Youth sexting and associations with parental media mediation

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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 increasingly prevalent sharing 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...
interventions (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 mesosystem (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 & Puplampu, 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 & Puplampu, 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 (Cozzone 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 (García-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); Kletke 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; Engle, 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.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>TOTAL</th>
<th>SENT Sext</th>
<th>RECEIVED Sext</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Participants</td>
<td>306</td>
<td>25 (8.2)</td>
<td>192 (62.7)</td>
</tr>
<tr>
<td>(Valid %)</td>
<td></td>
<td>(11.5)</td>
<td>(11.5)</td>
</tr>
<tr>
<td>Youth Age (M/SD)</td>
<td>(11.8/1.2)</td>
<td>(12.6/1.4)</td>
<td>(12.6/1.4)</td>
</tr>
<tr>
<td>10</td>
<td>57 (18.6)</td>
<td>3 (8.1)</td>
<td>34 (91.9)</td>
</tr>
<tr>
<td>11</td>
<td>71 (23.1)</td>
<td>3 (5.0)</td>
<td>51 (94.4)</td>
</tr>
<tr>
<td>12</td>
<td>81 (26.4)</td>
<td>4 (7.7)</td>
<td>48 (92.3)</td>
</tr>
<tr>
<td>13</td>
<td>71 (23.1)</td>
<td>7 (13.0)</td>
<td>47 (87.0)</td>
</tr>
<tr>
<td>14</td>
<td>26 (8.5)</td>
<td>8 (40.0)</td>
<td>12 (60.0)</td>
</tr>
<tr>
<td>Parent Age (M/SD)</td>
<td>(38.5/6.0)</td>
<td>(37.9/5.6)</td>
<td>(38.9/6.0)</td>
</tr>
<tr>
<td>Youth Gender</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Male</td>
<td>155 (50.7)</td>
<td>17 (14.7)</td>
<td>99 (85.3)</td>
</tr>
<tr>
<td>Female</td>
<td>151 (49.2)</td>
<td>8 (7.9)</td>
<td>93 (92.1)</td>
</tr>
<tr>
<td>Parent Gender</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Male</td>
<td>120 (39.2)</td>
<td>19 (21.6)</td>
<td>69 (78.4)</td>
</tr>
<tr>
<td>Female</td>
<td>186 (60.8)</td>
<td>6 (4.7)</td>
<td>123 (95.3)</td>
</tr>
<tr>
<td>Youth Race/Ethnicity</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Black or AA</td>
<td>35 (11.4)</td>
<td>0 (0.0)</td>
<td>23 (100.0)</td>
</tr>
<tr>
<td>White or Caucasian</td>
<td>214 (69.9)</td>
<td>21 (13.7)</td>
<td>132 (86.3)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>27 (8.6)</td>
<td>1 (5.3)</td>
<td>18 (94.7)</td>
</tr>
<tr>
<td>Other</td>
<td>30 (9.9)</td>
<td>3 (13.7)</td>
<td>19 (86.3)</td>
</tr>
<tr>
<td>Parent Race/Ethnicity</td>
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<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Black or AA</td>
<td>39 (12.7)</td>
<td>0 (0.0)</td>
<td>26 (100.0)</td>
</tr>
<tr>
<td>White or Caucasian</td>
<td>220 (71.9)</td>
<td>21 (13.3)</td>
<td>137 (86.7)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>21 (6.9)</td>
<td>1 (7.1)</td>
<td>13 (92.9)</td>
</tr>
<tr>
<td>Other</td>
<td>47 (15.6)</td>
<td>3 (15.8)</td>
<td>16 (84.2)</td>
</tr>
<tr>
<td>Free or Reduced Lunch</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Yes</td>
<td>149 (48.7)</td>
<td>8 (7.1)</td>
<td>104 (92.9)</td>
</tr>
<tr>
<td>Parent Marital Status</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Divorced or Separated</td>
<td>40 (13.1)</td>
<td>2 (6.9)</td>
<td>27 (93.1)</td>
</tr>
<tr>
<td>Married</td>
<td>189 (61.8)</td>
<td>16 (12.1)</td>
<td>116 (87.9)</td>
</tr>
<tr>
<td>Never Married</td>
<td>40 (13.1)</td>
<td>3 (11.1)</td>
<td>24 (88.9)</td>
</tr>
<tr>
<td>Widowed</td>
<td>8 (2.6)</td>
<td>0 (0.0)</td>
<td>5 (100.0)</td>
</tr>
<tr>
<td>Living Together</td>
<td>29 (9.4)</td>
<td>4 (16.7)</td>
<td>20 (83.3)</td>
</tr>
<tr>
<td>Access to Tech (M/SD)</td>
<td>(3.4/1.4)</td>
<td>(4.0/1.3)</td>
<td>(3.4/1.3)</td>
</tr>
<tr>
<td>Phone</td>
<td>232 (75.8)</td>
<td>18 (10.8)</td>
<td>148 (89.2)</td>
</tr>
<tr>
<td>Television</td>
<td>219 (71.6)</td>
<td>19 (12.3)</td>
<td>136 (87.7)</td>
</tr>
<tr>
<td>Video Game Console</td>
<td>225 (73.5)</td>
<td>22 (13.4)</td>
<td>142 (86.6)</td>
</tr>
<tr>
<td>Computer</td>
<td>120 (50.7)</td>
<td>19 (17.1)</td>
<td>92 (82.9)</td>
</tr>
<tr>
<td>Tablet</td>
<td>208 (68.0)</td>
<td>22 (14.9)</td>
<td>126 (85.1)</td>
</tr>
</tbody>
</table>
2.2. Measures

