Bullies Move Beyond the Schoolyard A Preliminary Look at Cyberbullying

Article *in* Youth Violence and Juvenile Justice · April 2006

DOI: 10.1177/1541204006286288

2 authors:

Justin W. Patchin
University of Wisconsin–Eau Claire
84 PUBLICATIONS **12,131** CITATIONS

SEE PROFILE

Sameer Hinduja
Florida Atlantic University
90 PUBLICATIONS **12,620** CITATIONS

SEE PROFILE

BULLIES MOVE BEYOND THE SCHOOLYARD

A Preliminary Look at Cyberbullying

Justin W. Patchin
University of Wisconsin–Eau Claire
Sameer Hinduja
Florida Atlantic University

Bullying in a school setting is an important social concern that has received increased scholarly attention in recent years. Specifically, its causes and effects have been under investigation by a number of researchers in the social and behavioral sciences. A new permutation of bullying, however, has recently arisen and become more common: Tech-savvy students are turning to cyberspace to harass their peers. This exploratory article discusses the nature of bullying and its transmutation to the electronic world and the negative repercussions that can befall both its victims and instigators. In addition, findings are reported from a pilot study designed to empirically assess the nature and extent of online bullying. The overall goal of the current work is to illuminate this novel form of deviance stemming from the intersection of communications and computers and to provide a foundational backdrop on which future empirical research can be conducted.

Keywords: *bullying; cyberbullying; online; aggression; Internet*

The home, neighborhood, and school are all recognized as important social and physical contexts within which adolescents develop. Bullying—an all too common form of youthful violence—has historically affected children and teenagers only while at school, while traveling to or from school, or in public places such as playgrounds and bus stops. Modern technology, however, has enabled would-be bullies to extend the reach of their aggression and threats beyond this physical setting through what can be termed *cyberbullying*, where tech-savvy students are able to harass others day and night using technological devices such as computer systems and cellular phones. Computers occupy a significant proportion of the homes in which children reside and are frequently used for social, entertainment, academic, and productivity needs (National Telecommunications and Information Administration [NTIA], 2002). Moreover, cellular phones are gaining widespread popularity and use among the younger age groups because they are perceived as a status symbol, al-

---

Authors' Note: We would like to thank the anonymous reviewers for helpful comments on an earlier draft. Correspondence concerning this article should be addressed to Justin W. Patchin, Department of Political Science, University of Wisconsin–Eau Claire, 105 Garfield Ave., Eau Claire, WI 54702-4004; e-mail: patchinj@uwec.edu.

Youth Violence and Juvenile Justice, Vol. 4 No. 2, April 2006 148-169
DOI: 10.1177/1541204006286288

low for conversations with friends in different physical spaces, and provide a virtual tether of sorts for parents, allowing for supervision from afar.

Though they are intended to positively contribute to society, negative aspects invariably surface as byproducts of the development of new technologies such as these. The negative effects inherent in cyberbullying, though, are not slight or trivial and have the potential to inflict serious psychological, emotional, or social harm. When experienced among members of this highly impressionable and often volatile adolescent population, this harm can result in violence, injury, and even death (e.g., Meadows et al., 2005; Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002) and later criminality for both the initiator and recipient of bullying (e.g., Olweus, Limber, & Mihalic, 1999; Patchin, 2002). One particularly horrendous anecdotal account deserves mention. In May of 2001, viciously offensive messages denigrating and humiliating a high school sophomore girl who suffered from obesity and multiple sclerosis were posted anonymously to an online message board associated with a local high school in Dallas, Texas (Benfer, 2001). In time, the bullying crossed over to the physical world as the victim's car was vandalized, profanities were written on the sidewalk in front of her home, and a bottle filled with acid was thrown at her front door—which incidentally burned her mother. This example vividly depicts how bullying online can lead to physical harm offline.[1]

Little research to date has been conducted on cyberbulling. However, research on the correlates of traditional bullying can assist in comprehending the reality and growth of this new phenomenon. To begin, the desire to be and remain popular takes on almost life-like proportions among kids and teenagers during certain stages of their life, and their self-esteem is largely defined by the way that others view them. Although it is unclear exactly when self-esteem increases or decreases during a child's life (Twenge & Campbell, 2001), it unquestionably shapes a child's development in profound ways. According to the social acceptance model, self-esteem stems from the perceptions that others have of the individual (Cooley, 1902). When individuals perceive themselves to be rejected or otherwise socially excluded, a number of ill effects can result (Leary, Schreindorfer, & Haupt, 1995). Much research has validated this theory (Leary & Downs, 1995; Leary, Haupt, Strausser, & Chokel, 1998; Leary, Tambor, Terdal, & Downs, 1995) and has pointed to the following potentially negative outcomes: depression (Quellet & Joshi, 1986; Smart & Walsh, 1993), substance abuse (Hull, 1981), and aggression (Coie & Dodge, 1988; French & Waas, 1987; Hymel, Rubin, Rowden, & LeMare, 1990; Paulson, Coombs, & Landsverk, 1990; Stewart, 1985). In addition, low self-esteem tends to be found among chronic victims of traditional bullying (Hoover & Hazler, 1991; Neary & Joseph, 1994; Rigby & Slee, 1993).[2] It is expected that cyberbullying can similarly cripple the self-esteem of a child or adolescent, and without a support system or prosocial outlets through which to resolve and mitigate the strain, the same dysphoric and maladaptive outcomes may result. Despite these solemn possibilities, there has been very little empirical attention to date devoted toward better understanding the electronic variant of this deviance (exceptions include Berson, Berson, & Ferron, 2002; Finn, 2004; Ybarra & Mitchell, 2004).

This research seeks to fill this gap by exploring cyberbullying and examining its potential to become as problematic as traditional bullying—particularly with society's increasing reliance on technology. Its goal is to illuminate this novel form of deviance stemming from the intersection of communications and computers and to provide a foundational backdrop on which future empirical research can be conducted. First, what is known about traditional bullying will be summarized to provide a comparative point of reference. Second, data collected from various media sources will be presented to describe the technology

that facilitates electronic bullying and to portray its prevalence. Third, preliminary findings from a pilot study of adolescent Internet users will be presented, highlighting the characteristics of this group and their involvement (both as victims and offenders) in the activity. Finally, suggestions for future empirical research will be offered as guidance for additional exploration of this subject matter.

Traditional Bullying

Bullying Defined

A variety of scholars in the disciplines of child psychology, family and child ecology, sociology, and criminology have articulated definitions of bullying that generally cohere with each other. To begin, the first stages of bullying can be likened to the concept of harassment, which is a form of unprovoked aggression often directed repeatedly toward another individual or group of individuals (Manning, Heron, & Marshal, 1978). Bullying tends to become more insidious as it continues over time and is arguably better equated to violence rather than harassment. Accordingly, Roland (1989) states that bullying is "long-standing violence, physical or psychological, conducted by an individual or a group directed against an individual who is not able to defend himself in the actual situation" (p. 21).[3] Stephenson and Smith (1989) contend that bullying is

> a form of social interaction in which a more dominant individual [the bully] exhibits aggressive behavior which is intended to and does, in fact, cause distress to a less dominant individual [the victim]. The aggressive behavior may take the form of a direct physical and/or verbal attack or may be indirect as when the bully hides a possession that belongs to the victim or spreads false information about the victim. (p. 45)

Providing perhaps the most panoptic definition, Nansel et al. (2001) asserted that bullying is aggressive behavior or intentional "harm doing" by one person or a group, generally carried out repeatedly and over time and that involves a power differential. Many characteristics can imbue an offender with perceived or actual power over a victim and often provide a sophistic license to dominate and overbear. These include, but are not limited to, popularity, physical strength or stature, social competence, quick wit, extroversion, confidence, intelligence, age, sex, race, ethnicity, and socioeconomic status (Olweus, 1978, 1993, 1999; Rigby & Slee, 1993; Roland, 1980; Slee & Rigby, 1993). Nonetheless, research on the relevance of these differences between bullies and their victims has been inconclusive. For example, differences in physical appearance was not predictive of one's likelihood of being a bully or a victim (Olweus, 1978), but physical shortness (Voss & Mulligan, 2000) and weakness (Leff, 1999) were found to be relevant in other research.

