

The Role of Technology in Peer Harassment: Does It Amplify Harm for Youth?

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Objective: To examine the features and emotional impact of peer harassment incidents based on degree of technology involvement. **Method:** Telephone interviews with a national sample of 791 youth in the United States, ages 10–20. **Results:** 34% of youth reported 311 harassment incidents in the past year: 54% of incidents involved no technology (in-person only), 15% involved only technology (technology-only), and 31% involved both technology and in-person elements (mixed incidents). Boys ages 10–12 were most likely to report in-person-only incidents; technology-only incidents were reported equally by boys and girls and more so among older teens; mixed incidents were more common among girls. Concern that technology involvement inherently amplifies harm to victims was not supported. Compared with in-person incidents, technology-only incidents were less likely to involve multiple episodes and power imbalances. They were seen by victims as easier to stop and had significantly less emotional impact. Mixed incidents had the most emotional impact, possibly because they occurred across multiple environments and because perpetrators tended to be more socially connected to victims. **Conclusions:** Youth experiencing “mixed” incidents of peer harassment should be a priority for educators trying to identify the most serious and harmful experiences.

Keywords: bullying, harassment, harm, internet, technology

Peer harassment is a broad term that includes bullying but also includes other types of interpersonal aggression that do not meet the standard definition of bullying because they do not involve repetition and power imbalances between perpetrators and victims (Finkelhor, Turner, & Hamby, 2012). Peer harassment and victimization continue to be prevalent and harmful problems for youth (Schwartz, Lansford, Dodge, Pettit, & Bates, 2015; Ybarra, Boyd, Korchmaros, & Oppenheim, 2012), but better empirical information is needed on the elements of harassment experiences that most negatively impact youth (Finkelhor et al., 2012). There has been a particularly high amount of public anxiety around the use of technology in peer harassment and bullying incidents (i.e., cyberbullying). Experts have expressed concern that technology-based harassment and bullying (e.g., using the Internet, cell phones) could cause greater harm than traditional forms because content can be transmitted anonymously, involve many other youth

quickly, and reach victims anywhere and at any time (Dempsey, Sulkowski, Nichols, & Storch, 2009; Fredstrom, Adams, & Gilman, 2011; Mishna, Saini, & Solomon, 2009; Sticca & Perren, 2013). However, the hypothesis that new technology “amplifies” the emotional distress caused by peer harassment has not been empirically tested.

Comparative data are missing in part because the field has tended to study cyberbullying and in-person bullying separately. The use of new technology should ideally be approached as one of many possible elements of harassment. Research can then examine whether technology in fact increases the negative impact on victims in relation to other elements and if so, as a result of what set of explanatory factors. This approach would offer an improved understanding of whether and under what conditions the use of new technology in peer harassment amplifies harm, and aid the development of effective intervention and prevention strategies. To address this gap in the research, the current study uses detailed nationally representative data to examine the characteristics of peer harassment incidents and their emotional impact and compare incidents involving technology with those that do not.

How Often Is Technology Involved in Peer Harassment?

Although rates vary by measurement strategy, online harassment rates for youth typically range from about 10% to 35% (Jones, Mitchell, & Finkelhor, 2013; Kowalski & Limber, 2013; Patchin & Hinduja, 2006; Slonje & Smith, 2008; Wang, Iannotti, & Nansel, 2009; Williams & Guerra, 2007). Research measuring youth experiences with both online harassment and parallel forms of in-person harassment have consistently found that in-person harassment occurs more often than technology-based harassment

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(Robers, Zhang, & Truman, 2010; Wang et al., 2009; Ybarra, Mitchell, & Espelage, 2012). Research also has found that a substantial number of youth experience both kinds of harassment. One study found that among youth who experienced traditional harassment in the past several months (physical, verbal, emotional), about 18% also experienced cyber-victimization during that time; and that among cyber victims, about 95% had experienced traditional victimization (Wang, Iannotti, Luk, & Nansel, 2010). Other studies cite varying percentages (e.g., 90%, 85%, and 36%) of online harassment victims who also experience offline harassment (Juvonen & Gross, 2008; Olweus, 2012; Sumter, Baumgartner, Valkenburg, & Peter, 2012; Ybarra, Diener-West, & Leaf, 2007).

Does Technology Involvement Amplify Harm?

Although research is consistent that traditional bullying and harassment is more prevalent, experts note that technology-based bullying and harassment may be more distressing to victims because online harassers have the ability to post pictures or videos, anonymously to widespread audiences; the aggression can reach targets at any time of the day and night, including in their homes; more people may see and join in the harassment; and youth may have difficulty removing negative content or stopping the harassment once it is online (Dempsey et al., 2009; Fredstrom et al., 2011; Kowalski & Limber, 2007; Mishna et al., 2009; Sticca & Perren, 2013). Although these are testable hypotheses, so far they have not been the focus of much empirical study. One comparative study found that after controlling for traditional or school-based victimization, electronic victimization was still predictive of problems with self-esteem, anxiety, and depression (Fredstrom et al., 2011), and others have found some differences in the relationship patterns between perpetration and victimization and psychosocial outcomes, depending on whether the harassment was traditional or used new technology (Kowalski & Limber, 2013; Wang, Nansel, & Iannotti, 2011). There is also evidence that youth who are victims of multiple types of peer harassment, including technology-based harassment, report depression, injury and medical concerns at higher rates than traditional victims (Wang et al., 2010).

This body of research suggests complex relationships between different types of victimization experiences and psychosocial problems for youth, but it does not successfully distinguish or compare the impact of different harassment experiences at the incident-level, making it hard to judge the degree that technology amplifies harm for victims, or the reasons it might do so. Moving closer to this kind of analysis, one study from Sweden found that, when ranking the severity of hypothetical bullying scenarios, youth rated public and anonymous bullying as worse than private bullying by someone known (Sticca & Perren, 2013). This study found that although “cyber-scenarios” were rated worse than traditional ones, the effect of the medium was less important than these attributes. A similar study that had college-age respondents rate how upset they would be across parallel harassment scenarios delivered by “conventional” or “cyber” methods found no effect for the method of delivery (Bauman & Newman, 2013). This study found instead that the content or nature of the harassment was much more influential.

