



Youth sexting and associations with parental media mediation

Erin Corcoran^{a,*}, Jennifer Doty^b, Pamela Wisniewski^c, Joy Gabrielli^a

^a Department of Clinical and Health Psychology, University of Florida, 1225 Center Drive, Gainesville, FL, 32610, USA

^b Department of Family, Youth, and Community Sciences, University of Florida, McCarty Hall D, 1604 McCarty Dr., Gainesville, FL, 32611, USA

^c College of Engineering and Computer Science, University of Central Florida, 4328 Scorpis St, Orlando, FL, 32816, USA

ARTICLE INFO

Keywords:

Media parenting
Informant discrepancy
Sex differences
Sexting
Risk behavior
Technology

ABSTRACT

Purpose: Early adolescent sexting has implications for health and wellbeing. Parenting practices may impact youth engagement in online risk behaviors. This study examines associations between parental media mediation and early adolescent sexting in a sample of U.S. youth and their parents.

Methods: Parents and their 10-14-year-olds ($N = 306$ dyads) completed an online survey of technology use and online experiences. Youth reported on receiving (valid % = 14.5) and sending (valid % = 11.5) sexts. Media parenting behaviors were measured by four scales (youth and parent report): active mediation, restriction, parental monitoring, and technology control. Logistic regression was used to test associations between media parenting and sexting, controlling for demographic and social covariates.

Results: Parent and child reports of restrictive parenting were negatively associated with sending and receiving sexts; active mediation was negatively associated with sending sexts; and parent report of monitoring was positively associated with sending sexts. Age, SES, and parent respondent gender were associated with sending sexts.

Conclusions: Specific types of parental media mediation are associated with reduced youth sexting, particularly restriction and active mediation. Although parent and youth report of mediation were similar, differences emerged. Future research should explore these differences and associations with health risk behaviors.

1. Introduction

“Sexting,” or the exchange of sexually explicit messages or pictures, is becoming increasingly common among youth (Madigan et al., 2018). On average, 14.8% of youth between the ages of 12–17 have sent sexts and 27.4% have received sexts, although an exact estimate is difficult to find due to varying populations, definitions, and time since data collection (Madigan et al., 2018; Strasburger, 2014). While consensual sexting may be considered a normative part of sexual development, there exists the potential of social and health risks. This is particularly true for younger adolescents. Some jurisdictions consider the creation/dissemination of sexual images of minors to be child pornography, even when distributed by a minor, and prosecute accordingly (Lenhart, 2009). Sexting relates to a host of other risk behaviors, including sexual risk behaviors (i.e., earlier initiation of sexual behavior, multiple partners, unprotected sex, coercive sex victimization, attempted/completed rape), cyberbullying, and substance use (Frankel et al., 2018; Kosenko, 2017; Mori et al., 2019; Van Ouytsel et al., 2021). From a public health

perspective, early engagement in sexting is a problem behavior in its own right and serves as a precursor to other negative health and social outcomes.

Media exposure to sexual content may operate as a modifiable environmental risk for early adolescent sexting behavior. American youth have long obtained information from media sources (Jones et al., 2011), starting with television and radio and, more recently, new and social media (e.g., TikTok, Facebook, Instagram; Ostrovsky & Chen, 2020). Unfortunately, this informal sexual education is often not accurate or representative, lacking in portrayals of safe sex and negative consequences of high-risk sexual behaviors (Kinsler et al., 2019). Effects of such depictions are reflected in associations between media exposure to sexual content and sexual behavior, positive associations with or intentions to initiate sexual intercourse, and earlier initiation of sexual activity in cross-sectional and longitudinal studies (Coyne et al., 2019). This effect may be via youth attitudes and perceived subjective norms about sexual behavior; research with undergraduate students found that attitudes and perceived norms predicted sexting behaviors and

Abbreviations: PR, Parent Report; CR, Child Report; AOR, Adjusted Odds Ratio.

* Corresponding author.

E-mail address: erin.corcoran@ufl.edu (E. Corcoran).

<https://doi.org/10.1016/j.chb.2022.107263>

Received 12 December 2021; Received in revised form 26 February 2022; Accepted 28 February 2022

Available online 11 March 2022

0747-5632/© 2022 Elsevier Ltd. All rights reserved.

intentions (Hudson & Fetro, 2015).

Further, research has linked sexting behaviors with exposure to sexualized media content, including movies (O'Hara et al., 2013), music lyrics, and sexually explicit websites (Smith et al., 2016). These findings may not be universal across gender or sexting behaviors (i.e., sending and receiving); one study found that music video and pornography consumption was associated with solicitation and receipt of sexts for males only and not associated with sending sexts for either gender (Van Ouytsel et al., 2014). Another study found that different motivators influenced sending, receiving, and forwarding sext behaviors between boys and girls (Casas et al., 2019). Elucidation of the relationship between gender and sexting behaviors would help progress the body of research forward.

1.1. Theoretical background

Developmental theory supports the idea that components of a child's immediate environment, including media and technology, are influential for the development of behaviors. Per Urie Bronfenbrenner (1979), youth development occurs in a series of nested contexts ("systems") of increasing size and decreasing immediacy, from the microsystem (i.e., immediate environment; family, school, community, etc.) to the meso-system (i.e., relationships between different microsystems), exosystem (i.e., indirect environment; industry, mass media, neighbors, etc.), and macrosystem (i.e., social and cultural values). Studies have looked at the application of the social-ecological model for sexting behavior, finding several significant family-, school-, and romantic-level variables (Hunter et al., 2021). However, media and technology were not incorporated into this model as a distinct system with bidirectional interactions with youth development. Thus, the present study conceptualizes a child's ecology as inclusive of the techno-subsystem (Johnson & Pupilampu, 2008). The techno-subsystem was included as a dimension of the microsystem in recognition of the increasingly influential role of media and technology in child development and is defined by a child's interactions with others via technology and interactions with technology itself (Johnson & Pupilampu, 2008). Parents (microsystem) interact directly with the techno-subsystem to impact child development through "parental media mediation."

1.2. Parental media mediation

Parental media mediation is defined as the use of media-specific methods to shield children from the negative effects of media. Specific parenting behaviors include 1) active mediation (i.e., discussing and/or jointly engaging in internet/media use); 2) restrictive mediation (i.e., enforcing rules about permissible online activities, time, or content); 3) use of technical controls (e.g., parental controls/software to protect the computer from viruses or youth from inappropriate content); and 4) monitoring (i.e., keeping informed on search histories, social networks, messages, etc.; Symons et al., 2020). Overall, these behaviors are aimed to prevent youth from exposure to harmful content, help them process the content they do encounter, and teach them ways to engage with media and others online.

Parental mediation overall has been found to have a protective influence on the effect of media exposure to sexual content (Ward et al., 2016), but specific mediation behaviors may influence youth outcomes differently. While parental media restriction and monitoring (on and offline) have been associated with decreased engagement in sexual risk behavior (Collier et al., 2016; Ethier et al., 2016; Valido et al., 2020), research on the impact of active mediation and technology control on sexual behavior is scarce or inconclusive (Collier et al., 2016). Longitudinal studies and at least one meta-analysis have found that certain components of active mediation (e.g., co-viewing, conversation) positively associate with engagement in sexual risk behaviors, potentially by conveying tacit approval (Fisher et al., 2009; Nathanson, 2001), while conversations with youth that facilitate the development of critical

viewing skills are protective (Coyne et al., 2017; Collier et al., 2016). Based on research in other domains, the effectiveness of parental mediation behaviors may also vary based on youth age; research on substance use has found that parent interventions are more effective for early adolescents (aged 10–14) than late adolescents (Garcia-Huidobro et al., 2018). This may be because youth increasingly orient away from parent influence and towards peer and romantic partners over the course of adolescence (Kobak et al., 2017; Suleiman & Harden, 2016), leaving the window in early adolescence as the most fruitful for preventive parent interventions.

