

# Sexting Victimization Among Dating App Users: A Comparison of U.S. and Chinese College Students

Journal of Interpersonal Violence I-24 © The Author(s) 2021 Article reuse guidelines: sagepub.com/journals-permissions DOI: 10.1177/08862605211028281 journals.sagepub.com/home/jiv



Jia Qu<sup>1</sup>, Shan Shen<sup>2</sup>, D Ivan Y. Sun<sup>3</sup>, D Ashley K. Farmer<sup>4</sup>, and Jia Xue<sup>5</sup>

#### **Abstract**

The widespread use of digital technology and devices has fundamentally transformed people's social life in recent decades, particularly in interpersonal relationships. Two popular social phenomena elucidate how social connections and interactions have dramatically evolved due to technological advancement. Sexting has surfaced as a popular way of getting attention or flirting among young populations over the past decade. Online dating also has emerged as a viable avenue for people to seek interpersonal romantic and/or sexual relationships. Based on survey data collected from two Chinese universities and one U.S. university, this study links sexting and online dating by comparatively assessing the prevalence of sexting victimization and factors influencing such victimization among young online daters. Bivariate and multiple analyses reveal that American college students are more inclined than their Chinese counterparts to be victims of receiving sexts. Chinese students with higher degrees of rape myth acceptance are more likely to experience sexting victimization, but such an association does

#### **Corresponding Author:**

Shan Shen, School of Public Affairs, Chongqing University, Chongqing 400044, China. Email: Shan.S@cqu.edu.cn

<sup>&</sup>lt;sup>1</sup>Guizhou University of Finance and Economics, Guizhou, China

<sup>&</sup>lt;sup>2</sup>Chongqing University, Chongqing, China

<sup>&</sup>lt;sup>3</sup>University of Delaware, Newark, DE, USA

<sup>&</sup>lt;sup>4</sup>Illinois State University, Normal, IL, USA

<sup>&</sup>lt;sup>5</sup>University of Toronto, Toronto, Canada

not exist among U.S. students. Internet-related activities were only weakly connected to sexting victimization among college students. LGBT young adults, regardless of their country affiliation, are at a higher risk for sexting misconduct. Female and younger American students were more likely to experience sexting victimization, whereas Chinese students in a romantic relationship were more inclined to experience sexting victimization. If possible, future research should employ a random sampling strategy to draw a larger number of college students from different types of universities in different regions. Future studies should include other theoretically relevant variables, such as self-control and opportunity variables, into the sexting victimization research.

#### Keywords

sexting, victimization, Chinese college students, American college students, dating app users

#### Introduction

The widespread use of digital technology and devices has fundamentally transformed people's social life in recent decades, particularly in interpersonal relationships. Two popular social phenomena elucidate how social connections and interactions have dramatically evolved due to technological advancement. Sexting, which commonly refers to sending, receiving, or sharing sexually suggestive text and images via cell phones, computers, or other electronic devices (Klettke et al., 2014; Madigan et al., 2018), has surfaced as a popular way of getting attention or flirting among young populations over the past decade. Recent surveys showed that more than 60% of adolescents and young adults engaged in sexting behavior (Crimmins & Seigfried-Spellar, 2017; Maheux et al., 2020). Relatedly, the use of dating apps is soaring in recent years. With an estimated 30 million users and three-in-ten U.S. adults having used a dating site or app (Anderson et al., 2020; Clement, 2020a), online dating has emerged as a viable avenue for people to seek interpersonal romantic and sexual relationships. More importantly, online daters were found to have the highest rate of sending and receiving sexts than adults in marriages or committed relationships (Lenhart & Duggan, 2014).

This study links the critical social phenomena of sexting and online dating by comparatively assessing the prevalence of sexting victimization and factors influencing such victimization among young online daters in the U.S. and China. This study expands the current literature on sexting on several fronts. First, previous research has predominately assessed three key

dimensions of sexting, including sending, receiving, and publicly posting, separately, or a combination of sending and receiving (Morelli et al., 2017). The majority of studies simply asked the respondents whether they have engaged in one or multiple forms of sexting without questioning whether such behaviors are wanted or consensual. A few studies acknowledged that sexting could be unwanted but consensual (Dake et al., 2012; Drouin & Tobin, 2014). We further extend this vein of investigation by focusing on receiving sexts that are unwanted or nonconsensual (i.e., messages that the recipients did not want or consent to receive), a phenomenon that has received relatively little research attention in the sexting literature.

Second, this study tests the plausible connections between college students' attitudes toward rape myths and routine activity involving Internet usage and their sexting victimization when engaging in online dating. Rape myths can be defined as the "prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists" (Burt, 1980, p. 217). Previous studies have linked the endorsement of rape myths to greater acceptance and perpetration of sexual violence (Bogen et al., 2020; Mouilso & Calhoun, 2013). Research also has connected the use of internet-based digital technologies to interpersonal violence (Snaychuk & O'Neill, 2020; Xue et al., 2018). Our study expands the current literature on the correlates of sexting with evidence on how beliefs in sexual violence and engagement in internet-based activities may be linked to sexting victimization.

Finally, although the last decade has witnessed the burgeoning of sexting research, very few studies were conducted from an international comparative perspective (for exceptions, see Baumgartner et al., 2014; Marganski, 2017). This study fills our knowledge gap in the existing literature by comparing sexting victimization across the U.S. and Chinese college students. This study's findings can shed light on the potential cultural differences in shaping people's sexting experiences under the context of using dating sites and apps.

# The Prevalence of Sexting

Sexting is a relatively new social phenomenon that emerged in the new millennium. The word was included for the first time in the **Merriam-Webster's Collegiate Dictionary in** 2011. Sexting is a multidimensional concept that has been conceptualized and classified in distinctive ways (Dodaj & Sesar, 2020). Based on different actions, the most common way to group sexting includes sending, receiving, forwarding a text without consent, and having a sext forwarded without consent (Madigan et al., 2018). Scholars also used the terms primary and secondary sexting, with the former referring to sexts involving the sender's images, whereas the latter refers to forwarding sexts

with others' images (Calvert, 2009). A more complex categorization divides sexting into relational sexting, forced sexting, reactive sexting, and violent sexting (Dodaj & Sesar, 2020). Others also distinguish unwanted but consensual sexting from wanted but nonconsensual sexting and found that half of the sample young adults in a committed relationship engaged in unwanted but consensual sexting (Drouin & Tobin, 2014). This current study focuses on unwanted or nonconsensual sexts, which has rarely been assessed independently in the sexting literature.

