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Sexually Active Youth: A Nationally Representative Study of Youth Sexting and Peer Influence in the United States

By

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Sociology, B.A., Rutgers University, 2020

THESIS

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ABSTRACT

Purpose: This study aims to better understand adolescent sexting and peer influence in the United States. Sexting is defined as the sending or receiving of sexually explicit or suggestive photos and videos of oneself (Bianchi et al. 2019; Bragard and Fisher 2021; Döring 2014). This study builds upon current adolescent sexting literature by analyzing the impact of gender identity, sexual orientation, pornography consumption frequency, and peer sexting on youth sexting frequency.

Methods: Data for this study came from the Technology Facilitated Abuse Survey from the Crimes Against Children Research Center. Respondents were ages 18-28 (N=1982); the sample was slightly older and more female than the national average. Survey weights allow for nationally representative estimates. I used Pearson chi-square tests to assess the association between predictor variables and youth sexting frequency. I then performed ordered logistic regressions to analyze the differences between sexting frequency outcomes among my predictor variables, controlling for all other factors.

Results: Less than 30% of youth engaged in sexting (17% rarely and 12% often). Over 60% reported their friends were sexting. Those more likely to sext included females, non-heterosexuals, those who watched pornography often, and those with any friends who sexted. Those with any friends sexting were 3.6 times more likely to sext often compared to those with no friends sexting.

Conclusions: Socioeconomic status and high Adverse Childhood Experiences did not predict sexting frequency, indicating that certain groups of at-risk youth are no more likely to engage in sexting than their less risk-prone peers. As school offers the primary source of adolescent

socialization, sex education curricula should include sexting education and digital literacy. These forms of education can provide youth with accurate information and address risks associated with sexting and pornography consumption. Having accurate information on sexting may minimize the association of peer influence on youth sexting frequency.

INTRODUCTION

Youth sexting behavior is of public concern, as youth who sext technically create and possess child pornography. Nonetheless, youth who sext may not think about the possible legal repercussions; they simply engage in what has been increasingly normal youth behavior (Döring 2014). Some researchers include sexually explicit text messages in their definition of sexting (Rice et al. 2018). However, most define sexting as only receiving or sending sexually explicit or suggestive photos and videos of oneself (Bianchi et al. 2019; Bragard and Fisher 2021; Döring 2014). Sext is both a noun and verb, as someone can send a sext, which performs the action of sexting.

A meta-analysis of youth sexting literature uncovered a relationship between sexting, general sexual activity, history of unprotected sex, and more sexual partners (Kosenko et al. 2017). If “general sexual activity” is related to sexting, it is possible that reports of sexual behavior may indicate sexting behavior or vice versa. This study aims to better understand individual sexting practices and the influence of friends’ sexting behaviors among U.S. youth.

In this thesis, I examine the literature surrounding youth sexting and youth sexual behavior. I begin my literature review by framing adolescent sexting as a theoretically risky behavior. I then incorporate the theory of differential association as it relates to the current study. Next, I outline research on peer selection and delinquency to help explain how peers’ sexual behavior influences youth sexting. I then review gender and sexuality studies identifying differences in sexting and sexual behaviors among cis-gender adolescents, gender minorities, heterosexual and non-heterosexual youth. Next, I connect pornography consumption and pubertal timing research to sexting behavior. I then cover research on socioeconomic status

(SES) and Adverse Childhood Experiences (ACEs) and their relationship to risky sexual behavior. The last piece of my literature review covers the prevalence rates of youth sexting.

After my literature review, I present my research questions. Next, I explain the data source and measures used in my statistical analysis and present my analytic strategy for approaching this study. I then present my results, including a figure displaying the rates of youth sexting often. My discussion of the findings follows the results, which include policy and practical implications, research recommendations, and limitations of the current study. Lastly, I provide a conclusion, highlighting the key components of this thesis.

LITERATURE REVIEW

Sexting Risk

To explain how youth sexting is socially deemed risky, I utilize Beck and Kropp's (2007) World Risk Theory. While intended to explain environmental risks, I apply World Risk Theory's three functions (manufactured uncertainties, modernity as a production of risk, and perception of risk) to adolescent sexting. Manufactured uncertainties are risks created by technology and modernization, where one cannot calculate the expected impacts from said risk (Beck and Kropp 2007). Mobile phones function as manufactured risks for sexting, as Samsung released the first publicly available camera phone in 2000. In this context, teens who *could* have sexted in 2000 are between 36 and 41 years old today. Additionally, smartphones and social media further stratify the landscape of sexting in modern contexts. As such, we cannot calculate the long-term impact of adolescent sexting via cellular devices, making it a unique application of manufactured uncertainties.

The second function of World Risk Theory is modernity as production of risk. Beck and Kropp (2007) articulate that risks are the unintended side effects, or “bads,” of modernization and the production of “goods.” Consider the mobile application Snapchat, where individuals can send pictures and messages that disappear after a short time. Snapchat allows one to password-protect images and videos in a function called “My Eyes Only.” Adolescents may use this function to store explicit or suggestive images. In a Pew Research Center study, Vogels et al. (2022) found that 59% of teenagers use Snapchat. As such, Snapchat is likely a “hot spot” for teen sexting, functioning as a modern production of risk.

Calling on Cultural Theory, Beck and Kropp (2007) underscore how risks are ultimately a function of individuals’ perceptions, “framed by language, social context, public discourses, and storylines inherent to certain practices, standpoints and institutions” (606). Media discourse on youth sexting often utilizes harm-based narratives, which elevate moral panic and parental concern (Lim 2013). Two major broadcast headlines read, “Sexting; Disturbing Trend in Teenage Cell Phone Use” and “Cynthia Logan and Parry Aftab Speak About Dangers of Sexting” (ABC News 2008; NBC News 2009). This language promotes a risk-based narrative, contributing to moral panic around youth sexting.

The perceived risks manifest in parental worries. The Pew Research Center found that over 60% of parents were concerned about their children accessing sexually explicit content or a predator targeting their children online (Auxier et al. 2020). Another study found that 57% of parents worried about their teens sending or receiving explicit images (Anderson 2018). Parental worries may not concern sexting itself but rather the hypothetical negative experiences or “consequences” of sexting.

Negative “consequences” may best be explained by Wolak et al.’s (2012) typology of youth sexting, distinguishing between aggravated and experimental sexting. Aggravated sexting includes elements of coercion, extortion, or the non-consensual creation or dissemination of sexts, occurring with an adult solicitor or among youth. In contrast, experimental sexting occurs exclusively among youth for romantic involvement, attention-seeking, and curiosity (Wolak et al. 2012). Furthermore, of the “youth-produced sexual images” seen by law enforcement from 2008-2009 ($\approx 3,477$), 36% included adults, 31% involved youth-only aggravated sexting, and 33% were experimental cases (Wolak et al. 2012). As a majority of cases occur among youth, it is critical to consider peer relationships and their influence on adolescent sexting.

