Cyberbullying: Using Virtual Scenarios to Educate and Raise Awareness

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Abstract

This study examined cyberbullying in three distinct phases to facilitate a multifaceted understanding of cyberbullying. The phases included (a) a quantitative survey, (b) a qualitative focus group, and (c) development of educational scenarios/simulations (within the Second Life virtual environment). Phase III was based on adolescent feedback about cyberbullying from Phases I and II of this study. In all three phases, adolescent reactions to cyberbullying were examined and reported to raise awareness and to educate others about cyberbullying. Results from scenario development indicate that simulations created in a virtual environment are engaging and have the potential to be powerful tools in helping schools address problems such as cyberbullying education and prevention. (Keywords: cyberbullying, virtual worlds, Second Life, teacher education, counselor education)

Introduction

Cyberbullying has gained attention and recognition in recent years (Beale & Hall, 2007; Carney, 2008; Casey-Canon, Hayward, & Gowen, 2001; Kowalski & Limber, 2007; Li, 2007; Shariff, 2005). The increased interest and awareness of cyberbullying relates to such factors as the national media attention after several publicized cyberbullying tragedies (Maag, 2007; Stelter, 2008; Zifcak, 2006), the attenuation of communication boundaries (i.e., cell phones, the Internet, and computer network connections), and the exponential increases in technology use among youth. Nonetheless, with the escalation of technology and the easy access and popularity of technological devices among youth, presently there remains a critical gap in the literature related to cyberbullying and its possible effects on school-aged children and adolescents. Because cyberbullying has the potential to impact youth across systems (i.e., home, school, and the community), we believe that parents, "school professionals" (Li, 2007, p. 1778), and mental health providers must not only be made aware of cyberbullying and its consequences, but must also have access to ways to deal with this growing concern.

Two years ago, cyberbullying was considered to be a "new territory" for exploration (Li, 2007, p. 1778) because there was limited information about bullying through "electronic means" (Li, p. 1780). In contrast, today studies on cyberbullying, including some descriptions of the worst cyberbullying incidences (Maag, 2007; Stelter, 2008; Zifcak, 2006), are becoming more prevalent (Beale & Hall, 2007; Carney, 2008; Kowalski & Limber, 2007; Li, 2007). At this time, there is a need to raise awareness about the effects of cyberbullying and to create educational opportunities to serve multiple audiences (i.e., teachers, teacher educators, school administrators, school counselors, mental health professionals, students, parents) in the quest to identify and hopefully prevent cyberbullying in the future. Consequently, to facilitate a multifaceted understanding of cyberbullying, this study sought to examine cyberbullying through three phases: (a) a quantitative survey, (b) a qualitative focus group, and (c) development of the educational scenarios/simulations (i.e., using virtual world avatars similar to those used in Linden Lab's (1993) Second Life (SL; http://secondlife.com) based on adolescent feedback from Phases I and II of this study. Adolescent reactions to cyberbullying in all three phases of this study were examined and reported with two aims in mind: (a) to raise awareness of cyberbullying, and (b) to educate others about cyberbullying.

Defining Cyberbullying

Cyberbullying has been described as a traumatic experience that can lead to physical, cognitive, emotional, and social consequences (Carney, 2008; Casey-Canon et al., 2001; Patchin & Hinduja, 2006). Cyberbullying has been defined as "bullying through the e-mail, instant messaging, in a chat room, on a website, or though digital messages or images sent to a cell phone" (Kowalski & Limber, 2007, p. 822). There are numerous methods to engage in cyberbullying, including e-mail, instant messaging, online gaming, chat rooms, and text messaging (Beale & Hall, 2007; Li, 2007). In addition, cyberbullying appears in different forms than traditional bullying. For example, Beale and Hall (2007), Mason (2007), and Willard (2008) found that at least seven different types of cyberbullying exist, including:

- Flaming: sending angry, vulgar messages to a person or party
- Harassment: sending messages to a person repeatedly
- Denigration: sending/posting harmful, untrue information
- Cyberstalking: using threats of harm and intimidation
- Impersonation: pretending to be another person
- Outing or trickery: tricking a person into sending embarrassing information
- Exclusion: excluding someone purposefully

