Teen Sexting and Its Association With Sexual Behaviors

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Objective: To examine the prevalence of sexting behaviors as well as their relation to dating, sex, and risky sexual behaviors using a large school-based sample of adolescents.

Design: Data are from time 2 of a 3-year longitudinal study. Participants self-reported their history of dating, sexual behaviors, and sexting (sent, asked, been asked, and/or bothered by being asked to send nude photographs of themselves).

Setting: Seven public high schools in southeast Texas.

Participants: A total of 948 public high school students (55.9% female) participated. The sample consisted of African American (26.6%), white (30.3%), Hispanic (31.7%), Asian (3.4%), and mixed/other (8.0%) teens.

Main Outcome Measure: Having ever engaged in sexting behaviors.

Results: Twenty-eight percent of the sample reported having sent a naked picture of themselves through text or email (sext), and 31% reported having asked someone for a sext. More than half (57%) had been asked to send a sext, with most being bothered by having been asked. Adolescents who engaged in sexting behaviors were more likely to have begun dating and to have had sex than those who did not sext (all P < .001). For girls, sexting was also associated with risky sexual behaviors.

Conclusions: The results suggest that teen sexting is prevalent and potentially indicative of teens’ sexual behaviors. Teen-focused health care providers should consider screening for sexting behaviors to provide age-specific education about the potential consequences of sexting and as a mechanism for discussing sexual behaviors.

images, researchers found that only 1.3% of youth appeared in or created a sext and only 5.9% received a sext. While this study addressed several limitations of previous work, the random-digit dialing approach (relying mostly on households with landlines) likely resulted in an underestimate of actual sexting behaviors. Research has shown that households with landlines tend to be less ethnically diverse, have higher socioeconomic status, and be more conservative compared with households relying solely on cell phone service. Indeed, youth in the Mitchell et al study were 73% white, 78% lived in a 2-parent household, and 30% lived in households with an annual income of $100,000 or greater. This sampling bias may explain the low prevalence of sexting relative to other studies and online polls.

With scant and equivocal empirical data, pediatricians, policy makers, schools, and parents are handicapped by insufficient information about the nature and importance of teen sexting. In addition to the aforementioned legal ramifications and potential for bullying, sexting may be a risk factor for or an indicator of risky sexual behaviors. Given the lack of previous studies, it is unclear how this new behavior fits within the domain of teen dating and sexual behaviors. Thus, the purpose of this study is 2-fold. First, we identify the prevalence and describe the nature of sexting (as sender and receiver) among a large ethnically diverse school-based sample of adolescents. Second, we examine the association between sexting and sexual behaviors. While the novelty of this topic prevents us from making specific empirically guided hypotheses, we anticipate that sexting behaviors will differ by sex, be an extension of teens’ lives, and will co-occur with their intimate (dating) and sexual (intercourse and risky sex) behaviors.

METHODS

SAMPLE AND STUDY DESIGN

This study was approved by the institutional review board of the University of Texas Medical Branch. Current data are from time 2 of Dating It Safe, an ongoing longitudinal study of teen dating violence and other high-risk adolescent behaviors. Participants at time 1 (Spring 2010) included 1042 students recruited from 7 public high schools in 4 Houston-area school districts. A total of 964 participants (93%) were retained for time 2. Study recruitment occurred during school hours in courses with mandated attendance, and both parental permission and student assent were obtained. Assessments at each point occurred during school hours, and students received a $10 gift card for participating. Participants no longer at their original school were surveyed at an alternate time and location. For the current study, only time 2 data were analyzed because the sexting items did not appear in the time 1 survey. Only participants who answered at least 1 sexting item were included in the analysis (N = 948).