Differential Association

I examine peer influence through Sutherland’s (1947) theory of differential association. Differential association posits that adolescents learn pro-social and anti-social behavior through peer and parental interactions. In addition, adolescents develop beliefs and attitudes towards behaviors, as excessive exposure to positive beliefs of violating laws or norms result in delinquency (Sutherland 1947).

Differential association helps explain peer influence on adolescent delinquency. Gajos et al. (2022) found that among females ages 14-18 in the Fragile Families and Child Wellbeing Study (FFCWS), delinquent peers increased the odds of initiating alcohol, cigarette, and marijuana use. In a longitudinal study of approximately 1,600 10th and 11th graders, Piquero et al. (2005) found that association with delinquent peers was positively associated with male, but not female, delinquency. As peers influence adolescent delinquency, this study similarly posits that peers may influence sexting behaviors. Aligning with current literature, research on

adolescent sexting often adopts a deviant behavior frame (Symons 2018). If we consider youth sexting a delinquent behavior, differential association may explain peer influence on sexting.

Peer Influence & Delinquency

Peers influence delinquency and deviance, which some research has found to be associated with risky sexual behavior. One longitudinal study of child development in Tennessee and Indiana revealed that affiliation with high-risk peers is a proximal predictor of risky sexual behavior (Lansford et al. 2014). In addition, peer groups influence an individual's participation in oral sex and penetrative sex; if one thought their friends were doing these acts, they were more likely to engage in the same behaviors (Lansford et al. 2014). If this is true, having any friends who sext may be associated with increases in individuals' sexting frequencies.

Popularity also impacts adolescent sexual behavior. A study in the Netherlands used the term "dominant-popular" to identify adolescents at the top of the reputation-based popularity hierarchy among middle school youth (De Bruyn et al. 2012). De Bruyn et al. (2012) concluded that dominant-popularity youth reported higher levels of sexual activity compared to average and low-dominant-popularity youth. In their study of youth ages 11-12 from the Southeast US, Maheux et al. (2020) found that 87% of participants believed that popular kids were sexting; these respondents were over ten times more likely to sext than those without this belief. Researchers found that popularity was a motivator for youth sexting (Bragard and Fisher 2021; Vanden Abeele et al. 2014). Having friends who sext may impact an individual's sexting habits in hopes of gaining popularity by sexting more frequently.

In a study of 2,945 adolescents from grades 7-12, Haynie et al. (2005) found that friend and romantic partner delinquency was positively associated with respondent delinquency. In addition, romantic partner delinquency was more associated with minor delinquency among

females than males (Haynie et al. 2005). As adolescents may identify their romantic partners as “friends” within the present study, there may be a positive association between peer sexting and individual sexting frequency.

Furthermore, friend sexting may influence the strength of associations between other predictors and youth sexting frequency. For instance, the effects of peer sexting may be stronger for females than males or vice versa, as studies have found conflicting evidence on adolescent delinquent peer association and gender (Haynie et al. 2005; Piquero et al. 2005). With respect to peer sexting in particular, sexual double standards may play into peer sexting’s influence, as male youth are often the solicitors of sexts, and adolescent female sexting risks the onset of “slut-shaming” (Davidson 2014, as cited in Symons 2018; Hunehäll Berndtsson and Odenbring 2021; Ringrose et al. 2013; Ringrose and Harvey 2015). Given these gender-based norms and biases, peer sexting could more strongly affect youth sexting frequency for females than for males, to the extent that peer sexting functions to minimize the perceived risk of sexting consequences (e.g., “slut-shaming”) for females. On the other hand, given gender norms where adolescent males’ receiving of female “nudes” functions as a form of social currency and status (Hunehäll Berndtsson and Odenbring 2021; Ringrose et al. 2013), male sexting may be especially influenced by peer sexting behavior as a means of gaining social status relative to their peers.

Gender Identity and Sexual Orientation

According to Bragard and Fisher (2021), 85% of cis-gendered females, ages 14-18, sexted someone they were not dating at least once. Youth who sext within romantic relationships are sexting people they know. Those who are not in relationships may be more likely to sext strangers, which carries different risks compared to sexting known individuals. Additionally, a

UK survey of approximately 2,000 males ages 14-18, found that 13% of cisgender heterosexual males and 33.3% of LGBTQ males sexted individuals they did not know (Needham 2020).

Gender differences further play into the risk narrative, as Albury and Byron (2014) identified difficulty sourcing “gay male-focused” media regarding sexting “consequences.” In a qualitative study of British 13-15-year-olds, both males and females identified females’ cleavage on social media as synonymous with “sluttiness;” posting a sexy photo would risk the onset of sexual shaming (Ringrose and Harvey 2015). Youth sexting is highly gendered under sexual double standards, as society perceives males as the solicitors of sexts and females as responsible for setting sexting limitations (Davidson 2014, as cited in Symons 2018). Bragard and Fisher (2021) found popularity, peer pressure, body-image validation, and flirting were motivators behind females' sexting behavior. While 71% of respondents sexted at least once due to partner coercion, more (80%) endorsed flirting motivations behind sexting practices (Bragard and Fisher 2021).

Lesbian, Gay, Bisexual, Transgender, Questioning + (LGBTQ+) youth often use the internet to learn more about their community and sex practices. A qualitative study of LGBT youth ages 16-24 showed that LGBTQ+ youth predominantly used the internet to find friends (DeHaan et al. 2013). The second highest response was for sex or “hook-up” partners, and the least commonly mentioned was for dating relationships (DeHaan et al. 2013).

In their meta-analysis on youth sexting literature from 2011-2015, Kosenko et al. (2017) observed that 60% of articles did not include measures of sexual orientation. Academics often frame heterosexual sexting as risky behavior, while non-heterosexual men’s sexting practices are deemed relatively unproblematic and a part of their cultural norms (Albury and Byron 2014). In part, this may explain the lack of research on adolescent LGBTQ+ sexting. The distinction of

sexual orientation “marks” LGBTQ+ people as sexual beings. This marking may place less emphasis on LGBTQ+ sexting behaviors if it is expected that LGBTQ+ people will be more sexually active; therefore, non-heterosexual male sexting may be perceived as less delinquent.

Studies found that LGBTQ+ individuals engaged in more sexual behaviors (Kattari et al. 2021; Needham 2020). For example, Needham (2020) found more LGBTQ males (63%) reported sexting than cisgender heterosexual males (44%). Kattari et al. (2021) found that cisgender LGB adolescents were more likely to have had sex compared to cis-heterosexual adolescents using the 2015 Health Kids Colorado Survey. Another study identified that LGBTQ+ participants from Australia aged 15-19 were three times more likely to watch pornography frequently compared to heterosexual participants (Lim et al. 2017). Given the literature cited above, we may find that, compared to cis-gender heterosexual youth, cis-gender non-heterosexual youth report more frequent sexting and pornography consumption in the current study.