** Sexting 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 youth self-report of questions from the Pew Research Center’s “Teens and Digital Citizenship Survey.”

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E. Corcoran et al.

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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 ($M_{\text{diff}} = 0.32, SD = 0.14, p = .024$) and restrictive mediation ($M_{\text{diff}} = 1.09, SD = 0.22, p < .001$), but not monitoring ($M_{\text{diff}} = -0.31, SD = 0.18, p = .094$) nor technology control ($M_{\text{diff}} = -0.26, SD = 0.27, p = .333$). For receiving sexts, restrictive mediation ($M_{\text{diff}} = 1.25, SD = 0.19, p < .001$) and technology control ($M_{\text{diff}} = -0.51, SD = 0.24, p = .036$) significantly differed across those who have received sexts and those who have not, while active mediation ($M_{\text{diff}} = 0.05, SD = 0.13, p = .716$) and monitoring ($M_{\text{diff}} = -0.37, SD = 0.21, p = .077$) did not (Table 3). 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, [0.071–0.457]), 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.
including sexting. The present study suggests the efficacy of a balance of restrictive and active media parenting behaviors and youth sexting outcomes, whereby experiences online are associated with con-

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

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sent Sext Mean (SD/SE)</th>
<th>Received Sext Mean (SD/SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (SD)</td>
<td>No (SD)</td>
</tr>
<tr>
<td>Parent</td>
<td></td>
<td>Diff (SE)</td>
</tr>
<tr>
<td>Active</td>
<td>3.97 (.69)</td>
<td>4.29 (.65)</td>
</tr>
<tr>
<td>Monitoring</td>
<td>3.84 (.80)</td>
<td>3.53 (1.13)</td>
</tr>
<tr>
<td>Tech Control</td>
<td>3.61 (1.11)</td>
<td>3.34 (1.30)</td>
</tr>
<tr>
<td>Restrictive</td>
<td>2.23 (.78)</td>
<td>3.32 (1.04)</td>
</tr>
</tbody>
</table>

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

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

6 Equal variances not assumed, based on Levene’s test for equality of variances at p < .05.
controls and receiving sexts may also be due to conceptual overlap with
ports may speak to the subjectivity of reporters (i.e., how mothers,
trol based on both parent and child report, suggesting that female parent
(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” (Dish-
ion & 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
canvas 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 con-
versation 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 con-
trol 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 re-
ports 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 involve-
ment 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/un-
wanted 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 cor-
relation 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., 2019).

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 in-
fluences 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 also may 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 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 (Scull 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.

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