MEASURES

Sexting

We assessed lifetime prevalence of sexting with 4 items developed for this study, including (1) “Have you ever sent naked pictures of yourself to another through text or e-mail;” (2) “Have you ever asked someone to send naked pictures of themselves to you;” (3) “Have you ever been asked to send naked pictures of yourself through text or e-mail;” and (4) “If so, how much were you bothered by this (not at all, a little, a lot, or a great deal).” Questions were developed based on a review of relevant literature and in consultation with adolescent health experts. For some analyses, the question regarding whether teens were bothered by being asked for a sext was collapsed into 2 categories: (1) “not at all” and (2) “a little,” “a lot,” or “a great deal.” Given the increased potential for legal and psychosocial consequences, our definition of sexting was limited to sending naked pictures, as opposed to semi-nude pictures or explicit messages.

RESULTS

Participants ranged in age from 14 to 19 years (mean, 15.8 years) and were in either the 10th or 11th grade. Of all the participants, 55.9% were female; and the race/ethnicity makeup of the analyzed sample was 26.6% African American, 30.3% white, and 31.7% Hispanic.

A sizeable minority of teens (n = 259; 27.6%) reported having sent a naked picture of themselves through text or e-mail (sex). There was no significant difference between boys (27.8%) and girls (27.5%) in the proportion of teens who reported having sent a sext (Figure). However, girls (68.4%) more often reported having been asked to send a sext compared with boys (42.1%; P < .001). Boys were significantly (P < .001) more likely than girls to report having asked someone for a sext (46% and 21%, respectively). As demonstrated in the Figure, of those who had been asked to send a sext, girls more often reported being bothered by the request. For example, whereas 27% of girls reported being bothered a great deal, only 3% of boys chose this option (P < .001).

As shown in Table 1, the proportion of teens who had been asked to send a sext and who had actually sent a sext differed by race/ethnicity, with white/non-Hispanic and African American teens more likely than the other racial/ethnic groups to have both been asked and to have sent a sext.

There were also differences across age in the proportion of teens who were asked to send a sext (P < .002), who sent a sext (P = .003), and who were bothered (at
least a little) by being asked to send a sext \( (P = .04) \). Older teens were more likely to have sent a sext, and they were less likely to have been bothered by being asked to send a sext. The proportion of teens who reported having been asked to send a sext appeared to peak at 16 and 17 years of age (61.5% and 60.4%, respectively), then declined in those aged 18 years and older (53.3%).

Parental education level was significantly associated only with teens’ reports of having asked for a sext; adolescents with parents who had a high school education or less were more likely to have asked for a sext \( (P = .004) \).

Of the current sample, 93% of girls and 90% of boys have started dating, with 51.1% of girls and 54.6% of boys reporting a history of sexual intercourse. Of those reporting a history of sexual intercourse, boys (52%) were slightly more likely than girls (43%) to report having sex with more than 1 partner in the previous year \( (P = .05) \). With respect to using substances before sex, no differences emerged between boys and girls (37% and 32%, respectively).

Among girls, there was a significant association between all sexting behaviors and all dating, sex, and risky sex behaviors (Table 2). The prevalence of having started dating, having had sex, having multiple sex partners, and using alcohol or drugs before sex were all higher among those who have sent, received, or asked for a sext than among those who had not engaged in those sexting behaviors. For example, among girls who had not sent a sext, 42.0% reported having sex, whereas among those who had sent a sext, 77.4% reported having sex \( (P < .001) \). In addition, nearly all of the girls who were not at all bothered by having been asked to send a sext also reported that they have had sex (95.7%), whereas a smaller percentage of those who were bothered to some degree reported that they have had sex \( (44.9-71.4\%; P < .001) \).

For boys, having sent a sext and having asked for a sext were each associated with dating and having had sex (Table 3). For example, 81.8% of boys who sent a sext reported that they have had sex before, whereas only 45.4% of boys who had never sent a sext reported that they have had sex \( (P < .001) \). However, there was no significant association between having sent or received a sext and having multiple sex partners or using alcohol or drugs before sex. There were significant associations between having been asked to send a sext and all dating and sexual behaviors. For instance, of those who reported that someone had asked them to send a sext, 76.2% have had sex, whereas of those who reported not having been asked to sext, only 38.2% have had sex before \( (P < .001) \).