Although the harassment associated with bullying can occur anywhere, the term *bullying* often denotes the behavior as it occurs among youth in school hallways and bathrooms, on the playground, or otherwise proximal or internal to the school setting. Bullies can also follow their prey to other venues such as malls, restaurants, or neighborhood hangouts to continue the harassment. In the past, interaction in a physical context was required for victimization to occur. This is no longer the case thanks to the increased prevalence of the Internet, personal computers, and cellular phones. Now, would-be bullies are afforded technology that provides additional mediums over which they can manifest their malice.

The following sections outline the scope, breadth, and consequences of traditional bullying as a reference point from which cyberbullying can subsequently be viewed and understood.

Extent and Effects of Traditional Bullying

It is unclear exactly how many youth are bullied or bully others on any given day. In 1982, 49 fifth grade teachers from Cleveland, Ohio, reported that almost one fourth (23%) of their 1,078 students were either victims or bullies (Stephenson & Smith, 1989). More recently, a nationally representative study of 15,686 students in grades 6 through 10 identified that approximately 11% of respondents were victims of bullying, 13% were bullies, and 6% were both victims and bullies during a year (Nansel et al., 2001). Additional research conducted by the Family Work Institute substantiated these findings through interviews with 1,000 youth in grades 5 through 12. Their study found that 12% of youth were bullied five or more times during the previous month (Galinsky & Salmond, 2002). Finally, the Bureau of Justice Statistics reports that 8% of youth between the ages of 12 and 18 had been victims of bullying in the previous 6 months (Devoe et al., 2002). That said, conservative estimates maintain that at least 5% of those in primary and secondary schools (ages 7-16) are victimized by bullies each day (Björkqvist, Ekman, & Lagerspetz, 1982; Lagerspetz, Björkqvist, Berts, & King, 1982; Olweus, 1978; Roland, 1980).

Many young people are able to shrug off instances of being bullied, perhaps because of peer or familial support or higher self-efficacy. Nonetheless, others are not able to cope in a prosocial or normative manner or reconcile the pain experienced through more serious episodes or actions. Suicidal ideation, eating disorders, and chronic illness have beset many of those who have been tormented by bullies, whereas other victims run away from home (Borg, 1998; Kaltiala-Heino, Rimpelä, Marttunen, Rimpelä, & Rantanen, 1999; Striegel-Moore, Dohm, Pike, Wilfley, & Fairburn, 2002). In addition, depression has been a frequently cited consequence of bullying (e.g., Hawker & Boulton, 2000) and seems to perpetuate into adulthood, evidencing the potentially long-term implications of mistreatment during adolescence (Olweus, 1994). Finally, in extreme cases, victims have responded with extreme violence such as physical assault, homicide, and suicide (Patchin, 2002; Vossekuil et al., 2002).

Following the fatal shootings at Columbine High School in Littleton, Colorado, in 1999, the educational system was challenged to address bullying because the two teenagers involved in the massacre were reported to have been ostracized by their classmates. Additional school violence research of 37 incidents involving 41 attackers from 1974 to 2000 found that 71% (29) of the attackers "felt bullied, persecuted, or injured by others prior to the attack" (Vossekuil et al., 2002, p. 21). It was also determined that the victimization played at least some role in their subsequent violent outburst. Other less serious but equally as negative outcomes can result from repeated bullying. For example, students who are constantly harassed may attempt to avoid the problems at school as much as possible, leading to tardiness or truancy (BBC News, 2001; Richardson, 2003; Rigby & Slee, 1999). Truancy has been identified as a significant antecedent to delinquency, dropout, and other undesirable outcomes in the juvenile justice literature (Farrington, 1980; Garry, 1996; Gavin, 1997; Nansel et al., 2001). Based on these findings, it is clear that victims of bullies are at risk to have a discontinuous developmental trajectory for many years.

The aggressors in the bullying dyad also appear to be more likely to engage in antisocial activities later in life (Tattum, 1989). For example, approximately 60% of those characterized as bullies in grades six through nine were convicted of at least one crime by the age of 24, compared to 23% who were not characterized as either bullies or victims (Olweus

et al., 1999). Further underscoring the relationship between bullying and future criminality, Olweus and colleagues (1999) found that 40% of bullies had three or more convictions by the age of 24, compared to 10% of those who were neither instigators nor victims of bullying.

Based on this brief review, it is clear that both bully victims and offenders are at an increased risk for developmental problems that can continue into adulthood. As such, it is imperative that researchers seek to better understand the antecedents and consequences of bullying behavior, for practitioners to develop and implement antibullying programs in schools and for societal institutions to better understand the ways in which bullying behaviors are carried out, both in traditional and nontraditional settings.

Cyberbullying

Because of the advent and continued growth of technological advances, the transmutation of bullying has occurred—from the physical to the virtual. Physical separation of the bully and the victim is no longer a limitation in the frequency, scope, and depth of harm experienced and doled out. As instances of bullying are no longer restricted to real-world settings, the problem has matured. Although a migration to the electronic realm is a seemingly logical extension for bullies, little is currently known regarding the nature and extent of the phenomenon. In short, we define *cyberbullying* as willful and repeated harm inflicted through the medium of electronic text. Based on the literature reviewed above, the constructs of malicious intent, violence, repetition, and power differential appear most salient when constructing a comprehensive definition of traditional bullying and are similarly appropriate when attempting to define this new permutation. To be sure, cyberbullies are malicious aggressors who seek implicit or explicit pleasure or profit through the mistreatment of other individuals. Violence is often associated with aggression and corresponds to actions intended to inflict injury (of any type). One instance of mistreatment, although potentially destructive, cannot accurately be equated to bullying, and so cyberbullying must also involve harmful behavior of a repetitive nature. Finally, because of the very nature of the behavior, cyberbullies have some perceived or actual power over their victims. Although power in traditional bullying might be physical (stature) or social (competency or popularity), online power may simply stem from proficiency. That is, youth who are able to navigate the electronic world and utilize technology in a way that allows them to harass others are in a position of power relative to a victim.

A brief editorial published in 2003 in *Journal of the American Academy of Child and Adolescent Psychiatry* pointed to the lack of academic references to this topic despite its anticipated proliferation (Jerome & Segal, 2003). Despite this call for research, very little scholarly attention has been devoted to the topic. In a notable exception, Ybarra and Mitchell (2004) conducted telephone surveys of 1,498 regular Internet users between the ages of 10 and 17, along with their parents, and found that 19% of youth respondents were either on the giving or receiving end of online aggression in the previous year. The vast majority of offenders (84%) knew their victim in person, whereas only 31% of victims knew their harasser in person. This fact is noteworthy; it appears that power and dominance are exerted online through the ability to keep the offender's identity unknown (Ybarra & Mitchell, 2004). When comparing those who were only aggressors to those who had no involvement in online harassment, the former were significantly more likely to be the target of offline bullying, to display problematic behavior, to have low school commitment, and to engage

in alcohol and cigarette use. When comparing those who had experience being both an offender and a victim with those who had no involvement in online harassment, the significant differences were the same as above—with the exception of low school involvement. It is interesting to note that real-world variables that play a contributive role in traditional forms of delinquency and crime—such as general deviance, low commitment to prosocial institutions such as school, and substance abuse—also are significantly related to bullying on the Internet.