Many studies have assessed the prevalence rate of sexting over the past one and a half decade. One of the earliest studies conducted in the U.S. by the National Campaign to Prevent Teen and Unplanned Pregnancy (2008) found that about 20% of teenagers and 33% of young adults have sent or posted sexual photos or videos themselves. The convergence of the Internet, smartphones, mobile applications, and social networking sites over the past decade has noticeably expanded the prevalence of sexting among adolescent and young adult populations, subsequently spurring great research attention to the phenomenon.

Looking at more recent evidence, a meta-analysis of 39 studies with adolescents under 18 as research samples found that the mean prevalence for receiving, sending, forwarding a sext without consent, and having a sext forwarded without consent was 27.4%, 14.8%, 12.0%, and 8.4%, respectively (Madigan et al., 2018). An earlier meta-analysis of studies on adolescents and young adults demonstrated that the average prevalence of receiving and sending sexts among adolescents was 15.6% and 10.2%, respectively, whereas the corresponding rate for adults was 56.6% and 53.3%, respectively (Klettke et al., 2014). A most recent meta-analysis on sexting among emerging adults (aged 18-29) demonstrated a summary prevalence rate of 41.5% and 38.3% for receiving and sending a sext, respectively (Mori et al., 2020). These meta-analyses indicated that receiving sexts is the most common form of sexting, and sexting tends to increase with age. A recent study reported an even higher receiving rate of 60.3% among a sample of Spanish college students (Gasso et al., 2020).

Despite its global popularity, sexting is a severely under-investigated subject in Asian societies. Two studies have touched on sexting among college students in mainland China (Yu & Zheng, 2020) and Hong Kong (Liong & Cheng, 2017), but neither one reported the prevalence rate of sexting. Based on survey data from more than 1,600 college students in China, one study published in Chinese reported that 57.6% of the respondents viewed sexting as a form of sexual harassment (Pan, 2020). In South Korea, a study of middle and high school students found that the prevalence rate of sending one's

photos/videos and forwarding others' photos/videos was 0.9% and 5%, respectively (Lee et al., 2016), indicating a much lower rate than that of the U.S. youth (see Madigan et al., 2018).

Sexting also remains a rare subject of international comparative research. A few cross-national studies have furnished evidence supporting country differences in sexting behavior. Two studies compared sexting among college students in the U.S. and Poland (Marganski, 2017; Marganski & Fauth, 2013). Both studies found that American college students were more inclined than their Polish counterparts to engage in sexting. Besides nationality, using communication technology and the normalization of intimate behavior also facilitated college students' involvement in sexting (Marganski, 2017). A third study considered the relationships between individual- and country-level factors and sexting among adolescents in 20 European countries (Baumgartner et al., 2014). Their results indicated that sexting varied across countries, and age and Internet use were significant predictors of sexting. These studies measured sexting as sending and sharing sexually suggestive materials without looking into receiving sexts or sexting victimization. This study attempts to address this void in the sexting literature.

Although China has achieved successful economic developments over the past few decades, it can still be characterized as a traditional country where the respect, commitment, and acceptance of long-established values and beliefs remain pervasive (Schwartz, 1994). For example, patriarchy valuing male dominance remains highly active in politics and social life (Tang, 2017). Confucianism emphasizes collectivism and filial piety and preaches harmony in the family and interpersonal relationships. Chinese parents tend to possess the traditional parenting ideology characterized by strict and affectionate attitudes toward their children (Zhang et al., 2017). Children in traditional societies are encouraged to be obedient to norms and avoid risk-taking behaviors. Compared to China, the U.S. culture places greater emphasis on individualism and encourages independence and self-expression. Restrictions on American adolescents' and young adults' sexuality and sexual behavior are likely to be less stringent than Chinese (Baumgartner et al., 2014).

# **Factors Linked to Sexting Victimization**

# Rape Myths

This study focuses on the possible connection between people's belief in rape myths and sexting victimization. Although previous studies have considered many variables, the association between rape myths and sexting has yet to be examined. Rape myths reflect people's false beliefs that blame the victim, rather than the perpetrator, for sexual assault. Common notions that exemplify rape myths include "women ask for it," "only bad girls get raped," and "any healthy woman can resist a rapist if she really wants to" (Burt, 1980, p. 217). Rape myth acceptance could be detrimental as it manifests inaccurate beliefs about rape, particularly in viewing rape from a narrower definition and assigning blame and shame to the victims.

Rape is culturally and legally constructed differently across the U.S. and China. Like their U.S. counterparts, Chinese women are subjected to stigmatized attitudes and beliefs toward rape. Furthermore, China's traditional patriarchy that values male dominance could make the endorsement of rape myths even more pervasive. Chinese women are expected to resist rape physically, and a woman's virtue could be called into question if she fails to fight off a rapist. Indeed, "rape is socially constructed as a taboo where victims are likely to be blamed" (Xue et al., 2019, p. 1431). Legally speaking, China's criminal law defines rape in less clear and narrower ways than that of the U.S., failing to recognizing the possibility of marital rape and male victims and excluding oral sex and penetrations of the vagina or anus by other body parts like fingers from rape (Xue et al., 2019).

Country differences in cultural traditions and legal definitions may lead to distinctive attitudes toward interpersonal violence between the U.S. and China. For instance, comparative research has shown that Chinese college students displayed higher tolerance of intimate partner violence (IPV) and were less likely to define abusive acts as IPV than their American counterparts (Li et al., 2020; Lin et al., 2016). Asian college students' attitudes toward rape were more inclined than their White or non-Asian counterparts to support rape myths (Kennedy & Gorzalka, 2002; Lee et al., 2005; Mori et al., 1995). A three-country comparative study also found that college students in India and Japan held higher degrees of rape myths than their counterparts in the U.S. (Stephens et al., 2016), indicating country differences in rape myths.

# Internet Usage

Besides rape myths, this study investigates the linkage between internet-based specific activities and college students' experience with sexting victimization. The Internet has increasingly become an indispensable part of people's daily life since the new millennium. In 2019, the number of world-wide internet users reached 4.13 billion, with China and the U.S. as the largest and third-largest user country of 854 and 313 million netizens, respectively (Clement, 2020b). Half of the global internet users were young adults between 18 and 34 (Clement, 2020b).

