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To cite this article: Zhenchao Hu, Haocan Sun, Haixu Liang, Wenzhen Cao, Jia Yi Hee, Yan Yan & Kun Tang (2022): Pornography Consumption, Sexual Attitude, and Condomless Sex in China, Health Communication, DOI: [10.1080/10410236.2022.2156738](https://doi.org/10.1080/10410236.2022.2156738)

To link to this article: <https://doi.org/10.1080/10410236.2022.2156738>



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Pornography Consumption, Sexual Attitude, and Condomless Sex in China

Zhenchao Hu^{a,b,*}, Haocan Sun^{c,*}, Haixu Liang^d, Wenzhen Cao^{a,e}, Jia Yi Hee^a, Yan Yan^f, and Kun Tang^g

^aVanke School of Public Health, Tsinghua University; ^bFaculty of Social Sciences, KU Leuven; ^cSchool of Journalism and Communication, Beijing Normal University; ^dSchool of Public Health, Xiamen University; ^eDepartment of Information Management, Peking University; ^fThe Fitting Piece

ABSTRACT

Studies have found that pornography consumption is associated with a higher likelihood of having condomless sex. Past research was primarily conducted with Western populations from developed countries. Consequently, less is known about sexual and reproductive health in developing countries and regions. A national sample of 11,957 university-level students was used to investigate the association between pornography consumption, sexual attitudes, and condomless sex. Our findings suggest that a higher frequency of pornography consumption is associated with an increased likelihood of having condomless sex and more positive attitudes toward premarital sex and one-night stand.

Introduction

The World Health Organization (WHO) highlighted the importance of strengthening the sexual and reproductive health and rights (SRHR) of adolescents and young adults, and considerable progress has been made to promote universal access to SRHR worldwide (Plesons et al., 2019). During college, as emerging adults, many students start to experiment sexually and have sexual encounters. However, their sexual knowledge of contraceptive use is poor and inadequate (Huang et al., 2012; Jiang et al., 2001; Lin et al., 2006; Lu et al., 2006). Consequently, there is an increased prevalence of sexually transmitted infections (STIs) among college students in China (Zhao & Wang, 2012). Although STIs can effectively be prevented through consistent condom use (International Planned Parenthood Federation, 2019; World Health Organization, n.d.), the proportion of risky sex in China remains high (Ge et al., 2015; Zhao & Wang, 2012). In addition, as a result of the lack of sex-related knowledge among college students, students often fail to get treatment for STIs in time (Zhang et al., 2017), exacerbating the harm of risky sex.

Published studies have demonstrated a positive relationship between pornography consumption and condomless sex, indicating that exposure to sexually explicit media (i.e., pornography) serves as a risk factor for sex without condoms (Mahapatra & Saggurti, 2014; Sinković et al., 2013; Tan, 2008). However, with the growing use of the internet and social media (Liang et al., 2019), accessibility to sexually explicit material such as pornography is increased (Allen, 2006; Goldstein, 2019; Hesse & Pedersen, 2017; Wolak et al., 2011). Wright (2011) proposed a multi-component perspective for the effect of mass media on sexual behaviors and constructed a 3 AM sexual script model (Acquisition, Activation, Application) to explain the effects. The 3 AM model mainly asserts that humans observe depicted acts performed in sexually explicit media, and eventually recreate the acts according to the existing sexual scripts inscribed during pornography viewing (Wright,

2011). In addition, Wright (2011) posits that this process is iterated through repeated consumption. This idea lays the theoretical foundations for understanding the association between pornography consumption and condomless sex as a leading theory (Tokunaga et al., 2020) and among emerging adults (Wright, 2021c).

Current studies examining the relationship between porn consumption and condomless sex are predominately conducted in Western populations (Tokunaga et al., 2020). Wright (2018) has called for similar studies to be conducted across various races, countries, and sociosexual contexts. Although pornographic viewing is common among Chinese college students (Li & Li, 2015; Mo et al., 2017; Wei, 2016), the relationship between pornography consumption and condomless sex is not well-studied. Therefore, the main objective of the present study is to examine the relationship between pornography consumption and condomless sex among Chinese college students following the 3 AM model.