Findings from our study suggest that sexting behaviors are prevalent among adolescents. While some differences were identified, sexting occurred across sex, age, and race/ethnicity. Specifically, more than 1 in 4 adolescents have sent a nude picture of themselves through electronic means, about half have been asked to send a nude picture, and about a third have asked for a nude picture to be sent to them. Boys were more likely to ask and girls more likely to have been asked for a sext. These rates are at the higher end of estimates generated from available online research and opinion polls, and substantially higher than recently published data suggesting that only a little more than 1% of teens had sexted naked pictures. The relatively older sample of adolescents in our study may explain some of the higher rates of sexting. In addition, findings from the current study are based on a more representative sample than those used in previous research, suggesting a more accurate representation of US adolescents’ sexting behaviors.

Our findings also make it clear that the commmonness of a behavior does not condone its occurrence. On the contrary, we found that teens are generally bothered by being asked to send a naked picture. In fact, nearly all girls were bothered by having been asked. Even among boys, more than half were bothered at least a little by having been asked. Given these results, future research should define more closely what is meant by being bothered (eg, annoyed vs embarrassed).

For both boys and girls, teens who engaged in sexting behaviors were more likely to have begun dating and to have had sex than those who did not sext. Although our survey did not ask for the identity of the sender/receiver of the sext messages, these results suggest that sexting may occur within the context of dating. This assertion is consistent with a recent focus group conducted by the Pew Research Center, in which teens re-
ported that sexting often occurs between intimate partners or where at least 1 member participating in the sext hopes to be in a relationship. Perhaps most telling is the finding that adolescents who have engaged in a variety of sexting behaviors were overwhelmingly more likely to have had sex than their peers who have not experienced sexting. Because of the cross-sectional nature of our data, we were unable to determine the temporal relationship between sexting and sexual behavior. However, it is possible that sexting may act as an initial sexual approach or as a way of introducing sex into the relationship. It could also be that sending a sexually explicit image invites sexual advances from an intimate partner or other peers.\textsuperscript{21} Conversely, it may be that once an individual has sex, they are more open to expressing themselves sexually or that the level of flirtation escalates to include nudity. Regardless of the reason for the association, current findings posit that sexting may be a fairly reliable indicator of sexual behaviors.

Moreover, teen girls who engaged in sexting behaviors also had a higher prevalence of risky sex behaviors, including multiple partners and using drugs or alcohol before sex. Thus, among girls, the use of sexting behaviors appears to coincide with much higher engagement in risky sex behaviors. The same is not true for boys, for whom only having been asked for a sext was related to risky sex behaviors. It is possible that sexting, like actual sexual behaviors, is perceived more permissively\textsuperscript{22} and positively\textsuperscript{23} for boys, and thus not considered a risky behavior and therefore less likely to be associated with