Criminological theories can be applied to explain the relationship between internet-related activities and sexting victimization. For instance, the opportunity perspective links individuals' lifestyles to various forms of victimization (Spano & Freilich, 2009). Specifically, certain lifestyles or routine activities tend to create opportunities, characterized as having a motivated offender, a suitable target, and a guardian's absence conducive to criminal offending and victimization (Cohen & Felson, 1979). Having convenient access to and frequent use of the Internet for communication and social interaction is likely to foster opportunities that tend to increase cyber-based victimization (Reyns et al., 2013).

Past studies, albeit still limited in number, have confirmed the potential linkage between internet use and sexting victimization among college students in the U.S. For instance, spending time on social networking sites increased college students' likelihood of being victims of online harassment (Linsey & Krysik, 2012). A few studies have drawn upon routine activity theory to account for sexting or online victimization. One study found that participating in online behavior associated with increased motivated offenders and suitable targets is inclined to expose college students to sexual victimization (Marcum et al., 2010). However, a second study revealed that online technology use (e.g., using emails, social networking, instant messages, video chatting, and blogging) and time spent digitally connected were not predictive of college students' receiving and sending sexts (Reyns et al., 2014). A third study used adolescents aged between 12 and 17 as a study sample and reported that the number of text messages sent or received and frequent use of cell phones for social networking and emails increased the likelihood of receiving sexts (Wolfe et al., 2016). Besides the U.S., a comparative study of European countries found that internet use frequency was a significant predictor of sexting among adolescents (Baumgartner et al., 2014).

Given that sexting is an under-analyzed issue in China, the connection between internet use and sexting victimization has yet to be investigated in the existing literature. One study found that information and communication technology was associated with intimate partner violence among Chinese women, with time spent online and participating in online discussion forums increasing sexual abuse, whereas watching movies or T.V. shows reduced such abuse (Xue et al., 2018). Another study found that internet use tended to satisfy sexual interest among Taiwanese youth (Cheng et al., 2014), increasing the possibility of sexting. More research is warranted to investigate the relationship between internet use and sexting victimization.

#### Other Relevant Factors

Besides rape myths and Internet usage, this study also incorporates four relevant variables into the analysis: gender, age, sexual orientation, and whether in a romantic relationship. One of the most frequently analyzed effects is gender differences in sexting, but the results have been equivocal. Some studies demonstrated that male and female adolescents and young adults did not differ in engaging in sexting (Baumgartner et al., 2014; Dake et al., 2012; Madigan et al., 2018), whereas others showed higher levels of sexting among girls than boys (Mitchell et al., 2012; Reyns et al., 2014). Looking at receiving sexts specifically, studies found that males were more likely than females to receive sexts (Dir et al., 2013; Gordon-Messer et al., 2012; Strassberg et al., 2013).

The effect of age on sexting is more consistent than that of gender, showing a positive relationship between age and sexting (Dodaj et al., 2020; Klettke et al., 2014; Mitchell et al., 2012). Older adolescents were found to have higher degrees of sexting than younger adolescents (Baumgartner et al., 2014). An Italian study revealed that both sending and receiving sexts rose from early (13 to 16 years old) to late adolescence (17 to 20 years old) (Morelli et al., 2017). Moreover, young adults were more inclined than teenagers to receive sexts (Lenhart & Duggan, 2014). A recent meta-analysis provides further evidence to support that the prevalence of receiving sexts increased with age (Madigan et al., 2018).

Past research has paid little attention to the effect of sexual orientation on sexting. An earlier study found that college students who identified themselves as LGBT were more likely than heterosexual students to receive repeated insulting, threatening, and harassing emails from strangers or someone they barely knew (Finn, 2004). The sexting literature has examined the impact of intimate relationships. Not surprisingly, people who believe that sexting is a common practice among intimate partners are more likely to participate in sexting behavior (Wood et al., 2015). Studies have indeed found that teenagers in a romantic relationship were likely to engage in sexting (Temple et al., 2012). One study revealed that more than half of its study undergraduate students engaged in unwanted but consensual sexting with their relationship partners (Drouin & Tobin, 2014), suggesting that sexting is a regular phenomenon among college students' relationships.

# The Current Study

Drawn upon survey data collected from two Chinese universities and one U.S. university, this study comparatively assesses college students'

experience with sexting across countries. We analyze whether country affiliation, rape myth, and internet use are linked to college students' sexting experience, controlling their background characteristics. This study represents one of the first studies that explores the country differences in sexting victimization. Three research questions were specifically formulated and tested in this study: (a) Do Chinese and U.S. college students differ in their levels of sexting victimization? (b) Are rape myths and internet usage linked to sexting victimization among Chinese and U.S. college students? (c) Are Chinese and American college students' levels of sexting victimization connected to a different set of predictors? The following four hypotheses were formulated and tested in this study:

- H1: American college students are more likely than their Chinese counterparts to experience sexting victimization.
- H2: College students who display greater levels of rape myth acceptance are more inclined to be victims of sexting victimization.
- H3: College students who are frequent Internet users are more likely to experience sexting victimization.
- H4: A different set of variables predicts American students' and Chinese students' sexting victimization.

# **Methodology**

# Data Collection and Sample

This study used part of the data collected by an international research project to assess the connection between information communication technologies and the experience of sexual coercion among college students. The first wave of data collection was conducted in two Chinese universities and one U.S. university. With over 42,000 students, the first Chinese university is a national-ranked, comprehensive institution located in a large city in west China. The second Chinese university is a provincial-level institution located in the capital city of a southwest province that houses roughly 22,000 students. The U.S. university is a public institution in a mid-western state, with approximately 21,000 students.

The project was initiated by a team of bilingual researchers associated with several universities. A survey instrument consisting of about 50 items was first developed in English and then translated into Chinese by a team member. Following the double translation approach, the Chinese survey was

translated back to English by a second-team researcher. The two English survey versions were compared, and minor modifications were made to ensure compatibility between the Chinese and English instruments. A small group of Chinese and U.S. students participated in the surveys' pre-test to confirm all items' understandability to college students. The project was approved by the principal investigator's institutional review board of research projects involving human subjects.