There are two major electronic devices that young bullies can employ to harass their victims from afar. First, using a personal computer, a bully can send harassing e-mails or instant messages, post obscene, insulting, and slanderous messages to online bulletin boards, or develop Web sites to promote and disseminate defamatory content. Second, harassing text messages can be sent to the victim via cellular phones.

Personal Computers

Research by the U.S. Department of Commerce noted that almost 90% of youth between the ages of 12 and 17 use computers, and by age 10, youth are more likely than are adults to use the Internet (NTIA, 2002). Demonstrating the broad reach of instant messaging and chat programs, 20 million kids between the ages of 2 and 17 logged onto the Internet in July 2002, and 11.5 million used instant messaging programs (NetRatings, 2002). Similarly, according to a study of 1,081 Canadian parents conducted in March 2000, 86% stated that their kids used the Internet, 38% had their own e-mail address, 28% used ICQ (an instant messaging program short for "I seek you"), and 28% regularly spent time in chat rooms (Network, 2001). Indeed, America Online (AOL, 2002, 2003)—the most popular Internet service provider with more than 35 million users—states that members join in on more than 16,000 chat sessions and send more than 2.1 billion instant messages per day across their network. As a point of reference, 1.9 billion phone calls are made each day in the United States. Finally, the Internet relay channels provide a venue for many other users on a daily basis. For example, on the morning of an average Saturday in May 2005, there were more than 1 million users online in more than 800 chat rooms (Gelhausen, 2005).

Pew Internet and American Life Project (2001) conducted an extensive research endeavor in 2001 to ascertain demographic and behavioral characteristics of teenagers who use the Internet. A telephone survey was administered to 754 children between the ages of 12 and 17 in November and December of 2000. Though not generalizable to the population of online teenagers across the United States because of many methodological limitations, the study paints an interesting picture of the user population and their activities while connected to the Internet. About 17 million youth aged 12 to 17 regularly use the Internet. This figure represents approximately three fourths (73%) of those in this age bracket.

According to the Pew Internet and American Life Project (2001), approximately 29% of youth younger than 12 regularly go online. Among teenagers, approximately 95% of girls and 89% of boys have sent or received e-mail, and 56% of girls and 55% of boys have visited a chat room. Almost three fourths of teenagers (74%; 78% of girls and 71% of boys) in the study use instant messaging to communicate with their friends, with 69% using the technology several times a week. Almost half (46%) of respondents who report using instant messaging programs spend between 30 and 60 minutes per session doing so, whereas 21% state that they spend more than 1 hour in the activity in an average online session. Testifying to the benefits of textual communication over verbal communication, 37% used it to say something they would not have said in person. Underscoring the potential for harass-

ment and negative treatment online, 57% have blocked messages from someone with whom they did not wish to communicate, and 64% had refused to answer messages from someone with whom they were angry.

Cellular Phones

In the United States, more than 150 million individuals, including half of the youth between 12 and 17 years of age, own cellular phones (Fattah, 2003). It is estimated that 74% of Americans between the ages of 13 and 24 will have a wireless device by 2006 (O'Leary, 2003). Cell phone usage is much higher among teenagers and young adults in Europe compared to the United States, 60% to 85% compared to 25% (O'Leary, 2003). Research estimates that by 2007 nearly 100 million individuals will use the text messaging service on their wireless device (Fattah, 2003). Statistics compiled in November 2001 by UPOC (2001)—a wireless communications firm in the United States—found that 43% of those who currently use text messaging are between the ages of 12 and 17. To note, the text messaging capabilities of cellular phones are being exploited to a greater degree in European and Asian countries. In 2002, approximately 90 billion text messages were sent through the two major telecommunication service providers in China, which equals approximately 246 million per day (CD, 2003). In Europe and Asia, more than 30 billion text messages are sent between individuals each month (Katz, 2002). It is predicted that 365 billion text messages will be sent across western Europe in 2006, up from 186 billion in 2002 (GSMBox, 2002).

Issues Specific to Cyberbullying

Gabriel Tarde's (1903) law of insertion suggests that new technologies will be applied to augment traditional activities and behaviors. Certain characteristics inherent in these technologies increase the likelihood that they will be exploited for deviant purposes. Cellular phones and personal computers offer several advantages to individuals inclined to harass others. First, electronic bullies can remain virtually anonymous. Temporary e-mail accounts and pseudonyms in chat rooms, instant messaging programs, and other Internet venues can make it very difficult for adolescents to determine the identity of aggressors. Individuals can hide behind some measure of anonymity when using their personal computer or cellular phone to bully another individual, which perhaps frees them from normative and social constraints on their behavior. Further, it seems that bullies might be emboldened when using electronic means to effectuate their antagonistic agenda because it takes less energy and fortitude to express hurtful comments using a keyboard or keypad than using one's voice.

Second, supervision is lacking in cyberspace. Although chat hosts regularly observe the dialog in some chat rooms in an effort to police conversations and evict offensive individuals, personal messages sent between users are viewable only by the sender and the recipient and are therefore outside regulatory reach. Furthermore, there are no individuals to monitor or censor offensive content in e-mail or text messages sent via computer or cellular phone. Another contributive element is the increasingly common presence of computers in the private environments of adolescent bedrooms. Indeed, teenagers often know more about computers and cellular phones than do their parents and are therefore able to operate the technologies without worry or concern that a probing parent will discover their participation in bullying (or even their victimization; NTIA, 2002).

In a similar vein, the inseparability of a cellular phone from its owner makes that person a perpetual target for victimization. Users often need to keep it turned on for legitimate uses, which provides the opportunity for those with malicious intentions to send threatening and insulting statements via the cellular phone's text messaging capabilities. There may truly be no rest for the weary as cyberbullying penetrates the walls of a home, traditionally a place where victims could seek refuge.

Finally, electronic devices allow individuals to contact others (both for prosocial and antisocial purposes) at all times and in almost all places. The fact that most adolescents (83%) connect to the Internet from home (Pew Internet and American Life Project, 2001) indicates that online bullying can be an invasive phenomenon that can hound a person even when not at or around school. Relatedly, the coordination of a bullying attack can occur with more ease because it is not constrained by the physical location of the bullies or victims. A veritable onslaught of mistreatment can quickly and effectively torment a victim through the use of these communications and connectivity tools.

Does Harm Occur?

Of course, cyberbullying is a problem only to the extent that it produces harm toward the victim. In the traditional sense, a victim is often under the immediate threat of violence and physical harm and also subject to humiliation and embarrassment in a public setting. These elements compound the already serious psychological, emotional, and social wounds inflicted through such mistreatment. One might argue that a victim of bullying in cyberspace—whether via e-mail, instant messaging, or cellular phone text messaging—can quickly escape from the harassment by deleting the e-mail, closing the instant message, and shutting off the cellular phone and is largely protected from overt acts of violence by the offender through geographic and spatial distance. Such an argument holds much truth; however, the fact remains that if social acceptance is crucially important to a youth's identity and self-esteem, cyberbullying can capably and perhaps more permanently wreak psychological, emotional, and social havoc.[4] It is not a stretch to say that physical harm—such as being beaten up—might even be preferred by some victims to the excruciating pain they experience from nonphysical harm because the former can heal quicker. Furthermore, it is yet to be determined if there is a causal pathway between cyberbullying and traditional bullying, and so physical harm might very well follow as a logical outcome of a continually increasing desire on the part of the offender to most severely hurt the victim. To be sure, this must be explored in future studies.