Sexting is differentiated from other sexual risk behaviors in its digital modality, which makes the applicability of parental media mediation even more apparent. Parental mediation may exert indirect influence by limiting youth exposure to mature digital content and, consequently, the negative effects of these exposures. Alternatively, mediation may exert direct influence on sexting behaviors by limiting opportunities to engage in it, either through restrictions and technology controls or by monitoring online behaviors and intervening. Parents can also support youth in learning how and when sexual behavior is consensual, healthy, and appropriate, in both face-to-face and digital contexts (Eisenberg et al., 2006; Parkes et al., 2011; Scull et al., 2020).

Parent-initiated discussion about repercussions of disseminating nude pictures based on a scene from a television show serves as one example of how active media mediation may relate to youth sexting behavior. Parents can prevent youth from being exposed to certain mature content through restrictive mediation, particularly in the form of house rules about acceptable film/TV ratings (Collier et al., 2016), or technology controls blocking access to mature content on personalized digital devices (Ybarra et al., 2009). Parental monitoring might enable a parent to become aware of inappropriate online conversations before sexting occurs. These examples are preventive, but mediation could also be reactive. For example, if a child was found to be sexting, their parents may be more likely to monitor their online activities or restrict their behaviors. The possible bidirectionality of these parent and child behaviors might result in mixed associations.

1.3. Youth sexting and covariates

The term "sexting" encapsulates a range of behaviors that involve the transfer of sexually suggestive images or messages. Sexts may be exchanged privately between two consenting individuals, forwarded, solicited, or received without the consent of the subject or recipient. Images may be of the sender, recipient, or of a third party. Within the present study sexting is operationalized as sending or receiving sexually suggestive nude or nearly nude images and does not specify context to the extent above, as other studies have done (e.g., Mitchell et al., 2012; Ojeda et al., 2020). Future studies may seek to build upon the classifications utilized herein by evaluating associations between additional sexting behaviors and media parenting techniques.

Identification of covariates relating to youth sexting is still in progress, although there is reason to believe that youth age, gender, race, ethnicity, and socioeconomic status associate with sexting behaviors. Studies have shown that older youth are more likely to send and receive sexts ((Gámez-Guadix and De Santisteban, 2018); Klettke et al., 2014; Madigan et al., 2018), as would be expected with youth sexual development. Findings are mixed regarding gender associations with sexting, but a study in a similar age range identified males as sending more sexts than females (Rice et al., 2014). Ybarra and Mitchell (2014) found a positive association between Hispanic ethnicity and sexting, and Rice and colleagues (2014) identified a positive relationship between Black or African American race and receiving, but not sending, sexts. Van Ouytsel et al. (2014) identified a relationship between economic stress and sexting, but when looking at income specifically Ybarra and Mitchell (2014) did not identify significant associations. While access to technology has been linked to other online risk behaviors (e.g., cyberbullying; Englander, 2019), Holt et al. (2021) found that technology

access was not as important for sexting behaviors as the way the technology was used. Parent gender has been found to associate with reports of media mediation; for example, one study found that mothers perceived themselves to be more knowledgeable about children’s online activities and risks than fathers, although that was not actually the case (Symons et al., 2017). Less is known about how parent gender interacts with youth reports of sexting. Thus, there exists a need to clarify relationships between various demographic characteristics and sexting behaviors.

1.4. Present study and hypotheses

The present study tests the associations between distinct media parenting behaviors (based on parent and child report) and youth self-reported sexting behavior, operationalized as having ever sent or received a sexually suggestive nude or nearly nude photo or video online. We hypothesized that significant associations that are unique to sexting and informative for intervention efforts would emerge. We did not have a clear expectation for directionality, which may vary based on whether behaviors are employed proactively or reactively. A secondary aim is to evaluate differences in the association between parent report of

mediation and child report of mediation with sexting. In other words, does one reporter better predict sexting outcomes? Differences in sexting behavior across covariates were also explored.

2. Method

2.1. Participants

The final sample included 306 parent/child dyads from all five regions of the United States recruited via Qualtrics. Participants were relatively equally distributed across socioeconomic groups, with 51% of youth reporting receipt of free- or reduced-price lunch (Table 1). Youth participants had a mean age of 11.8 years (SD = 1.23 years), were 51% male, 49% female, 70% White, 11.4% Black, and 8.8% Hispanic. Parent participants had a mean age of 38.5 years (SD = 6.01 years), were 39% male, 61% female, 72% White, 12.7% Black, 9% Hispanic, and 71% married or living with a partner. Parent-reported youth access to technology is detailed in Table 1, with a majority reporting youth access to smartphones (76%).

Table 1
Sample descriptives.

VARIABLE	TOTAL	SENT SEXT		RECEIVED SEXT	
		YES	NO	YES	NO
		n (%)	n (%)	n (%)	n (%)
Participants	306	25	192	32	189
(%/Valid %)	–	(8.2/11.5)	(62.7/88.5)	(10.5/14.5)	(61.8/85.5)
Youth Age (M/SD)	(11.8/1.2)	(12.6/1.4)	(11.8/1.2)	(12.4/1.4)	(11.7/1.2)
10	57 (18.6)	3 (8.1)	34 (91.9)	4 (9.8)	37 (90.2)
11	71 (23.1)	3 (5.6)	51 (94.4)	6 (11.5)	46 (88.5)
12	81 (26.4)	4 (7.7)	48 (92.3)	3 (5.2)	55 (94.8)
13	71 (23.1)	7 (13.0)	47 (87.0)	10 (20.4)	39 (79.6)
14	26 (8.5)	8 (40.0)	12 (60.0)	9 (42.9)	12 (57.1)
Parent Age (M/SD)	(38.5/6.0)	(37.9/5.6)	(38.9/6.0)	(38.1/5.8)	(38.3/6.0)
Youth Gender	–	–	–	–	–
Male	155 (50.7)	17 (14.7)	99 (85.3)	20 (18.2)	90 (81.8)
Female	151 (49.2)	8 (7.9)	93 (92.1)	12 (10.8)	99 (89.2)
Parent Gender	–	–	–	–	–
Male	120 (39.2)	19 (21.6)	69 (78.4)	23 (27.1)	62 (72.9)
Female	186 (60.8)	6 (4.7)	123 (95.3)	9 (6.6)	127 (93.4)
Youth Race/Ethnicity	–	–	–	–	–
Black or AA	35 (11.4)	0 (0.0)	23 (100.0)	3 (11.5)	23 (88.5)
White or Caucasian	214 (69.9)	21 (13.7)	132 (86.3)	25 (16.6)	126 (83.4)
Hispanic/Latino	27 (8.8)	1 (5.3)	18 (94.7)	1 (5.0)	19 (95.0)
Other	30 (9.9)	3 (13.7)	19 (86.3)	3 (12.5)	21 (87.5)
Parent Race/Ethnicity	–	–	–	–	–
Black or AA	39 (12.7)	0 (0.0)	26 (100.0)	3 (10.3)	26 (89.7)
White or Caucasian	220 (71.9)	21 (13.3)	137 (86.7)	24 (15.3)	133 (84.7)
Hispanic/Latino	21 (6.9)	1 (7.1)	13 (92.9)	1 (100.0)	14 (93.3)
Other	47 (8.5)	3 (15.8)	16 (84.2)	4 (20.0)	16 (80.0)
Free or Reduced Lunch	–	–	–	–	–
No	149 (48.7)	8 (7.1)	104 (92.9)	8 (7.5)	99 (92.5)
Yes	157 (51.3)	17 (16.2)	88 (83.8)	24 (21.1)	90 (78.9)
Parent Marital Status	–	–	–	–	–
Divorced or Separated	40 (13.1)	2 (6.9)	27 (93.1)	3 (10.0)	27 (90.0)
Married	189 (61.8)	16 (12.1)	116 (87.9)	20 (14.9)	114 (85.1)
Never Married	40 (13.1)	3 (11.1)	24 (88.9)	5 (16.1)	26 (83.9)
Widowed	8 (2.6)	0 (0.0)	5 (100.0)	0 (0)	5 (100)
Living Together	29 (9.4)	4 (16.7)	20 (83.3)	4 (19.0)	17 (81.0)
Access to Tech (M/SD)	(3.4/1.4)	(4.0/1.3)	(3.4/1.3)	(4.3/1.0)	(3.3/1.4)
Phone	232 (75.8)	18 (10.8)	148 (89.2)	28 (16.7)	140 (83.3)
Television	219 (71.6)	19 (12.3)	136 (87.7)	28 (17.2)	135 (82.8)
Video Game Console	225 (73.5)	22 (13.4)	142 (86.6)	29 (17.7)	135 (82.3)
Computer	120 (50.7)	19 (17.1)	92 (82.9)	23 (20.5)	89 (79.5)
Tablet	208 (68.0)	22 (14.9)	126 (85.1)	29 (18.7)	126 (81.3)