Although these studies suggest that the involvement of new technology may not be highly influential on distress compared with other factors, ranking hypothetical scenarios may not reflect how youth report the effects of actual harassment experiences. It is important to test harm amplification concerns with experienced events. It is also important to consider counterhypotheses about the comparative impact of technology-based harassment: Technology could lessen the negative emotional impact of harassment in many cases. For example, negative comments online could have a less powerful effect than those delivered in-person because targets have more time to think about how to respond. With more witnesses, there might be a greater level of peer support for victims that may not be available when harassment happens in more private circumstances. The Internet also might inhibit the most negative types of peer aggressive behavior because it provides visibility and evidence of harassment that can be documented.

Finally, in understanding the relationship between technology and distress caused by harassment it is important to consider that harassment incidents can range from one-time comments, to complex, longer-duration events involving both in-person and technology-based communications. We know that perpetrators of technology-based harassment incidents are most often schoolmates or acquaintances of the victim (Jones, Mitchell, & Finkelhor, 2013; Juvonen & Gross, 2008) and, considering the rates of youth communication of all kinds online (Lenhart et al., 2011), it seems probable that many incidents might start in school or the neighborhood and continue through online communication, or vice versa. It is important that research explore how technology-involved harassment incidents differ from in-person-only incidents, taking into account the complexity of the role that new technology might play. We therefore add to the literature by comparing the characteristics and impact of three types of harassment incidents: (a) those that occur in-person only; (b) those that occur only via new technology; and (c) those that occur in both environments.

Current Study

The current study addresses the gaps in the research literature noted above by providing nationally representative youth self-report data on the characteristics and emotional impact of peer harassment incidents and the circumstances and effects of technology use. Specifically, we examine the following questions: (a) How often and in what ways is technology a component of peer harassment incidents? (b) What characteristics distinguish peer harassment incidents that occur in-person, via new technology, or in both environments? (c) Are hypothesized harm amplifying features (e.g., difficulty stopping or getting away from the harassment, a greater number of witnesses) more prevalent in technology-involved harassment incidents? (d) Do technology-involved harassment incidents have a greater negative emotional impact on youth than incidents that do not involve technology?

Method

Study Design

The Technology Harassment Victimization (THV) Study, funded by the National Institute of Justice (NIJ), is a telephone

survey which drew its sample from a subset of households that completed a previous survey, the Second National Survey of Children's Exposure to Violence (NatSCEV II) in 2011–2012. The THV Survey was designed to gather information on peer victimization involving technology such as the Internet or a cell phone. It included questions about technology use, perpetration of harassment, and bystander experiences, as well as questions about psychosocial characteristics and general victimization history. The THV data were collected from December 2013 to March, 2014.

NatSCEV II was designed to obtain up-to-date incidence and prevalence estimates of a wide range of childhood victimizations, as well as information about parenting practices, social support, and stressful life events. It included a national sample of 4,503 youth ages one month to 17 years in 2011. Employees of an experienced survey research firm conducted telephone interviews with youth ages 10 to 17 ($n = 2,312$), after acquiring youth assent and parental consent, and with parents when children were younger than 10 ($n = 2,191$). The NatSCEV II national sample was drawn primarily by random digit dialing (RDD), supplemented by a sample of RDD drawn cell phone numbers ($n = 31$), and an address-based sample (ABS; $n = 750$). Approximately one half of the eligible households obtained through ABS were cell phone-only households. Detailed information about NatSCEV II sampling methods and procedures can be found elsewhere (Finckelhor, Turner, Shattuck, & Hamby, 2013).

THV Sample Characteristics

The subset of NatSCEV II respondents eligible for the THV (a) completed the NatSCEV II survey, (b) were eight years old or older during NatSCEV II, and (c) if age 10 or older, agreed after the NatSCEV II interview to be recontacted for a follow-up study. The eligible sample pool consisted of 2,127 youths who were expected to be between the ages of 10 and 20 at the time of the THV data collection.

Procedures

The THV began with an advance letter, reply form, and \$5 cash mailed to the 2,127 sample households with an address on file. A total of 672 respondents (31.6%) returned forms expressing interest in participating. Interviewers contacted additional households who did not return forms by telephone. A total of 791 interviews were completed. The average time for a completed survey was 58 minutes. Youth respondents who completed the survey were sent a \$25 check.

Interviewers used a computer-assisted telephone interviewing system. After a brief parent/caretaker survey, they obtained consent from the parent and assent from the focal child to proceed to the child portion of the interview. Most THV parental interviews (96%) were completed with the same parent or caretaker as in NatSCEV II. Interviewers did not acquire parental consent for youth respondents who were 18 years or older and who did not have contact with a parent or whose parent spoke only Spanish ($n = 15$).

Respondents who disclosed serious threats or ongoing victimizations during the interview were recontacted by a clinical member of the research team trained in telephone crisis counseling, who stayed in contact with the respondent until the situation was

appropriately addressed locally. All procedures were authorized by the Institutional Review Board of the University of New Hampshire and complied with the confidentiality guidelines set forth by the U.S. Department of Justice.

Response Rates, Nonresponse Analyses and Weighting

In this section, the baseline NatSCEV II survey is referred to as "Wave 1" and the THV is referred to as "Wave 2." The cooperation and response rates for Wave 1 averaged across collection modalities were 60% and 40%, respectively, which are good rates by current survey research standards (Babbie, 2012; Keeter, Kennedy, Dimock, Best, & Craighill, 2006; Kohut, Keeter, Doherty, Dimock, & Christian, 2012). Of the Wave 1 respondents eligible for Wave 2, 36% completed a Wave 2 interview. Sample weights adjusted for differential attrition in Wave 2. These were calculated using age, race/ethnicity, household income, number of children in household, parent demographics, and child's victimization and delinquent behavior at Wave 1. More details about Wave 2 methodology, nonresponse analysis, and weight construction may be obtained from the authors.

Measures

Harassment incidents. Interviewers read the following preamble before asking questions about harassment:

Now I am going to ask you about some mean things that some people do to others. We are not talking about things done in a joking way. For now, I am only going to ask you about things that happen online, or that involve the Internet or a cell phone in some way. When we say online, this could include things like pictures or videos posted online or through text messages, comments made about you online or through text messages or on social networking sites. The types of things I want you to think about are: When kids call someone mean names, make fun of them, or tease them in a hurtful way; when kids exclude or ignore someone, or get others to turn against them; when kids spread false rumors about someone, or share something that was meant to be private (like something they wrote or a picture of them) as a way to make trouble for them; or when kids hit, kick, push, shove or threaten to hurt someone. Think about the past year and only about incidents involving the Internet or a cell phone in some way. Did anyone *other than a family member* do something like this to you?