Data collection was carried out in the two Chinese universities during the fall of 2019. Purposive and convenience sampling methods were employed to draw a target of 400 students from each university. Researchers identified 12-13 courses across different grades and majors and contacted course instructors for their permission to conduct surveys with their students. Once permission was granted, researchers visited these courses at scheduled times to distribute the surveys to all students who were present in the classrooms. Students were informed about the purpose and voluntary and anonymous nature of the study. Data collection for the U.S. university was planned during the spring 2020 semester through the traditional paper-pencil survey. Due to the COVID-19 pandemic, the university was closed and moved all courses online. Responding to this change, researchers created the survey in Qualtrics, and an email was sent to all undergraduate and graduate students, inviting them to participate in the online survey.

A total of 416 and 489 surveys were distributed to students in the two Chinese universities, respectively. Among them, 400 and 485 surveys were returned. For the U.S. university, 197 students began the survey, and 187 completed at least the majority of the survey items. This study focuses on students' sexting experiences when using dating apps. Thus, respondents with no experience of using dating apps were excluded from the analysis, resulting in a final sample of 269 college students, including 183 Chinese students and 86 U.S. students. As shown in Table 1, Chinese and U.S. respondents differ in their gender and sexual orientation but are similar in their age and romantic or sexual relationships. Nearly half of the Chinese students and 70% of the U.S. students were female. About 7% of the Chinese students and 28% of the U.S. students identified their sexual orientation as gay, lesbian, or bisexual. Their age ranged from 18 to 36 years old. Less than half of the Chinese (47%) and U.S. (42%) students were not in a romantic or sexual relationship.

#### **Variables**

One dependent variable, six independent variables, and four control variables were constructed to address our research questions. The dependent variable, sexting victimization, was measured as an additive scale of five items: When

 Table I. Descriptive Statistics for All Variables in Regression Analysis.

	×	Whole $(n = 269)$	(69)	ບົ	China $(n = 183)$	33)	ر	U.S. $(n = 86)$	_	t-value for
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range	mean diff.
Dependent variables										
Sexting victimization	9.17	3.88	5-20	8.16	3.10	5-20	11.27	4.50	5-20	-6.56***
Independent variables										
China	89:	.47	I-0	I	I	I	I	I	I	
Rape myths	10.74	5.26	5-30	12.48	5.35	5-30	7.03	2.31	5-15	9.05***
Internet usage										
Length of use	3.84	<u>~</u>	<u>-</u> 5-	3.87	.94	1-5	3.85	.83	 	.20
Post on social media	<u>8</u>	.38	I-0	61.	.39	I-0	91.	.37	1-0	.46
Browse on social media	.54	.50	I-0	.40	.49	I-0	<u>8</u> .	.39	1-0	-6.78***
School work	77.	.42	I-0	.75	.43	I-0	.79	<del>4</del> .	I-0	66
Control variables										
Female	.56	.50	I-0	.49	.50	I-0	.70	.46	I-0	-3.31***
Age	21.34	2.24	18-36	21.31	1.69	18-32	21.42	3.13	18-36	35
Gay, lesbian, or bisexual	<del>.</del> 13	.34	I-0	.07	.25	I-0	.28	.45	1-0	5.00***
Not in romantic/sexual relationship	.45	.50	1-0	.47	.50	1-0	.42	.50	1-0	.79

Note. \*\*\* p < .001.

using dating apps, has any of the following occurred to you? (a) Someone sent you pictures of sexual nature that you did not want even before initiating any communication; (b) Someone told you that he/she is horny and expect you to satisfy him/her; (c) Someone insulted you (e.g., verbally or sending nude pictures) when you rejected his/her requests for sex; (d) Someone repeatedly contacted you even when you demonstrated no interest in him/her; and (e) Someone insulted you sexually (e.g., verbally or sending nude pictures) when you did not respond to his/her messages. Response categories ranged from never (=1) to often (=4). The Cronbach's alpha associated with the whole sample (.88) and separate samples for China (.84) and the U.S. (.88) indicate high internal consistency. A higher score on the scale represents a greater level of sexting victimization.

For the complete sample analysis, a dummy variable was constructed to indicate the country, with 1 representing China. A second major independent variable is the rape myth, which was derived from summing up five items: (a) If a woman does not physically fight back, you cannot really say that it was rape; (b) Many women find being forced to have sex very arousing; (c) If a woman does not physically resist sex—even when protesting verbally—it really cannot be considered rape; (d) When women are raped, it is often because the way they said "no" was ambiguous; and (e) A woman who goes to the home or apartment of a man on the first date is implying that she wants to have sex (strongly disagree = 1; strongly agree = 6). The scale has a Cronbach's alpha of .86 for the entire sample and .84 and .60 for the separate sample of China and U.S. respondents, respectively. A higher value of the scale signals a greater degree of rape myth. All these items were selected from the *Chinese Rape Myth Acceptance* (CRMA) scale verified in a recent study (Xue et al., 2019).

Four independent variables were included to measure the respondent's usage of the Internet. The first one is an ordinal variable showing the average number of hours the respondent spent on the Internet (no = 1; less than an hour = 2; between one and three hours = 3; between four and five hours = 4; greater than five hours = 5). Three additional dummy variables were constructed indicating whether: (a) posting on social media, (b) browsing on social media, and (c) doing school work is one of the main reasons that the respondents spend most of their time online.

Four control variables were included in our analysis. Gender, sexual orientation, and romantic/sexual relationship are dummy variables, with 1 representing female, gay, lesbian, or bisexual and not in a romantic or sexual relationship. Age is measured in years. Our preliminary analysis indicated that the two Chinese universities did not differ in sexting victimization. Thus, we did not include a dummy variable to represent the locality of the Chinese

 Table 2. Percentage Distributions of Items Measuring Sexting Victimization.