In addition to sexual behaviors, pornography consumption has also been demonstrated to influence sexual attitudes (Leonhardt et al., 2018). Cross-sectional studies in Taiwan (Lo & Wei, 2005) and Hong Kong (To et al., 2012) reported positive associations between pornography consumption and permissive attitudes toward sex, and studies have suggested that permissive attitudes toward both premarital sex and one-night stands are associated with higher risks of STIs and unintended pregnancies (Manning et al., 2005; Shisana et al., 2016). Therefore, this study also aims to investigate the relationship between pornography consumption and sexual attitudes to contribute to understanding the possible health outcomes of pornography consumption in China.

Condomless sex and pornography consumption

The number of college students who had (or reported having) sexual experiences increases with physical and mental maturity

(Dong, 2010). Social factors such as lower parental control (Li et al., 2010), greater freedom for sexual experimentation (Wright et al., 2012), and increased social interactions (Tao, 2000) during college also influence the prevalence of sexual experiences. Pan (2007) reported that the number of Chinese college students who have had sexual encounters increased from 16.9% in 2001 to 32.0% in 2006. Hu and Shi (2001) reported that although condoms are the most common contraceptive method used by college students in China, 42.5% of students still engage in condomless sex. Luo and Yang (2019) reported that 58.1%, 62.0%, and 56.4% of college students from 10 universities in Guangzhou, China, did not use contraceptives with regular, temporary, and commercial sexual partners respectively in the past year. Similarly, Zhang (2007) reported that only 10.7% of male college students who have had sexual intercourse with females often use condoms, and that 18.4% of them never use condoms.

Pornography provides one of the primary sources of sexual knowledge for college students (Allen, 2006; Duncan, 1990; Hare et al., 2015; Li & Davey, 1996) and influences college students' decisions on contraceptive use during sex (Kim & Choi, 2016; Li et al., 2017; Tan, 2008; Wiener et al., 2006). Although pornography is illegal (Liang & Lu, 2012; Lo et al., 2013), it remains widespread in China (Parish et al., 2007; Wu, 2009). Mo et al. (2017) reported that 99.9% of male college students in China had been exposed to pornographic information. Furthermore, it has been reported that female college students who have been exposed to pornographic movies and books were five times more likely to have sex than those who have not (Zhang, 2007).

Condomless sex is a risky sexual behavior frequently depicted in pornography (Wright et al., 2016; Wright, 2021c). Brosius et al. (1993) analyzed a random sample of 50 pornographic movies available in Germany (the majority of which originated in the United States) and found that contraception was utilized in only 1% of scenes. Sun et al. (2008) studied 44 popular pornographic movies in the United States and found that only 7% and 5% of movies had condom use when directed by male and female directors respectively. A recent study that surveyed a group of young heterosexual Australians found that only 2.3% of the participants saw consistent condom use in porn (Davis et al., 2018).

Research examining porn consumption or condomless sex in China was primarily conducted in first-tier cities (e.g., Beijing and Guangzhou) (Song et al., 2009; Wang et al., 2019), resulting in the low generalizability of their findings. For example, the reported rate of sexual intercourse among Chinese college students varied from 27.54% in the study by Ma et al. (2010), 6.7% in the study by Cui et al. (2019), to 13.2% in the study by Zhang et al. (2019). Rates of pornography consumption across China varied from 22.5% in the study by Zhang and Xu (2010), 41.0% in the study by Cui et al. (2019), to 99.9% in the study by Mo et al. (2017).