Research suggests that cyberbullying has distinct gender and age differences. According to the literature, girls are more likely to be online and to cyberbully (Beale & Hall, 2007; Kowalski & Limber, 2007; Li, 2006, 2007). This finding is "opposite of what happens off-line," where boys are more likely to bully than girls (Beale & Hall, p. 8). Age also appears to be a factor in cyberbullying. Cyberbullying increases in the elementary years, peaks during the middle school years, and declines in the high school years (Beale & Hall). Based on the literature, cyberbullying is a growing concern among middle school-aged children (Beale & Hall; Hinduja & Patchin, 2008; Kowalski & Limber, 2007; Li, 2007; Pellegrini & Bartini, 2000; Smith, Mahdavi, Carvalho, & Tippett, 2006; Williams & Guerra, 2007). Of the middle school grades, 6th grade students are usually the

Table 1: Research Questions for the Study

Phase I:

1. What is the frequency of cyberbullying in the lives of middle school students?

2. Who is most likely to participate in cyberbullying?

3. What are the number of experiences and the methods used for cyberbullying?

Phase II:

4. What commonalties were observed between the two focus groups?

5. What themes emerged from the two focus groups?

6. How were the focus groups different?

Phase III/Future Study:

7. What are the student reactions to the scenarios/simulations?

8. What were the nonverbal behaviors during the time participants were viewing the scenarios/simulations?

9. What did the students discuss in the post-scenario/simulation time?

10. What information was written down by the participants during the process?

*11. Are virtual environments viewed as safer places to bully others?

*12. What happens when environments are built and devoted to cyberbullying?

*13. Are students familiar with safety strategies related to cyberbullying? If so, what strategies do they use?

*14. How do students believe cyberbullying can be prevented?

*Note: Questions 11–14 will be addressed in subsequent studies.

least victimized (Kowalski & Limber), whereas 8th grade students appear to experience the highest percentage of cyberbullying (Kowalski & Limber; Smith et al., 2006; Williams & Guerra).

Because of its cyberpresence, the challenges posed by cyberbullying differ substantially from traditional bullying. For instance, Shariff (2005) noted three specific challenges of cyberbullying, including:

- Cyberbullying is anonymous
- It has an infinite audience
- Sexual harassment is often a prevalent aspect

Additionally, because of today's access to online technologies (i.e., social networking tools for collaboration, communication, and social interaction via Facebook, MySpace, and chat rooms), the given challenges are likely to increase rather than decrease over time. With this in mind, we strongly believe that it is important to look for pedagogical methods to raise awareness, to increase education about cyberbullying, and to move toward preventive measures to deal with cyberbullying in the future.

In considering how to best investigate cyberbullying, we turned to a mixed method approach, conducted in three phases. Middle school students were selected for this study because research suggests that school-aged bullying/cyberbullying is the most intense during the middle school years (Beale & Hall, 2007; Kowalski & Limber, 2007; Pellegrini & Bartini, 2000). For the first two phases, we used traditional methods of data collection (i.e., survey, focus groups). However, for Phase III, we chose a virtual world environment to develop scenarios/simulations that we will test for their effectiveness in raising awareness of cyberbullying prevention in the future. The following describes our rationale for choosing a virtual environment.

Using Virtual Environments for Research and Education

Virtual environments now allow researchers to create simulations in a safe environment. Yee et al. (2007) found that "our social interactions in online virtual environments, such as Second Life (SL), are governed by the same social norms as social interactions in the physical world" (p. 119). In addition, Tettegah, Taylor, Whang, Meistninkas, and Chamot (2006) noted that "… simulations can be utilized across a range of different circumstances, where it might normally be impossible or very difficult methodologically to create a certain environment or situation for research purposes" (p. 2).

