Introduction + Background

Introduction

Whether it takes place on a woodchip playground or on social media, bullying affects millions of young people in the United States and around the world (Nansel et al. 2001, Tokunaga 2010). With the popularization of new digital media technologies such as social media and smartphones that are frequently used by students, children and adolescents have access to new ways of engagement and interaction – including the transfer of bullying into online contexts. Unlike conventional schoolyard bullying which has been the target of great public attention and multiple prevention campaigns, the behaviors and mediums by which cyberbullying occurs change as fast as media technologies hit critical mass. In addition to affording cyberbullying the ability to “go viral” and spread online out of control of both the victim and original perpetrator, cyberbullying presents a unique challenge to schools and educators because identifying and preventing these behaviors demands a strong, ecological understanding of teens’ online lives.

Bullying now encompasses a wide range of online behaviors, including posting hurtful comments on social media, spreading rumors, sharing rude or embarrassing pictures, and making threats towards others (Cyberbullying Research Center, 2017). Bullying can now also go viral, quickly spread through the social media networks of a school community, or unfold silently in texts or messages - sparking widespread concerns from parents, teachers, and clinicians about the prevalence of cyberbullying and its harmful effects on children’s psychosocial development.

While it is easy to conceptualize “cyberbullying” as a translation of traditional bullying to digital platforms, the varying affordances, features, and scale of the many technologies used to facilitate cyberbullying necessitate more nuanced research and intervention programs. The rapid turnover of new social media platforms, new media formats, and new warms of interacting with peers and communities are constantly producing new variants of cyberbullying that today’s educators have not yet learned to address. If parents and teachers do not know what it means if someone “screenshotted a private Snapchat” or “spread rumors on a Finsta,” they cannot effectively support the victim and take appropriate action against the perpetrator.

Rather than generalize the same strategies from bullying to issues of cyberbullying, the present study focused on the need for adults and educators to better understand how cyberbullying manifests in teens’ lives by drawing on insights from an advisory board of high school and middle school students. We developed a novel intervention leveraging digital media literacy and empowerment education to increase students’ ability to identify, report, and respond to cyberbullying, with a particular emphasis on increasing students’ likelihood of seeking help from adults.

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“Bullying” is traditionally defined as “intentional behaviors to harm another, repeatedly, when it is difficult for the victim to defend themselves” that are based on an imbalance of power between the perpetrator and the victim (Olweus, 1999; Rigby, 2002; Smith & Sharp, 1994). Cyberbullying has been described as bullying that takes place on electronic devices and technologies, and is not a distinct phenomenon (Kowalski, 2008). However, the conceptual differences between bullying and cyberbullying are still currently up for debate within the field.

Some have defined cyberbullying as “an aggressive act that is carried out using electronic means by a group or individual repeatedly against a victim who cannot easily defend themselves,” highlighting the act as aggressive, intentional, repetitive, and due to a power imbalance (Smith, 2008). However, other researchers have noted that cyberbullying can occur without a power imbalance, such as between two individuals with similar levels of technological proficiency (Belsey, 2004). Wolak, Mitchell, and Finkelhor also support this view that the ability to exit a negative online interaction means that victims are not situationally disadvantaged, although they recognize that removing content from the Internet can be difficult and constitute sustained harm (2007). Others have contended that features of computer-mediated-communication such as anonymity and mass distribution manifest a “power of technology” that produce an imbalance of power between victim and perpetrator (Dooley et al., 2009).

In addition, there is disagreement about whether acts of cyberbullying are “repetitive” in nature. While “repetitive” aggression is a characteristic of offline bullying in that it is based on “behavioral repetition over time by perpetrators”, the affordances of various technologies can manifest this “repeated aggression” in different ways (Dooley et al., 2009). If a perpetrator posts an embarrassing video of a victim on social media, which then gets shared and forwarded to thousands of other users, the victim experiences harm repeatedly from many individuals in addition to the original poster (Dooley et al., 2009). In particular, the issue of cyberbullying differs from that of offline bullying in that it involves greater numbers of online bystanders (Dooley et al., 2009; Hamm et al., 2015; Huang & Chou, 2010). A study by Slonje & Smith found that students perceived cyberbullying through sharing pictures and video clips as the most harmful and the most negative, in part because of the sheer number of online bystanders who either forwarded the video or watched it without reporting (2008).