Sexual script theory

Berger et al. (1973) first pointed out that we use scripts to regulate our behavior in different situations, including sexual

behavior, which helps explain the relationship between sexually explicit media exposure and sexual behavior (Wright et al., 2012). Wright (2011) proposed the 3 AM model to illustrate that pornography provides scripts for sexual behaviors. The scripts are stored in memory and can guide human behavior (Edgar & Fitzpatrick, 1993; Wright et al., 2016). Repeated consumption of sexually explicit media content can, therefore, activate existing scripts and contribute to their application, enhancing the acquisition and activation of the sexual scripts in pornography (Braithwaite, Coulson, et al., 2015; Dworkin & O'Sullivan, 2005; Edgar & Fitzpatrick, 1993; Miller et al., 1993). In addition, sexual scripts are often gendered. Males are usually depicted as the initiator of sex and are more dominant in sexual interactions, whereas women are usually depicted as victims of sexual violence and are objectified (Mirzaei et al., 2021). Similarly, differences were found in sexual scripts and behaviors of men and women who use pornography in the United States (Bridges et al., 2010). Specifically, men were more likely to engage in aggressive behaviors (than women), while women were more likely to become the target (than men).

Numerous studies following this theory support this postulation that more frequent pornography consumption correlates with an increased likelihood of sexual behavior frequently depicted in porn (Braithwaite, Givens, et al., 2015; Donevan & Mattebo, 2017; Hald & Mulya, 2013; O'Hara et al., 2012; Sun et al., 2015; Tomaszewska & Krahé, 2018). This informs our research question on investigating the association between pornography consumption and condomless sex.

Other theories and methodological practices in pornography studies are nevertheless as indispensable. Scholars also draw on the relationship between pornography and romantic relationship (Balzarini et al., 2021), mental health (Kohut & Štulhofer, 2018), and male sexual aggression (Kohut et al., 2021) to further incorporate pornography consumption in the development of individual personality and well-being. The current study continues to follow the 3 AM model to examine the following research questions in a national sample of Chinese college students:

RQ1: What is the frequency of pornography consumption among Chinese college students?

RQ2: Is pornography consumption associated with condomless sex among Chinese college students?

Sexual attitude towards one-night stand and premarital sex

Sexual attitudes have been associated with the consumption of sexually explicit media content (Braithwaite, Givens, et al., 2015). Viewing pornography was significantly associated with premarital sex permissiveness in adolescents and young adults aged 15 to 24 from Hanoi (Vietnam), Shanghai (China), and Taipei (Taiwan, China) (Lou et al., 2012). Similarly, attitudes toward premarital sex were also predicted by former pornography consumption in Western populations (Wright, 2015). A recent meta-analysis found a significant association between watching pornography and premarital sex among high school

and college students in Ethiopia (Damtie et al., 2022). Exposure to sexually explicit media was found to be associated with premarital sex in countries such as India (Tiwari et al., 2015), Nepal (Regmi et al., 2010), Malaysia (Manaf et al., 2014), Indonesia (Puteri & Sumaryanti, 2021), and Sudan (Elshiekh et al., 2021) where pornography is illegal.

As premarital sex can increase the risk of STIs and unintended pregnancies particularly in college students, pornography consumption is of concern (Mulugeta & Berhane, 2014). Research has demonstrated that premarital pregnant female teenagers were more than nine times more likely to report having had frequent consumption of pornography than female teenagers without pregnancies (Siti-Haidah et al., 2017). In addition, adolescents and young adults are more likely to have sex more frequently and to have more sex partners if they are permissive toward premarital sex (Kirby, 2011). More than one-fifth of college students in a cross-sectional study in China reported having two or more sexual partners, while those who only had sex after marriage reported being monogamous (Sun & Sun, 2006). It could thus further our understanding of the health implications of college students' exposure to pornography to investigate its relationship with attitudes toward premarital sex in China.

As opposed to a long-term sexual relationship, one-night stands or hookups are short-term sexual relationships common among emerging adults (Aubrey & Smith, 2013; Claxton & van Dulmen, 2013; Garcia et al., 2012; Lehmiller et al., 2011). Wei (2016) found that over one-fourth of Chinese students showed positive attitudes toward one-night stands and over one-third expressed ambivalent attitudes (*"Depends on the situation"*). A national survey in the United States found that abortions were associated with more positive attitudes toward one-night stands (Coleman et al., 2008), while college students who participate in one-night stands or hookups are at increased risk of getting STIs (Fielder et al., 2013; Grello et al., 2006). Additionally, college students participating in hookups may feel disgusted and regret about their behaviors and experience a decrease in self-esteem (Allison & Risman, 2013).