Pornography Consumption

Pornography consumption is another aspect of sexual behavior that connects to youth sexting. Lim et al. (2017) found the median age for first pornography exposure was 13 years old among males and 16 years old among females. Additionally, their study found that 57% of participants watched pornography before first sexual contact, 30% experienced sexual contact before pornography exposure, and 9% experienced both at the same age (Lim et al. 2017). Pornography consumption is associated with sexual behavior and, by extension, sexting behavior.

Researchers found an association between sexting and pornography consumption for both males and females (Morelli et al. 2017; Vanden Abeele et al. 2014; Van Ouytsel 2014). According to Milas et al. (2019), more than 90% of males ages 15-18 reported watching

pornography in the past month and, on average, watched pornography once a week in the Prospective Biophysical Study of the Effects of Sexually Explicit Material on Young People's Sexual Socialization and Health (PROBIOPS). More frequent pornography viewing may be associated with more frequent sexting.

In addition, Vanden Abeele et al. (2014) found that the odds of using mobile pornography increased by 50% among Belgian high school-aged boys who experienced more peer pressure. In this sense, peer influence may impact the relationship between pornography consumption frequency and sexting frequency. Pubertal development is also associated with pornography consumption; Beyens et al. (2015) found that more developed males aged 12-15 visited X-rated sites more frequently than less physically developed males.

Pubertal Timing

Relevant research on pubertal timing and development often focuses on deviance. To the extent sexting is considered deviant behavior, pubertal-timing-related delinquency may link to sexting behavior. Studies found that more developed females, and those who experienced early development, displayed more delinquency than females with average or on-time development (Bucci and Staff 2019; Haynie 2003).

It may be that those with early pubertal development influence their less-developed peers. One study concluded that early and late pubertal development were both strongly associated with party deviance (Haynie 2003). Haynie (2003) defines party deviance as cigarette, alcohol, and marijuana use, lying to parents, school truancy, and engagement in disorderly conduct. Gajos et al. (2022) similarly utilized alcohol, cigarette, and marijuana use in their study on peer group delinquency, finding an association between having delinquent peers and the initiation of substance use. Pubertal timing's association with delinquency may extend to sexual and sexting

behavior, but research has yet to focus on sexting and pubertal timing. In the current study, those with late pubertal timing and any friends sexting may sext more frequently than those with early pubertal timing and no friends sexting.

SES and ACEs

Studies show socioeconomic status (SES) is associated with risky sexual behavior. For example, Santelli et al. (2000), using the Youth Risk Behavior Survey/Supplement from 1992, found adolescents (aged 14-17) whose parents did not have a high school diploma were 2.5 times more likely to have had sexual intercourse. In a study of low SES females aged 13-14, 23.1% had sex with a condom, and 11.5% had sex without a condom at least once by age fourteen (McKellar et al. 2019). In addition, researchers found U.S. adolescents whose parents received college degrees displayed more condom use than those without college degrees (Santelli et al. 2000). These studies suggest that low SES youth are more likely to engage in risky sexual behavior than youth from higher SES families. We do not yet know how parental education impacts individuals' sexting frequency; low SES may be associated with greater sexting frequency, as frequent sexting may be considered risky sexual behavior.

Adverse Childhood Experiences (ACEs) similarly impact risky sexual behavior. Researchers found ACEs were associated with early sexual initiation and risky sexual behaviors, such as intercourse with a non-dating partner or having multiple sexual partners (Tsuyuki et al. 2019; Song and Qian 2020). Those with high ACEs may engage in more frequent sexting if we consider frequent sexting a risky sexual behavior.

Prevalence

Research on youth sexting behavior shows inconsistent prevalence rates. Some researchers find rates of sending a sext as low as 9.6% among youth aged 10-17, while others

claim rates as high as 54% among 13-20 year-olds and 16-18 year-olds (Maheux et al. 2020; Mitchell et al. 2011; Morelli et al. 2017). In a meta-analysis of 39 sexting studies, including 110,380 participants aged 11-17 across six countries, Madigan et al. (2018) found a mean prevalence of 14.8% for sending a sext.

While prevalence rates are inconsistent, we may better understand sexting culture by looking at youth sexting frequency. According to Bragard and Fisher (2021), youth sext between 1-3 times a year and once a month on average. As research has not analyzed sexting frequency and peer influence, it is critical to explore how peer sexting influences the relationships among variables predicting individuals' sexting frequency.

In summary, past research has found that higher levels of Adverse Childhood Experiences and lower socioeconomic status are associated with adolescent risky sexual behavior (Song and Qian 2020; Tsuyuki et al. 2019) and, as such, may be associated with youth sexting behavior. Sexting research has analyzed the impact of gender identity, sexual orientation, and pornography consumption on individuals, but not in the context of peer sexting. Pubertal timing has been associated with party deviance, a form of peer deviance (Bucci and Staff 2019; Haynie 2003), but we do not know how this impacts sexting frequency. Sexting research has primarily focused on sexual behavior, deviance, gender identity, sexting motivations, popularity, and pornography consumption. Differential association theory explains how adolescents engage in delinquent behavior due to learning delinquent attitudes and behaviors from their peers. Researchers have not examined the broader connections between ACEs, SES, gender identity, sexual orientation, pornography consumption frequency, and pubertal timing on sexting frequency and the effects of peer influence. This study aims to explore these connections further.

RESEARCH QUESTIONS

This study seeks to understand youth sexting by asking, “How are gender identity, sexual orientation, pubertal timing, pornography consumption frequency, high ACE scores, parents’ education level, and peers’ sexting habits related to sexting frequency?”

To further explore peer influence, I also ask, “How does having any friends who sext influence the relationships among gender identity, sexual orientation, pornography consumption frequency, high ACE scores, and sexting frequency?”

I hypothesize higher sexting frequencies will be associated with individuals identifying as non-heterosexual, gender-diverse, those with high ACEs, and those with more frequent pornography use. In addition, I hypothesize the influence of any friend sexting will strengthen the relationships among variables predicting more frequent sexting due to differential association.

DATA SOURCE

Researchers at the Crimes Against Children Research Center created the Technology Facilitated Abuse (TFA) survey to understand online victimization experiences. The National Institute of Justice provided funding for the project. The nationally representative IPSOS online Knowledge Panel collected the data for this survey. KnowledgePanel has recruited members through Address-Based Sampling (ABS) for more than twenty years. Using ABS, IPSOS built a network of over 60,000 members who regularly take online surveys. For the TFA study, IPSOS solicited members of KnowledgePanel aged 18-28 from October-December 2021. Of the 13,884 members meeting the age criteria, 20% (2,639) completed the survey. Compared to the U.S.

population of 18-28-year-olds, the final sample was slightly older and more female. To combat this discrepancy, I use survey weights in my analyses.