With regard to public embarrassment, life in cyberspace is often intertwined with life in the real world. For example, many kids and teenagers spend days with their friends in school and nights with those same friends online through instant message programs and chat channels. That which occurs during the day at school is often discussed online at night, and that which occurs online at night is often discussed during the day at school. There is no clean separation between the two realms, and so specific instances of cyberbullying—disrespect, name calling, threats, rumors, gossip—against a person make their way around the interested social circles like wildfire.

Does the mistreatment experienced through online bullying lead to the same feelings that result from traditional bullying—such as self-denigration, loss of confidence and self-esteem, depression, anger, frustration, public humiliation, and even physical harm? This remains to be clearly depicted through empirical research but seems plausible based on the linchpin role of self-esteem among children and teenagers previously described and on an-

ecdotal evidence specifically related to online aggression (BBC News, 2001; Benfer, 2001; Blair, 2003; Meadows et al., 2005; ÓhAnluain, 2002; Richardson, 2003).

Because of the widespread availability of electronic devices, there is no lack of participants using the technologies. Their ubiquity provides a seemingly endless pool of candidates who are susceptible to being bullied or to becoming a bully. Unfortunately, however, little is known in terms of how often these technologies are mobilized for deviant purposes. One empirical study has been conducted to date: In 2002, the National Children's Home (NCH, 2002)—a charitable organization in London—surveyed 856 youth between the ages of 11 and 19 and found that 16% received threatening text messages via their cellular phone, 7% had been bullied in online chat rooms, and 4% had been harassed via e-mail. Following the victimization, 42% told a friend, 32% told a parent or guardian, and 29% did not reveal the experience to anyone. Because more information is clearly warranted, a study was designed to explore the nature and extent of cyberbullying.

Current Study

Method

The current study involved an analysis of youthful Internet users in an effort to assess their perceptions of, and experiences with, electronic bullying. It is difficult to individually observe the nature and extent of electronic bullying among adolescent Internet users because of the "private" nature of e-mails, cellular phone text messages, and instant messages and one-on-one chat messages within online chat channels. To be sure, if the instances of cyberbullying occur in a public forum such as a popular chat channel and in the view of all chat room members, then direct observation and consequent analyses may be possible. Most of the time, however, they occur through private (nonpublic), person-to-person communications. A survey methodology was therefore designed to collect data by requiring participants to recall and relate their cyberbullying practices and experiences via a questionnaire that was linked from the official Web site of a popular music artist revered by the target age group. An electronic format was selected as it allows for efficiency in collecting data from a large number of participants (Couper, 2000; McCoy & Marks, 2001; Smith, 1997). The survey was active between May 1, 2004, and May 31, 2004.

The context of the Internet must be considered when dealing with consent issues because forcing all online researchers to comply with traditional procedures in this area is unduly onerous, particularly when possible harm is little to none. Because it is impossible to personally obtain informed consent from participants in much online survey research that solicits participants from postings on Web sites, implied consent has generally been accepted (Walther, 2002). This involves the presentation of informed consent information in electronic text (e.g., on a Web page), along with specific actions that must be performed prior to initiation of the survey. These actions often include the checking of a check box (agreeing to participate) and clicking on a *submit* button to send the information to the server. From this, consent can be reasonably inferred (King, 1996). For the current study, researchers instructed participants who were younger than 18 to obtain permission from their parent or guardian. Permission was demonstrated by the parent entering his or her initials in a specified box. Again, because of matters of anonymity associated with Internet research, it was impossible to actually verify that adolescents obtained proper permission prior to completing the survey.

With survey research conducted over the Internet, questions also arise as to the reliability of the data (Cho & LaRose, 1999). Participants are self-selected, which introduces some bias as individuals are not randomly chosen for inclusion in the study. Often, a convenience sample, where individuals are chosen because they are available (e.g., because they visit a particular Web site and see a solicitation for research participation), is employed. As a result, the sample obtained may not necessarily be representative of all Internet users. Moreover, online demographic groups may not mirror those found in the real world (Witte, Amoroso, & Howard, 2000). Generalization to a larger population, then, becomes impossible with convenience sampling (Couper, 2000), but the technique has demonstrated utility for exploratory studies intended to probe a novel phenomenon. Researchers who seek to tap the resources of the World Wide Web will continue to face these challenging issues. Although these limitations are an unfortunate cost of conducting Internet-based research, results from this preliminary study will help to inform a more methodologically rigorous investigation in the future.

The survey went through numerous iterations to optimize its design and presentation of questions. Prior research has determined that poor design can render dubious the quality of responses and may even affect completion rate (Crawford, Couper, & Lamias, 2001; Krosnick, 1999; Preece, Rogers, & Sharp, 2002; Schwarz, 1999). Specifics to the survey design bear mentioning. Demographic data were solicited at the beginning of the survey, which has been shown to decrease rates of attrition because individuals are not surprised by more personal questions at the resolution of their participation (Frick, Bachtiger, & Reips, 2001). The survey in its entirety was presented to the respondent on one screen, which has also been shown to increase response rates (Crawford et al., 2001). Although our survey did consist of a vast number of questions, findings related to the relationship between survey length and response rate have been mixed and inconclusive (Brown, 1965; Bruvold & Comer, 1988; Eicherner & Habermehl, 1981; Jobber & Saunders, 1993; Mason, Dressel, & Bain, 1961; Sheehan, 2001; Witmer, Colman, & Katzman, 1999; Yammarino, Skinner, & Childers, 1991).

Incentives to participate in the form of cash or other prizes via a lottery has also been shown to increase response rate; human beings are motivated by the possibility of receiving something in return for their efforts, and this trait is manifested in survey participation as well (Cho & LaRose, 1999; Frick et al., 2001). As such, participants in the current study were entered into a random drawing to win one of three autographed photographs of the musical artist from whose fan Web site they reached the survey. We also specified that the institutional review board at the researchers' university had approved the project to verify its legitimacy and strengthen the trust relationship between the researchers and the potential participants (Cho & LaRose, 1999).

A final point bears mentioning. As the Internet protocol (IP) address and timestamp was recorded with each participant's responses, we were able to eliminate entries where all of the responses were completely the same. This might happen when a respondent fills out the questionnaire, clicks *submit*, goes back to the previous page where all of his or her responses are stored within the survey form, and then clicks *submit* again (and continues in this pattern). To note, there were survey entries from the same IP address but with completely different responses to the questions posed. This was because some Internet service providers route multiple users through one IP address when connecting from their internal network to the external Internet. To summarize, we browsed through all of the data and attempted to determine which entries were fraudulent and which were valid.

Findings

Because this was an Internet-based survey, anyone could participate. Even though the survey was associated with a teen-oriented Web site, individuals from all ages also frequent the site and therefore completed the survey. As noted in Table 1, out of the 571 total respondents, 384 were younger than 18 (67.3%; henceforth referred to as the *youth sample*). In both groups, the vast majority of respondents were female. This finding is likely attributable to the nature of the Web site on which the survey was linked (a female pop music star). Similarly, the vast majority of respondents were Caucasian. There are several potential interpretations of this finding. First, individuals from different racial and ethnic backgrounds may be less interested in this particular entertainer than are others and may therefore be unlikely to visit the Web site to see the survey solicitation. Alternatively, the overrepresentation of Caucasian respondents could be evidence of the oft-mentioned digital divide, where some populations are not privy to the access and use of technology such as computers and the Internet. As expected, most respondents were between the ages of 12 and 20, and the average age of the youth sample was 14.1. Moreover, more than 70% of respondents from the complete sample were in grades 2 through 12. High school respondents (9th through 12th grade) represented the modal category of respondents for both groups. As might be expected, the vast majority of all respondents came from English-speaking countries (the Web site and survey were written in English), and about 60% of respondents in both groups reported living in the United States. It must be mentioned that because online identity is completely malleable (Hafner, 2001; Turkle, 1995), the demographic data obtained may not be completely accurate because of a lack of trust in our research project, mischief, or purposeful obfuscation. Research performed over the Internet cannot entirely preempt this problem—at least in its current stage of technological development—and so a caveat is justified.