			China $(n = 183)$	<u> </u>				U.S. (n = 86)		
	Never (I)		Seldom Sometimes (2) (3)	Often (4)	% (2+3+4)	Never (I)	Seldom (2)	Never Seldom Sometimes (1) (2) (3)	Often (4)	% (2+3+4)
Someone sent you pictures of sexual nature that you did not want even before initiating any communication	37.7	38.8	21.3	2.2	62.3	32.6	26.7	29.1	9:	67.4
Someone told you that he/ she is horny and expect you to satisfy him/her	54.6	26.8	16.9	9:	45.3	22.1	9.8	36.0	23.3	77.9
Someone insulted you (e.g., verbally or sending nude pictures) when you rejected his/her requests for sex	68.3	24.6	5.5	9.	31.7	52.3	0.4	17.4	16.3	47.7
Someone repeatedly contacted you even when you demonstrated no interest in him/her	47.5	27.9	20.8	3.8	52.5	20.9	18.6	29.1	<del>2</del> <del>8</del> <del>1</del> <del>8</del> <del>1</del> <del>8</del> <del>1</del>	79.1
Someone insulted you sexually (e.g., verbally or sending nude pictures) when you did not respond to his/her messages	68.9	21.3	7.1	2.7	3.L	55.8	22.1	9.3	12.8	44.2

universities. Table 1 displays the descriptive statistics for all variables used in data analysis. We also checked multicollinearity and found no evidence of such a problem.

#### Results

# Percentage Distributions of Items Measuring Sexting Victimization

Table 2 depicts percentage distributions of the five items used to construct the dependent variable of sexting victimization. Recall that the response categories of these items included: never (a), seldom (b), sometimes (c), and often (d). We treated a response to seldom, sometimes, and often as the occurrence of an event. As shown in the last column for each group, American students are more likely than their Chinese counterparts to experience sexting victimization across the board. Among Chinese students, the most frequent situation involved "Someone sent you pictures of sexual nature that you did not want even before initiating any communication" (62.3%), followed by "Someone repeatedly contacted you even when you demonstrated no interest in him/her" (52.5%). The last item is the most pervasive event among the U.S. students, registering a rate of 79.1%, followed by "Someone told you that he/she is horny and expect you to satisfy him/her" (77.9%).

# Mean Comparisons of Sexting Victimization

To further answer our first research question, we performed an independent-samples t-test to compare mean differences in sexual victimization between Chinese and American college students. As demonstrated in Table 1, the U.S. students reported a significantly higher level of sexting victimization (11.27) than their Chinese counterparts (8.16). Mean comparisons also detected significant differences between Chinese and American students along with two independent variables. Chinese students' degree of rape myth (12.48) is significantly higher than American students' score (7.03). U.S. college students are more likely than their Chinese counterparts to identify "browsing on social media" as the main reason to spend most of their time online.

# Regression Analysis of Sexting Victimization's Predictors

Table 3 summarizes the regression results of the entire sample and separate samples for Chinese and American respondents. Consistent with the mean comparison results, the complete sample analysis shows that American

 Table 3. Multiple Regression of Sexting Victimization Across Countries.

	Whole	ole	China	ла	U.S.	S
Variables	В	S.E.	В	S.E.	В	S.E.
Independent variables						
China	38***	.56	I	I	I	I
Rape myths	*91.	.05	*/1.	.05	40.	.21
Internet usage						
Length of use	05	.24	05	.24	05	.57
Post on social media	.12*	.56	Ξ.	.58	.12	1.26
Browse on social media	02	.48	01	.47	90.–	1.24
School work	08	.50	10	.51	02	1.17
Control variables						
Female	.12*	.47	.04	.49	<u>*</u> ¥.	1.03
Age	=	01.	90.	. I.3	26*	.I5
Gay, lesbian, or bisexual	.21***	.65	.25***	06:	.25*	1.03
Not in romantic/sexual relationship	08	.43		4.	.07	.95
R <sup>2</sup>	.25	10	Ξ.	.0	.23	8
Z	26	6	183	3	98	9

Note.  ${}^*\!p$  < .05;  ${}^*\!p$  < .01;  ${}^{***}\!p$  < .001.

students experienced a higher level of sexting victimization than their Chinese counterparts. Among the independent variables, two exert a significant connection to sexting victimization. Students with greater rape myth levels were more likely to become a victim of sexting. Those who identified posting on social media as a primary reason for being online were more likely to experience sexting. Two control variables are also significant predictors. Female students and gay, lesbian, and bisexual students were more inclined to encounter sexting than their male and heterosexual counterparts. The predictors together explain 25% of the variation of sexting victimization.

The second and third models in Table 3 report the regression results for Chinese and American college students separately. For Chinese students, rape myth acceptance remains a significant predictor, with those expressing higher levels of belief in rape myths more likely to have sexting victimization. None of the Internet usage variables are predictive of sexting victimization. Among the two control variables that were significant in the entire sample analysis, the significant impact of gender disappears, whereas sexual orientation continues to be predictive of sexting victimization, with gay, lesbian, and bisexual students subjected to a higher probability of sexting victimization.

Switching to the U.S. model, none of the independent variables are significantly associated with sexting victimization, suggesting that these variables have little predictive power of U.S. students' sexting victimization. Three control variables are significant predictors of sexting victimization. Besides gender and sexual orientation related to sexting victimization in the whole and Chinese sample analysis, age is also a significant predictor, with younger American students more likely to experience sexting victimization.

#### **Discussion**

This study represents one of the first attempts to comparatively assess factors related to sexting victimization among Chinese and American college students. We formulated specific hypotheses derived from three research questions, and our findings largely support the study hypotheses. Our findings are important as they reveal a high prevalence of unwanted sexting among college students, ranging from roughly one-third to nearly 80% of victimization rates across five different forms of sexting. We also found that sexting victimization is socially constructed, with American students experiencing a higher degree of victimization than their Chinese counterparts. Furthermore, American and Chinese students' sexting victimization is linked to different attitudinal and demographic variables. Given the scarcity of studies on sexting in China and cross-national analysis of such a social phenomenon, our

study furnishes some needed evidence to understand better sexting in two major countries with distinctive cultural traditions. We provide more discussion on our findings below.

First, our bivariate and multiple analyses reveal that American college students are more likely than their Chinese counterparts to be victims of receiving sexts, which is consistent with our hypothesis (H1). One may speculate that traditional Chinese cultures stressing social harmony, rule obedience, and shaming perpetuate young adults' contemporary lives, discourages them from engaging in aggressive interpersonal behavior, and subsequently from engaging in sexting. An alternative explanation is that Chinese college students have higher tolerance of sexual-related violence than their counterparts (Li et al., 2020), which could lower Chinese students' recognition and expression of sexting victimization. Future research should include items reflecting cultural values and attitudes to explore further factors contributing to sexting behaviors across countries.