SL, the virtual environment of choice for our study, is an online virtual world in which users can create a virtual identity through the use of an avatar, a computer-generated representation of a person inside the virtual environment. The avatar can appear as the person does in the real world or it can look different, depending on the user's imagination. Once created, the user can have a virtual life and virtual experiences through the avatar (e.g., users have opportunities to buy clothes, run businesses, and purchase homes within SL). Presently, real-world businesses (e.g., IBM and Nissan) maintain a virtual presence within SL and usually offer services similar to what they offer in the real world (e.g., product information, purchase opportunities, company information). Educational institutions of all levels, from elementary schools to institutions of higher education, are also building virtual homes in SL and in other online virtual communities (e.g., Active Worlds). For example, several universities offer tours, classes, and welcome visitors to their campus virtually. Others have also created a SL presence for distance learners. For example, the University of Alabama's Department of Educational Studies in Psychology, Research Methodology, and Counseling owns an island in Second Life and has several teaching, research, and service projects underway. Active Worlds (http://www.activeworlds.com) is another three-dimensional virtual world similar to SL. Active Worlds offers a virtual environment specifically for educators.

Researchers have been urged to consider studies using virtual worlds as the current transformational period of virtual environments (Bainbridge, 2007) presents educators and researchers a unique opportunity to study and use this innovative technology. In so doing, researchers will play an important role in establishing a framework for conducting academic research within a virtual world environment (in this case, SL).

As previously mentioned, this study included three phases (a survey, a focus group, and development of cyberbullying simulations/scenarios using a controlled virtual environment). Within the three described phases of this study, adolescent reactions were examined and reported to fulfill two overarching aims: (a) to raise awareness of cyberbullying, and (b) to educate others about cyberbullying. The research questions for this study are included in Table 1.

Method

Participants

All participants in this study were from one school system that serves approximately 10,000 students in a state in the southeastern region of the United States. Based on data from the school system, approximately 63% of the total student population were eligible for free or reduced lunch. The participants will be described more specifically in each phase of this study.

Phase I: Cyberbullying survey. Approximately 450 middle school students in Grades 7 and 8 (i.e., ages 12–14) were recruited from the five middle schools in the school system selected. The five middle schools ranged from low-poverty schools to high-poverty schools, based on data from the school system. Of the 450 participants recruited, 114 returned signed parental consent forms and assented to the survey. Of the 114 participants, 64 were females and 50 were males. There were 41 from the 7th grade and 73 from the 8th grade. The racial backgrounds included 33 Caucasian students, 67 African-American students, 3 Hispanic students, 2 Asian-American students, and 9 students that did not identify their racial background.

Phase II: Focus groups. Approximately 20 middle school students in Grades 7 and 8 were recruited from two middle schools in the same school system. The two middle schools involved in the focus group were heterogeneous. School A was a high-poverty school and School B was a low-poverty school. Of the 20 students recruited at the two schools, 13 students assented to the focus group interviews (after written parental consent was given). Seven students, including 4 males and 3 females, participated from School A. The racial backgrounds included 1 Caucasian student, 5 African-American students, and 1 Hispanic student. School B had 6 participating students, including 4 males and 2 females. The racial backgrounds included 4 Caucasian students and 2 African-American students.

Phase III: Development of cyberbullying scenarios. Data collected from both Phases I and II informed our scripting for the cyberbullying scenarios/simulations. We also recruited two students from Phase II to view the initial scenarios and to provide feedback before the final rendering of the scenarios. Details of this are given below in the Procedures section.

Instruments

Phase I: Cyberbullying Survey. The quantitative instrument used for the survey was an adapted version of Li's (2007) Cyberbullying Survey. Li granted permission for the authors to use and adapt the survey. The survey used in this study consisted of 8 demographic questions and 17 additional questions devoted to cyberbullying information (e.g., "I know someone who has been cyberbullied," "When adults know about cyberbullying, they try to stop it"). The survey had a mix of questions, including open-ended, "yes/no," and multiple choice options. At the end of the survey, the students indicated whether or not they would like to continue as a participant with another aspect of this study (i.e., Phase II or Phase III).