2.2. Measures

Sexing Behavior. We assessed early adolescent sexting through youth self-report of questions from the [Pew Research Center's 2011 Teens and Digital Citizenship Survey](#): "Have you ever sent a sexually suggestive nude or nearly nude photo or video of yourself to someone else online?" and "Have you ever received a sexually suggestive nude or nearly nude photo or video of someone else you know online?" Youth could respond "yes" or "no" to these questions.

Parent Mediation Strategies. Parent and youth reports of parental mediation strategies were assessed using questions based on an earlier study by [Livingstone and Helsper \(2008\)](#). Children and parents were prompted to answer Likert-style questions regarding the frequency of mediation strategies utilized by parents, with responses ranging from 1 = Not at All to 5 = Almost All the Time. Cronbach's α was used to measure the internal consistency of each mediation scale (i.e., how closely the items within each domain are related). For the four mediation scales, α ranged from acceptable to excellent ([Mallery and George, 2000](#)): 1) *Restrictive parenting* (6 items; parent report [PR] $\alpha = 0.89$; child report [CR] $\alpha = 0.76$), including items such as, "Please specify the extent to which you or your child's other parent/caregiver restrict your child from uploading photos, videos or music to share with others"; 2) *Active parenting* (5 items; PR $\alpha = .84$; CR $\alpha = 0.77$), including items such as, "Do you or your child's other parent/caregiver explain why some websites are good or bad?"; 3) *Monitoring* (6 items; PR $\alpha = .99$; CR $\alpha = 0.81$), including items such as "Do either you or your child's other parent/caregiver check your child's profile on a social network or online community?"; and 4) *Technology Control* (5 items; PR $\alpha = .91$; CR $\alpha = 0.85$), including items such as "How often do you use parental control technologies to keep track of the websites your child visits?" For the child portion of the survey, these questions were reframed to assess the same behaviors from the child perspective. For example, the *Technology Control* question listed above was rephrased to read "How often do your parents use parental control technologies to keep track of the websites you visit?"

Access to Technology. Youth access to technology was assessed through parent report and included as a covariate in the analysis. Parents indicated the child's access to five different types of technology (television, smartphone, video game console, computer, and tablet) with 0 = no access and 1 = access. Parent responses were included in the analysis as a composite "Technology Access" score.

Other Covariates. Youth self-reported on age, gender, race, and ethnicity. Parents self-reported on age, marital status, and gender and provided report on socioeconomic status (as assessed by proxy: "Does your child receive free or reduced lunch at school?").

2.3. Procedure

Study procedures were approved by the University of Florida IRB. Parent/child dyads completed online surveys regarding children's online experiences and technology use. Qualtrics panels were used to recruit a national sample of parents of 10- to 14-year-old children. Qualtrics creates panels of research participants through a variety of means, including double-opt-in market research panels, social media, website intercept recruitment, member referrals, targeted email lists, gaming sites, customer loyalty web portals, and permission-based networks. Qualtrics emails study-specific eligible panelists with information about the survey, including the amount of time it is expected to take and compensation. Study information is kept purposefully vague to limit self-selection bias. Once enrolled in a study, panelists are compensated according to how they joined the Qualtrics panel; for example, if a panelist joined through their airline, they may earn airline points for

participation. Others may earn retail points, cash, or gift cards. All compensation was agreed upon prior to participation and averaged to about \$2.50 per survey.

Parents provided consent for their children to participate in the study after completing the first section of the survey. They were instructed to afford their child privacy to complete the survey. The children then provided assent to participate. The present study utilized survey questions specific to youth and parent report of media management behaviors and youth report of sexting behaviors in a broader online survey on online risk behaviors and cyberbullying.

2.4. Data analytic plan

In a prior study, differences between parent and child reports of media parenting behaviors were tested via confirmatory factor analysis ([Corcoran, Gabrielli, Wisniewski, Little, & Doty, 2022](#)). Results indicated a good model fit for both parent [$\chi^2(201, n = 306) = 384.407$; RMSEA_(.046-.063) = 0.055; CFI = 0.958; TLI/NNFI = 0.951; SRMR = 0.050] and child report [$\chi^2(203, n = 306) = 378.033$; RMSEA_(.045-.061) = 0.053; CFI = 0.942; TLI/NNFI = 0.934; SRMR = 0.060] ([Corcoran et al., 2022](#)).

For the present study, first descriptive information on youth sexting and youth and parent report on parental media mediation was examined. Correlations were then conducted between youth sexting behaviors (i.e., sending and receiving), covariates, and parent and child report of parental mediation. Adjusted odds ratios (AOR) and chi square were calculated for comparison of sexting behaviors across parent respondent gender. Finally, two models were tested in a logistic regression using *Mplus* 8.4 to evaluate associations between parent and child report of parental media mediation and youth report of sexting, while controlling for youth age, gender, race/ethnicity (dichotomized into white and other races), SES, access to technology, parent gender, parent age, and marital status (dichotomized into single- or dual-parent home). Parent and child reports of mediation strategies were run in separate models. The child portion of the survey utilized a planned missingness design, with no variables exceeding 33% missingness. Multiple imputation across 50 imputed datasets was used to estimate these values ([Little et al., 2013](#)). There was no missingness on parent items. 95% confidence intervals were calculated.

3. Results

3.1. Sexting rates and associations between sexting behaviors and covariates

Of 306 youth respondents, 8.2% (valid % = 11.5) reported ever sending a sext and 10.5% (valid % = 14.5) reported ever receiving a sext. Youth sexting behaviors (i.e., sending and receiving sexts) were moderately correlated ($r(154) = 0.547, p < .001$). In examination of the correlation matrix across all variables in the model, significant correlations were identified between sending/receiving sexts, respectively, and child age ($r(215) = 0.209, p = .002$; $r(219) = 0.209, p = .002$), receipt of lunch subsidy ($r(215) = 0.142, p = .037$; $r(219) = 0.193, p = .004$), access to technology ($r(215) = 0.153, p = .024$; $r(219) = 0.253, p < .001$), and parent gender ($r(215) = -0.261, p < .001$; $r(219) = -0.283, p < .001$; [Table 2](#)).