The remainder of the findings discussed relate only to those respondents who were younger than 18 when they completed the survey (n = 384). Online bullying was specifically defined on the questionnaire for respondents as behavior that can include bothering someone online, teasing in a mean way, calling someone hurtful names, intentionally leaving persons out of things, threatening someone, and saying unwanted, sexually related things to someone. Table 2 presents the percentage of respondents who have been bullied ("Have you ever been bullied online?"), have bullied others ("Have you ever bullied others while online?"), or have witnessed bullying online ("Have you ever seen other kids bullied online?"). Almost 11% of youth reported bullying others while online, more than 29% reported being the victim of online bullying, and more than 47% have witnessed online bullying. Cyberbullying was most prevalent in chat rooms, followed by computer text messages and e-mail. Bullying using newsgroups or cellular phones was not as prominent for members of this sample. Indeed, although it is clear that all who responded to the survey have access to a computer, it is unknown what proportion of respondents have access to a cellular phone.

As previously described, youth were asked a general question regarding their involvement in online bullying. In addition, youth were asked to relate whether they experienced a number of behaviors that may be associated with bullying. Table 3 presents information collected from these questions. Notably, 60.0% of respondents have been ignored by others while online, 50.0% reported being disrespected by others, almost 30.0% have been called names, and 21.4% have been threatened by others. In addition, a significant pro-

TABLE 1
Descriptive Statistics of Survey Respondents

	Complete Sample[a]		*Youth Sample*[b]	
	n	%	n	%
Sex				
Female	452	78.3	325	84.6
Male	115	19.9	55	14.3
Missing	10	1.7	4	1.0
Race				
Caucasian	429	74.4	289	75.3
Hispanic	43	7.5	32	8.3
Asian or Pacific Islander	43	7.5	28	7.3
African American	4	0.7	3	0.8
Indigenous or aboriginal	4	0.7	3	0.8
Multiracial	16	2.8	10	2.6
Other race	32	5.5	19	4.9
Missing	6	1.0	0	0.0
Age				
9-11	37	6.4	37	9.6
12-13	110	19.1	110	28.6
14-15	135	23.4	135	35.2
16-17	102	17.7	102	26.6
18-20	128	22.2	—	—
21-25	41	7.1	—	—
26 and older	18	3.1	—	—
Missing	6	1.0	—	—
Grade				
Grades 2-5	25	4.3	24	6.3
Grades 6-8	149	25.8	149	38.8
Grades 9-12	231	40.0	196	51.0
Community college	37	6.4	7	1.8
University	72	12.5	1	0.3
Do not attend school	52	9.0	4	1.0
Missing	11	1.9	3	0.8
Country				
United States	349	60.5	227	59.1
Canada	62	10.7	46	12.0
United Kingdom	53	9.2	35	9.1
Australia	29	5.0	23	6.0
Other or unknown	84	14.6	53	13.8

a. $N = 571$.
b. $N = 384$.

portion of youth were picked on by others (19.8%) or made fun of by others (19.3%) or had rumors spread about them by others (18.8%).

In addition to asking respondents whether they have experienced bullying online, researchers also asked youth how frequently the bullying occurred during the previous 30 days. Table 4 presents summary statistics reflecting the number of youth who reported involvement in the bullying experience, the average number of times the bullying occurred, and the maximum number of times the bullying occurred. For example, 83 youth reported being victimized in a chat room an average of 3.36 times during the previous 30 days. One

TABLE 2
Percentage of Youth Respondents Who Report Being a Bully, a Victim, or a Witness to Bullying

	Bully	*Victim*	*Witness*
Online	10.7	29.4	47.1
In a chat room	7.6	21.9	42.4
Via computer text message	5.2	13.5	15.1
Via e-mail	1.8	12.8	13.8
On a bulletin board	1.0	2.9	13.8
Via cell phone text message	0.8	2.1	6.3
In a newsgroup	0.5	1.6	3.6

NOTE: $N = 384$.

TABLE 3
Types of Online Bullying

	Percentage Victimized
Ignored by others	60.4
Disrespected by others	50.0
Called names by others	29.9
Been threatened by others	21.4
Picked on by others	19.8
Made fun of by others	19.3
Rumors spread by others	18.8

NOTE: $N = 384$.

TABLE 4
Average Number of Bullying Experiences During Previous 30 Days for Youth Who Reported Being a Victim or a Bully

	Bully			*Victim*		
	n	M	*Max*	n	M	*Max*
In a chat room	39	1.23	10	83	3.36	50
Via computer text message	30	1.20	6	68	4.65	76
Via e-mail	18	0.39	2	61	4.07	107
On a bulletin board	16	1.50	9	31	2.42	10
Via cell phone text message	9	3.22	23	19	3.37	23
In a newsgroup	2	0.00	0	6	1.67	6

NOTE: *n* reflects the number of youth who reported experience in that behavior, *M* is the average number of times the experience occurred in the previous 30 days, and max is the highest number of times the experience was reported during the previous 30 days.

youth reported being bullied in a chat room 50 times during the previous 30 days. Bullying via computer text messaging and e-mail also occurred frequently during the previous 30 days.

TABLE 5
Effects of Online Bullying

	Percentage Yes
I felt frustrated	42.5
I felt angry	39.8
I felt sad	27.4
I was not bothered	22.1
It affected me at school	31.9
It affected me at home	26.5
It affected me with my friends	20.4
It did not affect me	43.4

NOTE: Responses for youth who reported being bullied online ($N = 113$).

TABLE 6
Response to Online Bullying

	Percentage Yes
I tell the bully to stop	36.3
I get away	31.9
I do nothing	24.8
I stay offline	19.5
I bully others	2.7
I tell an online friend	56.6
I tell a friend	25.7
I tell nobody	23.0
I tell my mom and dad	19.5
I tell my brother or sister	16.8
I tell an adult	8.8

NOTE: Responses for youth who reported being bullied online ($N = 113$).

Table 5 demonstrates the negative effects associated with online bullying on victims. For example, 42.5% of victims were frustrated, almost 40.0% felt angry, and more than 27.0% felt sad. Almost one third (31.9%) reported that it affected them at school, whereas 26.5% reported that it affected them at home. Only 22.1% were not bothered by the bullying they experienced, and less than 44.0% stated that the bullying did not affect them.

Table 6 describes the response taken by victims of online bullying. Notably, almost 20% of victims were forced to stay offline, whereas almost 32% had to remove themselves from the environment in some capacity or way. Victims also revealed a hesitation to tell authority figures about their experiences. Even though most confided in an online friend (56.6%), fewer than 9.0% of victims informed an adult.

Additional analyses were conducted to attempt to uncover correlates of online bullying. There were no statistically significant associations among age, race, or gender and who is likely to be a victim of online bullying. The lack of relationship among race or gender and victimization may be more a function of the homogeneous nature of the data than any substantive finding and must be further tested. In accordance with intuition, youth who participate in more activities online (represented by a variety score of 13 different activities) were

more likely to experience online bullying. Also not surprising, youth who bully others were more likely to be victims of online bullying. In all, 75% of youth who have bullied others online have been victims of bullying, whereas fewer than 25% of youth bullies have never been on the other end of such malicious actions ($\chi^2 = 42.866$; $p < .001$). Future research should seek to better understand what additional factors are associated with online bullying.