The survey was 234 questions long; not all questions needed to be answered by all participants. Researchers ensured participant anonymity and guaranteed responses would only be used for research. The average time to complete the survey was 15-20 minutes. Researchers defined TFA as victimization incidents that occurred through technology such as a cell phone or an online platform. A five-minute screener allowed participants to identify if they had experienced TFA, covering online sexual victimizations. Respondents who answered “yes” to any victimization prompts were directed to incident, impact, and disclosure follow-up questions.

All victims and half of the control group (nonvictims) answered questions regarding childhood adversities, victimization history, risky online behavior, mental health, sexual risk factors, and policy issues. As such, I removed the 711 respondents who did not answer any of the questions utilized in my analysis. This deletion leaves my final sample size at 1,928 respondents.

MEASURES

Table 1. Variable Definitions and Weighted Frequencies (N=1,928)

<i>Youth Sexting</i>	Percent
<i>Sexting Frequency– Respondent's sexting frequency before age 18</i>	
Never	71
Rarely	17
Often	12
<i>Respondent Characteristics</i>	
<i>Parental Education – Level of most educated parent</i>	
HS or less no diploma	7
HS graduate, GED	19
Some college	17
Associate's Degree	12
Bachelor's Degree	25
Master's Degree	14
Professional/Doctorate Degree	6
<i>Gender Identity</i>	
Male	45
Female	52
Gender Diverse	3
<i>Sexual Orientation</i>	
Heterosexual	74
Non-heterosexual	26
<i>Pubertal Timing – When respondents started pubertal development</i>	
Before other kids your age	13
At the same time as other kids your age	64
After other kids your age	14
Don't know/not sure	9
<i>Pornography Viewing – Respondent's frequency of visiting X-rated sites</i>	
Never	49
Rarely	23
Often	28
<i>High ACEs – Respondent's Adverse Childhood Experiences</i>	
Less than four ACEs	85
More than four ACEs	15
<i>Peer Influence</i>	
<i>Friends Sexting Known Persons – Respondent's portion of friends sexting those they know</i>	
None (none of them)	39
Some (a few of them)	45
Many (about half or more than half of them)	16
<i>Friends Sexting Unknown Persons – Respondent's portion of friends sexting those they do not know</i>	
None (none of them)	71
Some (a few of them)	24
Many (about half or more than half of them)	5
<i>Any Friends Sexting – Respondents with any friends who sexted known or unknown persons</i>	
None (none of them)	38
Any (a few to most or all of them)	62

To analyze my research questions, I utilize ten variables from the TFA study. *Sexting frequency* was assessed by asking, “how often before the age of 18 did you send sexual pictures or videos of yourself (sexting) to another person?” Response options were: never; a few times; several times; very frequently; most everyday; or prefer not to answer. Most (70%) never sent a sexual image or video of themselves to another person. To create the category “often,” I combined sexting several times (9%), very frequently (3%), and most every day (<1%). This combination allowed for the distinction between sexting never, rarely, and often (coded 0, 1, 2 respectively).

Parental education was measured by asking, “think about your parent or guardian who is/was the most educated. What is the highest level of school that s/he has completed?” Respondents could select: Some high school or less – no diploma or GED; High school graduate – high school diploma or the equivalent (GED); some college; no degree; associate degree; bachelor’s degree; master’s degree; professional or doctorate degree; or prefer not to answer. Having a parent with a Bachelor’s degree was the most selected (25%), and youth whose parent had a Professional/Doctorate degree was selected the least (6%).

Gender identity was assessed by asking respondents how they consider themselves. Response options included: male; female; trans male; trans female; gender fluid/non-conforming; don’t know; prefer not to answer. Less than 1% reported a trans identity, and 2% reported gender fluidity or non-conformity, leaving a gender-diverse population of 3%. Knowledge Panel provided members’ gender from when they signed up, allowing me to subsidize gender for those who skipped, didn’t know, or preferred not to answer. Females were overrepresented (69%) in this dataset, but with survey weights, 52% of the sample is female.

Sexual orientation was assessed by asking, “what is your sexual orientation?” Response options included: Gay/Lesbian; Bisexual/Pansexual; Heterosexual; not listed, please specify (a text box was provided); or prefer not to answer.” Heterosexual was the most reported (71%) sexual orientation. Within the text box, 17 respondents indicated “straight” as their sexuality. Other common responses included “asexual” and “queer.” I coded all text box responses and sexuality minorities to indicate heterosexual and non-heterosexual. Eight percent of respondents skipped the question or preferred not to answer.

Pubertal timing was measured by asking when respondents went through puberty relative to other kids. Respondents could select: before other kids your age; at the same time as other kids your age; after other kids your age; don’t know/not sure; or prefer not to answer. A majority (64%) started puberty at the same time as others. Eight percent of respondents were unsure of when they started puberty compared to other youth.

Pornography viewing frequency was measured by asking, “how often before the age of 18 did you intentionally visit an X-rated website?” Response options included: never; a few times; several times; very frequently; most everyday; or prefer not to answer. About half (48%) reported they had never visited an X-rated site. X-rated sites predominantly include pornography websites, so I named this variable *pornography frequency*. To remain consistent in my frequency measures, I combined the responses “several times, very frequently, and most everyday” to indicate often pornography consumption.

To measure Adverse Childhood Experiences (ACEs), I created a count variable of reported ACE exposures. In the survey, ten questions asked about different ACE exposures. The survey explains, “the next few questions ask about some other experiences that you or someone in your family may have had before the age of 18.” Response options for these questions

included yes; no; and don't know/not sure. The ten questions covered topics including exposure to severe illness; homelessness; parental job loss; being taken from your family; having a family member imprisoned; having a family member with drug or alcohol abuse issues; family arguing often; knowing someone who self-harmed or attempted suicide; and parental military deployment. Seventy percent experienced at least one ACE exposure by age 17. Less than three percent experienced six or more exposures, and four percent experienced five exposures. To have a strong enough sample for analysis, *High ACE* is a binary variable with four or more exposures as the "high ACEs" indicator— 15% have a high ACE score.

Friends sexting known persons was assessed by asking, "when you were 16 or 17, how many of your friends were sharing sexual images with people they knew?" Respondent options were: none of them; a few of them; about half of them; most or all of them; or prefer not to answer. Only six percent reported most, or all, of their friends were sexting people they knew. Because of this, I combined responses "about half of them" and "most or all of them" to indicate "many" friends' sexting participation. Cases where "a few of them" were sexting people they know indicates "some" friends' participation.

