The Knowledge and Prevalence of Cyberbullying in a College Sample

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Abstract

Cyberbullying is a new type of bullying of which many children and teens are falling victim. Cyberbullying involves harming another person through use of the internet or texting. The purpose of the current studies was to examine the knowledge and prevalence of cyberbullying in a sample of college students. Participants were asked to report about technology use, past and present instances of bullying (traditional and cyberbullying), as well as respond to questions concerning the consequences of cyberbullying. While college students seem aware of what cyberbullying involves, instances of cyberbullying in college appear to be minimal. Although college students have access to many technologies, the majority do not seem to engage in bullying through the internet. However, those individuals who are cyber bullies are also likely to be victims of cyberbullying. Limitations and directions for future research are discussed.

Cyberbullying is really just kids being mean to other kids online because they feel that their actions on the internet have no consequences in real life. Most children/teens don't have the guts to bully someone in the traditional sense because there are instant repercussions whereas they feel that they can "get away" with cyberbullying. Cyberbullying is no different than traditional bullying; it lowers self-esteem and self-worth.

-18 year old college student

Bullying has been around for many years robbing children of their security and self-esteem. In the past few years, there have been increased incidences of cyberbullying, a new form of bullying. As children and teenagers become more technologically advanced, there are more ways to use technology both positively and negatively.According to Conn (2009), "…cyberbullying is the new weapon of choice for a growing number of children…." This weapon is so destructive that it has been linked to depression, anxiety, low self-esteem, suicidal ideation, and suicide in victims (Kowalski, Limber, & Agatson, 2008). What is cyberbullying and why is it so appealing? The purpose of this paper is to examine the differences between traditional bullying and cyberbullying and discuss research on cyberbullying in college students. Specifically, colleges students' experiences with cyberbullying as well as their definitions of traditional bullying and cyberbullying were examined.

Traditional Bullying Versus Cyberbullying

Traditional bullying has been around for many years and involves several key components. According to Olweus (1993), bullying is aggressive, intentional, involves an imbalance of power, and is repeated over time. Aggression is any behavior intended to harm another person (Baron & Richardson, 1994). Bullying involves intentional harm placed on another individual and thus is not playful. Bullying also involves an imbalance of power. For example, the smaller child in the class may be picked on by larger, stronger children. Also, bullying is repeated over time rather than in an isolated instance.

Traditional bullying may take on several forms. Coloroso (2008) discussed three types of traditional bullying: verbal, physical, and relational. Verbal bullying involves using words to hurt another person. Verbal bullying is the most common of the three types of bullying possibly because it can be easily hidden in the presence of adults by simply whispering the harmful words. Physical bullying is more visible and may include behaviors such as hitting, kicking, slapping, biting, etc. According to Coloroso, this type of bullying accounts for less than one third

of reported bullying incidents. The third type, relational bullying, is more popular among girls than boys and is common during middle school. Relational bullying may include ignoring, spreading rumors, and exclusion. It may be subtle and can be used to ruin friendships. Cyberbullying seems to share some of the qualities of both verbal and relational bullying. For example, cyberbullying can be easily hidden from adults and may be used to harm relationships (Kowalskiet al., 2008).

Because cyberbullying is such a new area of research, it is important to have a clear definition of what cyberbullying involves. Patchin and Hinduja (2006) proposed that the definition of cyberbullying is "willful and repeated harm through the medium of electronic text" (p. 152). This definition seems to touch on the idea that cyberbullying involves intent and is also repeated over time. Smith et al. (2008, p. 376) proposed a similar definition of cyberbullying as ''an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself.'' Again, this definition seems to tap into the notion that cyberbullying is an intended, aggressive behavior and happens multiple times. Finally, Vandebosch and Van Cleemput (2008) found that most respondents in their focus groups of ages 10 to 18 defined cyberbullying as "bullying via the internet" (500). While this definition seems quite simple, the authors did conclude that in order for an internet practice to be classified as cyberbullying the sender should intend to harm the other person and the practice should be repetitive.

Although previous studies (Patchin & Hinduja, 2006; Smith et al., 2008) seemed to show some agreement about the definition of cyberbullying, Kowalski et al. (2008) noted the difficulties of defining cyberbullying. For example, researchers must identify which technologies are included, which ages should be examined, and which methods should be included. Also, as mentioned previously, there are different types of traditional bullying. Research needs to identify the different forms of cyberbullying that may exist.

In addition to understanding the definition of cyberbullying, it is also important to understand how bullying and cyberbullying differ. Kowalski et al. (2008) identified similarities and differences between traditional bullying and cyberbullying. Both types of bullying involve aggression, an imbalance of power, and repetition. Cyberbullying, on the other hand, may be more appealing than traditional bullying because of anonymity. A child may be bullied and never identify the bully. Thus, the bully may find this type of bullying more appealing because it is much more difficult to trace the source of the bullying. Traditional bullying often occurs on school grounds so a child's home becomes a safe haven from the abuse (Kowalski et al., 2008; Olweus, 1993). Because cyberbullying happens over the internet or through texting, the child may never truly feel safe from the bully. The bully has access to the victim 24 hours a day (Kowalski et al., 2008). Thus, accessibility is another key difference between traditional and cyberbullying.

Punitive fears and disinhibition are also differentiators between cyberbullying and traditional bullying (Kowalski et al., 2008). When children or teens are victims of cyberbullying, they may be fearful of telling an adult because of possible removal of their computer or cell phone. Thus, these victims feel that if they report bullying, they will be punished as well. Technology is such a huge part of teens' lives and the fear of removal from this means of communication often leads victims to suffer rather than tell someone.