If respondents said yes, they were asked "Did something like this happen more than once in the past year?"

Interviewers asked detailed follow-up questions about up to two harassment incidents that involved the Internet or a cell phone. If the youth reported one such incident in the past year, the interviewer asked questions about that incident. If the youth reported more than one incident, the interviewer asked first about the most recent incident and then about "the worst or most serious time something like this happened in the past year." Steps were taken to ensure the second incident was unrelated to the first.

Interviewers then asked all youth about harassment incidents that did not involve technology, using the same preamble and format but specifying, "Now I am going to ask you about some mean things that some people do to others that do not happen online, or involve the Internet or a cell phone in any way." The question asked, "Think about the *past year* and only about inci-

dents that did not involve the Internet or a cell phone in any way. Did anyone *other than a family member* do something like this to you?" For respondents that had answered follow-up questions about harassment incidents that involved technology, interviewers added, "This should be *unrelated* to the event we just discussed." When youth reported a nontechnology incident, interviewers asked, "Did something like this happen more than once in the past year?"

When youth reported harassment incidents that did not involve the Internet or cell phones, interviewers asked detailed questions about up to two such incidents, unless youth had already answered questions about two technology-involved incidents. Because of time constraints, interviewers did not ask about the details of more than two incidents and because we were most interested in harassment that involved technology, those incidents received priority. Interviewers used the following hierarchy for picking two incidents: (a) if youth reported two or more unrelated technology-involved harassment incidents, details were gathered about two incidents (most recent and most serious); (b) if youth reported one technology-involved harassment incident and one or more that did not involve technology, details were gathered on the technology involved incident and the most recent nontechnology incident; (c) if youth experienced no technology-involved incidents but one or more unrelated harassment incidents that did not involve technology, details were gathered on up to two of those incidents (most recent and most serious). Consequently, some nontechnology incidents reported by young people were not the subject of follow-up questions, and these incidents could not be included in our reported rates. The limits on follow-up questions led to some undercounting of nontechnology involved harassment incidents. Conservative estimates suggest this only impacted a minority of incidents however; a total of 3.5% of youth ($n = 22$) reported two incidents that involved technology and at least one harassment incident that did not involve technology; therefore these nontechnology incidents were not captured in our estimates.

Confirming technology involvement. A detailed series of follow-up questions were asked about each specific harassment incident. All questions were designed specifically for the current study. Follow-up questions confirmed the involvement of technology and if so, what types. Specifically, youth were asked whether "this happened while you were . . ." (a) at school or on school grounds, (b) on the way to or from school like on the bus or walking, (c) at home, (d) at work, (e) at a friend's home, (f) in a public place like a mall or movie theater, (g) in a car, and (h) online or texting. Multiple responses were possible. As further confirmation youth were then asked "Were any of the following kinds of technology involved in what happened?" with multiple responses possible: (a) e-mail, (b) cell phone, (c) text messages, (d) instant messages, (e) social networking sites like Facebook, (f) Twitter, (g) gaming website, or (h) some other type of technology. Finally, if youth endorsed the involvement of any of the above specific types of technology they were asked "Which one of the following statements best describes when any kind of technology became involved in what happened?" Response options were (a) It started online and stayed *only* online, (b) It started online before it moved offline to other places like school or work, (c) It started offline at someplace like school or work before it moved online, and (d) It started online and offline at about the same time. Any discrepancy between responses to the technology and nontechnol-

ogy harassment screener items described above with these follow-up questions were reconciled with incidents recoded from nontechnology to technology involved (and vice versa) if necessary.

Other incident details. Interviewers also asked youth about the perpetrator of the harassment (e.g., number of perpetrators, age, gender, relationship to respondent), duration and location of the event, type of harassment (i.e., verbal, exclusion, rumors, physical), and aggravating features (e.g., sexual aspect, weapon use, physical injury, power differential, bias content, mutual harassment). Most variables were dummy coded '1' if the incident involved the characteristic described. Some variables were categorical. *Perpetrator relationship* included three categories: current or ex-dating partner or friend (32.3%); acquaintance, neighbor, or schoolmate (56.9%); and stranger, someone met online, or other (10.8%). *Duration of incident* included three categories: 1 day (40.8%); more than a day but less than a month (37.1%); or one month or longer (22.2%). *Power imbalance* included two categories: physical (e.g., older, stronger; 54%) and social (e.g., more popular, richer; 69%).

Three variables specifically were designed to assess hypotheses associated with amplification of harm: (a) many witnesses (defined as 51 or more), (b) could not stop what was happening, and (c) could not get away or remove self from the situation quickly.

Emotional impact of incident. Youth were asked a series of questions aimed at assessing the emotional impact "as a result of what happened." Specifically, youth were asked whether the incident made them feel upset, afraid, embarrassed, worried, angry, sad, "like you couldn't trust people," or unsafe. Responses to each of these items were on a scale from 1 (*not at all*) to 5 (*extremely*). Dummy variables were constructed for each item and coded '1' if the youth rated the impact at '4' or '5' on the scale. We also created a *total emotional impact score*, which summed scale responses on each of the eight items for each incident ($M = 19.8$, Linearized standard error = 1.0, Range = 8 to 40, Cronbach's alpha = .89). Factor analysis revealed one factor extracting 54.6% of variance.

Demographic variables. Caregivers provided demographic information, including the child's gender (49% male), age ($M = 14.7$, Linearized $SE = 0.2$, Range: 10 – 20), race/ethnicity (White non-Hispanic [58.8%] Black non-Hispanic [12.6%], other race non-Hispanic [8.1%], and Hispanic any race [20.6%]), and socioeconomic status (SES). SES is a composite based on the sum of the standardized household income and standardized parental education (highest) scores, which was then restandardized. Family structure was categorized into children living with two biological or adoptive parents (53.1%), one biological parent plus a partner (8.6%), a single biological parent (34.1%), or other nonparent caregiver (e.g., grandparent, foster parent) (4.2%).