However, the relationship between pornography consumption and sexual attitudes remains under-investigated in China. Therefore, this study also sets out to examine the association between pornography consumption and sexual attitudes considering the detrimental results it may produce.

RQ3: Is pornography consumption associated with sexual attitudes toward premarital sex and one-night stand among Chinese college students?

Method

Participants

Data of this research was collected as a part of the National Online Survey on College Students' Sexual and Reproductive Health commissioned by the China Family Planning Association in 2019 and conducted by China Youth Network, the largest volunteering organization advocating SRHR in China. The survey employed multi-stage sampling for the selection of higher education institutions. During the first

stage, all registered Chinese higher education institutions were categorized into eastern, central, and western China based on their provincial-level administrative regions. In the second stage, all higher education institutions were classified into ordinary colleges and universities and polytechnic colleges.¹ Probability proportional to size sampling was then used to locate target higher education institutions according to the population distribution and numbers of different levels of educational institutions in the first two stages using data from the Educational Statistics Yearbook of China 2018 (Ministry of Education of the People's Republic of China, 2019). A total of 241 higher education institutions were selected.

The internet-based self-administered questionnaire was sent to local contacts in each school to recruit participants through convenience sampling from November 2019 to February 2020. Students from all 34 provincial administrative regions in China, including Hong Kong, Macao, and Taiwan, were allowed to participate. However, for the purposes of this study, data on participants from Hong Kong, Macao, and Taiwan were removed during data cleaning due to different political and education systems.

A total of 55,757 responses were collected, of which 1,177 were removed as the respondents either failed to provide informed consent, did not answer all questions, failed to pass the consistency checks and logic verification, or were not enrolled as full-time students at a Chinese university. For final analyses, data on 11,957 participants who reported having had sex were utilized. Among them, 5174 participants were male (43.3%) and 6783 were female (56.7%).

Measurement

Pornography consumption

The measurement of Wright et al (2016) on pornography consumption was adopted. Pornography consumption was measured using self-reports of pornography use via websites, videos, and magazines (Wright et al., 2016). However, to better ascertain the level of pornography consumption and to account for the ban of porn in China, "websites" was extended to include online literature, pictures, and films (Braun-Courville & Rojas, 2009; de Heer et al., 2020; Grubbs et al., 2015; Hardy et al., 2013; Træen et al., 2004). For each of the five dimensions, participants were asked, *"How often do you watch pornography?"* Responses were evaluated based on a six-point Likert scale (1 = never, 6 = once a day or more). Reliability analysis on the five items demonstrated a Corrected Item-Total Correlation of greater than 0.5. A Cronbach α coefficient of 0.82 was used to indicate acceptable correlation consistency between the items. (Bland & Altman, 1997; Hair et al., 2014). When averaged to form a five-item index, the descriptive statistics were: $M = 2.58$, $SD = 1.02$.

Sexual attitude toward one-night stand and premarital sex

Sexual attitudes were selected as independent variables without assuming preexisting dependence (Wright, 2021a). We adapted the measurements of Liu (2011) and Li et al. (2013) on quantifying participants' explicit attitudes toward certain sexual behaviors by asking, *"What is your opinion toward One-night Stand/Premarital Sex"*. Responses were evaluated on

a three-point social-distance scale (3 points = “I can accept it,” 2 points = “It is okay, but not for me,” and 1 point = “I cannot accept it”). Higher scores indicate more positive attitudes toward certain sexual behaviors ($M = 2.10$, $SD = 0.77$ and $M = 2.96$, $SD = 0.24$ respectively).