Disinhibition occurs when individuals say or do things that they would not do if they could be identified (Kowalski et al., 2008). The internet provides individuals with a sense of anonymity that may influence them to engage in behaviors such as bullying of which they might not otherwise engage. In a study of middle school children, Kowalski et al. found that over 50% of cyberbullying victims did not know the bully's identity. With traditional bullying, the victims are much more likely to know who is bullying them (Olweus, 1993). Kowalski and colleagues (2008) also pointed out the difficulty in determining emotional reactions over the internet. This difficulty may blur the lines between teasing and bullying, at least to some degree.

Finally, another key difference lies in the role of the bystanders. Coloroso (2008) identified bystanders as "the third group of players in the story" (p. 62). Bystanders may take on many roles in traditional bullying such as actively encouraging the bully or watching the incident from a distance. Coloroso pointed out that bystanders are never innocent and rarely step forward to assist the victim. According to Pepler and Craig (1995 as cited in Coloroso, 2008), classmates were involved in 85% of the episodes of bullying and reinforced the bully in 81% of episodes. Interestingly, classmates were friendlier toward the bully than the victim. Also, classmates intervened in only 13% of the bullying episodes.

Recent research has tried to uncover the rates of both traditional and cyberbullying. For example, Juvoven and Gross (2008) examined the prevalence of traditional in-school bullying and cyberbullying among children ages 12 to 17. They found that 72% of participants had been bullied online in the past year and 85% had been bullied at school. Instant messaging and message boards were the most common methods reported for cyberbullying. Hinduja and Patchin (2008) found that over 32% of males and 36% of females under age 18 were victims of cyberbullying while 18% of boys and 16% of females had bullied someone over the internet. Dehue, Bollman, and Vollink (2008)

found that 16% had engaged in online bullying while 23% were victims of bullying. Finally, Nansel et al. (2001) investigated the occurrence of bullying in a sample of 15,686 6th-10th graders finding that 13% bullied others regularly, while 11% reported having been bullied on a regular basis. They also found that more 6th-8th graders were being bullied as compared to 9th-10th graders.

Methods and Frequency of Cyberbullying

Recent research has attempted to uncover the types and technologies commonly used in cyberbullying. For example, Willard (2004) identified eight types of cyberbullying. These types include *flaming* (e.g, sending rude messages about or to a person), *online harassment* (e.g., repeatedly sending offensive messages), *cyberstalking* (e.g., online harassment including threats), *denigration* (sending untrue or harmful statements about another person), *impersonation* (e.g., pretending to be someone else), *trickery* (e.g., getting someone to reveal personal information, then sharing the information with others), *outing* (e.g., sending information that is sensitive or private), and *exclusion*.

Just as there are several types of cyberbullying, there are also various methods that cyber bullies might use in order to bully someone. According to Kowalski et al. (2008), instant messaging is one of the most common methods used for cyberbullying. Perpetrators may send nasty messages or may use the victim's screen name to send messages to others. Email is also commonly used in cyberbullying. For example, perpetrators may forward messages including pictures to many people to embarrass the person. Text messaging has become more popular among young people and these messages can be used to hurt others (Hinduja & Patchin, 2008; Smith et al., 2008). Users may also take photos with their cell phones and send these photos to others through the message (Kowalski et al., 2008). Social networking sites such as Facebook and MySpace are also growing in popularity. While these sites can help individuals find old friends and stay in touch with family members, these sites are also becoming abused. Pictures and messages can be posted so that anyone who is friends with the victim can see. Other technologies that have been used for cyberbullying include chatrooms, blogs, websites, and bashboards (Kowalski et al.).

Bullying and Adulthood

Why is it important to examine bullying in college students? First, because cyberbullying is a new form of bullying, it is important to know when it begins as well as when it starts to diminish. There have been several studies examining children and adolescents in regards to when cyberbullying begins and what it includes. Very little is known about what happens once these adolescents leave high school and begin college. In one study on college students, Chapell et al. (2004) found that male students bullied more than females. They also found that 24.7% of students had witnessed someone else bully occasionally while only 2.8% reported witnessing bullying frequently. One would expect that cyber bullying would be less frequent in college students as compared to children and teens. In a second study, Chapell and colleagues (2006) found that bullying decreased from elementary school to high school and again from high school to college. Thus, although bullying is present in college students, there seems to be a decline from early stages of development.

Second, Coloroso (2008) pointed out that bullying is a learned behavior and that many children who bully continue these behaviors into adulthood even bullying their own children. These adults may experience failed relationships, have difficulty at work, and even end up in jail. Thus, it would be helpful to examine past experiences of bullying in relation to bullying in college.

Interestingly, Harvey, Heames, Richard, and Leonard (2006) examined bullying in the workplace. They suggested that childhood bullies have the potential to become bullies as adults as well. Specifically, they explained that individuals who may be lacking in abilities get ahead in the workplace by bullying others. Harvey et al. identified human nature to dominate others as one reason why individuals continue to bully others in adulthood. The authors' proposed a triangular model of bullying in the workplace that includes past experiences with bullying as an important factor in bullying in the workplace. While these authors did not focus on cyberbullying, their research suggested that bullying can extend into adulthood demonstrating the importance of examining bullying in samples beyond children and adolescents.