Data Analysis

Of the 791 respondents, 230 reported 311 unique incidents in the past year. Given our objective to test varying degrees of technology involvement in harassment incidents, we divided the 311 harassment incidents into three mutually exclusive groups: (a) in-person only (i.e., no technology involvement, $n = 136$); (b) technology-only (i.e., no in-person elements, $n = 58$); and (c) mixed (i.e., both in-person and technology elements, $n = 117$).

Incidents were classified into these categories through a series of questions described above (see “confirming technology involvement”) which identified the range of environments in which the incidents occurred. Analyses compare and contrast incident-level characteristics across these three categories.

Data analysis was conducted using Stata 13. Because youth could report up to two incidents, adjustment was made for nonindependence of incidents experienced by the same child by using “svyset” and “svy” commands. Incidents were clustered on respondent ID number and analyses were weighted as described earlier. We first report the demographic characteristics of youth reporting any harassment and compare differences across the three harassment categories. Next we report weighted percentages for perpetrator characteristics, features of the harassment, and emotional impact overall and across the three harassment categories. We compare differences across all three groups using cross-tabulations reporting overall design-based *F* statistics. Next, to identify differences between the different harassment groups we use multinomial logistic regression with *in-person* only as the base comparison group and again with *technology only* as the base comparison group. *p* values are provided in the text with significant differences noted in the table with superscripts. Finally, a parsimonious linear regression model is estimated, as defined by that which includes the fewest number of variables necessary to explain negative emotional impact. To do so, a saturated model was initially identified by including all incident-level characteristics with a significant design-based *F* plus a significant difference between the mixed group and either the *in-person-only* or *technology-only* group at the bivariate level in the model. Next, variables

were assessed individually for significant contribution to the overall model ($p \leq .10$) and were dropped if nonsignificant. Results were confirmed with a final, parsimonious model with all significant variables forced into the equation.

Results

Technology Involvement in Peer Harassment

Thirty-four percent of youth (unweighted $n = 230$) reported a total of 311 unique harassment incidents in the past year. Of youth reporting incidents, 45% were ages 10 to 12 at the time of the interview; 23% were 13 to 15; 22% were 16 to 17; and 10% were 18 to 20 (see Table 1). Sixty-one percent of harassment victims were boys and 60% were White, non-Hispanic. More than half (64%) of such youth lived in an average SES household; 45% lived with both biological parents and 35% with a single parent.

Seventeen percent ($n = 137$) of respondents (46% of victims) reported at least one technology-involved harassment incident, amounting to 175 unique incidents. Of these, 32% occurred only through technology; 33% started *in-person* before technology became involved; 21% started through technology and moved to *in-person* actions; and 14% started through technology and *in-person* “about the same time.” As mentioned earlier, the 311 harassment incidents were divided into three mutually exclusive groups: (a) *in-person only* ($n = 136$); (b) *technology-only* ($n = 58$); and (c) mixed (i.e., both *in-person* and technology; $n = 117$). Below are some examples of what youth told us happened within each.

Table 1
Characteristics of Youth Reporting Harassment Incidents in the Past Year by Type of Incident

Youth victim characteristics	Child level		Incident level		Design-based <i>F</i>
	All youth with harassment incidents ($n = 230$) % (n)	<i>In-person-only</i> incidents ($n = 136$) % (n)	<i>Technology-only</i> incidents ($n = 58$) % (n)	Mixed incidents ($n = 117$) % (n)	
Age					
10–12 years olds	45 (104)	61 (54)	22 (14)	27 (36)	4.9***
13–15 years old	23 (90)	17 (38)	25 (20)	30 (32)	
16–17 year olds	22 (90)	19 (36)	20 (15)	29 (39)	
18–20 years old	10 (27)	2 (8)	32 (9)	14 (10)	
Gender					
Boy	61 (159)	77 (85)	53 (31)	38 (43)	8.0***
Girl	39 (152)	23 (51)	47 (27)	62 (74)	
Race					
White, non-Hispanic	60 (228)	53 (97)	83 (52)	60 (81)	2.0
Black, non-Hispanic	9 (33)	10 (14)	6 (2)	9 (17)	
Other race, non-Hispanic	11 (22)	8 (11)	0	20 (11)	
Hispanic or Latino, any race	20 (26)	29 (14)	10 (4)	10 (8)	
Family structure					
Two biological or adoptive parents	45 (191)	47 (92)	48 (40)	39 (59)	0.5
Parent and step-parent/partner	16 (40)	15 (12)	4 (4)	23 (24)	
Single parent	35 (64)	34 (24)	44 (13)	32 (27)	
Other adult caregiver	4 (16)	3 (8)	4 (1)	6 (7)	
Socioeconomic status					
Low SES	21 (58)	13 (22)	31 (8)	29 (28)	1.4
Middle SES	64 (187)	70 (83)	54 (35)	59 (69)	
High SES	15 (66)	17 (31)	15 (15)	11 (20)	

Note. Unweighted *n*s and weighted percentages.

*** $p \leq .001$.

What youth said about *in-person-only harassment incidents*:

We were eating lunch and one of the kids sitting nearby me called me something. Some of the kids that heard it joined in and kept rubbing it in and making it worse. (Male, 12)

Some kids at school said things about me being in a wheelchair for a short time. (Male, 18)

At school, on the bus, someone pushed me off the seat. They didn't want me sitting by them. It was a girl. (Female, 11)

I'll be walking in the hallways with a bunch of my buddies and I just get pushed from other people, and I do not really know why. (Male, 12)

We were taking pictures for the school play and a girl who didn't like me pushed me on the floor in front of the play director because she wanted to be in the middle. I had a bruised elbow and I got a restraining order against her because of it. (Female, 15)

Someone said something that was not true and spread it around the school, and then people started looking at me in a funny way. (Female, 11)

Someone was upset that I wouldn't date then, and they spread a rumor that we had sex. (Female, 17)

I was sitting down in the cafeteria with my friends and some kids were making fun of me because they said I have Jewish hair. (Male, 15)

Playing outside with my friends and big girls came over here and called me names and hits me, kicks me, and literally tried to kill me, like pushing me in the road. (Male, 10)

What youth said about *technology-only harassment incidents*:

