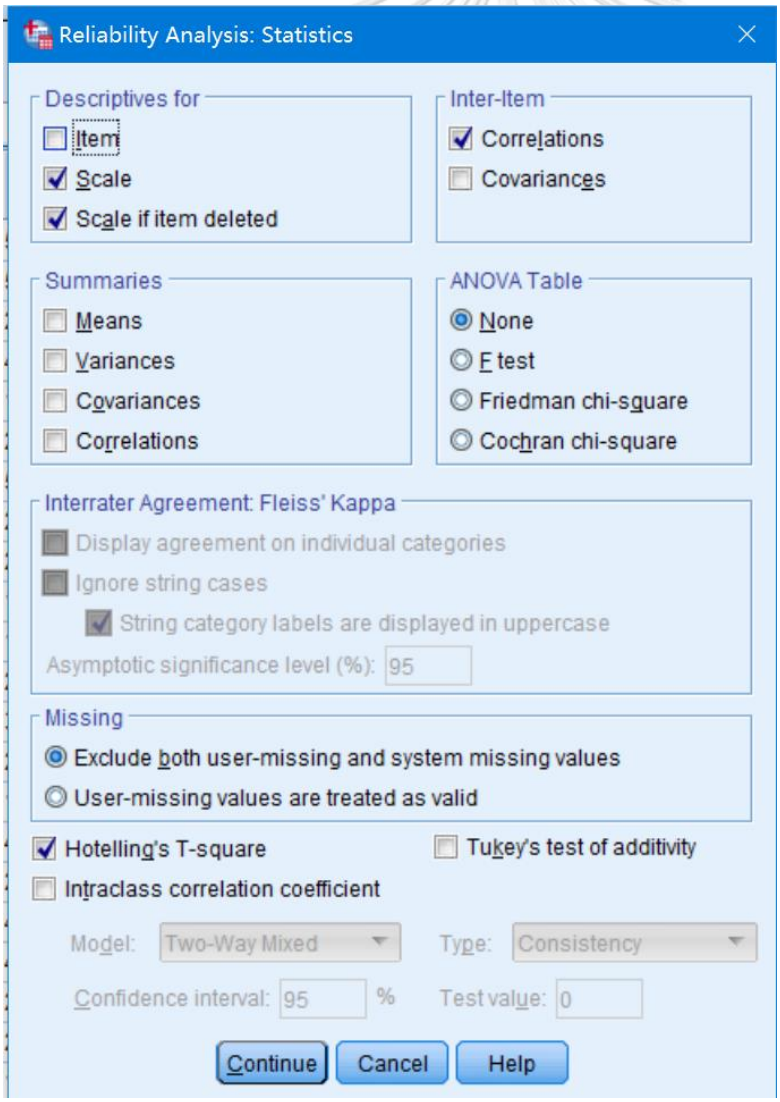
APPENDIX 2: STEPS OF RELIABILITY TEST

Step1: Analyze Reliability Analysis



Step2: Select at least two scale questions. Question 28 of the questionnaire is a set of combined scale questions (see questionnaire) with five questions that can be used for reliability testing.


Reliability Analysis
序号 [index]
所用时间 [totalseconds]
您的性别？ [Q1]
年级 [Q2]
您来自 [Q3]
您的性取向？ [Q4]
您的婚恋状况？ [Q5]
宗教信仰 [Q6]
民族与种族 [Q7]
您的专业（请填写） [Q8]
您平均每个月的生活费用...
父亲学历 [Q10]
母亲学历 [Q11]
Items:
28、请按照您的真实想法回...
28、请按照您的真实想法回...
28、请按照您的真实想法回...
28、请按照您的真实想法回...
28、请按照您的真实想法回...
Statistics...
Ratings:
Model:
Alpha
Scale label:
OK
Paste
Reset
Cancel
Help


Reliability Analysis: Statistics
Descriptives for
Item
Scale
Scale if item deleted
Inter-Item
Correlations
Covariances
Summaries
Means
Variances
Covariances
Correlations
ANOVA Table
None
F test
Friedman chi-square
Cochran chi-square
Interrater Agreement: Fleiss' Kappa
Display agreement on individual categories
Ignore string cases
String category labels are displayed in uppercase
Asymptotic significance level (%):
95
Missing
Exclude both user-missing and system missing values
User-missing values are treated as valid
Hotelling's T-square
Tukey's test of additivity
Intraclass correlation coefficient
Model:
Two-Way Mixed
Type:
Consistency
Confidence interval:
95
%
Test value:
0
Continue
Cancel
Help

Stpes3： Results were obtained. Cronbach's alpha > 0.8 and the questionnaire passed the reliability test.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.809	.811	5

APPENDIX 3: ADMINISTRATION AND TIME SCHEDULE

Research process	Spet. 2021-July 2023							
	2021	2022				2023		
	Sept-Dec	Jan-Mar	April-June	July-Spet	Oct-Dec	Jan-Mar	Apri-June	Jul
Literature Review								
Writing Proposal								
Proposal Examination								
Ethical Review								
Data Collection								
Data Entry & Analysis								
Writing Full Report								
Writing Manuscript								
Thesis Examination & revision								

APPENDIX 4: BUDGET ESTIMATION

No	Item	Price (THB)	Quantity	Total
1	Travelling expenses	5,000	1	5,000
2	Expert Consultation Fee	3,000	5	15,000
3	Ethical review fee	1,000	1	1,000
4	Website usage fee	2,000	1	2,000
5	Participants' souvenirs	20	780	15600
Total				38600

VITA

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