Current Study

Traditional and cyberbullying have been studied mostly in the context of childhood and adolescence (e.g., Hinduja & Patchin, 2008; Kowalski et al., 2008; Nansel et al., 2001). It would be helpful to examine experiences of bullying in college students as well. In Study 1, college freshman reported on experiences of cyberbullying during the past six months. In Study 2, experiences of cyberbullying in college freshman were compared to that of college seniors to examine possible differences. Based on previous research it was predicted that texting, instant messaging, and email would be the most common methods of cyberbullying. Additionally, it was predicted that cyberbullying would be more common than traditional bullying among college students. It was further predicted that self-esteem would be negatively related to both being a victim and being a cyberbully. Thus victims and bullies were expected

to report low self-esteem. Finally, in Study 2, it was predicted that freshman would report more instances of cyberbullying than seniors. This prediction was based on research showing that bullying appears to decline over time (Chapell et al., 2006).

Study 1

Method

     Participants. In Study 1, 272 FTIC (first time in college) students at a small, Catholic, private liberal arts college participated. In regards to gender, 58% were females while 39% were males. The majority of the sample was Caucasian, while 12% were Hispanic, 11% African American, and 2% Asian American. The majority of the sample (89%) was 18 years old with age ranging from 18 to 23 ($SD = 1.22$).

     Instruments. After signing the informed consent, participants responded to a demographic questionnaire as well as questions pertaining to general use of technology. The demographic questionnaire also included a three item measure of self-esteem (e.g., Hendrick, Hendrick, & Dicke, 1998). An example of an item from this measure was "The way I feel about myself generally is." The reliability for this measure in the current study was .76.

     A modified version of Dehueet al.'s (2008) questionnaire was used to assess cyberbullying during the past year and the past six months. The authors as well as the journal publisher granted permission for use of the measure. The questionnaire only included a few minor modifications such as changing the reference to "teacher" to "professor" as well as removing the reference to a "caregiver." This measure was originally used with children in primary and secondary schools. The questionnaire assessed cyberbullying as well as being the victim of cyberbullying. Items included the means through which the bullying occurred (e.g., AOL, Facebook, email, etc), feelings associated with being the victim or the bully, and communication about the incidences. For these questions, participants were allowed to check all applicable responses from a list of choices. Thus for each item participants could have multiple responses. A sample of items with possible responses may be found in the Appendix. Each item was followed by a list of possible responses of which participants could check all that applied.

     Participants were also asked to report on traditional and cyberbullying experiences in elementary, middle, and high school. Finally, three open-ended questions were also included: "What is cyberbullying?", "How does cyberbullying differ from traditional bullying?", and "What are the consequences of cyberbullying?"

     Procedure. Participants were recruited during the first month of class in the university experience course. This course is required of all incoming freshman with the exception of transfer students. Upon completion of the informed consent form, participants responded to the questions in a fixed order. Specifically, participants responded to the demographic questionnaire first followed by the items from Dehue et al.'s (2008) measure as well as the items developed by the authors to measure experiences with cyberbullying. Participants were given a debriefing statement at the end of the survey with contact information for the campus counseling center. Initially, data collection was planned over two time periods: the beginning of the semester and the end of the semester. Unfortunately, the attrition rate was too high so Time 1 to Time 2 comparisons could not be examined. Thus, for Study 1, only Time 1 data are reported.

Results

     Participants were asked about use of technology regardless of bullying. College students use technology a great deal. Texting was most popular with 92% of participants reporting use. Seventy-two percent of participants reported using AOL instant messenger (AIM), 66% used Myspace, 76% used Facebook, 25% used MSN, and 38% reported using other sites regularly.

     Participants were also asked about past experiences including both bullying and being a victim of bullying. When asked about elementary school, 15% of participants reported that they had bullied someone with the primary type of bullying being traditional. Nineteen percent of participants reported that they bullied someone during middle school with the majority reporting that the type of bullying was traditional. However, a small percentage (3%) did report using cyberbullying in middle school. For high school, 21% of participants reported that they bullied someone. The majority of these participants used traditional bullying but 6% of those who bullied someone in high school used cyberbullying.

     In regards to being the victim of bullying, 36% of participants reported that they were bullied in the traditional sense in elementary school. Thirty-three percent of participants were bullied in middle school and most of these participants reported that traditional bullying occurred. Finally, 21% of participants reported that they had been bullied in high school. For this category, traditional and cyberbullying were equally reported and 4% of participants reported that both types of bullying had occurred.

     Only 1% of the sample reported that they had been bullied while in college. Traditional bullying was reported only slightly more than cyberbullying. Only 1.5% of the sample reported that they had bullied someone while in college. Again, traditional bullying was reported slightly more than cyberbullying. It is important to note

that the participants had only been in college for a few weeks at the time the data were collected. Thus, the numbers might increase as they spent more time in college.