Discussion

The results of this study point to a number of key issues. First, bullying is occurring online and is impacting youth in many negative ways. Almost 30% of the adolescent respondents reported that they had been victims of online bullying—operationalized as having been ignored, disrespected, called names, threatened, picked on, or made fun of or having had rumors spread by others. Admittedly, being ignored by another person may simply reflect obnoxious behavior that warranted the outcome rather than actual and willful aggression. We were not able to parcel out the stimuli of instances when people were ignored but chose to include a measure of it in the current analyses. This is because universal social acceptance is still largely desired by children and adolescents, even if as adults we understand that it is impossible to please everyone at all times. Being ignored would introduce dissonance and instability to the already tenuous relational and social equilibria sought by youths and may accordingly be considered a passive-aggressive form of bullying. Along similar lines, although some of this harassment may be characterized as trivial (e.g., being ignored by others or being disrespected), more than 20% reported being threatened by others. Anger and frustration was a commonly reported emotional response to the harassment. Finally, almost 60% of victims were affected by the online behaviors at school, at home, or with friends.

Several policy implications stem from the aforementioned findings. It is hoped that this harmful phenomena can be curtailed by proactively addressing the potentially negative uses of technology. Parents must regularly monitor the activities in which their children are engaged while online. Teachers, too, must take care to supervise students as they use computers in the classrooms. Police officers must investigate those instances of cyberbullying that are potentially injurious and hold responsible parties accountable. Unfortunately, there are no methods to discern which harassment involves simple jest and which has the potential to escalate into serious violence. Future research must analyze case studies and anecdotal stories of cyberbullying experiences to help determine when intervention by authority figures is most appropriate. Overall, parents, teachers, police officers, and other community leaders must keep up with technological advances so that they are equipped with the tools and knowledge to identify and address any problems when they arise.

Limitations of the Current Study

The most notable limitations of this study relate to its administration because data were collected exclusively online. With regard to sampling, it is unquestionable that Internet users are dissimilar from those who do not go online. However, Walther (2002, p. 209) argues that concerns related to the generalizability of data collected from the Internet to a target population assume that random samples of Internet users are sought in any study and that a sample obtained from the Internet is able to be generalized to other populations. We would have liked to obtain a random sample of all Internet users younger than 18 to as-

certain the extent and prevalence of online bullying, but such a task is impossible as no reliable sampling frame of individuals in cyberspace exists. Thus, we carefully targeted certain Web sites presumably visited by at least some adolescents who have personal experience in the phenomenon. As it turned out, the sample was disproportionately Caucasian and female, and results therefore may be skewed toward these subgroups. As a result, any findings from the research should be very cautiously applied to the larger group of Internet-using youth.

Another issue related to online data collection concerns misrepresentation of age by participants in this research. Undoubtedly, we cannot guarantee that respondents honestly indicated their age during participation. Any qualms, though, can be overcome by considering the fallibility of traditional research methods such as phone surveys or surveys distributed in highly populated settings (e.g., large college classes) or through the mail and even individual, face-to-face administration of questionnaires. A person can lie about his or her age in any of these contexts, and it is unreasonable to assume that a person would be more likely to do so in an online research setting (Walther, 2002).

Directions for Future Research

The current study provides the framework for future empirical inquiry on electronic bullying. Indeed, the authors are currently involved in a more comprehensive study that involves both Internet-based research and traditional paper-and-pencil surveys. As with any social scientific endeavor, replication is necessary to more fully understand the phenomena under consideration. There are several questions future research in this area must address. First, data must be collected to more accurately ascertain the scope, prevalence, and nuances of cyberbullying. For example, it is important to discover whether cyberbullies are simply traditional bullies who have embraced new technologies to accomplish their intentions or if they are youth who have never participated in traditional, school-based bullying. Moreover, do personal computers enable the stereotypical victims of bullies (i.e., those who are smart, physically small, and/or socially challenged) to retaliate using means that ensure their anonymity? It would also be important to determine whether commonly accepted stimuli for traditional bullying—the need to (a) exert power and dominate, (b) compensate for victimization in another area of one's life, (c) cope with one's insecurities, and (d) attract attention and popularity—are similarly predictive in cyberspace-based instances of the deviance.

Also of interest is the extent to which electronic bullying results in harm to adolescents in their physical environments (e.g., at school or in their neighborhoods). Are threats made in cyberspace followed through on the playground? Are victims of cyberbullying the same individuals who are also victims of traditional bullying, or are they distinct groups? What about offenders? One could hypothesize that the victims of traditional bullying may turn to the Internet to exact revenge on their schoolyard aggressors. That is, the victim becomes the offender by using his or her technological knowledge to inflict harm on the original bully.

In addition, it is useful to identify whether adults also participate in electronic harassment. Although they may frequent chat rooms to a lesser degree than do children and adolescents, cellular phone use and even instant messaging programs are commonly utilized for both professional and personal purposes. Does electronic harassment occur to the same extent among adults as compared to a population of adolescents? Does it occur in a more controlled and subtle manner or with the same degree of perceivably overt cruelty? Does it

occur for fundamentally similar reasons across both groups, or are there factors endemic to youth or adult life that condition and dictate bullying in an online context? These are just some of the important questions that need further examination.

Finally, future research efforts ought to more thoroughly examine the results of this preliminary investigation using more rigorous methodology that ensures a more representative sample of responses. As indicated, the intent of this research is to generate scholarly interest in this unique form of adolescent harassment and therefore should be viewed simply as a small, but we think significant, platform on which further research efforts should be built.

Conclusion

The preceding review provides a description of bullying in cyberspace for the purposes of introducing it as a topic meriting academic inquiry and underscoring its often inescapable pernicious nature. Indeed, 74% of the youth in this study reported that bullying occurs online, and almost 30% of the youth reported being victimized by others while online. Some may dismiss electronic bullying as normative behavior that does not physically harm anyone. To be sure, some have this perception regarding traditional bullying, dismissing it as a rite of passage or an inevitable and even instructive element of growing up. Because of the familiarity and memorability of bullying as almost unavoidable in both the schoolyard and neighborhood milieu during one's formative years, perhaps the reader may share those sentiments.

Because no consensus exists when considering whether cyberbullying merits increased attention because of society's continued progression into a wired world, perhaps it should just be considered another contemporary cultural challenge that kids often face when transitioning into adulthood. Conceivably there is no need to panic when introduced to the concept that online bullying does and will continue to take place as children seek to carve out an identity for themselves and cope with various pressures associated with their development. Alternatively, perhaps there is a need for alarm as both those who bully and those who are bullied might yield readily to other criminogenic influences and proceed down a path of deviance online, offline, or both. Regardless, cyberbullying is very real, and it is hoped that this work has highlighted its relevance for the purposes of inspiring additional interest in its etiology and consequences.

NOTES

1. The interested reader is encouraged to see Blair (2003) or ÓhAnluain (2002) for more examples.

2. It should be mentioned that research has not identified a link between low self-esteem and the offenders of traditional bullying (Hoover & Hazler, 1991; Rigby & Slee, 1993).

3. To be sure, females are also bullied to a substantive degree and must not be excluded from any analyses of the phenomenon.

4. Cyberbullying repercussions have permanence because e-mails can be saved, instant messages and chat conversations can be logged, and Web pages can be archived for an offender, victim, or third party to read over in the future and thereby relive the experience.

REFERENCES

America Online. (2002). *AOL facts—2002*. Retrieved September 2, 2003, from http://www.corp.aol.com/whoweare/Factbook_F.pdf

America Online. (2003). *Who we are: Fast facts*. Retrieved September 2, 2003, from http://www.corp.aol.com/whoweare/fastfacts.html

BBC News. (2001). *Girl tormented by phone bullies*. Retrieved January 16, 2001, from http://news.bbc.co.uk/1/hi/education/1120597.stm

Benfer, A. (2001). *Cyber slammed*. Retrieved July 7, 2001, from http://www.dir.salon.com/mwt/feature/2001/07/03/cyber_bullies/index.html

Berson, I. R., Berson, M. J., & Ferron, J. M. (2002). Emerging risks of violence in the digital age: Lessons for educators from an online study of adolescent girls in the United States. *Journal of School Violence*, *1*(2), 51-71.