### Table 1. Sexting Behaviors by Race/Ethnicity, Age, and Parental Education Level

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Sent a Sext</th>
<th>Asked for a Sext</th>
<th>Been Asked to Sext</th>
<th>Bothered by Being Asked</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>63 (21.5)</td>
<td>86 (29.4)</td>
<td>151 (49.8)</td>
<td>125 (83.3)</td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>99 (34.5)</td>
<td>97 (33.7)</td>
<td>177 (61.0)</td>
<td>136 (76.8)</td>
</tr>
<tr>
<td>African American</td>
<td>68 (27.1)</td>
<td>80 (31.9)</td>
<td>160 (65.0)</td>
<td>131 (82.4)</td>
</tr>
<tr>
<td>Asian</td>
<td>6 (18.8)</td>
<td>5 (15.6)</td>
<td>8 (24.2)</td>
<td>5 (62.5)</td>
</tr>
<tr>
<td>Mixed/Other</td>
<td>23 (31.1)</td>
<td>27 (36.5)</td>
<td>44 (57.9)</td>
<td>39 (88.6)</td>
</tr>
<tr>
<td><strong>P value</strong></td>
<td>.007</td>
<td>.21</td>
<td>&lt;.001</td>
<td>.19</td>
</tr>
<tr>
<td><strong>Age, y</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;15</td>
<td>44 (19.9)</td>
<td>59 (26.7)</td>
<td>99 (44.4)</td>
<td>86 (86.9)</td>
</tr>
<tr>
<td>16</td>
<td>132 (27.9)</td>
<td>146 (30.8)</td>
<td>294 (61.5)</td>
<td>242 (82.9)</td>
</tr>
<tr>
<td>17</td>
<td>69 (32.6)</td>
<td>78 (36.8)</td>
<td>131 (60.4)</td>
<td>96 (73.3)</td>
</tr>
<tr>
<td>&gt;18</td>
<td>14 (45.2)</td>
<td>12 (38.7)</td>
<td>16 (53.3)</td>
<td>12 (75.0)</td>
</tr>
<tr>
<td><strong>P value</strong></td>
<td>.003</td>
<td>.11</td>
<td>.002</td>
<td>.04</td>
</tr>
<tr>
<td><strong>Parental education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤High school</td>
<td>86 (30.0)</td>
<td>110 (38.2)</td>
<td>161 (54.8)</td>
<td>123 (76.9)</td>
</tr>
<tr>
<td>Some college or more</td>
<td>156 (27.5)</td>
<td>162 (28.6)</td>
<td>333 (58.8)</td>
<td>273 (82.2)</td>
</tr>
<tr>
<td><strong>P value</strong></td>
<td>.45</td>
<td>.004</td>
<td>.25</td>
<td>.16</td>
</tr>
</tbody>
</table>

### Table 2. Association Between Dating, Risky Sexual Behaviors, and Sexting Behaviors Among Girls

<table>
<thead>
<tr>
<th>Risky Sex Behavior</th>
<th>Ever Dated</th>
<th>Ever Had Sex</th>
<th>&gt;1 Sex Partner in Last Year</th>
<th>AOD and Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sent a sext</td>
<td>145 (100.0)</td>
<td>113 (77.4)</td>
<td>63 (55.8)</td>
<td>45 (39.8)</td>
</tr>
<tr>
<td>Yes</td>
<td>334 (89.8)</td>
<td>162 (42.0)</td>
<td>56 (34.6)</td>
<td>43 (26.5)</td>
</tr>
<tr>
<td>No</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.005</td>
<td>&lt;.02</td>
</tr>
<tr>
<td>Asked for a sext</td>
<td>107 (100.0)</td>
<td>87 (80.6)</td>
<td>49 (56.3)</td>
<td>36 (41.4)</td>
</tr>
<tr>
<td>Yes</td>
<td>372 (90.7)</td>
<td>188 (44.3)</td>
<td>70 (37.2)</td>
<td>52 (27.7)</td>
</tr>
<tr>
<td>No</td>
<td>.002</td>
<td>.001</td>
<td>.003</td>
<td>.02</td>
</tr>
<tr>
<td>Been asked to sext</td>
<td>354 (98.3)</td>
<td>232 (63.6)</td>
<td>114 (49.1)</td>
<td>84 (36.2)</td>
</tr>
<tr>
<td>Yes</td>
<td>126 (79.8)</td>
<td>40 (23.7)</td>
<td>3 (7.5)</td>
<td>4 (10.3)</td>
</tr>
<tr>
<td>No</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.008</td>
</tr>
<tr>
<td>Bothered by being asked</td>
<td>24 (100.0)</td>
<td>22 (95.7)</td>
<td>11 (50.0)</td>
<td>6 (27.3)</td>
</tr>
<tr>
<td>Not at all</td>
<td>130 (100.0)</td>
<td>86 (65.2)</td>
<td>46 (35.3)</td>
<td>37 (43.0)</td>
</tr>
<tr>
<td>A little</td>
<td>109 (98.2)</td>
<td>80 (71.4)</td>
<td>41 (51.3)</td>
<td>28 (35.0)</td>
</tr>
<tr>
<td>A great deal</td>
<td>91 (95.8)</td>
<td>44 (44.9)</td>
<td>16 (36.4)</td>
<td>13 (29.6)</td>
</tr>
</tbody>
</table>