Condomless sex

Participants were asked whether they used a condom in their last vaginal or anal intercourse (1 = no, 0 = yes). More than one-fifth (20.7%) of the participants have engaged in condomless sex.

Covariates

Following the review on the use of controls in pornography research, only age and gender were controlled in the regression models (Wright, 2021a, 2021b) as age and gender are associated with pornography consumption, sexual attitudes, and condomless sex. (Braun-Courville & Rojas, 2009; Perry, 2017; Pettifor et al., 2004; Wright, 2015; Wright, 2013).²

Statistical analysis

Multivariable logistic and linear regression was performed to investigate the association between pornography consumption and condomless sex. All models were adjusted for age and gender. Categorical variables were compared using the χ^2 test, and continuous variables were compared using t-tests.

Results

The sociodemographic characteristics of the participants are presented in Table 1. A χ^2 test and t-tests were conducted to examine gender differences (Table 2 and 3). A total of 20.7% of students reported having engaged in condomless sex, with a higher proportion of male college students having had sex without condoms use, compared to female college students (5.6% vs. 4.8%, $p = .036$). The average consumption of pornography and score of sexual attitudes toward one-night stands was significantly higher among male students than among female students (pornography consumption: $M = 2.84$, $SD = 1.06$ vs. $M = 2.38$, $SD = 0.95$, $p < .001$; sexual attitudes toward one-night stand: $M = 2.30$, $SD = 0.77$ vs. $M = 1.94$, $SD = 0.73$, $p < .001$). However, the average score of sexual attitudes toward premarital sex is higher for females than for males ($M = 2.98$, $SD = 0.19$ vs. $M = 2.94$, $SD = 0.30$, $p < .001$).

A logistic regression was performed to ascertain the effects of pornography consumption on the likelihood that college students conduct condomless sex versus using condoms during sex while controlling for age and gender (Table 4). The logistic regression model indicates a statistically significant relationship, $\chi^2 (7, N = 11,957) = 20.797$, $p < .005$. The model explained 1% (Nagelkerke R^2) of the variance in condomless sex and correctly classified 94.8% of cases. College students with higher pornography consumption were 20% more likely to conduct

Table 1. Distribution of demographic characteristics, pornography consumption, sexual attitude, and condomless sex among China's college students.

	Female		Male		Total (n=11957)
	N	%	N	%	%
Age					
≤18	873	12.9	888	17.2	14.7
19~22	4820	71.1	3438	66.4	69.1
≥23	1090	16.1	848	16.4	16.2
Age of first sex					
≤6	21	0.3	37	0.7	0.5
7~12	17	0.3	29	0.6	0.4
13~18	3299	48.6	3017	58.3	52.8
19~22	3138	46.3	1898	36.7	42.1
≥23	308	4.5	193	3.7	4.2
Educational Level					
Vocational College*	1346	19.8	1659	32.1	25.13
Undergraduate	4746	70	3012	58.2	64.88
Master	611	9	383	7.4	1.67
Doctorate	80	1.2	120	2.3	8.31
Pornography Consumption					
Never	670	9.9	260	5	7.8
Not in recent years	2093	30.9	1099	21.2	26.7
Several times a year	2705	39.9	1991	38.5	39.3
Several times a month	1028	15.2	1289	24.9	19.4
Several times a week	238	3.5	394	7.6	5.3
Once a day or more	49	0.7	141	2.7	1.6
Attitude Toward					
One-night Stand					
I cannot accept it	2019	29.77	975	18.8	25.04
It is okay, but not for me	3139	46.28	1675	32.4	40.26
I can accept it	1625	23.96	2524	48.8	34.70
Attitude Toward Premarital Sex					
I cannot accept it	45	0.66	84	1.6	1.08
It is okay, but not for me	65	0.96	130	2.5	1.63
I can accept it	6673	98.38	4960	95.9	97.29
Condomless Sex					
Yes	1394	20.6	1086	21.0	20.7
No	5389	79.4	4088	79.0	79.3

*When not compared with other educational levels, “college” in this article refers to all levels of higher education institutions.