Phase II: The two focus groups. Focus groups at the two participating schools were formed from students who indicated interest in being a part of Phase II or Phase III of the study. The aim of the focus groups was to build upon the data collected from the Cyberbullying Survey (Li, 2007). The focus groups were used to gather additional information and feedback from the students to assist the authors in creating authentic cyberbullying scenarios for Phase III. The researchers wrote a focus group guide, which the Internal Review Board (IRB) approved prior to its use, for students from both schools so they had exposure to the same questions. Sample questions from the focus group guide include: "Share your ideas about cyberbullying, and what does it look like?" and "What is the most common form of cyberbullying?"

Phase III: Student observations of cyberbullying scenarios. The authors created cyberbullying scenarios/simulations that were derived from student feedback from Phase I (Cyberbullying Survey) and Phase II (focus groups). Based on the feedback and data collected, cyberbullying scenarios were created within SL. At the researchers' institution, two college students simultaneously involved in developing a virtual university presence within SL were asked about their willingness to design SL scenarios for our study. The researchers met with two SL student developers, contracted the fee arrangement, and offered the SL developers the Phase III scripts (derived from Phases I and II). In this meeting, the developers and the researchers discussed the scenarios/simulations in depth, including how to conceptualize the scenarios, visuals, and audio needed for the simulations.

Procedure

Prior to contact with the school system involved in this study, the IRB of the institution in which the four researchers were employed granted its approval. The researchers then contacted the school administrator in charge of research for the school district to seek school system–wide approval for the study. Once the school system granted permission, the researchers contacted the principals at the five middle schools in the school district.

At the school level, the researchers carried out the following procedures for consistency. Once each principal granted permission, the researchers delivered parental consent forms to the students in Grades 7 and 8 in randomly selected classrooms. The teachers collected returned consent forms and held them in a confidential place for the researchers. On the administration day, the researchers collected the signed parental consent forms, asked for student assent, and passed the survey out to the students to complete.

Due to the nature of our study, we put several safety features in place. We used no identifiable information related to a student's name or school during any phase of the research. We followed the rules and guidelines that the IRB specified. Throughout Phases I–III of the research (i.e., from survey distribution to the SL scenario reviews), the middle school students had opportunities to talk confidentially about cyberbullying. If students became upset or wanted to talk in more detail about cyberbullying to an adult, research team members were instructed to refer students to their respective school counselors.

Phase I: Cyberbullying Survey. The research team sent informed consent forms to all potential participants in Grades 7 and 8 at the five middle schools. Once parents granted their permission and students assented, the researchers administered the Cyberbullying Survey. During the administration, if questions arose, the researchers answered them. The survey took approximately 10–15 minutes to administer. At the end of the survey, students were asked if they were willing to be contacted again about Phase II or Phase III of the study. The researcher collected the surveys and entered the responses into SPSS to further analyze the data.

Phase II: Focus groups. The research team met with two focus groups (n=6 and n=7, respectively) and followed the focus group guidelines and protocol that the IRB had approved. Two researcher team members held one focus group at each school at a time the school's principal approved.

The aim was to have 5–10 students per focus group. For focus group size, the authors followed Morgan's (1988) recommendation (i.e., as few as 3–4 participants, but no more than 12). The researchers formed groups at two different schools to ensure a diverse group of participants. Researchers audiotaped the focus groups using a digital recorder, later downloaded the audio files to a computer for ease of transcription, and then printed and analyzed the files using the qualitative content analysis strategy of constant comparative approach (Lincoln & Guba, 1985). The

Figure 1: Mark Visits the Counselor in Second Life

researchers followed IRB procedures fully. The audiotapes were available only to the researchers and graduate assistants involved in the research study and were destroyed once the data were transcribed. Researchers assigned pseudonyms to each focus group participant and used these pseudonyms in this data presentation.

To generate results and to establish trustworthiness and credibility, four members of the research team repeatedly read and re-read (Lincoln & Guba, 1985) the transcripts to inductively discover the emergent themes, categories, and passages to establish codes and themes, synthesizing participants' responses as indicated by more than one participant (Corbin & Strauss, 2007). Each member of the team read through the transcriptions carefully and took note of thoughts and initial interpretations. Each member then re-read the sessions and viewed the data holistically, reading for overall themes, categories, trends, and patterns. Team members also made notations of intensity of comments when present.