Cyberbullying Experiences in Past 6 Months. Participants were asked to report about experiences with bullying during the past six months. Participants were presented with a checklist and ask to report if they had bullied anyone using a particular means or if they were bullied using these means during the past six months. The figures below show these results. Figure 1 displays the methods by which participants bullied someone during past six months. Figure 2 displays the methods by which participants were bullied during the past six months.
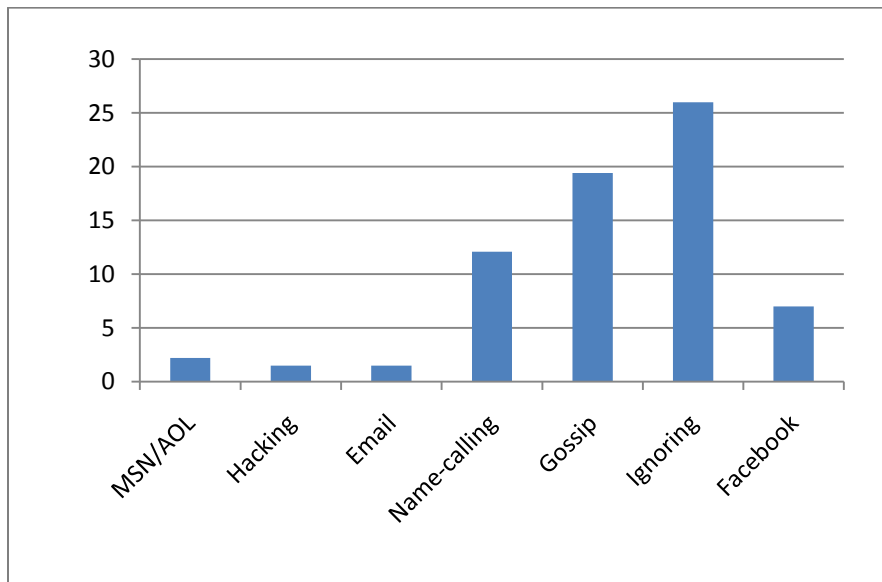

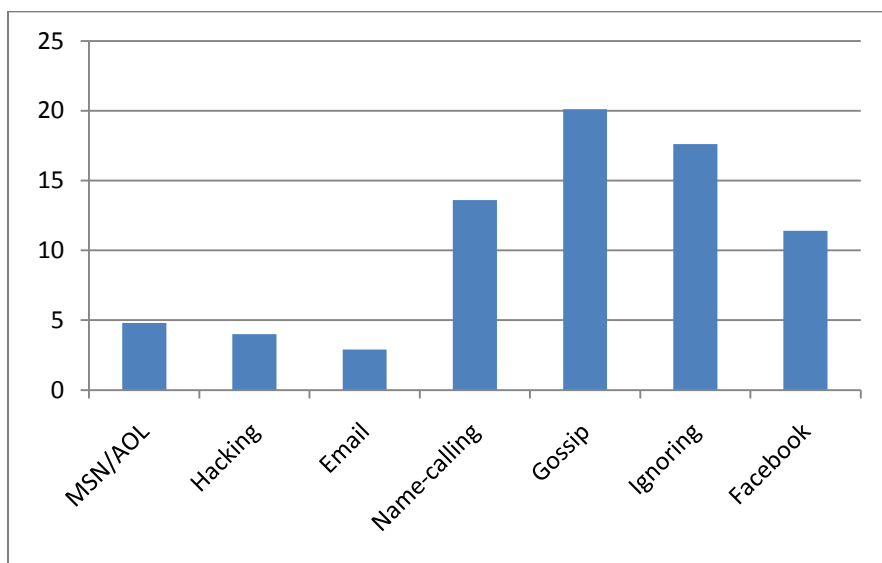*Figure 1*. Percentage who bullied someone during past 6 months.

Figure 2. Percentage who were bullied by someone during past six months.

Total scores for cyberbullying and being a victim of cyberbullying during the past six months were calculated by adding all instances. That is, total scores were created by adding instances of cyberbullying across the seven categories for bullying in past six months and being bullied during past six months. The internal consistency for the victim measure was .79 while the internal consistency for the bullying measure was .76.

A regression analysis was calculated to examine if being a victim was predictive of also being a bully. The model was significant, $F(1, 264) = 110.31$, $p < .01$. Being a victim of cyberbullying ($b = .543$, $t = 10.50$, $p < .01$) accounted for 29.5% of the variance in being a cyberbully. These results suggest that individuals who are victims of cyberbullying are often bullies as well. It would be interesting to explore this relationship in more detail in future studies.

Finally, the correlation between self-esteem and the bullying measures over the past six months as well as and the victim measures over the past six months were examined. Surprisingly, there were no significant relationships between being a bully or victim and one's reported self-esteem.

Gender Differences. Chi squares using Crosstabs in SPSS were calculated to examine gender and bullying. The chi square for being bullied in high school was significant, $\chi^2(1) = 7.68$, $p < .01$. Overall, participants were more likely to report that they were not bullied in high school. However, females were more likely to report being bullied in high school (28%, $n = 44$) as compared to males (13.5%, $n = 14$). There were no other differences for being bullied. There was also a significant chi square for bullying someone in college, $\chi^2(1) = 6.71$, $p < .05$. Overall, participants reported that they were not bullied in college. Gender differences for total instances of cyberbullying during the past six months were also examined. There were no significant differences between males and females who bullied or were victims of cyberbullying.

Qualitative Data. Participants responded to three open-ended questions: 1) What is cyberbullying; 2) How does cyberbullying differ from traditional bullying; and 3) What are the consequences of cyberbullying? Two independent raters read the participants' responses to these questions and coded the data for trends. For question 1, the overwhelming majority of participants responded that cyberbullying was bullying over the internet. This result suggests that most of the participants were at least familiar with cyberbullying. The remaining participants indicated that they did not know what cyberbullying involved, stated that it was verbal bullying, or indicated that cyberbullying involved harassment. For question 2, trends included: cyberbullying is over the internet while traditional bullying is face-to-face, cyberbullying is over the internet while traditional bullying is physical, cyberbullying is impersonal, cyberbullying is mental, and more people see bullying over the internet. These trends indicated that participants knew that there were indeed differences between cyberbullying and traditional bullying. However, their responses demonstrated that they may not be completely aware of all the similarities and differences between the two types of bullying.