Friends sexting unknown persons was assessed by asking, "when you were 16 or 17, how many of your friends were sharing sexual images with people they did not know?" Respondent options were: none of them; a few of them; about half of them; most or all of them; or prefer not to answer. Only three percent reported "about half of them," and less than two percent reported "most or all of them." To remain consistent, I combined these responses, indicating that 5% of participants had "many" friends who were sexting unknown persons.

To create the variable *friend sexting any persons*, I combined *friends sexting known* and *unknown persons*. Eight respondents skipped, or preferred not to answer, the question relating to

friends' *unknown* sexting but responded differently for friends' *known* sexting. Only one respondent skipped *known sexting* but responded "none" for *unknown sexting*. In total, 62% of respondents had at least a few friends who sexted.

ANALYTIC STRATEGY

Throughout my analyses, I used survey weights to adjust for non-response, allowing for national estimates. As a majority of my data is categorical, I first performed bivariate Pearson chi-square tests to determine whether or not there were significant relationships between my predictor variables and sexting frequency. These statistical tests allowed me to understand the relationships between demographic and individual characteristics on youth sexting frequency.

To account for outcome variations, I utilized an ordered logit regression model to show the differences between sexting frequency outcomes among my predictor variables, controlling for other factors. As the literature identified associations between peer influence, deviance, and sexual activity (Bragard and Fisher 2021; Gajos et al. 2020; Lansford et al. 2014; Maheux et al. 2020; Vanden Abeele et al. 2014), peer influence may impact sexting frequency.

I analyzed the influence of the moderator, any friend sexting, using the same ordered logit regression models for each moderator and predictor variable, respectively. Having friends who sext may increase the strength of the relationships among my hypothesized outcomes for sexting frequency among those identifying as non-heterosexual, female, with high ACEs, and more frequent pornography use.

First, I assessed the main effects of the ordered logit regression. I then entered the interaction terms for *gender identity X any friend sexting*, *sexual orientation X any friend sexting*, *pornography consumption frequency X any friend sexting*, and *high ACEs X any friend*

sexting into the model. The applied interaction effects are shown in Models 1-4. In addition, Figure 1 displays the main model relationships using a margins plot. This allowed for a visual interpretation of the statistically significant results predicting youth sexting.

RESULTS

Bivariate Results

Pearson chi-square tests revealed that all factors except parental education and pubertal timing were significantly associated with youth sexting frequency. Overall, males reported less sexting (20.9%) compared to females (55.6%) and gender-diverse respondents (36.7%). However, 9.6% of males were likely to sext often. In this sample, females were most likely to sext often (14%). Gender-diverse participants were least likely to sext often (8%). Furthermore, non-heterosexuals were nearly twice as likely to sext often (18.4%) compared to heterosexuals (9.3%).

In addition, participants who frequently watched pornography were most likely to sext often (29.5%). Those who rarely watched pornography were less likely to sext often (8.7%). Those who never watched pornography were least likely to sext often (3.6%). Respondents who experienced four or more ACEs were over twice as likely to sext often (21.6%) compared to those with fewer ACEs (10.1%).

Those with some friends who sexted known persons were more likely (13.5%) to sext often than those with no friends sexting known individuals (3.4%). Those with many friends sexting known individuals were most likely to sext often (29.4%). Similarly, those with many friends sexting unknown persons were most likely to sext often (28.7%). Participants with some friends sexting unknown persons were more likely to sext often than those with no friends

sexting unknown individuals, 19.8% and 7.8%, respectively. Overall, those with any friends who sexted were more likely to sext often (17.5%) compared to those without friends who sexted (3%).

Table 2. Youth Sexting Frequency by Background Characteristics (N=1,928)

	(Test Statistic) n	Youth Sexting Frequency		
		Never %	Rarely %	Often %
<i>Parental Education</i>	($\chi^2(12)=22.90$)			
HS or less no diploma	130	64.7	18.8	16.5
HS graduate, GED	299	68.9	16.5	14.6
Some college	288	69.8	16.3	13.9
Associate's Degree	207	69.8	22.8	7.4
Bachelor's Degree	576	73.6	15.5	10.9
Master's Degree	303	73.2	16.3	10.5
Professional/Doctorate Degree	113	80.8	10.6	8.6
<i>Gender Identity</i>	($\chi^2(4)=49.66$)***			
Male	518	79.1	11.3	9.6
Female	1,314	65.3	20.7	14.0
Gender Diverse	57	63.3	28.7	8.0
<i>Sexual Orientation</i>	($\chi^2(2)=41.50$)***			
Heterosexual	1,392	75.4	15.3	9.3
Non-heterosexual	516	61.3	20.3	18.4
<i>Pubertal Timing</i>	($\chi^2(6)=19.32$)			
Before other kids your age	289	62.2	21.3	16.5
Same time	1,204	72.9	16.2	10.9
After	283	69.2	19.1	11.7
Don't know/not sure	138	78.0	9.0	13.0
<i>Pornography Viewing Frequency</i>	($\chi^2(4)=315.07$)***			
Never	941	86.4	10.0	3.6
Rarely	419	66.2	25.1	8.7
Often	543	48.7	21.8	29.5
<i>High ACE</i>	($\chi^2(2)=35.98$)***			
Less than four ACEs	1,616	73.7	16.2	10.1
More than four ACEs	312	59.0	19.4	21.6
<i>Friends Sexting Known Persons</i>	($\chi^2(4)=301.18$)***			
None	687	89.6	7.0	3.4
Some	885	67.4	19.1	13.5
Many	330	37.1	33.5	29.4
<i>Friends Sexting Unknown Persons</i>	($\chi^2(4)=187.42$)***			
None	1,333	80.2	12.0	7.8
Some	479	53.5	26.7	19.8
Many	83	33.9	37.4	28.7
<i>Any Friends Sexting</i>	($\chi^2(2)=194.20$)***			
None	666	89.7	7.2	3.1
Any	1,235	60.0	22.5	17.5