After the described procedures were completed, the four research team members met and discussed their observations and interpretations of the two focus groups. Researchers discussed commonalities and differences that the research team members observed and noted. At the culmination of the meeting, the team summarized the commonalities into the following themes (see Results section for further details):

- Reactions
- Knowledge
- Coping

Phase III: Student observations of the cyberbullying scenarios. The researchers developed scenarios/simulations based on the quantitative

results of Phase I and the qualitative results of Phase II of this study. The platform choice, SL, was also designed with safety concerns for the adolescents. The scenarios/simulations were based on cyberbullying data that students from the previous phases of the study had identified. We used a virtual world environment to examine cyberbullying because it was safe, controlled, and an ethically sound method in which to examine cyberbullying.

In Phase III, the cyberbullying scenarios/simulations we built were fully "acted out" using avatars and virtual simulations (see Figure 1), and subsequently recorded using screen capturing technology. After the SL designers completed the initial rendering of the videos, the recordings were played on a computer screen in a counseling laboratory on the university campus. Two middle school students agreed to participate in this phase. The researchers examined (a) student reactions to the scenarios/simulations, (b) nonverbal behaviors during the time they viewed the scenarios/simulations, and (c) postscenario responses. Following the students' separate viewings of the scenarios, the researchers and students reviewed and discussed the scenario collectively, including (a) misinterpretations, (b) lack of clarity, (c) setting (e.g., proximity of furniture and avatars), (d) length and audio volume of the scenarios, and (e) educational value of the scenarios.

The researchers specifically focused on the following questions from Table 1:

- What were the student reactions to the scenarios/simulations?
- What were the nonverbal behaviors during the time participants were viewing the scenarios/simulations?
- What did the students discuss in the postscenario/simulation time?

Table 2: Percentage of Students Who Experienced Cyberbullying through Various Methods

	E-mail	Facebook	MySpace	Cell Phone	Online Video	Chat Rooms	Virtual Games	Other
Victim	35.3%	11.8%	52.9%	50%	14.7%	11.8%	35.3%	8.8%
Bully	17.6%	0%	70.6%	47.1%	11.8%	5.9%	23.5%	5.9%

The researchers chose these data to further ensure the development of scenarios for the purposes of raising awareness and education of cyberbullying prevention.

Results

Phase 1: Cyberbullying Survey

For Phase I, we administered the adapted version of Li's (2007) Cyberbullying Survey to 114 middle school students. Descriptive statistics were used to examine the first three questions in Table 1. We address the three questions, (a) "What is the frequency of cyberbullying in the lives of middle school students?" (b) "Who is most likely to participate in cyberbullying?" and (c) "What are the number of experiences and the methods used for cyberbullying?" in this section.

Frequency and participation in cyberbullying. Overall, almost half of the students (45.6%) were aware of specific cyberbullying incidences occurring to someone they knew, whereas 29.8% of the respondents indicated that they had been cyberbullied. Additionally, 14.9% reported that they have participated in cyberbullying someone else. However, only 4.4% responded that their cyberbullying incident took place in school.

The gender of cyberbully victims and cyberbullies was also examined. We found that 36% of males and 25% of females were victims of cyberbullying. Furthermore, 16% of males and 14.1% of females were cyberbullies.

Number of experiences and methods used for cyberbullying. When cyberbully victims' and cyberbullies' experiences were examined, we found that cyberbullying experiences, regardless of whether they occur to the bully or to the victim, tend to occur fewer than 4 times. Respondents were given three choices: "less than 4 times," "4 to 10 times," and "over 10 times." Among the cyberbully victims, 75.8% were cyberbullied fewer than 4 times, whereas 82.3% of cyberbullies indicated participating in cyberbullying fewer than 4 times. Among cyberbully victims, 12.1% were cyberbullied 4–10 times, and 12.1% were cyberbullied more than 10 times. Among cyberbullies, 11.8% reported cyberbullying 4–10 times and 5.9% cyberbullied more than 10 times.