For question 3, participants identified several possible consequences of cyberbullying. The majority of respondents indicated that consequences include punishment from parents, teachers, or authorities ($n = 48$) or that the victims would have hurt feelings, low self-esteem, and might possibly harm themselves ($n = 56$). A small number of participants ($n = 11$) stated that the bullies might end up becoming victims of cyberbullying. Sample responses included:

- "Cyberbullying can cause fear due to not knowing who is terrorizing you. Like normal bullying, it can cause a lack of self-confidence or self-esteem"
- "Depending on the severity of it; could be from a verbal warning (talk about it) to suspension or expulsion from school and/or workplace"
- "emotional pain, I feel guilt when I hurt someone else. You never know how affected the other person was."

Reactions to Cyberbullying. Participants were asked a variety of questions regarding how they react to cyberbullying. These questions included how they felt when they bullied someone, how they felt when they were bullied, who they talked to about cyberbullying experiences, and if anyone tried to stop the cyberbullying. Note that the percentages reported throughout each section do not add to 100%. Participants were able to respond to each item separately allowing for one person to be in agreement with multiple statements. Percentages represent the percentage of individuals who responded "yes" on the statement.

For being a victim of bullying, 9.2% ($n = 25$) of participants reported that they ignored the bully, 15.8% ($n = 43$) said they talked to others about the experience, 12.0% ($n = 33$) stated that they bully the bullier, and 17.2% ($n = 42$) said that they deleted the messages. Interestingly, 63.0% of the participants stated that they had never been cyber bullied.

Participants were also asked about feelings associated with cyberbullying. For being a victim of cyberbullying, 9.2% ($n = 25$) of participants stated that they felt sad, 21.2% ($n = 58$) felt angry, and 13.6% ($n = 37$)

found it difficult to trust others. For bullying others, 4.8% ($n = 13$) stated that they felt happy when bullying others over the internet, 7.3% ($n = 20$) felt guilty, and 12.8% ($n = 35$) felt uncertain.

Items assessing to whom victims and bullies talked about their cyberbullying experiences were also included. For bullies, 10.6% ($n = 29$) reported that they did not talk to anyone about cyberbullying. However, 3.7% ($n = 10$) talked to parents, 4% ($n = 11$) talked to siblings, and 12% ($n = 33$) talked to friends. For victims, 8.4% ($n = 23$) did not talk to anyone, 7% ($n = 19$) talked to parents, 5.1% ($n = 14$) talked to siblings, and18.7% ($n = 51$) talked to friends.

Participants were asked if anyone had tried to stop the cyberbullying from occurring. For bullies, the majority ($n = 43$, 15.8%) stated that no one tried to stop the bullying. For victims, 18.3% ($n = 50$) stated that no one tried to stop them from being bullied over the internet.

Discussion

Results of Study 1 indicated that college freshmen are aware of what cyberbullying involves and are able to identify consequences associated with cyberbullying. It appears that the participants' own experiences with bullying decreased over time with college experiences being very limited. The highest percentage of bullying reports was in elementary school and middle school while the lowest percentage was in college. Despite the small percentage of participants who reported cyberbullying experiences in college, items measuring reactions to cyberbullying indicated that participants may actually have more experiences with cyberbullying than they initially reported. Specifically, the checklist items indicated that more participants had experienced some form of cyberbullying that was indicated on the item "Have you been bullied in college?" It is possible that despite participants' general understanding of cyberbullying as measured by the open-ended question, participants may not have completely understood all facets of this type of bullying until they read through the checklist items.

Overall, it seems that those individuals who are cyberbullied experience emotional pain (i.e., angry, sadness) but do not want to talk to others about these experiences. This finding seems consistent with Kowalski et al.'s (2008) description of punitive fears. Although the victims experience pain when bullied, they may not tell anyone because they do not want to lose their own internet and cell phone privileges. Individuals who bully also do not seem to want to talk to others about these experiences. Similarly, the bullies may fear that if a parent finds out that they are bullying others online they will lose their privileges.

Interestingly, being a victim of cyberbullying was predictive of also being a bully. Thus, participants who were bullied over the internet were also likely to bully others over the internet. Why are individuals who bully also likely to be victims and vice versa? It would be interesting to determine if being a victim causes one to bully others or if being a bully makes a person more likely to also become a victim. Further research is needed to examine the possible causal relationship between these two variables.

Limitations

There are some notable limitations with Study 1. First, data collection was planned at two time periods; the beginning of the semester and the end of the first semester of enrollment in college. Unfortunately, the attrition rate was high leaving too small of a sample size ($n = 70$) at Time 2 to make comparisons. The purpose of the Time 2 data was to determine if cyberbullying decreased during the first semester of college. It seems that as students adjust to being college students that bullying would become less likely to occur. This finding would be consistent with Chapell et al.'s (2006) finding that bullying decreases over time. Interestingly, despite this limitation (i.e., students were only in college a few weeks), there were some instances of cyberbullying reported. It would be beneficial to examine the students later in their freshman year. A longitudinal study is planned to examine if cyberbullying decreases in a college sample. Also, it would be ideal to assess cyberbullying among incoming freshman during the summer before they begin college courses.

The checklist that was utilized in the study could use some modification. Several participants chose to write in responses that were not in the checklist for each category. In future studies, items could include additional possible responses as well as use a "yes/no" response rather than a simple checklist on all items.

Future studies might also include college students beyond freshman year. In Study 1, data was collected from a small sample of college seniors but the sample size was too small to make comparisons. Thus, a second study was conducted in an attempt to increase the number of seniors.

Study 2

The purpose of Study 2 was to collect data from both freshman and seniors to determine if there were differences in experiences with cyberbullying. In Study 2, participants responded to items in a yes/no format on all items rather than a checklist as in Study 1.