Prevalence of cyberbullying

A recent report from the Center for Disease Control found that the prevalence of cyberbullying is approaching equivalence with in-person bullying, with 15% of high school students experiencing cyberbullying and 20% experiencing bullying on school property (CDC, 2017). These trends are closely tied to the increasing usage of social media among children and adolescents, with the number of individuals impacted by cyberbullying having doubled from 2006 to 2016 (Patchin & Hinduja, 2016).
After numerous teen suicides were tied to cyberbullying, popular concern over the dangers of online aggression sparked international research on documenting, understanding, and preventing cyberbullying (Patchin & Hinduja, 2016; Tokunaga, 2010). In a meta-analysis of research on cyberbullying, Tokunaga found that cyberbullying peaks at adolescence, with the greatest incidence at 7th-8th grade (2010). Studies in the United States and Canada found that approximately one in five students have been victims of cyberbullying and that about approximately one in eight students has cyberbullied others (Li, 2006; Ybarra & Mitchell, 2004; Ybarra et al., 2006).

In addition, recent research has found that incidents of cyberbullying correlate strongly with incidents of bullying offline, suggesting that the movement of aggression to online spaces has not displaced in-person aggression but has instead created more opportunities for bullies to harm their victims (George & Odgers, 2015; Hamm, Newton, & Chisholm, 2015). While early studies hypothesized that some victims of offline bullying turn to cyberbullying as a form of compensation or reaction to the harms they endured, later research has found that the majority of cyberbullying victims are also victims of offline bullying (Ybarra & Mitchell, 2004; Ybarra et al., 2006; Raskauskas & Stoltz, 2007).

Previous research has taken multiple approaches towards documenting and investigating different forms of cyberbullying, such as categorizing by device used (i.e., mobile phones, the Internet), specific ways of using media (i.e., texting, Instant messaging, email, webpages, social media), and the type of behavior (i.e., threats, flaming, outing, exclusion) (Ortega et al., 2009; Smith et al., 2008; Slonje et al., 2013; Hinduja & Patchin, 2010; Wachs & Wolf, 20011; Willard, 2006; Rivers & Norte, 2010). However, the rapid pace of change within information technologies, computer-mediated communication, and social media means that there attempting to investigate cyberbullying by type requires an understanding of the media technologies and platforms used by teens to facilitate cyberbullying. Much of the academic research on cyberbullying refers to older media technologies and often predate the meteoric rise of social media; even recent meta-analyses such as Slonje et al., 2013 on how the “spread of smartphones enables users to use their mobile phones for the Internet” and noting the “increase in popularity of social networks sites such as ‘my-space’ or ‘facebook.’”

Recent reports published by research agencies such as Common Sense Media illustrate how much can change in a decade and highlight the necessity of ensuring that cyberbullying research keeps up with modern media technologies (2018). In their survey of American teens, they found that 13% report being cyberbullied and that 23% attempted to help someone who was cyberbullied. In addition, their participants describe how cyberbullying unfolds on platforms like Snapchat, Instagram, Tumblr, and Reddit. It is critical that future research understand that just as cyberbullying differs from offline bullying when the aggression moved into online spaces like email and texting, cyberbullying can manifest in different ways on these social media platforms.

**Impact of cyberbullying**
One third of cyberbullying victims reported that they felt “very or extremely distressed” because of the online harassment, highlighting the necessity of understanding and preventing this form of bullying. Victims experience negative behavioral, emotional, and academic outcomes, including issues with self-esteem, social anxiety, depressive symptoms, fear and loneliness, school absences, lower grades, and suicidal ideation (Ybarra & Mitchell 2004, 2007, Wolak 2006, Patchin & Hinduja 2010, Dempsey et al. 2009, Hinduja & Patchin, 2010). In the most extreme cases, cyberbullying can lead to depression and suicidal ideation (Hinduja & Patchin, 2010).

Victims of bullying are more likely to report greater somatic and mental health problems, of which depression is most common (Due et al., ____). In addition, the World Health Organization’s international Health Behavior in School-Aged Children survey found that victims experienced more problems with health, emotional-adjustment, school-adjustment, and relational well-being. Targets of peer exclusion also suffer academically, including decreased likelihood of attending a four-year college (Crosnoe, 2011).

These patterns are particularly troubling given that only 23% of students impacted by cyberbullying discuss or report their experiences to adults at their school (National Center for Education Statistics, 2016). While some victims reported that they told friends, 43.7% said that they had never told anyone – compared to 70% of victims of traditional bullying (Smith et al., 2008). In addition to believing that adults or teachers would not be able to support them or understand their experiences, these concerning results are compounded by students’ pessimistic views on cyberbullying, with multiple student focus groups reporting that they felt there was nothing they could do to prevent cyberbullying (Smith et al., 2008). Although teens identified that “blocking messages” and “changing online contact” as best methods of coping with cyberbullying, they expressed little hope for effective intervention (Smith et al., 2008).