*** $p < 0.001$

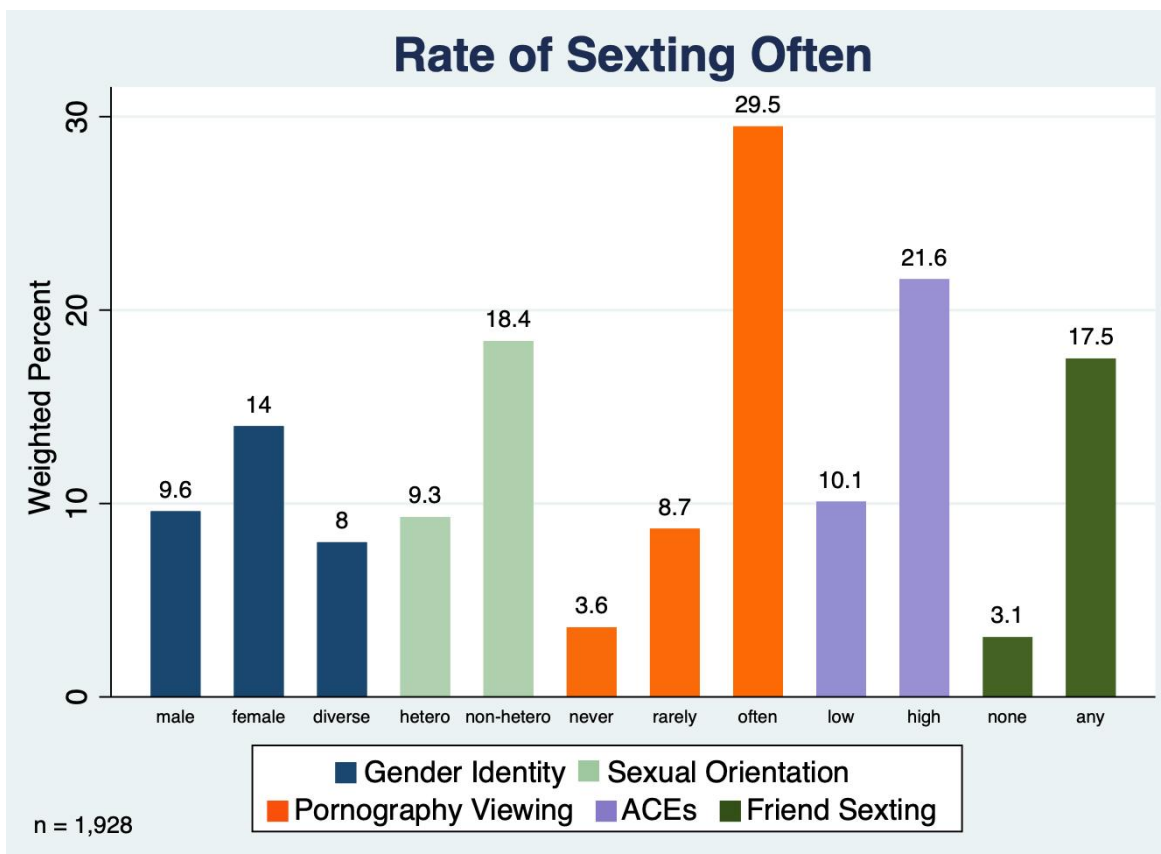


Figure 1. Rate of Sexting Often

Figure 1 displays the rates of sexting often across gender identity, sexual orientation, pornography consumption frequency, high ACEs, and any friend sexting. As *any friends sexting* is a combination of *friends sexting known persons* and *friends sexting unknown persons*, I display *any friends sexting* as a representation of peer sexting. Pearson chi-square tests revealed these factors to be statistically significant predictors of youth sexting frequency. Females, non-heterosexuals, frequent pornography viewers, those with high ACEs and any friends sexting were more likely to sext often. Twelve percent of the total sample reported sexting often.

Multivariate Results

Table 3. Multivariate Prediction of Youth Sexting Frequency (N=1,881)

Predictor	Main Effects	Odds Ratios			
		1	2	3	4
<i>Gender Identity</i>					
Male (base)					
Female	3.21***	1.85	3.21***	3.18***	3.21***
<i>Sexual Orientation</i>					
Heterosexual (base)					
Non-heterosexual	1.44*	1.45*	1.54	1.45*	1.43*
<i>Pornography Viewing Frequency</i>					
Never (base)					
Frequency	3.01***	3.01***	3.01***	3.72***	3.00***
<i>High ACE</i>					
Less than four ACEs (base)					
More than four ACEs	1.07	1.07	1.07	1.07	1.27
<i>Any Friends Sexting</i>					
None (base)					
Any	3.63***	2.42*	3.73***	6.35***	3.71***
Peer Influence					
<i>Female X Any Friends Sexting</i>		1.98	–	–	–
<i>Non-heterosexual X Any Friends Sexting</i>			.92	–	–
<i>Pornography X Any Friends Sexting</i>				.75	–
<i>High ACE X Any Friends Sexting</i>					.82
<i>F statistic</i>	32.32***	31.42***	27.44***	24.65***	26.87***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

While gender identity was statistically significant within the Pearson chi-square tests, the sample of gender-diverse participants was too small to analyze with the ordered logit regression. As such, the regression analyses used a binary gender variable. In addition, statistically insignificant characteristics, such as pubertal timing and parental education level were dropped from the regression model. Further, as *any friends sexting* combines peer sexting characteristics, the model did not individually include *friends sexting known persons* or *friends sexting unknown persons*.

Ordered logit regression coefficients were transformed into odds ratios to describe the change in odds of sexting frequency for a one-unit increase in the predictor variable. The results

of the main effects model indicated that gender identity, sexual orientation, pornography consumption frequency, and having any friends who sexted were significant independent predictors of more frequent sexting. Having a high ACE score did not independently predict a significant increase in sexting frequency. In addition, none of the interaction terms were significant, meaning that associations between sexting frequency and gender, sexual orientation, pornography use, and high ACEs did not significantly differ by friend sexting.

DISCUSSION

Bivariate and multivariate results support the findings of previous literature indicating that gender identity, sexual orientation, pornography consumption, and peer influence are associated with adolescent sexting. The lack of significance among the interaction terms suggests that friend sexting did not significantly influence the relationships between sexting frequency, gender identity, sexual orientation, pornography consumption frequency, and high ACEs.

Gender Identity

Supporting my hypothesis, females, compared to males, were over three times more likely to sext often. Adolescent females may report greater sexting frequencies if complying with sexting requests from their male counterparts. This is consistent with past research showing that adolescent males are more likely to request sexts from their female peers (Burén and Lunde 2018; Davidson 2014, as cited in Symons 2018). In addition, studies have found that females experience more pressure to sext and more frequent sexting coercion (Bragard and Fisher 2021; Burén and Lunde 2018; Reed et al. 2020; Ross et al. 2019). However, females predominantly reported sexual and body-image reinforcement motivations over instances of aggravated sexting (Bianchi et al. 2021; Bragard and Fisher 2021; Reed et al. 2020). In this sense, the rate of

adolescent female sexting does not solely represent negative or aggravated sexting experiences. The current findings indicate that female sexting is quite normative, as 55% sexted rarely or often.

Sexual Orientation

Sexual orientation was statistically significant, such that non-heterosexuals reported sexting more often than heterosexuals. This finding supports my hypothesis and is consistent with past research (Needham 2020; Rice et al. 2012) as non-heterosexuals were 1.4 times more likely to sext often compared to heterosexuals. As early studies have found that non-heterosexual teens often use the internet to find romantic partners (DeHaan et al. 2013), non-heterosexual sexting may, in part, be a function of physical distance between romantic or “hook-up” partners.