Method

Participants. Participants include 73 female and 37 male undergraduates attending a small private university. The majority of the sample (65%) was Caucasian with 14% Hispanic, 9% African American, 7% Caribbean, and 4% Asian American. Seventy-six freshmen participated while 34 were seniors. The mean age of the sample was 19.57 ($SD = 2.97$). Ages ranged from 18 to 31.

Procedure. Participants were recruited toward the middle of the fall semester. Participants were recruited through contact with instructors of the university experience course for freshmen and through senior seminar courses for seniors. Participants were offered extra credit at the discretion of the instructor. Upon completion of the informed consent form, participants completed questionnaires online. As in Study 1, a questionnaire based on Dehueet al's (2008) cyberbullying survey was included. The questionnaire assessed experiences of bullying and being a victim of bullying including means of bullying, feelings associated with bullying and being bullied, and communication related to bullying. In addition, participants reported on past experiences of bullying.

Results

Participants were asked to report about technology use and primary reasons for internet use. Figure 3 displays types of technology used by participants while Figure 4 displays reasons for internet use. Results indicated that college students use a variety of internet sites and technology. Additionally, college students seem to use the internet most often for social networking and schoolwork.
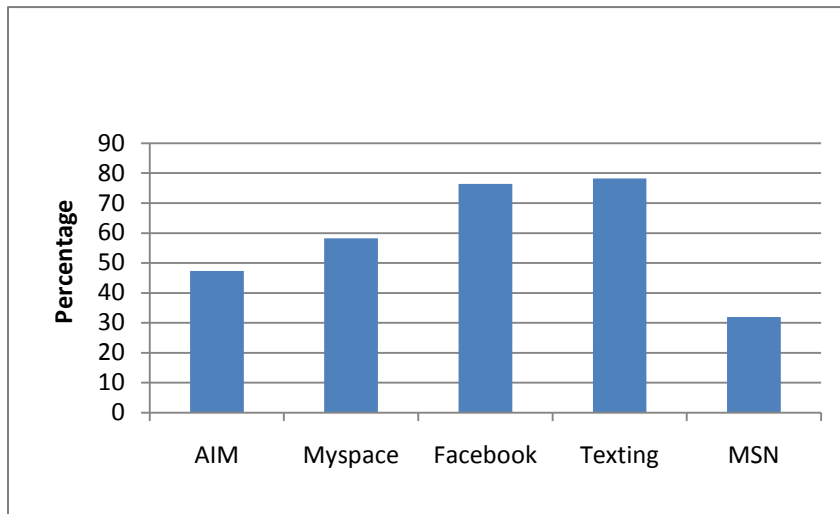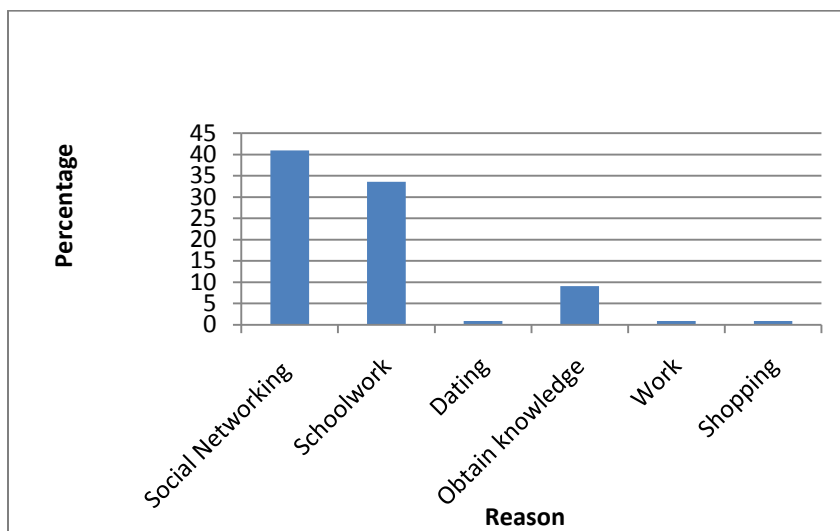

Figure 3. Technology use by participants.

Figure 4. Primary reason for internet use.

Past Experiences with Bullying. Participants were also asked about past experiences of both being a bully and being a victim of bullying. Overall, 30% of the sample was bullied in elementary school with the majority reporting the type of bullying to be traditional bullying. In regards to middle and high school, 31% and 23% reported being bullied respectively. Only 9% of the sample had experienced bullying in college with the majority experiencing cyberbullying. In regards to past experiences of being a bully, 12.7% reported bullying someone during elementary school, 12.0% in middle school, and 13.6% in high school. In all cases, traditional bullying was more common. Only 3.6% reported bullying someone during college. Contrary to prediction, cyberbullying and traditional bullying were reported equally in college.

Similar to Study 1, the regression analysis indicated that being a victim of cyberbullying during the past six months was predictive of being a bully, $F(1, 103) = 70.29$, $p < .01$. Being a victim of cyberbullying ($b = .637$, $t = 8.38$, $p < .01$) accounted for 41% of the variance in being a bully. This finding suggests that individuals who bully others over the internet are highly likely to be a victim of cyberbullying as well.

Class Differences in Cyberbullying. Chi-square tests were calculated using Crosstabs in SPSS to examine differences between freshman and senior college students. The results may be found in Table 1. Overall, participants were more likely to state that they had not experienced bullying. Independent sample *t*-tests were calculated to examine class differences in total instances of cyberbullying. There were no significant differences for being a bully during the past six months. There were also no significant class differences for being a victim of cyberbullying during the past six months.

