

# Childhood Access to Technology and Cyberbullying

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## Article Info

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## Abstract

Developmental factors and cyberbullying have not been a major focus in the field; most strikingly, the experiences that young children have with technology have been studied far less, relative to their adolescent peers. Prevalence estimates comparing younger and older children are problematic for several reasons; first, researchers have no consensus definition of cyberbullying, and second, prevalence estimates vary so widely that drawing conclusions is difficult. Access to technology is only another factor among several that likely influences the prevalence of cyberbullying, and it appears to vary with age. Access to cell phones and digital technology in adolescence is related to both victim availability and prevalence of cyberbullying itself. Among younger students, those under 12 years old, one study has found that cell phone ownership increases the risk of being both a cyberbully and a cyberbully/victim significantly. One factor that may mediate the impact of cell phone ownership is education on the appropriate and accurate use of digital technology. This type of education has been neglected in elementary schools, but evidence suggests it may be helpful in reducing cyberbullying.

## Introduction

Cyberbullying is usually defined as a form of intentional, repeated aggression, using electronic forms of contact, such as text messaging and social media<sup>1</sup>. The research literature examining cyberbullying has grown exponentially, and many factors that potentially contribute to both the perpetration and victimization of cyberbullying have been examined; but developmental factors related to cyberbullying, especially how younger children experience it, have been less studied. Theoretically, several articles have suggested that pre-adolescent children may be more vulnerable to cyberbullying in some ways. For example, younger children may be more inclined to misinterpret ambiguous online communications, and ambiguity is common in digital environments<sup>2</sup>. They are also more apt to make social errors when using technology (e.g., underestimating the emotional impact of a comment) that could easily lead to social problems both online and in school<sup>3</sup>. But younger children have had, in recent history, less access to digital technology and especially to mobile digital devices, like cell phones<sup>4</sup>.

Prevalence estimates have been examined predominately in adolescent children, with some exceptions. Several problems in the field have limited our ability to measure the prevalence of cyberbullying in young children. Not least is the lack of a consensus definition<sup>5</sup>. In the case of traditional bullying, a widely-adhered to consensus definition identifies three factors that characterize a bullying incident: intention, repetition and a power imbalance (wherein the bully has significantly more power than the target). But identifying these characteristics can be exceptionally difficult

when it comes to digital behaviors. When a child repeatedly victimizes a target on the playground, intent and repetition are clear. But when a child posts a rumor about a target on social media – and the rumor is subsequently spread by others – the target may certainly experience repetition and great harm, but the intent of the original “bully” is not clear.

Yet what happens online is clearly related to traditional bullying. Most children who are cyberbullied are also bullied in school<sup>6</sup>. Researchers who have examined bullying and cyberbullying find that the two behaviors are clearly correlated, suggesting that there is at minimum a substantial amount of co-morbidity<sup>7</sup>.

Examining prevalence of cyberbullying among subjects of any age is also difficult because of the degree of variability in different estimates. Even after excluding extreme outliers, prevalence estimates of cyberbullying vary a great deal. Finally, research in this field is made more difficult by the rapid and dramatic changes in technology, which probably render pre-2010 and post-2010 prevalence studies incomparable. For this reason, I will focus here on studies published in 2010 or later.

### Prevalence of Cyberbullying

Some studies suggest that cyberbullying becomes more common as children age<sup>8</sup>. Among adolescents, prevalence rates range between about 15% and 50% experiencing cyberbullying victimization. One meta-analysis of 80 studies from several countries found that the average adolescent victimization prevalence rate was approximately 15%<sup>9</sup>. In 2016, Patchin and Hinduja also reviewed prevalence estimates across a variety of studies, and found lifetime prevalence rates between 24.1% and 34.6%. A 2011 retrospective study of several hundred college students found that 41% reported being victims of cyberbullying at some point during the four years of high school<sup>10</sup>. Another survey of middle and high school students ( $n = 2,186$ ) found that slightly fewer than half (49.5%) indicated they had been bullied online and 33.7% indicated they had bullied others online<sup>11</sup>.