Pornography Consumption

Pornography consumption frequency was a significant predictor of sexting frequency. Those who watched pornography rarely were 3 times more likely to sext often than those who never watched pornography. These findings are supported by prior studies, as researchers found positive associations between adolescent sexting and pornography consumption across gender (Morelli et al. 2017; Vanden Abeele et al. 2014; Van Ouytsel 2014). Those who watched pornography more frequently may be more sexually curious or sexually motivated due to more frequent sexual exposure. Frequent exposure to pornography may indicate more favorable attitudes toward participating in sexual activities like sexting.

Friend Sexting

Having any friends who sexted significantly predicted sexting frequency. Compared to those without friends who sexted, those with friends who did were over 3.5 times more likely to sext frequently. Due to differential association, knowing that one’s peers engage in sexting may

lead them to more favorable views of sexting. Rice et al. (2018) found that teens with peers who sexted were more than twice as likely to report sending a sext. Several studies found that believing popular kids, or their peers, engaged in specific sexual behaviors led individuals to participate in those behaviors whether or not this belief was true (Lansford et al. 2014; Maheux et al. 2020). Supporting my hypothesis and prior research, peer influence was significantly associated with adolescent sexting in the current research.

Policy and Practical Implications

Adolescent sexting is unlikely to go away; as such, sexting education is critical to helping youth make good sexting decisions. In the current study, approximately 30% of youth reported sexting, and 12% sexted often. Legally, self-taken nude or lascivious images can be considered criminal child pornography (Sabbah-Mani 2015). In seven states, possessing child pornography is a felony that requires one to register as a sex offender. Twenty-seven states have statutes addressing youth sexting, of which only nine include the phrase “sexting” (Patchin and Hinduja 2022). Even when youth are aware of possible criminal charges, it does not necessarily deter them from sexting (Sabbah-Mani 2015). If legal repercussions do not stop adolescents from sexting, it may be critical to rely on sexting education from peers or certified health and sex educators.

Sexting education would not only make youth aware of negative sexting “consequences” but can help individuals take more protective measures when sexting. In the current study, 62% of youth reported their friends were sexting, and those with any friends sexting were 3.6 times more likely to sext than those without friends sexting. This indicates that youth discuss sexting with their friends. A study covering an adolescent mental health platform, including 5 million

posts between 2011-2017, found that youth often sought informational and emotional support in asking how to handle unwanted sexting solicitation or when to trust someone with their “nudes” (Hartikainen et al. 2021). Additionally, they found that common youth recommendations for safer sexting included cropping their face out of the photo and using Kik or Snapchat for disappearing images (Hartikainen et al. 2021). This study demonstrates the importance of peer communication as a form of education. As youth seek sexting information from their peers and are aware of their friends’ sexting habits, implementing sexting education in schools would provide youth with accurate information to share in sexting discussions.

Furthermore, commentary on teaching safe sexting called for excluding identifiable birthmarks, jewelry, or bedroom decor from photos and deleting metadata attached to the image (Patchin and Hinduja 2020). Patchin and Hinduja (2020) also recommended collecting evidence of threats or extortion claims and promptly deleting any explicit images stored on one’s device. That way, if someone involves the police or authority figures, one would have proof of aggravated sexting while minimizing the possibility of punishment for possessing child pornography. In some states, victims of aggravated sexting can be penalized for possessing their own nude or lascivious images.

Sexting education can also deter aggravated sexting and encourage youth to consider the trustworthiness of recipients. In a meta-analysis of sex education literature spanning 30 years, researchers found that comprehensive sex education helped prevent teen dating violence, improve knowledge on how to report violence, increase bystander intervention, and promote healthy relationships and social-emotional learning (Goldfarb and Lieberman 2020). In this sense, educating youth on how to protect themselves will allow them to educate their friends and peers while, theoretically, minimizing aggravated sexting. To continue promoting healthy

relationships, sexting education could encourage youth to think about the trustworthiness of recipients before sending a sext.

Minimizing sexual violence and aggravated sexting would greatly benefit youth. The current study found that females were 3.2 times more likely to sext than males, and non-heterosexual youth were 1.4 times more likely to sext than heterosexuals. In another recent study using the CDC's 2019 Youth Risk Behavior Surveillance (YRBS) System, researchers found that among those in high school, LGBQ and female youth were significantly more likely to experience sexual violence compared to their heterosexual and male counterparts (Williams and Gutierrez 2021). As comprehensive sex education has been shown to minimize sexual violence, adolescent females and non-heterosexuals may see the greatest return on sex education, which may include reducing risky sexting behavior.

Sexting education should incorporate and reach male youth. In the present study, 25% of heterosexuals and 20% of males reported sexting. According to past research, adolescent males are more likely to solicit sexts from their female peers (Burén and Lunde 2018), and females are more likely to experience sexting coercion (Bragard and Fisher 2021; Burén and Lunde 2018; Reed et al. 2020; Ross et al. 2019). Providing sexting education to those most likely to request or coerce sexts may have the greatest impact on deterring aggravated sexting.

Other indicators of at-risk youth, like high ACE scores and low SES, were not statistically significant in the current study. This indicates that comprehensive sex education, including sexting information, should be available to all adolescents. The current findings suggest the particular importance of reaching females and non-heterosexual youth in ways that are sensitive to their needs and vulnerabilities.

The present findings suggest that peer influence impacts individual sexting habits even if one is not interested in sexting. A study of 562 U.S. adolescents ages 14-18 found that peer use of e-cigarettes indirectly affected lower self-efficacy to resist e-cigarettes and higher rates of self-efficacy were associated with never using e-cigarettes (Durkin et al. 2021). In theory, peer sexting may indirectly lower self-efficacy to resisting sexting; however, sexting is not addictive like nicotine in e-cigarettes. Additionally, Goldfarb and Lieberman (2020) found that comprehensive sex education improved adolescent self-efficacy. Therefore, if incorporating sexting education into comprehensive sex education, higher self-efficacy rates may be associated with never sexting. In this sense, sexting education may improve self-efficacy, minimize overall sexting, and possibly moderate the impact of peer sexting.

In addition to sexting education, pornography education and digital literacy can benefit youth. Fifty-one percent of participants reported watching pornography (23% rarely and 28% often) in the present study. Past research has found that adolescent frequent pornography consumption was associated with exposure to more “fantastical” or uncommon sexual practices like “rough oral sex” and “BDSM” (Wright et al. 2021). They also found that increased pornography viewing erroneously impacted adolescent beliefs regarding sexual intimacy and pleasure (Wright et al. 2021). In other words, pornography is a source of sexual misinformation for youth. This is problematic for adolescents since, in the current study, those who watched pornography were 3 times more likely to sext than those who had not watched pornography.