The researchers also examined the most popular methods for cyberbullying. Among both cyberbullies and victims, cyberbullying occurred most via MySpace. Almost 53% of victims indicated that it occurred through MySpace, and 70.6% of cyberbullies indicated that they cyberbullied through MySpace. Table 2 provides further detail about the methods of cyberbullying.

Phase II: Focus Groups

Reactions. The two focus groups had distinct differences. To some extent, we believe some differences can be attributed to socioeconomic status (SES) (one school was determined to be low poverty by the school system, and the other was determined to be high poverty). All the team members agreed that School A participants' reactions to some of the questions were more confrontational and aggressive in nature, whereas School B participants tended to be more passive in their reactions. For example, participants from School A used language such as "Sometimes you have to fight," or "You have to be ready to fight," whereas School B used language such as "It wasn't like really big or anything," or "You just overlook it."

Knowledge. School B was more computer savvy, as evidenced by comments such as "…e-mail the company, like Facebook or something," "Well, on Facebook, there's something you can do called 'Report this person,'" and "Like on some chat sites if you get, like you get a warning, and then you get banned for a certain amount of time, and like if you constantly break the rule, they'll ban you like permanently." These observations indicated that the knowledge and use of computer applications differed at the two schools, which might be attributed to SES factors of use and access to computer technology and frequency of use. For example, School B's participants indicated that the technology most abused by cyberbullies was Facebook (which requires computer and online access), whereas with School A, the most frequently used technology was cell phones.

Coping. The coping skills also differed between the two schools, and the language used also indicated differences. For example, when the focus groups were asked how they would cope with a cyberbullying situation, both schools indicated responses such as "ignore it," but participants at the high-poverty School A added, "Get a bunch of people to get on that person," "Get, like, 50 people and try to get them scared," and "To confront them about it." Comments from participants from School B included: "I'd go to my parents and like a school counselor," and "I think one of the worst things to do would be to like keep sending stuff back to them and making them even madder and keep going on, and it'd be harder for them to forgive you."

Students at both schools also indicated that they would turn to different individuals for help. Participants from School A indicated that they would more likely seek help from friends. One participant described, "I handle it with friends, but that can be, like, even more of a mess." However, when students from School A were asked if they were to seek the help of an adult, the adult they typically chose was their school counselor. Participants from School B indicated that they would choose their mother or the school counselor.

Although the research team members identified distinct differences, they also noticed similarities. For example, participants in both groups indicated that, if they had been cyberbullied, they knew the identity of the cyberbully. It was also apparent through the research team's analyses of the focus group data that a clear definition of why cyberbullying occurred was due to "misunderstandings" or "mishearing stuff." One issue that consistently came up with females in both groups was that gossip could lead to cyberbullying. Another issue that was prevalent in both groups was the need to educate adults about how to approach and educate others on cyberbullying.

Using Focus Group Data Results to Build the Scenarios/ Simulations

After the focus group data analyses, the research team triangulated data with the survey and determined the scenarios/simulations they would develop. It was determined that one scenario needed to be behavioral in nature (i.e., girls sending hurtful messages via MySpace) and another educational in nature (i.e., student visits the school counselor after a Facebook joke got out of hand). The latter scenario included an interactive educational component at the end to get students to think about cyberbullying in the postscenario moments.

The students at both schools indicated a desire that adults should be better educated on "what cyberbullying is" and how to help students

cope and "deal" with cyberbullying. The students, especially at School A, verbalized the need to "listen to the kids" and to better educate them on the causes of cyberbullying.

Phase III: Student Observations of the Scenarios and Future Plans

The scenarios were developed in SL using virtual simulations to "act out" both scripts in the virtual world. The scenarios were then recorded and played for two students on a large screen television in the counseling lab at the university. The reactions of the students (one male, one female) were mixed, with the male student being more distracted by certain avatar movements. For example, he made the remark that the "guy's hands should be less animated" and that the lips of the avatars did not always match what the avatars were saying. He also noted that the counselor's office looked too academic, like a "university building" versus a "realistic" counselor's office. The female participant did not seem as easily distracted by place and by avatar actions and commented that it seemed "realistic" because kids spend time playing interactive games.