**Prevention research and Development of the Digital Empowerment Program**

While there has been little research on the effectiveness of prevention interventions, researchers studying cyberbullying have recommended that interventions should be integrated into school curriculums, include concrete strategies for resisting and stopping cyberbullying.

These far-reaching effects underscore the serious nature of all forms of bullying but also the importance of prevention efforts. The most promising approaches intervene at multiple levels: the individual; the peer ecology; and the broader contexts in which children and youth are nested (Cook et al. 2010). Aggression and interpersonal conflict are influenced by multiple factors; children and adolescents grow up in an ecosystem involving individual differences, the family, the school system, and the broader community (Bandura, 1989). Thus, an effective cyberbullying prevention program needs to incorporate evidence on protective factors at multiple levels by fostering healthy self-esteem, positive student-teacher interactions, normative beliefs that sanction bullying, and a school climate based on fairness and trust (Guerra et al. 2011). Critically, these interventions need to increase students’ access to existing resources such as
parents, teachers, and school administration that are capable of providing emotional support and addressing cyberbullying promptly.

The present study sought to design and test a youth-informed and school-based program to prevent cyberbullying and increase student well-being by empowering students and increasing their digital media literacy. Building from Common Sense Media and UNESCO’s reports on Digital Literacy, we targeted our intervention towards (1) increasing students’ understanding of their reputation, online and offline, (2) navigating privacy and social networks, and (3) improving personal power and empathy towards others. The workshop aimed to increase students’ help-seeking behavior by discussion multiple ways that students could reach out to friends, family, and educators when they encountered something concerning online.

Because cyberbullying takes place on a variety of media platforms and technologies that change rapidly – often unbeknownst to parents and educators – the curriculum was developed and informed by multiple focus groups of high school and middle school students from the Bay Area. In addition to discussing their experiences and perspectives with cyberbullying, students provided valuable knowledge on the language, behaviors, and norms around cyberbullying in their communities to inform intervention practitioners’ ability to best connect with students. By increasing the intervention administrators’ familiarity with online behaviors, terminology, social norms, and culture, we aimed to make the cyberbullying workshop more relevant to students’ everyday lives and to increase their likelihood of reaching out to adults in times of need.

The intervention targets fifth-grade students because the transition from elementary to middle school is a critical point at which student access to digital media increases, adult supervision decreases, and children are beginning to navigate the difficult processes of puberty and adolescent development (____). Early adolescence has been shown to be a critical period for development of pro-social behaviors, empathy both within the developmental and socialization research frameworks (Bridges L. and Moore. K.,2002; Lerner, 2004; Thomas and Witenberg, 2004).

We hypothesized that participation in the media literacy intervention would increase participants’ knowledge of online media, their willingness to support others experiencing peer exclusion or cyberbullying, and their willingness to talk about cyberbullying with others.

**Methods**

**Participants**

Participants in the study were 594 students in 5th grade from eight elementary schools in Northern California. 30 students were excluded from analyses due to failure to complete both the pre- and post-test surveys. There were roughly equal numbers of male and female participants (Male = 49%). Demographic information on participants’ school, grade, and gender were also collected. Students completed surveys before and after a 90-minute workshop in their classrooms.
Measures

All measures were administered before and after the MDT2 intervention to compare student attitudes in each category to examine pre- and post-intervention results.

Frequency of use: Students were asked to report how many hours of a typical school day they spent on various online activities such as playing online games, checking or writing email, sending text messages, visiting social networking sites (social media), video-chatting, exploring virtual worlds (Webkinz, Club Penguin), watching videos and music (YouTube, iTunes), and searching for information online. For each option, students could select zero hours, less than an hour, 1 hour, 2 hours, 3 hours, or 4 hours. Participants were also asked to respond to a free-response about how frequently they used technology on the weekends relative to a typical school day. On a typical school day, participants reported playing online games for 1 hour, checking email for less than an hour, sending text messages for less than 1 hour, visiting social media for less than 1 hour, video chatting for less than 1 hour, exploring virtual worlds for less than 1 hour, watching videos and listening to music for 1-2 hours, and searching for information online for 1 hour.

Evaluation survey: In order to assess the intervention’s efficacy in addressing the program’s learning objectives, an 11-item survey was developed. Students were asked to respond to each question as either “True,” “False,” or “Not sure” and their answers were later coded as “Correct” or “Incorrect.” Areas of interest were improving student digital literacy and knowledge, digital citizenship, and supporting peers and community members.