I was in Skype, friends and I managed to piss them off and they all ignored me for a day. (Male, 14)

This girl got very jealous of me and she didn't like me having other friends and she started calling me all these names and I just blocked her from Facebook and other things and this happened two times; she got on her grandma's Facebook and was messaging me she was not friends with me but she was messaging me. (Female, 12)

I made a comment on a status saying I got my learner's permit, someone commented saying "great, another faggot on the road" and about a week later he deleted it; also told me to kill myself. (Male, 17)

Ex-girlfriend's new boyfriend sent a text message threatening to beat me up. (Male, 18)

It was on Instagram. There were two girls and the girls were being rude and they were calling names and said were ugly; I blocked them. (Female, 14)

What youth said about *mixed harassment incidents*:

Previous ex-girlfriend's ex-boyfriend who she had a kid with was threatening me over Facebook and then came over to my apartment and started a physical altercation and he left with numerous injuries. (Male, 18)

I got in a fight last year and people keep posting it on Facebook. The comments made on there are ridiculously rude. I get cut down and

called fat, told fat people should not fight a skinny person, that I should be ashamed of myself. (Female, 15)

I got into a disagreement with one of my friend's girlfriends and she continued to tell me off with text messaging afterward. (Male, 18)

I had two girls who were at one point friends. They started talking about my boyfriend with things that weren't true. They were prank calling me and my boyfriend for a few years, were saying I was pregnant. Made an Instagram page calling me names. Said I made the page, was kind of fake and making it look like I made the fake page. (Female, 19)

I have a stalker ex-boyfriend and he likes to bother my whole family. He is a hacker so he can hack into all my friends accounts and pretends to be my friend and I can tell. (Female, 16)

My best friend called me fake and then posted statuses about it. (Female, 12)

Youth reporting in-person-only incidents were significantly younger than those in the other two categories and more likely to be boys (see Table 1). Technology-only incidents involved similar proportions of boys and girls, with more girls in mixed incidents. No significant differences were evident across groups in terms of race and ethnicity, family structure, and socioeconomic status.

Perpetrator and Incident Characteristics

Almost half (45%) of all harassment incidents involved two or more perpetrators (see Table 2). Sixty-five percent of perpetrators were male and 65% were age 17 or younger (15% were age 18 or older). Thirty-two percent of perpetrators were current or ex-dating partners or friends, 57% schoolmates or acquaintances, and 11% strangers or someone met online. Both technology-only and mixed incidents were more likely than in-person-only incidents to involve an adult perpetrator. Mixed episodes were more likely than technology-only episodes to involve a perpetrator who was younger than age 18.

Perpetrators in technology-only incidents were less likely than those in in-person incidents to be a schoolmate or acquaintance or a friend or dating partner (or ex). At the same time, perpetrators in mixed episodes were more likely than those in technology-only episodes to be a schoolmate or acquaintance or a friend or dating partner (or ex). The most common type of harassment was verbal in nature (74%; See Table 2). Technology-only incidents were more likely than in-person-only to be verbal. Both technology-only and mixed episodes were less likely than in-person-only to be physical in nature. Mixed episodes were more likely than in-person to involve rumors, and more likely than both in-person-only and technology-only to involve exclusion.

Overall, the majority of incidents occurred at school (66%; see Table 2). However, technology-only incidents were more likely than in-person-only to occur at home and less likely to occur at school. Mixed incidents were also more likely than in-person-only to occur at home, and less likely to occur at school. Compared with technology-only incidents, mixed incidents were less likely to occur at home and more likely to occur at school. Among technology-only and mixed incidents, 65% involved text messaging and 53% a social networking site. Mixed incidents were more likely than technology-only incidents to involve text messaging.

Table 2
Perpetrator Characteristics and Incident Characteristics of Harassment in the Past Year by Type

Characteristics	Weighted percentages				Design-based <i>F</i>
	All harassment incidents (<i>n</i> = 311) % (<i>n</i>)	In-person-only incidents (<i>n</i> = 136) % (<i>n</i>)	Technology-only incidents (<i>n</i> = 58) % (<i>n</i>)	Mixed incidents (<i>n</i> = 117) % (<i>n</i>)	
Perpetrator characteristics					
Number of perpetrators ^a					
One	55 (175)	53 (73)	69 (41)	54 (61)	0.5
2 to 3	21 (65)	22 (28)	20 (10)	20 (27)	
4 to 6	17 (51)	16 (23)	11 (6)	19 (22)	
7 or more	7 (18)	9 (10)	1 (1)	6 (7)	
Multiple perpetrators (2+)	45 (136)	48 (63)	31 (17)	46 (56)	0.7
Perpetrator was female	35 (133)	33 (52)	33 (23)	39 (58)	0.3
Same gender perpetrator/victim	77 (241)	82 (113)	73 (39)	69 (89)	1.1
Perpetrator age					
Younger than 18 years	65 (230)	66 (105)	49 (33)	71 (92) ^d	1.1
18 or older	15 (52)	5 (17)	35 (13) ^c	21 (22) ^c	10.5***
Not sure	20 (29)	29 (14)	16 (12)	7 (3)	2.4
Victim relation to perpetrator					
Stranger or someone met online	11 (39)	5 (13)	38 (18)	7 (8)	12.5***
Friend or dating partner (or ex-)	32 (140)	20 (44)	23 (16) ^c	58 (80) ^d	8.8***
Schoolmate or acquaintance	57 (132)	75 (79)	39 (24) ^c	35 (29) ^d	8.9***
Incident characteristics					
Type of harassment ^b					
Verbal	74 (249)	64 (99)	88 (48) ^c	85 (102)	2.8
Exclusion	48 (175)	32 (64)	52 (25)	75 (86) ^{c,d}	8.4***
Rumors	39 (153)	29 (53)	36 (21)	58 (79) ^c	3.9*
Physical violence or threats of violence	45 (100)	61 (59)	22 (9) ^c	30 (32) ^c	5.1**
Location(s) involved ^b					
Home	26 (105)	4 (9)	74 (43) ^c	41 (53) ^{c,d}	35.6***
At school or on school grounds	66 (191)	89 (114)	11 (8) ^c	55 (69) ^{c,d}	28.0***
Friend's home	12 (54)	8 (16)	12 (9)	18 (29)	2.0
Types of technology involved ^b	(<i>n</i> = 175)				
Text messaging	65 (105)	—	40 (21)	77 (84) ^d	11.2***
Instant messaging	22 (54)	—	29 (21)	19 (33)	1.2
Social networking site	53 (109)	—	59 (36)	51 (73)	0.3
Twitter	10 (29)	—	9 (7)	11 (22)	0.2
Gaming site	14 (21)	—	15 (9)	13 (12)	0.03
Some other technology	15 (33)	—	18 (12)	13 (21)	0.5

Note. Unweighted *ns* and weighted percentages.