We then calculated the effect size of these correlations while controlling for other variables. Youth with lower SES and those whose fathers participated in the study were more likely to send (AOR = 3.414, [1.192–9.782]; AOR = 0.155, [0.044–0.547]) and receive (AOR = 2.904, [1.028–8.205]; AOR = 0.295, [0.093–0.936]) sexts ([Table 4](#)). In fact, while fathers represented only 39% of the parent respondents, they

Table 2
Correlations between parent and child scale scores and covariates.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Sent Sext	1																
2 Received Sext	.55**	1															
3 Child Age	.21**	.21**	1														
4 Child Gender	-0.11	-0.1	-0.08	1													
5 Child Race	0.11	0.09	0.08	-0.09	1												
6 Parent Gender	-.26**	-.28**	-0.11	.12*	-.12*	1											
7 Lunch Subsidy	.14*	.19**	0.05	-.12*	-.14*	.11*	1										
8 Parents at Home	0.07	0.04	-0.05	-0.07	-0.07	-.19**	-.26**	1									
9 Tech Access	.15*	.25**	0.1	-.11*	0.01	-.22**	0.05	0.05	1								
10 Active (PR)	-.15*	-.02	-0.06	-0.06	-0.06	0.03	0.04	-0.05	0.09	1							
11 Restrictive (PR)	-.33**	-.41**	-.21**	0.09	-.16**	.31**	-0.07	-0.1	-.32**	.15**	1						
12 Monitoring (PR)	0.09	0.12	-0.03	.13*	0.01	0	0.04	0	0.11	.48**	-0.06	1					
13 Tech (PR)	0.07	.14*	0.08	-0.01	0.03	0	0.02	0.07	.20**	.34**	0.06	.44**	1				
14 Active (CR)	-0.05	.16*	-0.03	0.08	-0.04	-0.03	0.07	0	0.05	.57**	0.05	.29**	.29**	1			
15 Restrictive (CR)	-.26**	-.41**	-.23**	.13*	-.13*	.23**	-0.02	0	-.37**	.11*	.80**	-0.02	0.05	0.01	1		
16 Monitoring (CR)	0.12	.14*	0.03	0.1	0	-0.04	0.08	0.01	.14*	.43**	-0.07	.67**	.51**	.46**	-0.07	1	
17 Tech (CR)	.14*	0.13	0.03	0	0.02	-.18**	0.05	.13*	.14*	.32**	0	.49**	.79**	.34**	0.01	.60**	1

** = Correlation is significant at the 0.01 level (2-tailed).

* = Correlation is significant at the 0.05 level (2-tailed).

Note. Gender (0 = male, 1 = female), Race (0 = non-white, 1 = white), Lunch Subsidy (0 = no subsidized lunch), Parents at Home (0 = single parent home, 1 = dual parent home), Tech Access (mean score of access to technology. Values range from 0 to 5 with 0 signifying no access and 5 signifying high access. PR = Parent Report; CR = Child Report.

were the responding parent for 76% of sext senders and 72% of sext receivers. A chi-square comparison of sexters across parent gender indicated that the proportion of youth who reported sending and receiving sexts, respectively, was significantly higher among youth whose fathers participated in the survey than those whose mothers participated ($\chi^2 = 14.727, p < .001$; $\chi^2 = 17.650, p < .001$).

3.2. Unadjusted mean differences in sexting behaviors across mediation behaviors

To evaluate potential differences in parent media mediation across youth who have and have not sexted, unadjusted mean comparison tests were conducted. Mean mediation values of respondents who endorsed sending and receiving sexts were subtracted from those who denied sending and receiving sexts, respectively. Positive values indicate greater employment of that behavior among non-sexters. For sending sexts, this comparison indicated significant differences in active ($M_{Diff} = 0.32, SD = 0.14, p = .024$) and restrictive mediation ($M_{Diff} = 1.09, SD = 0.22, p < .001$), but not monitoring ($M_{Diff} = -0.31, SD = 0.18, p = .094$) nor technology control ($M_{Diff} = -0.26, SD = 0.27, p = .333$). For receiving sexts, restrictive mediation ($M_{Diff} = 1.25, SD = 0.19, p < .001$) and technology control ($M_{Diff} = -0.51, SD = 0.24, p = .036$) significantly differed across those who have received sexts and those who have not, while active mediation ($M_{Diff} = 0.05, SD = 0.13, p = .716$) and monitoring ($M_{Diff} = -0.37, SD = 0.21, p = .077$) did not (Table 5). In other words, the parents of youth who have sent sexts reported significantly fewer active and restrictive behaviors than parents of those who have never sent sexts. The parents of youth who have received sexts reported significantly fewer restrictive behaviors and more technology controls than those who have never received sexts.

3.3. Logistic regressions: parent report of media mediation and youth report of sexting

Multivariable logistic regressions were conducted to address the primary study aim of identifying associations between specific media parenting behaviors and youth sexting across parent and child report. Adjusting for youth age, gender, SES, race, access to technology, parents in the home, and parent gender, active and restrictive parenting were negatively associated with youth report of sending sexts (AOR = 0.293, [95% CI 0.107–0.800]; AOR = 0.383, [0.194–0.757]), monitoring was positively associated with sending sexts (AOR = 3.350, [1.054–10.648]), and only restrictive mediation was negatively associated with receiving sexts (AOR = 0.364, [0.205–0.646]). The children of parents who utilized higher levels of active parenting were 71% less likely to send sexts, and children of parents who utilized higher levels of restrictive parenting were 62% less likely to send and 64% less likely to receive sexts. Monitoring was associated with over three times greater likelihood of sending sexts. Older youth, youth with lower SES, and youth whose fathers participated in the study were more likely to send (AOR = 1.662, [1.090–2.533]; AOR = 3.232, [1.057–9.877]; AOR = 0.156, [0.044–0.547]) but not more likely to receive sexts (Table 3).

3.4. Youth report of parental media mediation and sexting

Youth reports indicated similar results; restrictive media parenting was associated with lower odds of sending and receiving sexts (AOR = 0.376, [0.176–0.805]; AOR = 0.177, [0.071–0.437]), and active mediation was significantly associated with lower odds of sending but not receiving sexts (AOR = 0.360, [0.146–0.886]). In other words, parents who utilized higher levels of restrictive parenting were 62% less likely to send and 82% less likely to receive sexts, and parents who utilized higher levels of active parenting were 64% less likely to send sexts. Youth report of parental monitoring was not associated with sending sexts.

Table 3
Association of parent report of media parenting behaviors and adolescent sexting behaviors controlling for child and parent covariates.

	Sent Sext			Received Sext		
	Adjusted Odds Ratio	Lower Limit	Upper Limit	Adjusted Odds Ratio	Lower Limit	Upper Limit
Media Parenting						
Active	0.293 ^a	0.107	0.800	0.664	0.319	1.379
Monitoring	3.350 ^a	1.054	10.648	1.530	0.653	3.581
Tech Control	0.811	0.349	1.885	1.496	0.708	3.164
Restriction	0.383 ^a	0.194	0.757	0.364 ^a	0.205	0.646
Covariates						
Child Age	1.662 ^a	1.090	2.533	1.373	0.969	1.946
Child Gender = Female	1.064	0.363	3.121	0.984	0.398	2.434
Free/Reduced Lunch	3.232 ^a	1.057	9.877	2.210	0.871	5.607
White	1.631	0.472	5.639	1.145	0.412	3.178
Tech Access	1.374	0.874	2.161	1.303	0.847	2.006
Two-Parent Home	1.021	0.267	3.910	0.728	0.251	2.109
Parent Gender = Female	0.156 ^a	0.044	0.547	0.399	0.144	1.108

^a = Confidence Interval does not contain 1.