Digital literacy is important beyond pornography education, as youth can learn how to identify credible sources on social media. Digital literacy can help adolescents be more skeptical of media, allowing them to consider the credibility of the content presented (Scull et al. 2022). By extension, youth may also be more skeptical of sexting requests and recipient trustworthiness.

Over 50% of those who watched pornography often and over 30% of those who watched it rarely reported sexting in the current study. As the present study found an association between pornography consumption and sexting frequency, digital literacy may impact pornography use and sexting. Digital literacy can effectively be a form of pornography education, allowing youth to be more skeptical of pornographic content and its perceived realism. Implementing digital literacy into sex education may benefit adolescents in mitigating the spread of sexual misinformation among peers and enabling youth to be more intentional with their sexting partners.

Ultimately, sexting and pornography education belong in secondary school comprehensive sex education. Peers function as a primary form of socialization for adolescents. As the current study found that youth with any friends sexting were 3.6 times more likely to sext often, implementing sexting education in schools may be particularly important for mitigating peer influence and sexting frequency. When youth are accurately informed regarding sexting and pornography use, we may see lower rates of aggravated sexting, higher rates of self-efficacy that mitigate peer influence, and long-term impacts on sexual literacy. In the present study, those watching pornography were 3 times more likely to sext often than those who did not watch pornography. Implementing digital literacy into sex education would allow peer discussions can be more accurately informed, minimizing the spread of misinformation. Furthermore, females were 3.2 times more likely to sext than males, and non-heterosexuals were 1.4 times more likely to sext than heterosexuals. While all adolescents need comprehensive sex education, sexting education should particularly focus on groups that are most likely to sext.

Research Recommendations

To best understand sexting in contemporary contexts, researchers should consider hosting focus groups to determine how adolescents define sexting. For instance, do adolescents consider an exchange “sexting” if one party sends images and the other responds with standard text? In addition, does “sexting” include unsolicited images? What constitutes a “suggestive” image for adolescents? In understanding how youth define sexting, researchers can more accurately assess youth sexting.

As the current definition operates, suggestive images are sexts, but adolescents may differentiate between suggestive images based on the context of the conversation. For instance, sending a casually flirty image with revealing cleavage may not be considered a sext in practice, but the research definition suggests otherwise. In addition, posting a more revealing photo to one’s social media platform is not a sext, but this may operate as a perceived invitation for sexting. In this sense, it may be beneficial to understand who initiates sexting, at what point image-based conversations transition from flirting to sexting, and how many images partners exchange.

Portions of youth with more sexting partners may utilize images from prior sexting exchanges. There may be risks in sharing photos with more individuals but less risk in potentially having fewer photos posted or circulated online. Ultimately, adolescent sexting may be a complex process that researchers have yet to fully explore. Furthermore, I have yet to come across research that asks which platforms adolescents use to sext. This could be important for parental awareness; if a majority of youth sext on Snapchat, for example, parents may want to limit their children’s access to Snapchat.

Future research should focus more on the significance of peer sexting. As peer influence seems to be one of the largest factors contributing to sexting frequency, researchers should conduct social network analyses. Adolescent social networking studies often center around bullying, delinquency, and sexual behaviors, but few have assessed sexting. Network analyses may shed light on the validity of peer sexting measures. These studies may reveal if the perceived number of friends sexting has a greater impact on sexting than the actual number of friends sexting.

In addition, LGBTQIA+ youth sexting should be further explored. Many adolescent sexting studies do not include measures of sexual orientation (Kosenko et al. 2017). Given that non-heterosexuals in this study sexted more often than heterosexuals, further research could explore how and if sexting operates differently within non-heterosexual relationships.

Panel studies could be particularly revealing of changes in sexting from adolescence through young adulthood. Panel studies would better determine sexting trajectories over time and the impact of adolescent sexting on later life outcomes. As described through manufactured uncertainties under World Risk Theory, we do not yet know the long-term impact of adolescent sexting, as the oldest cohort of teen sexters is 41 years old today. In this sense, researchers should consider prioritizing panel studies so that we may understand the long-term impacts of adolescent sexting. While retrospective studies can compare prior sexting habits with current reports, they may not accurately assess sexting trends. Cohort studies that assess sexting habits among successive cohorts of youth would allow researchers to explore how youth sexting changes as policies and technology develop.

Limitations

Projection bias is the discrepancy between reports of one's perception of others' behavior and others' actual behavior, as participants report peer behaviors that more closely reflect their own attitudes. This may have impacted reports of friends' sexting behavior, creating artificial association between respondents' own behavior and their judgment of friends' behavior. Prior studies found inaccuracies in delinquent peer behavior reports as individuals projected their behaviors onto their peers (McGloin and Thomas 2016; Rebellon and Modecki 2014). As such, those who reported sexting often may have inaccurately reported that greater proportions of their friends were sexting at age 16 or 17. Similarly, those who never sexted may have inaccurately reported lower portions of friend sexting.

In addition, the sample was slightly older than the national average of 18-28 year-olds, and the questions utilized in this analysis were primarily retrospective. Older respondents may not have accurately recalled the frequency at which they were sexting or intentionally visiting X-rated websites before age 18. When running a Pearson chi-square test of age and sexting frequency, age was not statistically significant, and older participants reported greater sexting frequencies. Furthermore, sexting in current contexts may look different than ten years ago. Kik and Snapchat were released less than a year apart in 2010 and 2011 respectively; meaning the platforms that youth recommend for sexting were in their infancy when the oldest cohort of participants was sexting.

Lastly, this study could not establish temporal ordering between sexting frequency, pornography consumption, and peer sexting. As such, we cannot determine causal ordering of these relationships. It may be that respondent sexting occurred prior to pornography consumption or their peers' sexting, or vice versa. Future studies should be sensitive to temporal ordering in

order to determine causation associated with youth sexting frequency. Longitudinal studies would be helpful in this regard.

CONCLUSION

This study sought to better understand youth sexting and peer influence in the U.S. Differential association theory would predict that peer sexting attitudes and behaviors influence individual sexting habits. Using a nationally representative sample, this study found that a vast majority of adolescents in the United States are not sexting; under 30% reported sexting rarely or often. However, over 60% of respondents indicated that their friends were sexting. Those more likely to sext often were females, non-heterosexuals, frequent pornography viewers, and those with any friends who were sexting.

In addition, this study revealed that socioeconomic status and high Adverse Childhood Experiences were not statistically significant predictors of youth sexting. While comprehensive sex education should be implemented more broadly, the current findings suggest that sexting education may benefit females and non-heterosexuals the most. Lastly, this study found that peer sexting and frequent pornography use are more strongly related to the likelihood of sexting. The implications of this research indicate that implementing sexting education and digital literacy into secondary schools' comprehensive sex education curricula would benefit youth.

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