^a If more than one person involved then specific questions asked about the one who was *most responsible* for what happened. ^b Multiple responses possible. ^c Significantly different from "in-person-only" group at $p \leq .05$ or better. ^d Significantly different from "technology-only" group $p \leq .05$ or better.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Potentially Aggravating Features of the Incident

Eighty-eight percent of all harassment incidents involved a physical or social power imbalance when the incident began (see Table 3). Sixty-nine percent of incidents involved a reported social power imbalance and 54% a physical power imbalance. In 20% of incidents the perpetrator knew something embarrassing about the victim. Forty-one percent of incidents involved a series of events perpetrated by the same person or group; 1 in 5 incidents (22%) lasted for a month or longer; 31% resulted in injury to the victim; 1 in 4 (24%) involved some bias component (i.e., comments about the victims' sexual orientation, religion, race or ethnicity); and 13% had a sexual aspect. About half (53%) included "mutual harassment" (i.e., the victim reported also harassing the perpetrator); 5% of victims admitted to initiating the harassing exchange.

Technology-only incidents were less likely than in-person-only incidents to result in injury, involve a social power differential, and

happen a series of times. Mixed incidents were more likely than in-person-only incidents to involve a perpetrator who was known to be on drugs or alcohol or who knew embarrassing information about the victim (see Table 3). Mixed incidents were less likely than in-person-only to involve a social power differential. Mixed episodes were more likely than technology-only episodes to involve perpetrators who knew embarrassing things about the victim, happen a series of times, last for one month or longer, involve physical injury, and start out as joking before becoming more serious.

Features of Technology Use That May Amplify Harm

Overall, 6% of incidents were witnessed by 51 or more people (see Table 3). In 51% of incidents, victims felt they could stop what was happening, and in 59% they felt they could get away from the situation quickly. Compared with in-person-only inci-

Table 3

Potentially Aggravating Features of Harassment Incidents in the Past Year by Type

Feature	Weighted percentages				Design-based <i>F</i>
	All harassment incidents (<i>n</i> = 311) % (<i>n</i>)	In-person-only incidents (<i>n</i> = 136) % (<i>n</i>)	Technology-only incidents (<i>n</i> = 58) % (<i>n</i>)	Mixed incidents (<i>n</i> = 117) % (<i>n</i>)	
Any power differential	88 (266)	86 (110)	85 (46)	94 (110)	0.9
Physical power differential	69 (196)	74 (84)	63 (34)	64 (78)	0.7
Social power differential	54 (167)	66 (78)	38 (24) ^a	41 (65) ^a	3.7*
Knew embarrassing things	20 (94)	10 (23)	10 (10)	44 (61) ^{a,b}	13.6***
Happened series of times	41 (124)	46 (59)	13 (12) ^a	46 (53) ^b	3.6*
Duration					
1 day	41 (108)	41 (54)	61 (31)	31 (23)	1.2
>1 day to < 1 month	37 (129)	35 (45)	31 (24)	44 (60)	
1 month or longer	22 (72)	24 (35)	8 (3)	25 (34) ^b	
Physically injured (any)	31 (53)	43 (30)	2 (2) ^a	25 (21) ^b	6.4**
Bias component	24 (81)	24 (30)	19 (18)	27 (33)	0.1
Was "sexual in any way" ^c	13 (34)	8 (5)	18 (5)	21 (24)	1.3
Victim harassed perpetrator also	53 (155)	48 (61)	59 (30)	59 (64)	0.5
Started out as joking around and became more serious	40 (130)	39 (61)	23 (15)	49 (54) ^b	2.0
Harasser on alcohol or drugs during incident (known)	6 (25)	3 (6)	2 (2)	14 (17) ^a	12.4***
<u>Potential harm-amplifying features</u>					
Many witnesses (51+)	6 (25)	1 (3)	13 (9) ^a	10 (13) ^a	6.9***
When this happened did you feel you could . . .					
Stop what was happening	51 (155)	41 (61)	69 (38) ^a	60 (56)	2.6
Get away or remove yourself from situation quickly	59 (184)	60 (84)	81 (43)	49 (57) ^b	2.0

Note. Unweighted *ns* and weighted percentages.

^a Significantly different from "in-person-only" group $p \leq .05$ or better. ^b Significantly different from "technology-only" group $p \leq .05$ or better. ^c By sexual we mean that this person tried or actually exposed, touched, or grabbed your private parts or their own, asked you sexual questions, spread false sexual rumors about you, or shared something sexual about you that was meant to be private.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

dents, more technology-only incidents involved 51 or more witnesses and more youth who said they could stop what was happening. Mixed incidents were also more likely than in-person-only to have 51 or more witnesses. However, victims of mixed incidents were *less* likely to say they could get away from the situation quickly compared with technology-only incidents.

Emotional Impact of the Incident on Victim

Youth reported a range of negative emotional impacts as a result of what happened: 1 in 3 (34%) were very or extremely upset; almost half (46%) were very/extremely angry; around 1 in 4 were very/extremely afraid (22%), worried (24%), sad (28%), or felt like they could not trust people (25%); and 9% felt very/extremely unsafe as a result of what happened (see Table 4). Specifically, youth reporting technology-only episodes youth were less likely than those experiencing in-person-only to be very/extremely upset, afraid, or unsafe. In contrast, youth reporting mixed episodes were more likely than those with in-person-only to feel very/extremely angry or like they could not trust people. They were also more likely than youth experiencing technology-only episodes to feel upset, afraid, worried, sad, and unsafe. The average total emotional impact score was lowest for technology-only incidents and highest for mixed incidents. Compared with in-person-only incidents, total emotional impact scores were significantly lower for technology-only incidents and significantly higher in mixed incidents. Total emotional impact scores were also higher for youth in mixed incidents compared with technology-only incidents.