Second, rape myth acceptance has a varying relationship to Chinese and American college students in their sexting victimization. We found that Chinese students with higher degrees of rape myth acceptance are more likely to experience sexting victimization, but such an association does not exist among U.S. students. Our second hypothesis (H2) is, thus, partially supported and conditional based on country affiliation. This finding does not come as a complete surprise given that Chinese students display a significantly higher level of rape myth acceptance than American students, and past research has revealed the linkage between rape myth acceptance and an inclination toward sexual victimization (Chapleau & Oswald, 2010; LeMaire et al., 2016). One recent study found that sex-role stereotyping and adversarial sexual beliefs are positively related to rape myth acceptance among Chinese college students (Xue & Lin, 2020). Rape myths are not stand-alone beliefs but highly intertwined with sexual-related attitudes. More research attention should be paid to continue to examine the role of rape myths in sexting behavior.

Third, contrary to our hypotheses (H3), internet-related activities were only weakly connected to sexting victimization among college students. Among all internet-based activities, the only significant linkage is between posting on social media and receiving sexts in the complete sample analysis. As expected, college students who participated in more social media postings were more likely to be victims of sexting. The impact of digital technology on interpersonal relationships and communication is likely to grow, but the existing literature has yet to adequately investigate how sexting behavior is shaped by the use of relevant social media and mobile technology. Thus, future research ought to continue this vein of inquiry by including more

elaborate items, such as using specific mobile applications, to assess possible relationships better.

Finally, our findings show that a somewhat different set of variables is linked to Chinese and American college students' sexting victimization. The only common predictor for both groups is sexual orientation, with LGBT students more likely to experience unwanted or nonconsensual sexting. Our finding confirms that LGBT young adults are at a higher risk for sexting misconduct (Finn, 2004; Wood et al., 2015). We also found that gender and age are significant predictors for American students only, whereas in a romantic relationship is significantly connected to sexting victimization only among Chinese students.

That the gender effect is only found among American students seems counterintuitive, as one would suspect that gender differences are more pronounced in traditional (e.g., China) than in less-traditional (e.g., the U.S.) countries (Baumgartner et al., 2014). Moreover, our finding that female American students experienced higher levels of sexting victimization than their male counterparts highlights the limitations of past studies that failed to distinguish receiving unwanted and nonconsensual sexts from wanted and nonconsensual or wanted and consensual sexting (Drouin & Tobin, 2014). Future research should consider the interplay between wantedness and consent in assessing the gender influence on sexting. Similarly, our finding that younger American students were more inclined to receive unsolicited sexts than their older counterparts is inconsistent with previous research results, which largely support a positive association between age and sexting. Our results remind us of the relatively narrow age range among college students and the potential higher vulnerability of lower classes (e.g., freshmen and sophomores) in social interactions, calling for more studies on gender and age effects among the college populations.

For Chinese students only, those in a romantic relationship were more likely to experience higher degrees of sexting victimization, consistent with previous findings from studies based on American high school and college students (Drouin & Tobin, 2014; Temple et al., 2012). Our findings imply that sexting victimization could be more pervasive among Chinese college students in a romantic relationship, whereas such victimization could be more equally distributed between American college students and their perpetrators with and without a romantic relationship. Future studies can further assess this issue by inquiring college students more about the nature of their relationships, such as the length of their relationship and the group affiliation of their perpetrators (e.g., on-campus vs. off-campus), to have a better understanding of the impact of relationship status on sexting.

A few limitations associated with this study should be acknowledged. First, we relied on data collected from a convenient and relatively small sample of college students. To strengthen sample representation and finding generalizability, future research, if possible, should employ a random sampling strategy to draw a larger number of college students from different types of universities in different regions. Second, recall that our Chinese surveys were gathered through the traditional pen and paper method, whereas American surveys were completed in an online survey tool. Although we did not detect any response bias associated with each or both approaches, researchers should consider standardizing data collection methods for future comparative projects. Finally, our explanatory variables together account for 25% of the variation in sexting victimization, suggesting the need to include other theoretically relevant variables into analysis. For example, measures reflecting self-control, which, along with opportunity variables, are often included in victimization research (Reyns et al., 2014), should be considered in examining sexting victimization among college students.

Our findings bear some policy implications. We found that LGBT students in both countries are the most vulnerable groups of sexting victimization. College officials need to work closely with their police forces or local law enforcement agencies to ensure a zero-tolerance policy toward discrimination or hate against college students because of their sexual orientations. Similarly, policies and programs aimed at strengthening the awareness and understanding of potential risks and victim assistance associated with unwanted sexting should be implemented and targeted at vulnerable populations, female, and younger students, on U.S. campuses. For Chinese officials, a first and important step to reduce rape myth acceptance is to modify its criminal law, making it clearer and broader in defining rape by, for example, recognizing the existence of marital rape and male victims in sexual assaults. Hopefully, such an advancement in the legal definition of rape can reduce public support for rape myths and subsequently curb sexting victimization on college campuses.

# **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

# **Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this article.

#### **ORCID iDs**

Shan Shen https://orcid.org/0000-0003-0765-3998

Ivan Y. Sun (D) https://orcid.org/0000-0002-5679-196X

Jia Xue https://orcid.org/0000-0002-1668-2531

## Supplemental Material

Supplemental material for this article is available online.