Table 4
Association of child report of media parenting behaviors and adolescent sexting behaviors controlling for child and parent covariates.

	Sent Sext			Received Sext		
	Adjusted Odds Ratio	Lower Limit	Upper Limit	Adjusted Odds Ratio	Lower Limit	Upper Limit
Media Parenting						
Active	0.360 ^a	0.146	0.886	0.496	0.215	1.140
Monitoring	2.237	0.729	6.863	1.777	0.572	5.517
Tech Control	1.359	0.476	3.879	1.723	0.656	4.528
Restriction	0.376 ^a	0.176	0.805	0.177 ^a	0.071	0.437
Covariates						
Child Age	1.579 ^a	1.065	2.342	1.340	0.920	1.953
Child Gender = Female	1.121	0.385	3.262	1.200	0.420	3.423
Free/Reduced Lunch	3.414 ^a	1.192	9.782	2.904 ^a	1.028	8.205
White	2.077	0.607	7.113	1.476	0.453	4.801
Tech Access	1.178	0.773	1.796	1.237	0.778	1.969
Two-Parent Home	1.079	0.284	4.099	0.860	0.257	2.876
Parent Gender = Female	0.155 ^a	0.044	0.547	0.295 ^a	0.093	0.936

^a = Confidence Interval does not contain 1.

4. Discussion

Early adolescent sexting behavior has the potential for negative health outcomes, whereby experiences online are associated with consequences offline (Frankel et al., 2018; Kosenko, 2017; Mori et al., 2019; Van Ouytsel et al., 2021). Parental media mediation may provide a promising avenue by which to intervene on youth online risk behavior, including sexting. The present study’s identification of significant associations between media parenting behaviors and youth sexting outcomes suggests the efficacy of a balance of restrictive and active media parenting, aligned with previous findings supporting the employment of several different approaches (Padilla-Walker et al., 2018).

As sexting becomes increasingly prevalent, identification of avenues for intervention is important. Youth development occurs in the context of immediate and distal systems, all interacting with each other, youth,

and time in ways that are influential for youth behavior (Bronfenbrenner, 1979). Youth media use is a particularly salient environmental influence, warranting explicit identification as a sub-microsystem. As this study suggests, microsystems, such as parenting practices, interact with the techno-subsystem to impact youth. Specifically, across reporters and sexting behaviors, restrictive media parenting was associated with lower likelihood of sending and receiving sexts. Given known links between exposure to mature content and youth behavioral outcomes (e.g., substance use, sexual activity; Coyne et al., 2019; Jackson et al., 2018), lack of exposure to mature media content could reduce risk for sexting behavior. These relationships held even with the inclusion of youth access to technology as a covariate in the model. Indeed, access was a nonsignificant covariate in all models, and, thus, associations between parental restriction and sexting are not explained by lack of child means for sexting. Active parenting was also associated with lower

Table 5
Differences in mean endorsement of parental mediation techniques (parent report) used across sexters.

Factor	Sent Sext			Received Sexts		
	Mean (SD/SE)	No (SD)	Diff (SE)	Mean (SD/SE)	No (SD)	Diff (SE)
Parent						
Active	3.97 (.69)	4.29 (.65)	.32 (.14)*	4.25 (.63)	4.30 (.70)	.05 (.13)
Monitoring	3.84 (.80)	3.53 (1.13)	-.31 (.18) ^a	4.00 (.87)	3.63 (1.11)	-.37 (.20)
Tech Control	3.61 (1.11)	3.34 (1.30)	-.26 (.27)	3.84 (1.21)	3.33 (1.28)	-.51 (.24)*
Restrictive	2.23 (.78)	3.32 (1.04)	1.09 (.22)***	2.20 (.96)	3.45 (.99)	1.24 (.19)***

* $p < .05$, ** $p < .01$, *** $p < .0001$.

Note. Child report of mediation was not included due to missingness.

^a Equal variances not assumed, based on Levene’s test for equality of variances at $p < .05$.

likelihood of sending, but not receiving, sexts for both reporters. This may be because, with the exception of sext solicitation or mutual exchange, receiving sexts is more passive than sending sexts; active engagement with a child about media use is unlikely to prevent receipt of an unsolicited sext, whereas restriction of social media contacts and usage might feasibly do so.

Contrary to expectations, monitoring was associated with increased likelihood of sending sexts based on parent report but not child report. This holds with findings that parents generally report higher levels of monitoring than their children (Gentile et al., 2012) and that parents are more likely to monitor when risky behavior has already occurred (Wisniewski et al., 2015). However, it diverges from previous findings in the sense that youth report of monitoring has previously been found to better predict outcomes than parent report (Abar et al., 2015). This may be attributable to the cross-sectional nature of the study and should be replicated in longitudinal analyses. Previous research on general parenting provides support for a positive relationship between technical monitoring and risk behavior (Stattin & Kerr, 2000); within the digital environment youth may experience parental solicitation, or the act of inquiring into and checking on youth's activities online, as a privacy invasion and react by engaging in additional risk behaviors (Hessel et al., 2017).

Similarly, technical monitoring may be seen as a violation of trust, thus damaging the parent-child relationship (Ghosh et al., 2017). The disconnect between parent versus child report of monitoring and sexting might be a product of the often-covert nature of online monitoring (i.e., the child may not be aware that they are being monitored). Of note, the developmental psychology literature defines parental monitoring as a "set of correlated parenting behaviors involving attention to and tracking of the child's whereabouts, activities, and adaptations" (Dishion & McMahon, 1998). Outside of media and technology, this form of monitoring would naturally include open communication between parent and child about the parental monitoring behaviors (Stattin & Kerr, 2000). By this definition, our construct of monitoring in a digital context may represent only one aspect of such behaviors and may be more accurately defined as surveillance, while active mediation in the digital context encompasses communication and interpersonal aspects related to parental monitoring. Future research could examine these issues through testing of associations between traditional aspects of parental monitoring and parental mediation in the digital context.

Technology control did not significantly associate with either sexting behavior in logistic regressions, although parent use of technology controls significantly differed between those who have received sexts and those who have not (i.e., those who had received sexts had higher technology control mean scores). These findings somewhat map onto findings by others (Campbell & Park, 2014; Vanwesenbeeck 2018) that autonomy-restrictive parenting is not effective in intervening upon youth sexual risk behavior. Technology tools are arguably the most autonomy restrictive of all the parenting domains as they can be employed without child input or discussion; house rules require conversation and interactive implementation while monitoring often occurs during or after media engagement and does not involve blocking access. The mismatch between the significant mean differences (which do not account for other variables) and insignificant regression results (which do account for other variables and parenting domains) for technology controls and receiving sexts may also be due to conceptual overlap with other domains (e.g., monitoring and restriction).

Several covariates were significantly associated with parental mediation and early adolescent sexting behaviors. Parent gender significantly correlated with restrictive parenting and technology control based on both parent and child report, suggesting that female parent respondent was associated with higher restriction and lower technology control. The former aligns with the finding that mothers employ restrictive mediation in a gaming context significantly more than fathers (Eklund & Helmersson Bergmark, 2013). Alternatively, divergent reports may speak to the subjectivity of reporters (i.e., how mothers,

fathers, and children perceive and report mediation in the home) rather than objective differences in the employment of mediation (Symons et al., 2017). In logistic regression analyses, parent gender also emerged as a significant covariate in the association between child report of media parenting and sending and receiving sexts and parent report of media parenting and sending sexts. In a post-hoc analysis, the Pearson Chi-Square value for this difference was significant. This may be due to the nature of parenting around sexual topics based on parent gender; a study with Black teens in the United States found that sexual risk communication with mothers resulted in more conservative views on sex across gender and lower engagement in sexual risk behaviors than with fathers (Hutchinson & Montgomery, 2007).