Among school-age and pre-adolescent children, some studies find lower rates, relative to adolescents. A 10-year cross-sectional study in the US (with several hundred subjects in 2000, 2005, and 2010) found that digital harassment was reported by 6% of 10-12 year olds in 2010<sup>12</sup>. A 2017 study of more than 4,500 children in third, fourth and fifth grade in the United States found a cyberbullying victimization rate of 9.5%, which was similar to the rate found by the National Crime Victimization Survey (9%)<sup>13</sup>. But other studies have found higher rates among younger subjects. A study of 660 American children in grades 3, 4 and 5 found that almost 18% reported cyberbullying victimization<sup>14</sup>, and a study of Canadian 10 to 12 year olds (4, 5 and 6 grades) found that 27% reported, at the end

of the school year, that they had experienced cyberbullying victimization during the preceding school year<sup>15</sup>. In the UK and Turkey, two studies found young childhood prevalence in the low to mid 20s<sup>16</sup>. Clearly, the evidence that cyberbullying is less common among younger children is mixed. However, given current definitional limitations and the small number of studies, we cannot yet reject this hypothesis.

### Access to technology

Another developmental factor is access to digital technology. Access seems likely to mediate involvement in cyberbullying. Continuous access to technology in the form of mobile digital technology (cell phones) is widespread among adults and adolescents. Between 2013 and 2016, Pew Center researchers found that adolescent ownership of cell smartphones doubled from 37% to 73%<sup>17</sup>. As might be expected, younger children have access to cell phones at lower rates; a 2017 study of approximately 4,500 children in the US found that 40% of third graders, 50% of fourth graders, and 60% of fifth graders reported that they owned cell phones<sup>18</sup>. Other recent studies in Europe have found that between 10% and 40% of 9 to 11-year old owned smartphones<sup>19</sup>. Two studies of British children aged 11 and younger found mobile phone ownership rates of approximately 45%<sup>20</sup>. In the United States, a nationally representative sample of families with children eight years old or younger revealed that the use of mobile devices nearly doubled between 2011 and 2013 (from 38% to 72%), and families who provided young children with access to a tablet or smartphone increased from 52% to 75%<sup>21</sup>.

Increased digital exposure to a potential perpetrator of cyberbullying seems to increase the odds of victimization, in much the same way that greater exposure to a traditional aggressor can increase the odds of becoming an in-person target<sup>22</sup>. The more frequently a user is online, the higher their visibility and accessibility in online spaces as a potential target<sup>23</sup>. Thus, several studies have concluded that increased access to digital technology probably increases involvement in cyberbullying<sup>24</sup>. One study of adolescents in Singapore found that access to technology, online routine behaviors, and target suitability were all significant predictors of cyberbullying victimization<sup>25</sup>. One study of access among 8 to 11-year-old children found that young cell phone owners showed an increased tendency to be a cyberbully or a cyberbully/victim; cell phone ownership, being a victim of cyberbullying, and being either a traditional bully or a victim of bullying in school all predicted cyberbullying perpetration<sup>26</sup>.

### Conclusions

Cyberbullying and its manifestation among younger children (pre-adolescents) has been studied less frequently

than in adolescent subjects. That, in combination with several limitations in the field, have contributed to a less than clear understanding of cyberbullying in young children. Prevalence has been studied far more frequently in adolescents, but still, there is a great deal of variability between subjects. This may be due, at least in part, to the lack of a consensus definition of cyberbullying. While several studies have suggested that cyberbullying is less common among younger children, the fact is that the variability even among that limited literature prohibits drawing a firm conclusion.

One factor that may be important developmentally is access to digital technology. Mobile devices provide continuous access, and adolescents undisputedly own cell phones at higher rates. Studies of teens have found a firm relationship between access and cyberbullying involvement. Among younger children, one study found that cell phone ownership increased the risk of involvement in cyberbullying.

Our approach to training children in the use of the technology we give them is probably not adequately thorough and comprehensive. Training in the use of digital technology, and in how communication changes in digital environments, may reduce cyberbullying. Cyberbullying education in schools is less common among younger elementary school children, and teachers in the earlier elementary school grades may feel less prepared to teach their students about it<sup>27</sup>. Teachers of younger students are less likely to be aware of cyberbullying and its implications, and less likely to discuss it with students<sup>28</sup>. Yet a 2017 study of 4,500 children in five states in the US found that third and fourth grade children were much less able to define the term “cyberbullying,” compared to their older peers<sup>29</sup>, and a lack of digital skills predicted cyberbullying victimization among younger school-age children<sup>30</sup>. Future directions should consider improving technology education, even among elementary school aged children, and exploring ways to help parents delay cell phone acquisition until adolescence, when possible.

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