#### References

- Anderson, M., Vogels, E., & Turner, E. (2020). The virtues and downsides of online dating. Pew Research Center. Retrieved from https://www.pewresearch.org/ internet/2020/02/06/the-virtues-and-downsides-of-online-dating/
- Baumgartner, S., Sumter, S., Peter, J., Valkenburg, P., & Livingstone, S. (2014). Does country context matter? Investigating the predictors of teen sexting across Europe. *Computers in Human Behavior*, *34*, 157–164.
- Bogen, K., Mulla, M., & Orchowki, L. (2020). Gender-equitable attitudes, rape myth acceptance, and perceived peer acceptance of violence among high school students: An examination of gender and athletic involvement. *Journal* of *Interpersonal Violence*. https://journals-sagepub-com.udel.idm.oclc.org/doi/ full/10.1177/0886260520958649
- Burt, M. (1980). Cultural myths and supports for rape. *Journal of Personality and Social Psychology*, 38, 217–230.
- Calvert, C. (2009). Sex, cell phones, privacy, and the first amendment: When children become child pornographers and the Lolita effect undermines the law. *CommLaw Conspectus: Journal of Communications Law, and Policy, 18*, 1–66.
- Chapleau, K., & Oswald, D. (2010). Power, sex, and rape myth acceptance: Testing two models of rape proclivity. *Journal of Sex Research*, 47, 66–78.
- Cheng, S., Ma, J., & Missari, S. (2014). The effects of Internet use on adolescents' first romantic and sexual relationships in Taiwan. *International Sociology*, 29, 324–347.
- Clement, J. (2020a). Online dating in the United States—statistics & facts. Statista. https://www.statista.com/topics/2158/online-dating/
- Clement, J. (2020b). *Internet usage worldwide—statistics & facts*. Statista. https://www.statista.com/topics/1145/internet-usage-worldwide/
- Cohen, L., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 44, 588–608.
- Crimmins, D., & Seigfried-Spellar, K. (2017). Adults who sext: Exploring differences in self-esteem, moral foundations, and personality. *International Journal of Cyber Criminology*, 11, 169–182.
- Dake, J., Price, J., Maziarz, L., & Ward, B. (2012). Prevalence and correlates of sexting behavior in adolescents. American Journal of Sexuality Education, 7, 1–15.
- Dir, A., Coskunpinar, A., Steiner, J., & Cyders, M. (2013). Understanding differences in sexting behaviors across gender, relationship status, and sexual identity,

and the role of expectancies in sexting. *Cyberpsychology, Behavior and Social Networking*. http://dx.doi.org/10.1089/cyber.2012.0545

- Dodaj, A., & Sesar, K. (2020). Sexting categories. Mediterranean Journal of Clinical Psychology. https://cab.unime.it/journals/index.php/MJCP/article/view/2432
- Dodaj, A., Sesar, K., & Jerinić, S. (2020). A prospective study of high-school adolescent sexting behavior and psychological distress. *The Journal of Psychology*, 154, 111–128.
- Drouin, M., & Tobin, E. (2014). Unwanted but consensual sexting among young adults: Relations with attachment and sexual motivations. *Computers in Human Behavior*, 31, 412–418.
- Finn, J. (2004). A survey of online harassment at a university campus. *Journal of Interpersonal Violence*, 19, 468–483.
- Gasso, A., Mueller-Johnson, K., & Montiel, I. (2020). Sexting, online sexual victimization, and psychopathology correlates by sex: Depression, anxiety, and global psychopathology. *International Journal of Environmental Research and Public Health*, 17. https://www.mdpi.com/1660-4601/17/3/1018
- Gordon-Messer, D., Bauermeister, J., Grodzinski, A., & Zimmerman, M. (2012). Sexting among young adults. *Journal of Adolescent Health*, *52*, 301–306.
- Kennedy, M., & Gorzalka, B. (2002). Asian and non-Asian attitudes toward rape, sexual harassment, and sexuality. *Sex Roles*, 46, 227–238.
- Klettke, B., Hallford, D., & Mellor, D. (2014). Sexting prevalence and correlates: A systematic literature review. Clinical Psychology Review, 34, 44–53.
- Lee, C., Moak, S., & Walker, J. (2016). Effects of self-control, social control, and social learning on sexting behavior among South Korean youths. *Youth and Society*, 48, 242–264.
- Lee, J., Pomeroy, E., Yoo, S., & Rheinboldt, K. (2005). Attitudes toward rape: A comparison between Asian and Caucasian college students. Violence Against Women, 11, 177–196
- LeMaire, K., Oswald, D., & Russell, B. (2016). Labeling sexual victimization experiences: The role of sexism, rape myth acceptance, and tolerance for sexual harassment. *Violence and Victims*, *31*, 332–346.
- Lenhart, A., & Duggan, M. (2014). Couples, the Internet, & social media: How American couples use digital technology to manage life, logistics, and emotional intimacy within their relationships. Pew Research Center. http://www.pewinternet.org/2014/02/11/couples-the-internet-and-social-media
- Li, L., Sun, I., & Button, D. (2020). Tolerance for intimate partner violence: A comparative study of Chinese and American college students. *Journal of Interpersonal Violence*, 35, 4533–4557.
- Lin, K., Sun, I., Wu, Y., & Liu, J. (2016). College students' attitudes toward intimate partner violence: A comparative study of China and the U.S. *Journal of Family Violence*, 31, 179–189.
- Linsey, M., & Krysik, J. (2012). Online harassment among college students. *Information, Communication & Society*, 15, 703–719.
- Liong, M., & Cheng, G. (2017). Sext and gender: examining gender effects on sexting based on the theory of planned behavior. *Behaviour & Information Technology*, 36, 726–736.

- Madigan, S., Ly, A., Rash, C., van Ouytsel, J., & Temple, J. (2018). Prevalence of multiple forms of sexting behavior among youth: A systematic review and metaanalysis. *JAMA Pediatrics*, 174, 327–335.
- Maheux, A., Evans, R., Widman, L., Nesi, J., Prinstein, M., & Choukas-Bradley, S. (2020). Popular peer norms and adolescent sexting behavior. *Journal of Adolescence*, 78, 62–66.
- Marcum, C., Ricketts, M., & Higgins, G. (2010). Assessing sex experiences of online victimization: Examination of adolescent online behaviors using routine activity theory. *Criminal Justice Review*, *35*, 412–437.
- Marganski, A. (2017). Sexting in Poland and the United States: A comparative study of personal and social-situational factors. *International Journal of Cyber Criminology*, 11, 183–201.
- Marganski, A., & Fauth, K. (2013). Socially interactive technology and contemporary dating: A cross-cultural exploration of deviant behaviors among young adults in the modern, evolving technological world. *International Criminal Justice Review*, 23, 357–377.
- Mitchell, K., Finkelhor, D., Jones, L., & Wolak, J. (2012). Prevalence and characteristics of youth sexting: A national study. *Pediatrics*, 129, 13–20.
- Morelli, M., Bianchi, D., Baiocco, R., Pezzuti, L., & Chirumbolo, A. (2017). Sexting behaviors and cyber pornography addiction among adolescents: The moderating role of alcohol consumption. Sexuality Research and Social Policy, 14, 113–121.
- Mori, C., Cook, J., Temple, J., Ly, A., Lu, Y., Anderson, N., Rash, C., & Madigan, S. (2020). The prevalence of sexting behaviors among emerging adults: A meta-analysis. *Archives of Sexual Behavior*, 49, 1103–1119.
- Mori, L., Bernat, J., Glenn, P., Selle, L., & Zarate, M. (1995). Attitudes toward rape: Gender and ethnic differences across Asian and Caucasian college students. Sex Roles, 32, 457–467.
- Mouilso, E., & Calhoun, K. (2013). The role of rape myth acceptance and psychopathy in sexual assault perpetration. *Journal of Aggression, Maltreatment & Trauma*, 22, 159–174.
- Teen, National Campaign to Prevent, & Pregnancy, Unplanned (2008). *Sex and tech:* Results from a survey of teens and young adults. National Campaign to Prevent Teen and Unplanned Pregnancy. https://powertodecide.org/sites/default/files/resources/primary-download/sex-and-tech.pdf
- Pan, F. (2020). A study of youth adults' perceptions of sexual harassment on college campus: An analysis based on empirical investigation. *Youth and Social Development*, 39(1), 85–94.
- Reyns, B., Burek, M., Henson, B., & Fisher, B. (2013). The unintended consequences of digital technology: Exploring the relationship between sexting and cybervictimization. *Journal of Crime and Justice*, *36*, 1–17.
- Reyns, B., Henson, B., & Fisher, B. (2014). Digital deviance: Low self-control and opportunity as explanations of sexting among college students. *Sociological Spectrum*, 34, 273–292.
- Schwartz, S. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues*, 50, 19–45.