It is unclear what other unmeasured factors (e.g., paternal involvement in parenting behavior specific to sexual development) may impact the present findings. Future research could evaluate these questions by assessing parenting variables as they relate to sexting or through methods utilizing matched parent dyads. Other noteworthy covariates included child age (i.e., older youth are more likely to send sexts based on both reporters) and SES (i.e., youth with lower SES are more likely to send sexts based on both reporters and receive sexts based on child report). The association between age and sending sexts is expected, as sexual behaviors increase with adolescent development and sexual maturity. Interestingly, the same relationship with age did not emerge for receiving sexts. This may speak to youth receiving unsolicited/unwanted sexts prior to being developmentally prepared (Van Ouytsel et al., 2021; Klettke et al., 2019). Future research may seek to explore the implications of differential associations between age and sexting behaviors; perhaps youth typically receive sexts prior to sending, or youth who have non-consensually received sexts are more likely to send in the future. As previous studies have found, low economic status has been associated with increased engagement in health risk behaviors (Hanson & Chen, 2007) and earlier sexual initiation (Lammers et al., 2000), which may translate to online sexual risk behaviors like sexting. Future sexting research should prioritize these covariates to further elucidate associations between age, SES, and sexting behaviors.

The present study identified early adolescent sexting rates as higher than previous estimates, which may fit with the trend of increasing rates of sexting over time (Van Ouytsel et al., 2020). With the forced reliance on technology over the course of the COVID-19 pandemic, those numbers may increase further. As media and technology continue to pervade early adolescent social interaction and learning, prevention and intervention specialists should consider how sexting and other online risk behaviors fit within the adolescent developmental phase to promote healthy communication between parents and youth. Further, research is needed to understand the risks of sexting in early adolescence compared to older adolescence, which might be more developmentally normative.

The present data also reflects an imbalance in sending and receiving sexts; similar to previous studies, more youth reported receiving than sending sexts (Klettke et al., 2014). This, along with the moderate correlation found between sexting behaviors, suggests that sexts are not always exchanged in a reciprocal fashion, raising concern over the extent of unsolicited sexts, non-consensual forwarding of sexts, or sexts obtained via pressure or harassment (Barrense-Dias et al., 2017). Gaining understanding of the unique risk patterns associated with these distinct sexting behaviors (i.e., sending, receiving, and requesting) is valuable for preventive efforts as they may differentially associate with pornography use, music video viewership, and gender (Van Ouytsel et al., 2014).

Although the present study focuses on one component of children's microsystem (i.e., parenting) as it interacts with the techno-subsystem, future studies would benefit from exploration of other systems, such as peers, schools, and communities. Other systems that have been found to influence youth sexting behavior specifically are perceived romantic pressure and school connectedness (Hunter et al., 2021). Media influences likely cross all rings of the socio-ecological system, including macro (e.g., mass media campaigns, media trends), meso (e.g.,

parent-child online interaction, indirect effects on youth behavior via its effects on perceived peer norms; Gunther et al., 2006), and individual (e. g., online identity formation of the child) levels. Thus, other immediate environmental inputs, and the interactions between them, may also be fruitful for intervention efforts.

There are several limitations to our analysis. Despite similar racial/ethnic characteristics to the country, the present study sample had lower-than-average representation of Hispanic individuals. There is also the possibility that the self-selection of participants through Qualtrics panels rather than through other direct and indirect recruitment methods led to a biased sample. Online, self-reported data also presents limitations insofar as we cannot be entirely sure that respondents are answering truthfully. Future studies might address this with behavioral observation or triangulation of sources. The online recruitment methodology may also have favored more tech-oriented participants. Due to the age range of participants, we had a small percentage of respondents who had engaged in sexting (11.5% reported ever sending and 14.5% reported ever receiving), although estimated power suggested the sample was appropriate for aims within this study based on parameters estimated.

Further, this research is based on cross-sectional data; although research and theory support the hypothesized direction of parenting behavior as a predictor of sexting, longitudinal exploration would also allow assessment of whether such parenting approaches are proactively or reactively employed (Wisniewski et al., 2015). Accordingly, it is possible that parents increased monitoring after a sexting incident to ensure it would not occur again (Agha et al., 2021). However, studies about reactive parenting in an educational context (i.e., checking in after poor grades) found little support for this directionality (McNeal, 2012). Alternatively, parents may be highly ineffective at monitoring such that attempts to do so in response to problematic youth behavior are not interpreted as monitoring. Further research should work to explicate the differences between media surveillance and monitoring as well as include metrics on parental effectiveness in longitudinal designs to promote temporality of findings. The present study also does not explicate non-consensual forms of sexting nor the acts of requesting or forwarding sexts. These behaviors may differentially associate with parenting behaviors and outcomes and are worth exploration. Finally, as in most research, there exists the potential that an unmeasured confounder could have exerted influence on associations described within this study. Future research should endeavor to replicate these findings in a larger sample utilizing longitudinal methods.

Despite these limitations, the present study offers unique contributions to extant literature by comparing parent and child report of parental media mediation as it relates to early adolescent sexting outcomes. Previous research has largely focused on one reporter for convenience or as dictated by research question (Nathanson, 2001) despite differences in how parents and children describe parenting behavior (Beyens & Valkenburg, 2019). Although the differing relationships between parent and child report of media parenting behaviors and sexting outcomes in the present study are informative, more work needs to be done to establish which reporter is more accurate or predictive and what domains of media parenting may be unrepresented in the included measure (e.g., co-use or education of media-related risks; Gabrielli et al., 2018). Additionally, use of a general media parenting measure (rather than one specific to sexual/mature content) enables exploration with other risk behaviors and comparison across risk behaviors.

This study also provides evidence for an association between media parenting behaviors and youth outcomes, such as sexting. Although previous research has identified parental mediation as predictive of decreased risk on- and offline, few have used comprehensive validated measures as predictors of youth outcomes like sexting in a longitudinal model, which would be a worthwhile next step (Cox et al., 2018). Promising results have been seen for the effects of parental mediation on discussion of sexual health with youth (Scully et al., 2020). Clinicians may consider recommending that parents of early adolescents