**P value** .08 < .001 .30 .34

Abbreviation: AOD, alcohol or drugs (taken before having sex in the past year).
other risky behaviors. On the other hand, girls may risk being stigmatized for their sexting behaviors (eg, being identified as a "slut"). If true, it would be expected to correlate with other risky behaviors. Additional research, including qualitative studies, is needed to investigate these sex differences.

**CLINICAL IMPLICATIONS**

Given its prevalence and link to sexual behavior, pediatricians and other tween-focused and teen-focused health care providers may consider screening for sexting behaviors. Asking about sexting could provide insight into whether a teen is likely engaging in other sexual behaviors (for boys and girls) or risky sexual behaviors (for girls). Also, questions about sexting may be easier for teens to answer honestly than questions about sex and risky sex behaviors. However, this should be evaluated in future research. Regardless, talking to teen patients about sexting provides an opportunity to discuss sexual behavior and safe sex. Indeed, these findings reinforce calls by the American Academy of Pediatrics to discuss teen sexting with patients and patients’ parents.

**POTENTIAL IMPLICATIONS**

The ubiquity of sexting supports recent efforts to soften the penalties for sexting. Under most existing laws, if our findings were extrapolated nationally, several million teens could be prosecuted for child pornography. Sexting may be more aptly conceptualized as a new type of sexual behavior in which teens may (or may not) engage. In an adolescent period characterized by identity development and formation, sexting should not be considered equivalent to childhood sexual assault, molestation, and date rape. Doing so not only unjustly punishes youthful indiscretions, but minimizes the severity and seriousness of true sexual assault against minors. At the same time, any efforts to soften penalties for sexting should be done cautiously so as not to introduce legal loopholes for other cases involving sexual assault. Furthermore, while juvenile-to-juvenile sexting may come to be understood as part of adolescents’ repertoire of sexual behaviors, this understanding should not be applied to sexting between teens and adults or when sexting is used to bully others.

**STUDY LIMITATIONS**

We do not know from our study whether adolescents’ sexual experiences and engagement in risky sexual behaviors precede or followed sexting behaviors. Longitudinal studies that explicitly account for the time sequence are needed. In addition, questions on sexting were developed for this study and were not vetted by teens, potentially limiting the validity of our findings. We also did not inquire about the identity of whom teens sexted, who asked for a sext, and under what conditions sexting occurred. Future research, including qualitative studies, should include contextual questions. In addition, findings regarding 18-year-old individuals should be interpreted with caution owing to the relatively small number of these participants in our sample. Finally, although the sample represents a diverse cross-section of students from several high schools/districts, it is possible that regional differences influenced prevalence estimates. Despite these limitations, to our knowledge, this study is among the first to examine the prevalence and nature of sexting in a racially and ethnically diverse school-based sample and to demonstrate a link between sexting and sexual behavior.

**CONCLUSIONS**

While some differences were noted with respect to sex, age, and race/ethnicity, it is clear that teen sexting is prevalent among adolescents. More than a quarter of teens in the current sample reported sending a naked picture of them-
selves to another teen, and more than half have been asked to send one. Perhaps most telling is the finding that teens who have participated in sexting were substantially more likely to report a history of sexual intercourse (for boys and girls) and risky sexual behaviors (for girls). The use of cell phones and text messaging has increased rapidly during the past 5 years, and the age of cell phone ownership has become steadily younger. Therefore, it is essential that pediatri-
cians, adolescent medicine specialists, and other health care providers become familiar with, routinely ask about, and know how to respond to teen sexting.

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REFERENCES