One of the intervention’s key learning objectives was for students to understand how to safely navigate privacy, information collection, and the permanence of data in their digital lives. In particular, the workshop aimed to correct common misunderstandings about information privacy that can lead to negative relational, occupational, or interpersonal outcomes such as believing that you can keep information private by only sending it to friends and family. In order to assess this, students were asked the following questions, with items 1, 2, and 4 being reverse-coded such that “True” was “Incorrect” and “False” was “Correct.”

“If I send a private message, no one can see it.”
“I can keep information private by sending it to my friends and family.”
“When I answer questions online or buy a new app, information is being collected on me.”
“If I post or text something and then delete it, then it is gone.”

The second learning objective focused on digital citizenship and sought to teach students to think about their responsibility for their actions in online spaces, their role in creating online communities, and their ability to advocate for themselves. The workshop aimed to teach students to think critically about how their online behaviors may influence others’ reputations and their own reputations, in addition to examining questions of accountability for what they post, share,
or interact with. In the context of personal agency and responsibility as a digital citizen in their communities, the workshop also aimed to empower students to feel capable of standing up to cyberbullies. In order to assess this, students were asked the following questions, with item 4 being reverse-coded such that “True” was “Incorrect” and “False” was “Correct.”

“I have an effect on other people’s reputations by what I text and post.”
“If somebody sends something from my phone, I am responsible for what it says.”
“People make judgments about me based on what I post, text, or forward.”
“There is nothing I can do if I receive mean messages online.”

The third learning objective was centered around creating kinder, more supportive online communities by being an upstander for one’s peers. In addition to encouraging students to understand their role in cultivating positive communities by thinking about their personal responsibilities and how the potential impacts of their actions, the workshop sought to teach students to also serve as advocates for their friends and peers online by intervening when they see others being mean. In order to assess this, students were asked the following questions, with items 1, 2, and 3 being reverse-coded such that “True” was “Incorrect” and “False” was “Correct.”

“There is nothing I can do if somebody is teased online.”
“I am too small to make a difference if I see someone being treated badly online.”
“I know how my classmates feel just by looking at them.”

Comfortable talking about a concern: Students were asked to report who they would feel comfortable talking to if they say a text, email, post, or other online content that made them feel concerned. They were able to select from the options of keeping it to themselves or talking to a teacher, sibling, parent, or friend.

Results

Improvement in intervention learning goals

Student responses were re-coded such that answers were marked as “correct” [1], “not sure” [0], and “incorrect” [-1]. We conducted a series of paired-samples t-tests to examine whether the intervention improved students’ knowledge of digital literacy, digital citizenship, and attitudes towards peer support.

Overall, we found significant improvement of participant outcomes from the pre to post-test conditions with students reporting significantly increased knowledge of digital safety and literacy, self-efficacy and personal responsibility, and attitudes towards others. In addition, we noted strong effect sizes with Cohen’s $d$ ranging from .11 to .48.
<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-test (Mean)</th>
<th>Pre-test (SE)</th>
<th>Post-test (Mean)</th>
<th>Post-test (SE)</th>
<th>Change over time ($t$)</th>
<th>Cohen’s $d$</th>
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<tr>
<td><strong>Digital Literacy</strong></td>
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<tr>
<td>If I post something online or text something, then delete it, it is gone.</td>
<td>.23</td>
<td>.04</td>
<td>.70</td>
<td>.03</td>
<td>11.46***</td>
<td>.48</td>
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<td>I can keep my information private by sending only to my friends and family.</td>
<td>.65</td>
<td>.03</td>
<td>.89</td>
<td>.02</td>
<td>9.73***</td>
<td>.36</td>
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<td>When I answer a question online or buy a new app, information is being collected.</td>
<td>.54</td>
<td>.03</td>
<td>.75</td>
<td>.02</td>
<td>7.27***</td>
<td>.31</td>
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<td>People make judgments about me based on what I post, text, or forward.</td>
<td>.52</td>
<td>.03</td>
<td>.73</td>
<td>.03</td>
<td>6.73***</td>
<td>.29</td>
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<td>I have an effect on other people’s reputations by what I text and post.</td>
<td>.55</td>
<td>.03</td>
<td>.75</td>
<td>.03</td>
<td>7.05***</td>
<td>.29</td>
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<td>If somebody sends something from my phone, I am responsible for what it says.</td>
<td>.55</td>
<td>.03</td>
<td>.75</td>
<td>.03</td>
<td>7.05***</td>
<td>.29</td>
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<tr>
<td>There is nothing I can do if I receive mean messages online.</td>
<td>.72</td>
<td>.02</td>
<td>.80</td>
<td>.02</td>
<td>2.69***</td>
<td>.11</td>
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<td>There is nothing I can do if somebody is teased online.</td>
<td>.77</td>
<td>.02</td>
<td>.90</td>
<td>.02</td>
<td>5.15***</td>
<td>.22</td>
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<td>I am too small to make a difference if I</td>
<td>.79</td>
<td>.02</td>
<td>.87</td>
<td>.02</td>
<td>2.68***</td>
<td>.11</td>
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</table>
We were also interested in whether the intervention would encourage students to engage in help-seeking behaviors by reaching out to friends, family, or teachers. Given the low rate of students reporting cyberbullying and the ability for peer and educator support to ameliorate the harmful impacts of peer exclusion and online harassment, we hypothesized that discussing these issues in a classroom environment among classmates would help increase help-seeking. In the pre- and post-surveys, we asked students to report who “they would feel comfortable talking to if they saw a text, email, or post online that concerns me.” They could choose to say they would talk to a friend, sibling, parent, teacher, other person, or to keep it to themselves. We tested this by running a series of paired-samples t-tests.