collaboratively create a family media plan (such as the one provided through the American Academy of Pediatrics: <https://www.healthychildren.org/English/media/Pages/default.aspx>), which necessitates active mediation and clarification of family media rules. Thus, next steps include the integration of these findings in the development of parent interventions seeking to improve parental media mediation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Abar, C. C., Jackson, K. M., Colby, S. M., & Barnett, N. P. (2015). Parent-child discrepancies in reports of parental monitoring and their relationship to adolescent alcohol-related behaviors. *Journal of Youth and Adolescence*, 44(9), 1688–1701.
- Agha, Z., Ghaiumi Anaraky, R., Badillo-Urquiola, K., McHugh, B., & Wisniewski, P. (2021, July). 'Just-in-time' parenting: A two-month examination of the bi-directional influences between parental mediation and adolescent online risk exposure. In *International Conference on Human-computer interaction* (pp. 261–280). Cham: Springer.
- Barreense-Dias, Y., Berchtold, A., Surfis, J., & Akre, C. (2017). Sexting and the definition issue. *Journal of Adolescent Health*, 61(5), 544–554.
- Beyens, I., & Valkenburg, P. M. (2019). Parental media mediation in adolescence: A comparative study of parent and adolescent reports. *Journal of Broadcasting & Electronic Media*, 63(4), 716–736.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Campbell, S. W., & Park, Y. J. (2014). Predictors of mobile sexting among teens: Toward a new explanatory framework. *Mobile Media & Communication*, 2(1), 20–39.
- Casas, J. A., Ojeda, M., Elipe, P., & Del Rey, R. (2019). Exploring which factors contribute to teens' participation in sexting. *Computers in Human Behavior*, 100, 60–69.
- Collier, K. M., Coyne, S. M., Rasmussen, E. E., Hawkins, A. J., Padilla-Walker, L. M., Erickson, S. E., & Memmott-Elison, M. K. (2016). Does parental mediation of media influence child outcomes? A meta-analysis on media time, aggression, substance use, and sexual behavior. *Developmental Psychology*, 52(5), 798.
- Corcoran, E., Gabrielli, J., Wisniewski, P., Little, T. D., & Doty, J. (2022). A Measurement Model of Media Parenting: Differences Across Parent and Child Reports and Youth Age and Sex. *Journal of Psychopathology and Behavioral Assessment*, 1–15.
- Cox, M. J., Gabrielli, J., Janssen, T., & Jackson, K. M. (2018). Parental restriction of movie viewing prospectively predicts adolescent alcohol and marijuana initiation: Implications for media literacy programs. *Prevention Science*, 19(7), 914–926.
- Coyne, S. M., Radesky, J., Collier, K. M., Gentile, D. A., Linder, J. R., Nathanson, A. I., & Rogers, J. (2017). Parenting and digital media. *Pediatrics*, 140(Supplement 2), S112–S116.
- Coyne, S. M., Ward, L. M., Kroff, S. L., Davis, E. J., Holmgren, H. G., Jensen, A. C., & Essig, L. W. (2019). Contributions of mainstream sexual media exposure to sexual attitudes, perceived peer norms, and sexual behavior: A meta-analysis. *Journal of Adolescent Health*, 64(4), 430–436.
- Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review*, 1(1), 61–75.
- Eisenberg, M. E., Sieving, R. E., Bearinger, L. H., Swain, C., & Resnick, M. D. (2006). Parents' communication with adolescents about sexual behavior: A missed opportunity for prevention? *Journal of Youth and Adolescence*, 35(6), 893–902.
- Eklund, L., & Helmersson Bergmark, K. (2013). Parental mediation of digital gaming and internet use. In *FDG 2013-the 8th International Conference on the Foundations of digital Games* (pp. 63–70).
- Englander, E. (2019). Childhood access to technology and cyberbullying. *Journal of Pediatrics and Pediatric Medicine*, 3(2).
- Ethier, K. A., Harper, C. R., Hoo, E., & Dittus, P. J. (2016). The longitudinal impact of perceptions of parental monitoring on adolescent initiation of sexual activity. *Journal of Adolescent Health*, 59(5), 570–576.
- Fisher, D. A., Hill, D. L., Grube, J. W., Bersamin, M. M., Walker, S., & Gruber, E. L. (2009). Televised sexual content and parental mediation: Influences on adolescent sexuality. *Media Psychology*, 12(2), 121–147.
- Frankel, A. S., Bass, S. B., Patterson, F., Dai, T., & Brown, D. (2018). Sexting, risk behavior, and mental health in adolescents: An examination of 2015 Pennsylvania Youth Risk Behavior Survey data. *Journal of School Health*, 88(3), 190–199.
- Gabrielli, J., Marsch, L., & Tanski, S. (2018). TECH parenting to promote effective media management. *Pediatrics*, 142(1). <https://doi.org/e20173718>.
- Gómez-Guadix, M., & De Santisteban, P. (2018). "Sex Pics?": Longitudinal predictors of sexting among adolescents. *Journal of Adolescent Health*, 63(5), 608–614.
- García-Huidobro, D., Doty, J. L., Davis, L., Borowsky, I. W., & Allen, M. L. (2018). For whom do parenting interventions to prevent adolescent substance use work? *Prevention Science: The Official Journal of the Society for Prevention Research*, 19(4), 570–578.
- Gentile, D. A., Nathanson, A. I., Rasmussen, E. E., Reimer, R. A., & Walsh, D. A. (2012). Do you see what I see? Parent and child reports of parental monitoring of media. *Family Relations*, 61(3), 470–487.