Björkqvist, K., Ekman, K., & Lagerspetz, K. (1982). Bullies and victims: Their ego picture, ideal ego picture, and normative ego picture. *Scandinavian Journal of Psychology*, *23*, 307-313.

Blair, J. (2003). New breed of bullies torment their peers on the Internet. *Education Week*. Retrieved February 5, 2003, from http://www.edweek.org/ew/ewstory.cfm?slug=21cyberbully.h22

Borg, M. G. (1998). The emotional reaction of school bullies and their victims. *Educational Psychology*, *18*, 433-444.

Brown, M. (1965). Use of a postcard query in mail surveys. *Public Opinion Quarterly*, *29*, 635-637.

Bruvold, N. T., & Comer, J. M. (1988). A model for estimating the response rate to a mailed survey. *Journal of Business Research*, *16*(2), 101-116.

CD. (2003). *Thumbs down on mobile messaging*. Retrieved July 22, 2003, from http://www1.chinadaily.com.cn/en/doc/2003-07/22/content_247257.htm

Cho, H., & LaRose, R. (1999). Privacy issues in Internet surveys. *Social Science Computer Review*, *14*, 421-434.

Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. *Child Development*, *59*, 815-829.

Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.

Couper, M. P. (2000). Web-based surveys: A review of issues and approaches. *Public Opinion Quarterly*, *64*, 464-494.

Crawford, S., Couper, M. P., & Lamias, M. (2001). Web surveys: Perceptions of burden. *Social Science Computer Review*, *19*, 146-162.

Devoe, J. F., Ruddy, S. A., Miller, A. K., Planty, M., Peter, K., Kaufman, P., et al. (2002). *Indicators of school crime and safety*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, U.S. Department of Justice, Bureau of Justice Statistics.

Eicherner, K., & Habermehl, W. (1981). Predicting the response rates to mailed questionnaires (comment on Herberlien & Baumgartner). *American Sociological Review*, *46*, 1-3.

Farrington, D. (1980). Truancy, delinquency, the home, and the school. In L. Hersov & I. Berg (Eds.), *Out of school: Modern perspectives in truancy and school refusal* (pp. 49-63). New York: John Wiley.

Fattah, H. (2003). *America untethered*. Retrieved September 1, 2003, from http://www.upoc.com/corp/news/UpocAmDem.pdf

Finn, J. (2004). A survey of online harassment at a university campus. *Journal of Interpersonal Violence*, *19*, 468-483.

French, D. C., & Waas, G. A. (1987). Social-cognitive and behavioral characteristics of peer-rejected boys. *Professional School Psychology*, *2*(2), 103-112.

Frick, A., Bachtiger, M. T., & Reips, U.-D. (2001). Financial incentives, personal information, and drop out in online studies. In U.-D. Reips & M. Bosnjak (Eds.), *Dimensions of Internet science* (pp. 209-219). Lengerich, Germany: Pabst Science.

Galinsky, E., & Salmond, K. (2002). *Youth and violence: Students speak out for a more civil society*. New York: Families and Work Institute.

Garry, E. M. (1996). *Truancy: First step to a lifetime of problems*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Gavin, T. (1997). *Truancy: Not just kids' stuff anymore*. Washington, DC: Federal Bureau of Investigation.

Gelhausen, A. (2005). *Summary of IRC networks*. Retrieved May 7, 2005, from http://irc.netsplit.de/networks/

GSMBox. (2002). *Ten years of SMS messages*. Retrieved August 10, 2003, from http://uk.gsmbox.com/news/mobile_news/all/94480.gsmbox

Hafner, K. (2001). *The well: A story of love, death & real life in the seminal online community*. New York: Carrol and Graf.

Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychological maladjustment: A meta-analysis review of cross-sectional studies. *Journal of Child Psychology and Psychiatry*, *41*, 441-445.

Hoover, J., & Hazler, R. (1991). Bullies and victims. *Elementary School Guidance and Counseling*, *25*, 212-219.

Hull, J. G. (1981). A self-awareness model of the causes and effects of alcohol consumption. *Journal of Abnormal Psychology*, *90*, 586-600.

Hymel, S., Rubin, K. H., Rowden, L., & LeMare, L. (1990). Children's peer relationships longitudinal prediction of internalizing and externalizing problems from middle to late childhood. *Child Development*, *61*, 2004-2021.

Jerome, L., & Segal, A. (2003). Bullying by Internet—Editorial. *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 751.

Jobber, D., & Saunders, J. (1993). A note on the applicability of the Brurold-Comer model of mail survey response rates to commercial populations. *Journal of Business Research*, *26*, 223-236.

Kaltiala-Heino, R., Rimpelä, M., Marttunen, M., Rimpelä, A., & Rantanen, P. (1999). Bullying, depression, and suicidal ideation in Finnish adolescents: school survey. *British Medical Journal*, *319*(7206), 348-351.

Katz, A. R. (2002). *Text messaging moves from cell to home*. Retrieved August 15, 2003, from http://www.iht.com/articles/51152.html

King, S. (1996). Researching Internet communities: Proposed ethical guidelines for the reporting of results. *The Information Society*, *12*, 119-128.

Krosnick, J. A. (1999). Survey research. *Annual Review of Psychology*, *50*(1), 537-567.

Lagerspetz, K. M. J., Björkqvist, K., Berts, M., & King, E. (1982). Group aggression among schoolchildren in three schools. *Scandinavian Journal of Psychology*, *23*, 45-52.

Leary, M. R., & Downs, D. L. (1995). Interpersonal functions of the self-esteem motive: The self-esteem system as a sociometer. In M. H. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 123-144). New York: Plenum.

Leary, M. R., Haupt, A. L., Strausser, K. S., & Chokel, J. T. (1998). Calibrating the sociometer: The relationship between interpersonal appraisals and state self-esteem. *Journal of Personality and Social Psychology*, *74*, 1290-1299..

Leary, M. R., Schreindorfer, L. S., & Haupt, A. L. (1995). The role of self-esteem in emotional and behavioral problems: Why is low self-esteem dysfunctional? *Journal of Social and Clinical Psychology*, *14*, 297-314.

Leary, M. R., Tambor, E. S., Terdal, S. J., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor. The sociometer hypothesis. *Journal of Personality and Social Psychology*, *68*, 518-530.

Leff, S. (1999). Bullied children are picked on for their vulnerability. *British Medical Journal*, *318*(7190), 1076.

Manning, M., Heron, J., & Marshal, T. (1978). Style of hostility and social interactions at nursery school, and at home: An extended study of children. In A. Lionel, M. B. Hersov, & D. Shaffer (Eds.), *Aggression and antisocial behavior in childhood and adolescence* (pp. 29-58). Oxford, UK: Pergamon.

Mason, W., Dressel, R., & Bain, R. (1961). An experimental study of factors affecting response to a mail survey of beginning teachers. *Public Opinion Quarterly*, *25*, 296-299.

McCoy, S., & Marks, P. V., Jr. (2001, August). *Using electronic surveys to collect data: Experiences from the field*. Paper presented at the AMCIS Annual Conference, Boston.

Meadows, B., Bergal, J., Helling, S., Odell, J., Piligian, E., Howard, C., et al. (2005, March 21). The Web: The bully's new playground. *People*, pp. 152-155.