Snaychuk, L., & O'Neill, M. (2020). Technology-facilitated sexual violence: Prevalence, risk, and resiliency in undergraduate students. *Journal of Aggression Maltreatment & Trauma*, 29, 984–999.

- Spano, R., & Freilich, J. (2009). An assessment of the empirical validity and conceptualization of individual level multivariate studies of lifestyle/routine activities theory published from 1995 to 2005. *Journal of Criminal Justice*, 37, 305–314.
- Stephens, T., Kamimura, A., Yamawaki, N., Bhattacharya, H., Mo, W., Birkholz, R., Makomenaw, A., & Olson, L. (2016). Rape myth acceptance among college students in the United States, Japan, and India. *Sage Open*, October-December. https://doi-org.udel.idm.oclc.org/10.1177/2158244016675015
- Strassberg, D., McKinnon, R., Sustaita, M., & Rullo, J. (2013). Sexting by high school students: An exploratory and descriptive study. Archives of Sexual Behavior, 42.15–21.
- Tang, D. (2017). China remains a patriarchy as men in suits push women from centre stage. *The Times*, October 17, 2017. https://www.thetimes.co.uk/article/chinaremains-a-patriarchy-as-men-in-suits-push-women-from-centre-stage-lxr3njkfc
- Temple, J., Paul, J., van de Berg, P., Le, V., McElhany, A., & Temple, B. (2012). Teen sexting and its association with sexual behaviors. *Archives of Pediatrics and Adolescent Medicine*, 166, 828–833.
- Wolfe, S., Marcum, C., Higgins, G., & Ricketts, M. (2016). Routine cell phone activity and exposure to sext messages: Extending the generality of routine activity theory and exploring the etiology of a risky teenage behavior. *Crime and Delinquency*, 62, 612–644.
- Wood, M., Barter, C., Stanley, N., Aghtaie, N., & Larkins, C. (2015). Images across Europe: The sending and receiving of sexual images and associations with interpersonal violence in young people's relationships. *Children and Youth Services Review*, 59, 149–160.
- Xue, J., Fang, G., Huang, H., Cui, N., Rhodes, K., & Gelles, R. (2019). Rape myths and the cross-cultural adaptation of the Illinois Rape Myth Acceptance Scale in China. *Journal of Interpersonal Violence*, 34, 1428–1460.
- Xue, J., & Lin, K. (2020). Chinese university students' attitudes toward rape myth acceptance: The role of gender, sexual stereotypes, and adversarial sexual beliefs. *Journal of Interpersonal Violence*. https://doi-org.udel.idm.oclc.org/10.1177/0886260520938507
- Xue, J., Lin, K., Sun, I., & Liu, J. (2018). Information communication technologies and intimate partner violence in China. *International Journal of Offender Therapy and Comparative Criminology*, 62, 4904–4922.
- Yu, K., & Zheng, Y. (2020). Sexting and emotional reactions to hooking up among Chinese college students: Moderated mediation effects of loneliness and number of hookup partners. *Personality and Individual Differences*. https://www.sciencedirect.com/science/article/abs/pii/S0191886920304414
- Zhang, W., Wei., X., Ji, L., Chen, L., & Deater-Deckard, K. (2017). Reconsidering parenting in Chinese culture: Subtypes, stability, and change of maternal parenting style during early adolescence. *Journal of Youth and Adolescence*, 46, 1117–1136.

## **Author Biographies**

**Jia Qu**, Ph.D., is an assistant professor in the College of Public Administration at Guizhou University of Finance and Economics in Guizhou, China. Her current research interests include policing, law, and social research.

**Shan Shen**, Ph.D., is an assistant professor in the School of Public Affairs at Chongqing University. Her research interests include political attitudes and behavior, school bullying, and social governance.

**Ivan Y. Sun**, Ph.D., is a Professor in the Department of Sociology and Criminal Justice at the University of Delaware. His research interests include police attitudes and behavior, public opinion on legal authorities, and crime and justice in Asian societies. His most recent publications have appeared in *Journal of Research on Crime and Delinquency, Child Abuse and Neglect, Journal of Interpersonal Violence*, and *Terrorism and Political Violence*.

**Ashley K. Farmer**, Ph.D., is an assistant professor in Criminal Justice Sciences at Illinois State University. Her research focuses on police-community relations, technology and surveillance. Her research has been published in *Race and Justice*, *Policing: An International Journal of Police Strategies & Management*, and *Journal of Research on Crime and Delinquency*.

Jia Xue, Ph.D., is an assistant professor in the Factor-Inwentash Faculty of Social Work and the Faculty of Information at the University of Toronto. Her research focuses on intimate violence, dating violence in young adulthood, child abuse, and gender-based violence in international and cross-cultural contexts. Her research has been published in scholarly journals such as Journal of Interpersonal Violence, Violence and Gender, Child Abuse & Neglect, American Journal of Public Health, and British Journal of Social Work.