Table 1

Crosstabulation of Class and Cyberbullying

Item		Freshman	Seniors	χ^2	p-value
Victim by email in past 6 months	Yes	2.7% (2)	12.9% (1)	4.22	.040
	No	97.3% (72)	87.1% (21)		
I talk to siblings when I bully someone	Yes	22.5% (16)	3.7% (2)	4.84	.028
	No	77.5% (55)	96.3% (26)		
I talk to friends at school when I bully someone.	Yes	26.8% (19)	7.4% (2)	4.53	.037
	No	73.2% (52)	92.6% (25)		
Were you bullied in middle school	Yes	27.9% (19)	55.6% (15)	6.41	.011
	No	72.1% (49)	44.4% (12)		
Were you bullied in college	Yes	5.9% (4)	22.2% (6)	5.48	.019
	No	94.1% (64)	77.8% (21)		
Did you bully anyone in college	Yes	0	14.8% (4)	10.37	.001
	No	100% (67)	85.2% (23)		

Gender Differences in Cyberbullying. Chi-square tests were calculated using Crosstabs in SPSS to examine differences between males and females. Significant results may be found in Table 2. Overall, participants were more likely to indicate a response of "no" to the statements regarding experiences with cyberbullying. However, males were more likely to report bullying someone by name-calling in the past six months and being bullied by someone through AOL instant messenger during past six months. Females, on the other hand, were more likely than males to report feeling angry, feeling sad, and having difficulty trusting others when bullied over the internet. Females were also more likely than males to talk to parents, teachers, and counselors when bullied over the internet.

Similar to Study 1, total scores for cyberbullying and being a victim of cyberbullying during the past six months were calculated by adding all instances across the seven categories. The internal consistency for the victim items was .81 while the internal consistency for the bully items was only .67. Independent sample *t*-tests were

calculated to examine gender differences in total instances of cyberbullying in past six months. There were no significant differences for being a bully or for being a victim of cyberbullying during the past six months.

Table 2

Crosstabulation of Gender and Cyberbullying

Item		Males	Females	χ^2	p-value
I have bullied someone by name-calling in past six months	Yes No	17.1% (6) 82.9% (29)	4.3% (3) 95.7% (67)	4.92	.027
I have been bullied someone on AIM in past six months	Yes No	8.6% (3) 82.9% (29)	0 100% (70)	6.18	.013
When I am bullied over the internet, I talk to others.	Yes No	24% (8) 75.8% (25)	46% (30) 53.8% (35)	4.43	.035
When I am bullied over the internet, I feel sad.	Yes No	6.1% (2) 93.9% (31)	33.8% (22) 66.2% (43)	9.14	.003
When I am bullied over the internet, I feel angry.	Yes No	9.1% (3) 90.9% (30)	36.9% (24) 63.1% (42)	8.49	.004
When I am bullied over the internet, it is difficult to trust others.	Yes No	15.2% (5) 84.8% (28)	43.1% (28) 56.9% (37)	7.64	.006
When I am bullied over the internet, I do not want to go to class.	Yes No	0 100% (33)	13.8% (9) 86.2% (56)	5.03	.023
When I am bullied over the internet, I talk to my parents.	Yes No	9.1% (3) 90.9% (30)	33.8% (22) 66.2% (43)	7.06	.008
When I am bullied over the internet, I talk to a teacher or professor	Yes No	0 100% (33)	13.8% (9) 86.2% (56)	5.03	.025
When I am bullied over the internet, I talk to a counselor.	Yes No	0 100% (33)	20% (13) 80% (52)	7.61	.006

Reactions to Cyberbullying. Similar to Study 1, participants were asked a variety of questions regarding how they react to cyberbullying. These questions included how they felt when they bullied someone, how they felt when they were bullied, who they talked to about cyberbullying experiences, and if anyone tried to stop the cyberbullying. Note that the percentages reported throughout each section do not add to 100%. Participants were

able to respond to each item separately allowing for one person to be in agreement with multiple statements. Percentages represent the percentage of individuals who responded "yes" on the statement.

For being a victim of bullying, 31.8% ($n = 35$) of participants reported that they ignored the bully, 34.5% ($n = 38$) said they talked to others about the experience, 47.0% ($n = 52$) said that they laughed about it, 10.9% ($n = 12$) stated that they bully the bullier, and 45.5% ($n = 50$) said that they deleted the messages. Interestingly, 45.5% of the participants stated that they had never been cyberbullied.

Participants were also asked about feelings associated with cyberbullying. For being a victim of cyberbullying, 21.8% ($n = 24$) of participants stated that they felt sad, 24.5% ($n = 27$) felt angry, 30% ($n = 33$) found it difficult to trust others, and 38.2% ($n = 42$) stated that it did not bother them. For bullying others, 4.5% ($n = 5$) stated that they felt happy when bullying others over the internet, 23.6% ($n = 26$) felt guilty, 16.4% ($n = 18$) felt uncertain, and 10% ($n = 11$) felt nervous.

Items assessing to whom victims and bullies talked about their cyberbullying experiences were also examined. For bullies, 20% ($n = 22$) reported that they did not talk to anyone about cyberbullying. However, 11% ($n = 12$) talked to parents, 15.5% ($n = 17$) talked to siblings, 19% ($n = 21$) talked to friends, 5.5% ($n = 6$) talked to teachers/professors, and 10.9% ($n = 12$) talked to counselors. For victims, 17.3% ($n = 19$) did not talk to anyone, 22.7% ($n = 25$) talked to parents, 20.0% ($n = 22$) talked to siblings, 25.5% ($n = 28$) talked to friends, 8.2% ($n = 9$) talked to teachers/professors, and 11.8% ($n = 13$) talked to a counselor.