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association*, *285*, 2094-2100.

National Children's Home. (2002). *1 in 4 children are the victims of "on-line bullying" says children's charity*. Retrieved September 1, 2003, from http://www.nch.org.uk/news/news5.asp?auto=195

National Telecommunications and Information Administration. (2002). *A nation online: How Americans are expanding their use of the Internet*. Retrieved June 13, 2004, from http://www.ntia.doc.gov/ntiahome/dn/anationonline2.pdf

Neary, A., & Joseph, S. (1994). Peer victimization and its relationship to self concept and depression among schoolgirls. *Personality and Individual Differences*, *16*(1), 183-186.

NetRatings, N. (2002). *IM programs draw US kids and teens online*. Retrieved July 30, 2003, from http://www.nua.com/surveys/index.cgi?f=VS&art_id=905358261&rel=true

Network, M. A. (2001). *Canada's children in a wired world: The parents' view—Final report*. Retrieved July 30, 2003, from http://www.media-awareness.ca/english/resources/special_initiatives/survey_resources/parents_survey/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=31576

ÓhAnluain, D. (2002). *When text messaging turns ugly*. Retrieved September 4, 2002, from http://www.wired.com/news/school/0,1383,54771,00.html

O'Leary, N. (2003). *Cell phone marketers tap teens as the next frontier*. Retrieved February 17, 2003, from http://www.adweek.com/aw/magazine/-article_display.jsp?vnu_content_id=1818786

Olweus, D. (1978). *Aggression in the schools. Bullies and whipping boys*. Washington, DC: Hemisphere Press.

Olweus, D. (1993). *Bullying at school*. Oxford, UK: Blackwell.

Olweus, D. (Ed.). (1994). *Bullying at school: Long-term outcomes for victims and an effective school-based intervention program*. New York: Plenum.

Olweus, D. (1999). Norway. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *Nature of school bullying: A cross-national perspective* (pp. 28-48). London: Routledge.

Olweus, D., Limber, S., & Mihalic, S. (1999). *Bullying prevention program*. Boulder, CO: Center for the Study and Prevention of Violence.

Patchin, J. (2002). Bullied youths lash out: Strain as an explanation of extreme school violence. *Caribbean Journal of Criminology and Social Psychology*, *7*(1-2), 22-43.

Paulson, M. J., Coombs, R. H., & Landsverk, J. (1990). Youth who physically assault their parents. *Journal of Family Violence*, *5*(2), 121-133.

Pew Internet and American Life Project. (2001). *Teenage life online: The rise of the instant-message generation and the Internet's impact on friendships and family relationships*. Retrieved July 13, 2004, from http://www.pewinternet.org/pdfs/PIP_Teens_Report.pdf

Preece, J., Rogers, Y., & Sharp, S. (2002). *Interaction design: Beyond human-computer interaction*. New York: John Wiley.

Quellet, R., & Joshi, P. (1986). Loneliness in relation to depression and self-esteem. *Psychological Reports*, *58*, 821-822.

Richardson, T. (2003). *Bullying by text message*. Retrieved February 20, 2003, from http://www.theadvertiser.news.com.au/common/story_page/0,5936,6012025%5E2682,00.html

Rigby, K., & Slee, P. T. (1993). Dimensions of interpersonal relating among Australian school children and their implications for psychological well-being. *The Journal of Social Psychology*, *133*(1), 33-42.

Rigby, K., & Slee, P. T. (1999). Australia. In P. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 324-339). London: Routledge.

Roland, E. (1980). *Terror i skolen* [Terrorism in school]. Stavanger, Norway: Rogaland Research Institute.

Roland, E. (1989). Bullying: The Scandinavian research tradition. In D. P. Tattum & D. A. Lane (Eds.), *Bullying in schools* (pp. 21-32). Stroke-on-Trent, UK: Trentham.

Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist*, *54*(2), 93-105.

Sheehan, K. B. (2001). E-mail survey response rates: A review. *Journal of Computer Mediated Communication*, *6*(2). Retrieved January 18, 2006, from http://jcmc.indiana.edu/vol6/issue2/sheehan.html

Slee, P. T., & Rigby, K. (1993). The relationship of Eysenck's personality factors and self-esteem to bully/victim behaviour in Australian school boys. *Personality and Individual Differences*, *14*, 371-373.

Smart, R., & Walsh, G. (1993). Predictors of depression in street youth. *Adolescence*, *28*, 41-53.

Smith, C. B. (1997). Casting the net: Surveying an Internet population. *Journal of Computer Mediated Communication*, *3*(1). Retrieved January 18, 2006, from http://jcmc.indiana.edu/vol3/issue1/smith.html

Stephenson, P., & Smith, D. (1989). Bullying in junior school. In D. P. Tattum & D. A. Lane (Ed.), *Bullying in schools* (pp. 45-58). Stroke-on-Trent, UK: Trentham.

Stewart, M. A. (1985). Aggressive conduct disorder: A brief review. 6th Biennial Meeting of the International Society for Research on Aggression (1984, Turku, Finland). *Aggressive Behavior*, *11*, 323-331.

Striegel-Moore, R. H., Dohm, F.-A., Pike, K. M., Wilfley, D. E., & Fairburn, C. G. (2002). Abuse, bullying, and discrimination as risk factors for binge eating disorder. *The American Journal of Psychiatry*, *159*, 1902-1907.

Tarde, G. (Ed.). (1903). *Gabriel Tarde's laws of imitation*. New York: Henry Holt.

Tattum, D. P. (1989). Violence and aggression in schools. In D. P. Tattum & D. A. Lane (Eds.), *Bullying in schools* (pp 7-19). Stroke-on-Trent, UK: Trentham.

Turkle, S. (1995). *Life on the screen: Identity in the age of the Internet*. New York: Simon & Schuster.

Twenge, J. M., & Campbell, W. K. (2001). Age and birth cohort differences in self-esteem: A cross-temporal meta-analysis. *Personality and Social Psychology Review*, *5*, 321-344.

UPOC. (2001). *Wireless stats*. Retrieved September 1, 2003, from http://www.genwireless.com/stats.html

Voss, L. D., & Mulligan, J. (2000). Bullying in school: Are short pupils at risk? Questionnaire study in a cohort. *British Medical Journal*, *320*(7235), 612-613.

Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Retrieved August 29, 2003, from http://www.secretservice.gov/ntac/ssi_final_report.pdf

Walther, J. B. (2002). Research ethics in Internet enabled research: Human subjects issues and methodological myopia. *Ethics and Information Technology*, *4*, 205.

Witmer, D. F., Colman, R. W., & Katzman, S. L. (1999). From paper-and-pencil to screen-and-keyboard. In S. Jones (Ed.), *Doing Internet research: Critical issues and methods for examining the Net* (pp. 145-161). Thousand Oaks, CA: Sage.

Witte, J. C., Amoroso, L. M., & Howard, P. E. N. (2000). Research methodology-Method and representation in Internet-based survey tools-Mobility, community, and cultural identify in Survey 2000. *Social Science Computer Review*, *18*, 179-195.

Yammarino, F. J., Skinner, S., & Childers, T. L. (1991). Understanding mail survey response behavior. *Public Opinion Quarterly*, *55*, 613-639.

Ybarra, M. L., & Mitchell, J. K. (2004). Online aggressor/targets, aggressors and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry*, *45*, 1308-1316.

Justin W. Patchin *is an assistant professor of criminal justice at the University of Wisconsin–Eau Claire. His research areas focus on policy and program evaluation, juvenile delinquency prevention, and school violence.*

Sameer Hinduja *is an assistant professor in the Department of Criminology and Criminal Justice at Florida Atlantic University. His research largely involves the integration of social science and computer science perspectives.*