Findings from a parsimonious linear regression model found mixed incidents were more likely to result in overall negative emotional impact even after adjusting for other incident characteristics predictive of emotional harm (see Table 5). Other features that increased the likelihood of emotional harm included injury, the perpetrator known to be on alcohol or drugs, a social power differential between the victim and perpetrator, and the perpetrator being a schoolmate or acquaintance. Youth were more likely to report elevated levels of emotional harm if the harassment involved being excluded or had a physical component. Being able to stop what was happening was inversely related to emotional impact. Girls and White, non-Hispanic youth were more likely to report negative emotional impact.

Discussion

To our knowledge, the current study is the first to empirically examine the impact of technology involvement on youth experiences with peer harassment victimization at the incident level. Thirty-four percent of the nationally representative sample of youth surveyed reported peer harassment incidents in the past year: Of the 311 incidents described by the youth, 54% took place only in-person, 15% only through technology, and 31% were mixed (i.e., happened both in-person and through technology). Although technology use in harassment was common, many of the harm amplification hypotheses cited about technology were not supported by the findings. Technology-only harassment incidents were significantly less distressing to victims than in-person harassment incidents. They also ended up

Table 4
Emotional Impact of Harassment Incidents in the Past Year by Type of Incident, Adjusted for Youth Demographic Characteristics

Incident characteristics	All harassment incidents (n = 311) % (n)	Weighted percentages			Design-based F
		In-person-only incidents (n = 136) % (n)	Technology-only incidents (n = 58) % (n)	Mixed incidents (n = 117) % (n)	
Experience made you very or extremely . . .					
Upset	34 (105)	37 (40)	13 (10) ^a	38 (55) ^b	2.0
Afraid	22 (50)	28 (16)	4 (4) ^a	21 (30) ^b	1.9
Embarrassed	19 (72)	13 (20)	13 (8)	30 (44)	2.3
Worried	24 (60)	22 (17)	8 (5)	34 (38) ^b	1.1
Angry	46 (151)	39 (52)	40 (23)	61 (76) ^a	2.6
Sad	28 (88)	23 (31)	15 (9)	43 (48) ^b	2.2
Like you couldn't trust people	25 (88)	15 (24)	23 (8)	42 (56) ^a	3.9*
Unsafe	9 (29)	9 (13)	2 (3) ^a	12 (13) ^b	1.5
Mean total emotional impact score (SE)	19.8 (1.0)	19.1 (1.7)	15.3 (0.9) ^a	23.1 (1.2) ^{a,b}	

Note. Unweighted ns and weighted percentages.

^a Significantly different from "in-person-only" group $p \leq .05$ or better. ^b Significantly different from "technology-only" group $p \leq .05$ or better.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

being less likely than in-person incidents to involve many of the features often assumed to be inherently part of the online environment and thus cause youth greater harm. Contrary to common assumptions, youth reported that technology-only incidents were easier to stop than those that occurred solely

in-person. Technology-only harassment incidents also were less likely to involve other harassment characteristics that research has shown are related to greater distress such as multiple perpetrators (Mitchell, Ybarra, Jones, & Espelage, in press), and power imbalances (Mitchell et al., in press; Turner, Fin-

Table 5
Multivariate Linear Regression Models Identifying the Characteristics of Harassment Incidents and Youth Demographic Characteristics Associated With Negative Emotional Impact (N = 311 Incidents)

Characteristic	Saturated model ^a			Parsimonious model ^b		
	β	SE	p value	β	SE	p value
Mixed technology and in-person (versus other)	5.0	1.2	<.001	5.2	1.0	<.001
Child characteristics						
Youth age	-0.2	0.2	.39			
Girl	2.9	1.0	.003	3.1	1.0	.002
White, non-Hispanic	2.3	1.0	.02	2.1	1.0	.04
Perpetrator characteristics						
Adult (age 18 or older)	0.1	1.2	.93			
Friend or dating partner (or ex)	-0.6	1.3	.64			
Schoolmate or acquaintance	2.5	1.3	.06	2.7	1.0	.01
Type of harassment						
Exclusion	2.3	1.0	.02	2.3	0.9	.01
Rumors	0.6	1.1	.60			
Physical	2.5	1.0	.01	2.7	1.1	.01
Location						
Home	0.9	1.2	.45			
At school or on school grounds	.07	1.2	.53			
Potentially aggravating elements						
Social power differential	1.8	0.9	.06	2.3	1.0	.02
Knew embarrassing things about victim	0.4	1.3	.73			
Happened a series of times	1.0	0.9	.27			
Perpetrator known to be on drugs or alcohol	4.1	1.5	.01	3.9	1.4	.01
Injury	2.9	1.3	.02	3.0	1.3	.02
Potential harm-amplifying features						
Many witnesses (51+)	0.7	1.5	.62			
When this happened did you feel you could . . .						
Stop what was happening	-5.1	1.0	<.001	-5.5	1.0	<.001
Get away/remove self from situation quickly	0.5	1.0	.66			

^a Variables identified for inclusion based on significance of design-based F in bivariate analyses plus significant differences between mixed group and either in-person only or technology only. ^b The parsimonious model represents those characteristics that, together, are most influential in explaining the negative emotional impact associated with harassment victimization.

kelhor, Shattuck, Hamby, & Mitchell, 2014; Ybarra, Espelage, & Mitchell, 2014).

However, the picture becomes more complex when considering the incident-level impact of mixed harassment incidents, those that involve both in-person and technology-based elements. These incidents were the most likely to be distressing to youth. Mixed incidents shared many features with in-person-only episodes, such as similar rates of repeated harassment happening over time. Compared with in-person-only incidents, mixed incidents were less likely to involve a perpetrator with greater social power but more likely to involve current or past friends or boyfriend/girlfriends as perpetrators.