Students were less likely to keep their concerns to themselves after the intervention ($M = .18, SE = 0.02$) than before ($M = .25, SE = 0.02$), $t(1,563) = -4.50, p < 0.001$. In addition, they were more likely to reach out to multiple potential sources of support ($M = 2.19, SE = 0.05$) than before ($M = 1.93, SE = 0.05$), $t (1,563) = 5.97, p < 0.001$. Critically, students’ willingness to reach out to adults drove this effect, with students being significantly more likely to discuss their concerns about online harassment and cyberbullying with parents (pre: $M = .77, SE = 0.02$; post: $M = 0.83, SE = 0.02$), $t (1, 563) = 3.57, p < 0.001$ and teachers (pre: $M = 0.30, SE = 0.02$; post: $M = 0.44, SE = 0.02$), $t (1, 563) = 7.60, p < 0.001$. Given that parents and teachers are capable of providing emotional support, guidance, and accommodations in relation to students’ experiences of cyberbullying, students’ increased willingness to reach out to adults after completing the intervention is particularly powerful in potentially mitigating and preventing cyberbullying. There were no significant differences in how willing students were to reach out to friends and siblings, suggesting that students are seeking more support rather than getting support from different people after the intervention.

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (Mean)</th>
<th>Pre-test (SE)</th>
<th>Post-test (Mean)</th>
<th>Post-test (SE)</th>
<th>Change over time ($t$)</th>
<th>Cohen’s $d$</th>
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<tbody>
<tr>
<td>I would keep it to</td>
<td>.18</td>
<td>.02</td>
<td>.25</td>
<td>.02</td>
<td>-4.50***</td>
<td>.17</td>
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<td>myself</td>
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<tr>
<td>I would talk to a</td>
<td>.77</td>
<td>.02</td>
<td>.83</td>
<td>.02</td>
<td>3.57***</td>
<td>.15</td>
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<tr>
<td>I would talk to a</td>
<td>.30</td>
<td>.02</td>
<td>.44</td>
<td>.02</td>
<td>7.60***</td>
<td>.29</td>
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<tr>
<td>teacher</td>
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Together, the intervention increased students’ likelihood of seeking help and support from a greater variety of potential resources – parents and teachers in particular. As cyberbullying is a behavior that takes place in a complex series of contexts ranging from the home to the classroom to the schoolyard, adults in caretaking roles play a critical role in supporting targets and taking action against perpetrator. By increasing students’ willingness to reach out to these adults, the intervention increased students’ ability to draw on social support systems and better inform parents and educators about what is going on in their children’s lives.

**Discussion**

Equipping students with the personal skills to confidently navigate the digital world through digital media literacy interventions can help them identify and respond to instances of cyberbullying, in addition to helping them better understand the consequence of their online actions. In today’s society where many social interactions take place in a highly public, online setting, it is critical that students learn how to manage their privacy settings and think through how their actions can impact themselves and others. In addition, this intervention demonstrated that participation in a youth-informed workshop that used timely, modern examples of cyberbullying and online culture relevant to students’ lives increased students’ willingness to reach out to adults – such as parents and teachers – for help if they encounter concerning behaviors or content online.

Rather than treating cyberbullying as the online equivalent to offline bullying, it is important to recognize that the affordances of digital media technologies and social media significantly shape how cyberbullying takes place and impacts a victim’s life. Integrating the process of youth feedback by consulting with current students into the process of developing and updating interventions played a critical role in ensuring that workshop content was accurate to students’ lived experiences. Understanding the language, behaviors, and social norms that students use to describe and discuss cyberbullying in their day-to-day lives can help concerned adults better support their students.

**Works Cited:**