Although working in the virtual environment can create unique challenges with accurate and "realistic" renderings, both students were engaged while viewing the scenarios, and when researchers asked them if this was a viable presentation medium, the female participant said yes and that it was "relatable." She further noted that it was "best digitally," as it would be less likely to embarrass a student if a student had experienced the cyberbullying situation. Both students thought the length was appropriate. The researchers observed that the scenario held the attention of both students. From the postscenario discussions with the students, they affirmed that they heard the intended educational messages about cyberbullying.

Discussion

Cyberbullying has the potential to impact youth across systems (i.e., home, school, and the community). We agree with Li (2006), who stated that "the education dealing with cyberbullying related issues should be a joint endeavor of schools, families, communities, and the whole society" (p. 167). We believe this study sheds light on issues related to cyberbullying and can be used to educate others in the future. However, this study has limitations. It was undertaken in one school system in one county in the southeastern United States. The study also focused specifically on middle school students' experiences with cyberbullying. Thus, generalizability to other grades and to other school systems is unclear.

During Phase I, we explored the frequency of cyberbullying in the lives of students and found that almost one half of the population knew of specific cyberbullying events, which compares closely with Li (2006, 2007). We also examined the most likely cyberbullying participants. Interestingly, this aspect of the study contrasted with numerous studies that have shown girls to be more likely to cyberbully than boys (Beale & Hall, 2007; Kowalski & Limber, 2007; Li, 2007). In our particular study, girls and boys were almost even in their cyberbullying behaviors (14.1% girls, 16.0% boys, respectively), which matched closely to Li's (2006) results. As far as being victims of cyberbullying, this study found that boys were targeted more than girls.

We also investigated the number of experiences and methods used for cyberbullying. Although this study found that cyberbullying tends to occur fewer than four times, the number of experiences varied (see Table 2). This finding was similar to Li (2006). As shown in Table 2, MySpace and cell phones were the most popular technologies used to cyberbully, with frequent use of virtual games and e-mail as well. Although Li (2007) considered methods to cyberbully, our results differed. Li reported that approximately 9% used e-mail, 36% used chatroom, and 55% used several sources, but no study, to our knowledge, has pinpointed specific methods used for cyberbullying (e.g., MySpace, Facebook).

From our focus group data collected in Phase II, we learned that all students' definition of cyberbullying and identification of when and where it occurs was similar to what other researchers (Beale & Hall, 2007; Kowalski & Limber, 2007; Li, 2007; Willard, 2008) have found. The participants identified e-mail, social networking sites, and cell phones as common devices to use or to engage in cyberbullying. The data indicated that both School A and School B participants had a general understanding of cyberbullying, although the two groups showed differences in how the students dealt with the issue. For example, School A used language such as "You have to be ready to fight," whereas School B seemed more passive with language such as "You just overlook it." We experienced similar observations in overall technology knowledge and how the students coped with cyberbullying when (or if) it occurs. For example, School B shared techniques on how to report or block a cyberbully on Facebook. We suspect some of the differences may be attributed to a lack of computer and Internet connectivity at the high-poverty school, which may mean that the students spend less time using the multiple technologies associated with cyberbullying (i.e., online games, Facebook, chat rooms). This was further supported through the answers to our question of what technologies they most enjoyed using. The cell phone was overwhelmingly the technology of choice at School A, whereas online social networking sites and online gaming were prominent at School B. Such SES gaps present additional limitations in disseminating information about bullying through "electronic means" (Li, p. 1780), reinforcing the need to create virtual scenarios that can be videotaped and presented through different venues, both online and offline.

In Phase III of this study, the researchers developed scenarios/simulations using a virtual world environment to "allow students the freedom to project their thoughts and feelings related to trauma and bullying" (p. 180). In the case of School A, students expressed a general belief that "gossip" caused cyberbullying and that students turned to friends first and the school counselor second. We realized the need to educate students and others about cyberbullying prevention, based on comments and questions from the focus group participants. Following initial development, student evaluators viewed the scenarios and offered feedback for additional refinement. The students did agree that the virtual presentations were realistic, as kids often play interactive games. Further, when asked what they had learned, they agreed that the messages of the scenarios were clear: "Do not take cyberbullying into your own hands. Tell an adult."