Table 2. Prevalence of condomless sex in male students ($n = 5,174$) and female students ($n = 6,783$).

	Male students		Female Students		$\chi^2(1)$	p
	n	%	n	%		
Condomless Sex	264	5.6	381	4.8	4.40	0.036

Table 3. Gender differences for pornography consumption, sexual attitude toward premarital sex, and sexual attitude toward one-night stand (t-tests adjusted for unequal variances).

	Male students		Female students		t	p	Cohen's d
	M	SD	M	SD			
Pornography consumption	2.84	1.06	2.38	0.95	24.22	.000	0.46
Sexual attitude towards premarital sex	2.94	0.30	2.98	0.19	-7.40	.000	0.16
Sexual attitude towards one-night stand	2.30	0.77	1.94	0.73	25.79	.000	0.48

Table 4. Summary of logistic regression analysis predicting condomless sex.

	B	SE	OR	95% CI	Wald statistic	p
Gender*	-0.270	0.086	0.763	[0.65, 0.90]	9.797	.002
Age	-0.073	0.020	0.930	[0.89, 0.97]	12.706	.000
Pornography Consumption	0.188	0.039	1.206	[1.12, 1.30]	22.565	.000

*Female = 0, Male = 1. CI = confidence interval for odds ratio (OR).

condomless sex than those with lower pornography consumption ($OR = 1.206$, 95% CI [1.12, 1.30]).

To investigate the relationship between pornography consumption and sexual attitudes toward premarital sex and one-night stand among Chinese college students, two linear regressions were conducted (Table 5). Both models predicting attitudes toward premarital sex ($F(3, 11953) = 32.224$, $p = .000$) and attitudes toward one-night stand ($F(3, 11953) = 299.112$, $p = .000$) are significant. Pornography consumption was found to be positively correlated with attitudes toward premarital sex ($B = .010$, 95% CI [.006, .015], $p < .000$) and attitudes toward one-night stand ($B = .200$, 95% CI [.187, .213], $p < .000$).

In sum, higher levels of pornography consumption are significantly associated with an increased probability of having condomless sex and a more positive attitude toward premarital sex and one-night stands. However, the explained variances of these models are low.

Discussion

The joint assessment on STIs in China showed that by the end of 2018, there were more than 850,000 AIDS patients with about 80,000 new infections every year (Chinese Center for

Disease Control and Prevention, 2018). Inconsistent condom use made college students a risk population for STIs in China (Zhao & Wang, 2012). Studies have already identified the influence of pornography on risky sexual behaviors (van Oosten et al., 2017; Wright, Randall, 2012) that being exposed to sexually explicit media can predict undesirable sexual behavior patterns, for example, sexual violence and condomless sex (Nathan, 2007; Rodenhizer & Edwards, 2017). However, research revealing the relationship between pornography and condomless sex was usually not conducted in nonwhite-majority countries and regions (Wright, 2018). One objective of the present research is to respond to this absence of relevant studies in China. In addition, numerous studies have suggested that a higher frequency of pornography consumption is correlated with a more positive sexual attitude (Kyes, 1990; Shearer et al., 2005; Wright, 2015). The permissive sexual attitude toward premarital sex and one-night stand can promote these behaviors and increase the risks of having STIs, and unintended pregnancies (Mulugeta & Berhane, 2014), and even threaten one's self-esteem (Eshbaugh & Gute, 2008). The second objective is to explore whether pornography consumption correlates with sexual attitudes toward premarital sex and one-night stand to understand better the health risks related to pornography consumption.

Table 5. Regression analysis summary for pornography consumption predicting attitudes toward premarital sex and one-night stands.

	B	95% CI	t	β	p
<i>Attitudes toward premarital sex</i>					
Gender	-.039	[-.048, -.030]	-8.627	-.0081	.000
Age	.003	[.001, .005]	2.978	0.027	.003
Pornography Consumption	.010	[.006, .015]	4.638	0.044	.000
<i>Attitudes toward one-night stand</i>					
Gender	.268	[.242, .295]	19.769	.173	.000
Age	.018	[.012, .024]	6.116	.053	.000
Pornography Consumption	.200	[.187, .213]	30.090	.266	.000

CI = confidence interval for B .