Challenging the Hypothesis That Technology Amplifies Harm

The hypothesis that technology-based harassment has features that amplify emotional impact (e.g., large numbers of witnesses, multiple perpetrators, an inability to control or stop the harassment, difficulty getting away) was not supported by our study. Some of these features were not even markers of harassment that only occurred through technology. Although technology-only incidents were more likely to involve large numbers of witnesses, they were least likely to involve multiple perpetrators. Youth were more likely to feel like they could stop what was happening. And technology-only harassment incidents were less likely to be repeated and more likely to be of short duration compared with incidents that involved only in-person harassment. Finally, although technology-only incidents were more likely to involve strangers or anonymous perpetrators, this appears to be less distressing to youth than harassment by schoolmates and other known acquaintances. Although incidents that involved both in-person and technology components were most distressing for youth, given the above findings, it appears likely that it is less something inherent about the technology itself, and more something about the relational nature of mixed harassment incidents that make them so upsetting.

Understanding the Emotional Impact of Mixed Harassment Incidents

Given that harassment incidents that involved both technology and in-person communication were the most distressing for victims, we sought to understand more about why that was the case. Although research has shown that distressing harassment and bullying is more likely to involve sexual and biased content, injury, longer duration, and power differentials (Turner, Mitchell, & Jones, in revision), none of these characteristics distinguished the mixed incidents from in-person-only harassment. Some differences, however, provide possible clues. Victims of mixed harassment were the least likely to say they could get away or remove themselves from the situation quickly and this could be related to the fact that they were being victimized across multiple environments—at school, home, and via technology. Also, perpetrators of mixed incidents were more intimately connected to victims as current or past friends and romantic partners, and they were more likely to know embarrassing things about victims. Texting was the predominant mode of technology used in mixed incidents, suggesting that negative interactions were more direct

and private than communications through websites or social network pages.

Demographic differences may have also played a role. Girls have increased risk of relational bullying and harassment (Wang et al., 2009), which may be particularly distressing (Prinstein, Boergers, & Vernberg, 2001) and highly adaptable to technology-based communication. Indeed, the mixed harassment incidents were the most likely to involve rumors and exclusionary components. Findings highlight the need for developmentally appropriate prevention that acknowledges increasing levels of technology use as children grow older; particularly for girls. Given the low level of technology-involved harassment among the younger children, when it does present itself, particular attention may be warranted. Because technology-involved harassment falls outside the norms for this age group it could be an indicator of a more problematic episode, especially if it is combined with in-person elements.

However, it is interesting that even after controlling for a wide-range of possible aggravating factors, mixed harassment incidents remained significantly more distressing than either in-person or technology-only harassment. Future research will be needed to confirm the findings of this study and seek a better understanding for why mixed incidents may have such a negative impact. One possibility, for example, is when mixed incidents happen across multiple contexts, the perpetrators may have had more animosity toward victims and as a result, the harassment may have been more personal or meaningful in ways that we were not able to measure. It is perhaps telling that the most significant types of emotional impact for the victims of these incidents were anger, sadness, and lack of trust. There was also more mutual harassment in these incidents. The data suggest that mixed peer harassment incidents are marked by more intense, personal, and complex negative interactions that have high emotional salience for those involved.

Clinical and Policy Implications

The problems of bullying and harassment have received a significant amount of attention in the last decade, and some of the attention has stemmed from a concern that use of technologies such as social networking sites and texting have increased the harm caused by peer harassment. So far, research on cyberbullying has mostly been conducted separately from or parallel to research about in-person bullying, making it difficult to test whether new technology causes comparatively greater distress for youth. The findings from the current study suggest that these concerns are mostly not well-founded, and this has important implications for retargeting prevention and intervention in this area. Much of the prevention efforts and public education campaigns that currently exist were developed in the wake of widespread concern focused solely on technology-based harassment (Jones, Mitchell, & Walsh, 2013). However, the data from this study and others suggest that focusing on technology as a priority concern could distract educators and policymakers from the types of peer victimization that are actually most harmful to youth.

Our study found that in-person bullying and harassment is more common and more distressing than harassment that solely occurs through technology. Most of the online harassment experienced by youth was reported to cause limited distress. Although technology was a component of the most highly distressing incidents, harassment that involved both in-person and technology-based commu-

nication, it is not clear that technology itself was the key exacerbating factor. There are likely more direct causes of the distress produced by these incidents such as the intensity, animosity, and strength of social connections between victims and perpetrators. Such factors may correspond to persistent and distressing harassment behaviors that happen through a variety of interpersonal routes such as in school hallways and through text messaging.

Our research suggests that those seeking to prevent the most detrimental forms of peer harassment might focus less on cyberbullying per se and instead tackle the prevention of the complex and intense incidents that are so harmful to youth. Such incidents, for example, may start from jealousy or hurt feelings within a peer group, or begin with teasing and then escalate to something more destructive. Prevention programs that teach youth to handle negative feelings and to de-escalate tensions are promising in this regard. These skills are the focus of a growing number of social emotional learning programs and comprehensive school-based bullying prevention programs that are increasing in sophistication. There is no evidence yet for the effectiveness of programs that exclusively address cyber-bullying (Jones, Mitchell, & Walsh, 2013), whereas some traditional bullying prevention and socio-emotional learning programs show evidence of effectiveness (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Farrington & Ttofi, 2009).

Research Implications

The study findings emphasize the importance of conducting research that incorporates technology as only one possible component among many that might affect how peer harassment negatively impacts youth. We encourage researchers to approach the study of peer victimization with a wide view so that parents, teachers, and other youth serving professionals can better understand the incident and child-level factors that indicate the greatest risk of harm. We also encourage researchers to move away from easy but misleading dichotomizations such as defining harassment as cyber-bullying versus traditional bullying. The findings substantiate the importance of testing popular assumptions with research. Effective prevention and intervention strategies require accurate information on risk and outcomes, and moving forward without such data ultimately lengthens and complicates the road to successfully helping youth.

Study Limitations

There are limitations to this research that need to be kept in mind when interpreting the findings. The main focus of the study was on describing technology-involved harassment so such incidents are slightly overrepresented. Youth responses may have been influenced by social desirability and response sets. Some findings may be influenced by unmeasured dimensions, such as a greater willingness among some respondents to disclose personal experiences. Finally, the measure of distress at the incident level was limited compared with standard trauma measures.

Conclusions

This study is the first to examine the complexity of technology involvement in peer harassment at the incident-level. Findings

should help to quell concerns about possible inherently harmful features of technology; indeed, technology-only harassment incidents are among the least problematic and upsetting to youth. Youth reporting mixed technology and in-person harassment should be a priority for educators and prevention experts who are trying to identify the most serious and harmful experiences.

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