Participants were asked if anyone had tried to stop the cyberbullying from occurring. For bullies, 17.3% ($n = 19$) stated that no one tried to stop the bullying. Interestingly, 13.6% ($n = 15$) stated that their parents tried to stop them from bullying, 10% ($n = 11$) said a teacher/professor tried to stop them, and 11.8% ($n = 13$) said a sibling tried to stop them. For victims, 14.5% ($n = 16$) stated that no one tried to stop them from being bullied over the internet. Additionally, 14.5% ($n = 16$) of participants stated that a parent tried to stop the bullying, 13.6% ($n = 15$) stated that a sibling tried to stop it, and 10.9% ($n = 12$) stated that a teacher/professor tried to stop the bullying.

Finally, participants were asked if they had known someone who had been a victim of cyberbullying. Interestingly, 42.7% ($n = 47$) stated that they had known someone who was cyberbullied. The majority reported that the person was a friend (29.0%).

General Discussion

In general, instances of cyberbullying in college seem to be minimal. In Study 2 as compared to Study 1, a greater percentage of students reported being a bully and being victims of cyberbullying. For example, in Study 1, only 1% reported being bullied in college while 1.5% reported bullying someone in college. In Study 2, 9% of the sample reported that they had been bullied in college, while 3.6% reported bullying someone in college. These differences may be due to the addition of senior level students in Study 2. Seniors have spent more time in college and thus may be more likely to have experienced bullying while attending college. In the future, a longitudinal study comparing the same students from freshman to senior year might shed light on whether or not cyberbullying increases in college. Also, it might be beneficial to assess these students prior to beginning college if possible.

As previously mentioned, Hinduja and Patchin (2008) found that over 32% of males and 36% of females under age 18 were victims of cyberbullying while 18% of boys and 16% of females had bullied someone over the internet. These percentages are much larger than what was found in the current study. Perhaps cyberbullying, much like traditional bullying, occurs more during middle school and high school and diminishes as individuals reach early adulthood.

It should be noted, however, that items assessing reactions to cyberbullying provided a different picture of the participants' experiences with cyberbullying. For example, in Study 1, participants gave contradictory responses concerning their experiences with cyberbullying. When asked about past experiences and college experiences of cyberbullying, a small percentage reported that they experienced cyberbullying. However, when asked about reactions to cyberbullying, 37% reported that they had been bullied and 26% stated that they had bullied someone over the internet. While the majority reported no experiences, the number who bullied someone and had been a victim did not match the initial responses. This discrepancy makes it difficult to determine the exact number of participants who had been bullied and who had bullied others through cyberbullying.

Limitations

Limitations of Study 1 were addressed previously. However, there are other limitations relevant to both studies. For example, our sample included students enrolled in a small private Catholic university. In addition, the majority of the sample was Caucasian. Future studies should also be conducted at larger, public universities which might offer a more diverse sample. Also, due to the religious nature of the college, students may be less likely to report instances of bullying. It would be interesting to include a measure of religiosity in future studies to examine if religion is associated with bullying.

Conclusions

Cyberbullying is still relatively new and a great deal of research is needed to fully understand this type of bullying. As previously mentioned, research still needs to uncover the types of technologies and which methods to examine (Kowalskiet al., 2008). It would also be valuable to examine the emotional reactions of individuals who bully others as well as those who are victims of cyberbullying. Additionally, further research is needed to determine more about the progression of cyberbullying over time. The current study took a step toward understanding cyberbullying in college students. As Coloroso (2008) explained, bullying is learned and children who bully may continue this into adulthood. A longitudinal study could provide insight into this possibility.

Bullying may decrease in adulthood for most people, but there are likely instances of bullying that still occurs such as in the workplace. Cyberbullying might provide an alternative to traditional bullying in competitive organizations where individuals try to make their way to the top. It would be interesting to determine if cyberbullying does occur and what factors are related to bullying in these settings.

Finally, prevention of cyberbullying is extremely important and society would benefit from continued research in this area. While some schools are implementing anti-bullying programs, there is still much work to be done. Students of any age should not have to endure such abuse and the earlier the prevention occurs the better. Parents as well as teachers should be educated on the consequences of cyberbullying as well as how cyberbullying might be prevented.

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Appendix

Sample items used in Studies 1 and 2

Have you bullied someone via the internet during the SIX MONTHS?

By MSN/AOL	(0) yes	(1) no
By hacking	(0) yes	(1) no
By email	(0) yes	(1) no
By name-calling	(0) yes	(1) no
By gossiping	(0) yes	(1) no
By ignoring	(0) yes	(1) no
By Facebook/Myspace	(0) yes	(1) no

Have you been bullied via the internet during the SIX MONTHS?

By MSN/AOL	(0) yes	(1) no
By hacking	(0) yes	(1) no
By email	(0) yes	(1) no
By name-calling	(0) yes	(1) no
By gossiping	(0) yes	(1) no
By ignoring	(0) yes	(1) no
By Facebook/Myspace	(0) yes	(1) no

What do you usually do when you are bullied on the Internet (Check all that apply)

I have not been bullied _____
I pretend to ignore it _____
I talk to others about it _____
I ignore it _____
I bully the bullier _____
I delete all the bullier's messages _____

How do you feel when you are bullied over the internet or via text messages (check all that apply).

I have not been bullied _____
I feel sad _____
I feel angry _____
It is difficult for me to trust others _____
I don't like to go to class _____