National survey data demonstrated that pornography consumption is ubiquitous. More than 90% of college students surveyed had watched porn. Also, the use of pornography and attitudes toward premarital sex and one-night stand are different across genders. Male students are more likely to conduct condomless sex and are more positive toward one-night stand. In the regression analysis, more pornography consumption is associated with an increased likelihood of having sex without condoms. In addition, watching more pornography is associated with a more positive attitude toward premarital sex and one-night stand. This also aligns with the positive relationship found in other regions and countries (Leonhardt et al., 2018; Lo & Wei, 2005; To et al., 2012). China CDC and the Family Planning Association have expressed concerns about the positive sexual attitudes toward premarital sex and one-night stand among Chinese college students (CFPA, 2014; Xinhua Net, 2015) concerning its possible detrimental consequences of causing greater harm to current prevention and control of STIs (Xinhua Net, 2016). Our research suggests that these risks could be manifested through pornography consumption due to the positive relationship found. The restrictions on porn did not stop individual watching behaviors (Jacobs, 2020), and people can access porn in many other ways (Mo et al., 2017; Wu, 2009) in China.

The 3 AM model helps identify depictions in porn, and what should be of concern might move from “stop viewing” to “what to view.” Sexual scripts in mainstream pornography often include condomless sex (Davis et al., 2018), sexual objectification and exploitation of women (Fritz & Paul, 2017), unequal power relations, and violence against women (Klaassen & Peter, 2014). How we deal with the representations in pornography and how sexual education might be of aid can be future topics for research and practice concerning pornography consumption, sexual attitude, and condomless sex in countries and regions where watching porn is still against the law and sexual education is scarce.

The limitations of this study are threefold. First, although this article involved a national sample of college students in China, the limited generalizability of the web-based questionnaire and snowball sampling at the individual level is evident despite the random selection at the regional and school level. The causal relationship between pornography consumption and condomless sex needs further longitudinal studies and approaches (but see Wright, 2021b). Second, the focal measure of this study can be refined. Measurements of pornography consumption can include additional detailed content and motivation of usage as indicators since some of the porn does not involve condomless sex, and consumers' motivation and usage of porn have an association with the chances of having sex without condoms (Wright et al., 2019). A more comprehensive model that includes pornography consumption by frequency, viewing content, and detailed usage can help better understand the role that porn plays and its current proposed association with condomless sex. In addition, previous literature demonstrated that scales used in research measuring sexual attitude in China were disorganized as they neglected cross-cultural contexts in translation and lacked reliability and validity. Measurement of sexual attitude in China where the cognition of the concept “sex” is constantly changing in different

regions, sex, and age groups requires further clarification and conceptualization before a sexual attitude inventory can be “invented” or applied to China. Third, the rather low level of explained variance can be indicative of high variability in the sample. This could in part due to the lack of fixed patterns in China where cultural norms and everyday behaviors can be drastically different across regions. Further research might include variables including motivations and other exploratory variables in the model of explaining patterns of pornography consumption and condomless sex of emerging adults.

Notes

1. When not being compared with other educational levels, college in this article refers to all levels of higher education institutions in China.
2. The direction, magnitude, and significance of the results were the same regardless of whether gender and age were controlled or not controlled. The results of the analysis without controlling for gender and age are provided in the Supplementary Material (Table S1–S3).

Acknowledgments

Thanks to the management team and the volunteers from CYN and all participants for their invaluable contributions to this study.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This study was supported by the China Family Planning Association and data were collected by the China Youth Network (CYN).

ORCID

Kun Tang  <http://orcid.org/0000-0002-5444-186X>

Ethics approval

The study protocol was approved by the Institution Review Board of Tsinghua University (#20190083).

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