- Ghosh, A. K., Badillo-Urquiola, K. A., Xu, H., Rosson, M. B., Carroll, J. M., & Wisniewski, P. (2017, February). Examining parents' technical mediation of teens' mobile devices. In *Companion of the 2017 ACM Conference on computer supported Cooperative work and social computing* (pp. 179–182).
- Gunther, A. C., Bolt, D., Borzekowski, D. L. G., Liebhart, J. L., & Dillard, J. P. (2006). Presumed influence on peer norms: How mass media indirectly affect adolescent smoking. *Journal of Communication, 56*(1), 52–68. <https://doi.org/10.1111/j.1460-2466.2006.00002.x>
- Hanson, M. D., & Chen, E. (2007). Socioeconomic status and health behaviors in adolescence: A review of the literature. *Journal of Behavioral Medicine, 30*(3), 263.
- Hessel, H., He, Y., & Dworkin, J. (2017). Paternal monitoring: The relationship between online and in-person solicitation and youth outcomes. *Journal of Youth and Adolescence, 46*(2), 288–299.
- Holt, K. M., Holt, T. J., Cale, J., Brewer, R., & Goldsmith, A. (2021). Assessing the role of self-control and technology access on adolescent sexting and sext dissemination. *Computers in Human Behavior, 125*, Article 106952.
- Hudson, H. K., & Fetro, J. V. (2015). Sextual activity: Predictors of sexting behaviors and intentions to sext among selected undergraduate students. *Computers in Human Behavior, 49*, 615–622.
- Hunter, S. C., Russell, K., Pagani, S., Munro, L., Pimenta, S. M., Marín-López, I., ... Knifton, L. (2021). A social-ecological approach to understanding adolescent sexting behavior. *Archives of Sexual Behavior, 50*(6), 2347–2357.
- Hutchinson, M. K., & Montgomery, A. J. (2007). Parent communication and sexual risk among African Americans. *Western Journal of Nursing Research, 29*(6), 691–707.
- Jackson, K. M., Janssen, T., & Gabrielli, J. (2018). Media/marketing influences on adolescent and young adult substance abuse. *Current Addiction Reports, 5*(2), 146–157. <https://doi.org/10.1007/s40249-018-0199-6>
- Johnson, G. M., & Ptoplumpu, K. P. (2008). A conceptual framework for understanding the effect of the Internet on child development: The ecological techno-subsystem. *Canadian Journal of Learning and Technology, 34*, 19–28.
- Jones, R. K., Biddlecom, A. E., Hebert, L., & Mellor, R. (2011). Teens reflect on their sources of contraceptive information. *Journal of Adolescent Research, 26*(4), 423–446.
- Kinsler, J. J., Glik, D., de Castro Buffington, S., Malan, H., Nadjat-Haiem, C., Wainwright, N., & Papp-Green, M. (2019). A content analysis of how sexual behavior and reproductive health are being portrayed on primetime television shows being watched by teens and young adults. *Health Communication, 34*(6), 644–651.
- Klettke, B., Hallford, D. J., Clancy, E., Mellor, D. J., & Toumbourou, J. W. (2019). Sexting and psychological distress: The role of unwanted and coerced sexts. *Cyberpsychology, Behavior, and Social Networking, 22*(4), 237–242.
- Klettke, B., Hallford, D. J., & Mellor, D. J. (2014). Sexting prevalence and correlates: A systematic literature review. *Clinical Psychology Review, 34*(1), 44–53.
- Kobak, R., Abbott, C., Zisk, A., & Bounoua, N. (2017). Adapting to the changing needs of adolescents: Parenting practices and challenges to sensitive attunement. *Current Opinion in Psychology, 15*, 137–142.
- Kosenko, K., Luurs, G., & Binder, A. R. (2017). Sexting and sexual behavior, 2011–2015: A critical review and meta-analysis of a growing literature. *Journal of Computer-Mediated Communication, 22*(3), 141–160.
- Lammers, C., Ireland, M., Resnick, M., & Blum, R. (2000). Influences on adolescents' decision to postpone onset of sexual intercourse: A survival analysis of virginity among youths aged 13 to 18 years. *Journal of Adolescent Health, 26*(1), 42–48.
- Lenhart, A. (2009). *Teens and sexting* (Vol. 5). Washington, DC: Pew Internet & American Life Project.
- Little, T. D., Jorgensen, T. D., Lang, K. M., & Moore, E. W. G. (2013). On the joys of missing data. *Journal of Pediatric Psychology, 39*(2), 151–162. <https://doi.org/10.1093/jpepsy/jst048>
- Livingstone, S., & Helsper, E. J. (2008). Parental mediation of children's internet use. *Journal of Broadcasting & Electronic Media, 52*(4), 581–599.
- Madigan, S., Ly, A., Rash, C. L., Van Ouytsel, J., & Temple, J. R. (2018). Prevalence of multiple forms of sexting behavior among youth: A systematic review and meta-analysis. *JAMA Pediatrics, 172*(4), 327–335. <https://doi.org/10.1001/jamapediatrics.2017.5314>
- Mallery, P., & George, D. (2000). *SPSS for windows step by step*. Allyn & Bacon, Inc.
- McNeal, R. B. (2012). Checking in or checking out? Investigating the parent involvement reactive hypothesis. *The Journal of Educational Research, 105*(2), 79–89.
- Mitchell, K. J., Finkelhor, D., Jones, L. M., & Wolak, J. (2012). Prevalence and characteristics of youth sexting: A national study. *Pediatrics, 129*(1), 13–20.
- Mori, C., Temple, J. R., Browne, D., & Madigan, S. (2019). Association of sexting with sexual behaviors and mental health among adolescents: A systematic review and meta-analysis. *JAMA Pediatrics, 173*(8), 770–779.
- Nathanson, A. I. (2001). Mediation of children's television viewing: Working toward conceptual clarity and common understanding. *Annals of the International Communication Association, 25*(1), 115–151.
- O'Hara, R. E., Gibbons, F. X., Li, Z., Gerrard, M., & Sargent, J. D. (2013). Specificity of early movie effects on adolescent sexual behavior and alcohol use. *Social Science & Medicine, 96*, 200–207.
- Ojeda, M., Del-Rey, R., Walrave, M., & Vandebosch, H. (2020). Sexting in adolescents: Prevalence and behaviours. *Comunicar, 28*(64), 9–19.
- Ostrovsky, A. M., & Chen, J. R. (2020). TikTok and its role in COVID-19 information propagation. *Journal of Adolescent Health, 67*(5), 730.
- Padilla-Walker, L. M., Coyne, S. M., Kroff, S. L., & Memmott-Elison, M. K. (2018). The protective role of parental media monitoring style from early to late adolescence. *Journal of Youth and Adolescence, 47*(2), 445–459.
- Parkes, A., Henderson, M., Wight, D., & Nixon, C. (2011). Is parenting associated with teenagers' early sexual risk-taking, autonomy and relationship with sexual partners? *Perspectives on Sexual and Reproductive Health, 43*(1), 30–40.
- Rice, E., Gibbs, J., Winetrobe, H., Rhoades, H., Plant, A., Montoya, J., & Kordic, T. (2014). Sexting and sexual behavior among middle school students. *Pediatrics, 134*(1), e21–e28.
- Scull, T. M., Malik, C. V., & Keefe, E. M. (2020). Determining the feasibility of an online, media mediation program for parents to improve parent-child sexual health communication. *Journal of Media Literacy Education, 12*(1), 13–25.
- Smith, L. W., Liu, B., Degenhardt, L., Richters, J., Patton, G., Wand, H., & Guy, R. (2016). Is sexual content in new media linked to sexual risk behaviour in young people? A systematic review and meta-analysis. *Sexual Health, 13*(6), 501–515. <https://doi.org/10.1071/SH16037>
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development, 71*(4), 1072–1085.
- Strasburger, V. C. (2014). Media matter: But “old” media may matter more than “new” media. *Adolescent Medicine, 25*, 643–669.
- Suleiman, A. B., & Harden, K. P. (2016). The importance of sexual and romantic development in understanding the developmental neuroscience of adolescence. *Developmental Cognitive Neuroscience, 17*, 145.
- Symons, K., Ponnet, K., Emmery, K., Walrave, M., & Heirman, W. (2017). Parental knowledge of adolescents' online content and contact risks. *Journal of Youth and Adolescence, 46*(2), 401–416.
- Symons, K., Ponnet, K., Vanwesenbeeck, I., Walrave, M., & Van Ouytsel, J. (2020). Parent-child communication about internet use and acceptance of parental authority. *Journal of Broadcasting & Electronic Media, 64*(1), 1–19. <https://doi.org/10.1080/08838151.2019.1681870>
- “2011 Teens and Digital Citizenship Survey.” Pew Research Center, Washington, D.C. (July 1, 2011). http://www.pewinternet.org/files/old-media/Files/Questionnaire/2011/Teens%20Digital%20Citizenship_Topline_Kindness_Cruelty_Release110911.pdf, accessed on November 1, 2013.
- Valido, A., Espelage, D. L., Hong, J. S., Rivas-Koehl, M., & Robinson, L. E. (2020). Social-ecological examination of non-consensual sexting perpetration among US adolescents. *International Journal of Environmental Research and Public Health, 17*(24), 9477.
- Van Ouytsel, J., Lu, Y., & Temple, J. R. (2021). An exploratory study of online early sexual initiation through pressured and unwanted sexting. *The Journal of Sex Research, 1–7*.
- Van Ouytsel, J., Ponnet, K., & Walrave, M. (2014). The associations between adolescents' consumption of pornography and music videos and their sexting behavior. *Cyberpsychology, Behavior, and Social Networking, 17*(12), 772–778.
- Van Ouytsel, J., Walrave, M., De Marez, L., Van Damme, K., De Wolf, R., Baccarne, B., & Ponnet, K. (2020). Concise report: Teenage sexting on the rise? Results of a cohort study using a weighted sample of adolescents. *Sexual Health, 17*(2), 178–181. <https://doi.org/10.1071/SH19158>
- Vanwesenbeeck, I., Ponnet, K., Walrave, M., & Ouytsel, J. V. (2018). Parents' role in adolescents' sexting behaviour. In *Sexting* (pp. 63–80). Cham: Palgrave Macmillan.
- Ward, L. M., Erickson, S. E., Lippman, J. R., & Giaccardi, S. (2016). *Sexual media content and effects*. Oxford University Press.
- Wisniewski, P., Jia, H., Xu, H., Rosson, M. B., & Carroll, J. M. (2015). Preventative" vs. "reactive" how parental mediation influences teens' social media privacy behaviors. In *Proceedings of the 18th ACM Conference on computer supported Cooperative work & social computing*.
- Ybarra, M. L., Finkelhor, D., Mitchell, K. J., & Wolak, J. (2009). Associations between blocking, monitoring, and filtering software on the home computer and youth-reported unwanted exposure to sexual material online. *Child Abuse & Neglect, 33*(12), 857–869.
- Ybarra, M. L., & Mitchell, K. J. (2014). Sexting" and its relation to sexual activity and sexual risk behavior in a national survey of adolescents. *Journal of Adolescent Health, 55*(6), 757–764.