This study offers several contributions. First, we believe that the data from this study highlight the importance of creating educational scenarios/simulations for school-aged issues of the day, such as cyberbullying. Creative scenarios/simulations are not only attractive, but also a potentially powerful means of getting the attention of adolescents. As we continue with our research, more evidence of this may be forthcoming. Second, the use of scenarios/simulations to recognize and prevent cyberbullying can make pedagogical contributions for teacher educators as they prepare future teachers, as well as assist current K–12 teachers, and administrators. Third, scenarios/simulations, such as what was developed for this study, can help teachers who may be with or without computers or connectivity in a classroom setting. Fourth, beyond traditional classroom use, school counselors may also use such tools for classroom guidance, in small group settings, or to assist in parent education when issues such as cyberbullying surface.

Having a variety of educational tools that a multitude of helpers (i.e., teachers, counselors in and outside of school settings, and parents) can use is essential in the 21st century. We want to clearly underline this finding, as our data signified that students turned to both school counselors and parents (most often their mothers) when cyberbullying occurred. Thus, educational tools that are available for a number of potential helpers are indicated.

Data collected throughout each distinct phase of this study have helped us explore the how, why, and when cyberbullying occurs, further informing us about the type of scenarios that are needed to educate and to raise awareness of this issue—our study's overarching aims. As our research continues, we will continue to seek a greater understanding of the many ways that cyberbullying episodes occur, as well as to discover how young people are responding to new forms of bullying. With this information, we will continue to design and construct more simulations/scenarios that can potentially assist school administrators, teachers, and school counselors in addressing the increasing problem of cyberbullying.

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In Recognition of Service to SIGTE

- SIGTE Book Discussion Steering Committee: Sarah McPherson chaired the book discussion on Teaching Every Student on the ISTE SIGTE Ning, which has 323 members, and at a follow-up at NECC. The steering committee included Sara Armstrong, Karen Beavers, Lisa Bucciarelli, Jeri Carroll, Jacob Coon, Renata Geurtz, Kifi Kanagy, Drew McAllister, Sarah McPherson (facilitator), Minhaaj ur Rehman, Teresa Roebuck, Allison Shook, and Jennifer Tonges.

- SIGTE advocacy work: Christine Greenhow, Natalie B. Milman

- SIGTE webinars: Arlene Borthwick, chair; Mike Charles, host; Matthew Koehler and Punya Mishra on TPACK; Leaunda S. Hemphill on Second Life as a professional development tool.

- SIGTE workshop at NECC: Leaunda S. Hemphill and Jackie Gerstein, Hoyet Hemphill, and Ruth Okoye on Second Life as a professional development tool, a follow-up to the very successful webinar.

- NECC 2008 Teacher Education (TE) Concurrent Session Proposal Reviewers: Melissa Pierson, chair; Vivian Wright; Randy Hansen.

- NECC 2009 Research Award reviewers: Blanche O'Bannon; chair; Debra Thompson; Cheri A. Toledo; Judith D. Tomelden; Keith Wetzel.

- NECC 2009 Graduate Student Scholarship reviewers: Robert Jason Hancock, chair; Karen Grove; Teresa Foulger; Mike Charles.

- NECC 2009 SIGTE Forum Planning Committee: Arlene Borthwick, chair; Mark Bailey; Mike Charles; Hilary Goldman; Christine Greenhow; Steve Rhine; Rachel Vannatta. Poster presenters: Bill Bauer, Annette Burden, Clint Fisher, Randy Hansen, Sherri Kreuser, Sarah McPherson, Robbie Melton, Steve Rhine, Kathryn Smith, Becky Speelman, Neal Strudler.

- Organizing NECC 2009 SIGTE activities: Arlene Borthwick, Mike Charles, Teresa Foulger, Karen Grove, Christy Keeler, Blanche O'Bannon.

- SIGTE Nominations Committee: Arlene Borthwick, chair; Ann Cunningham; Louanne Smolin.