Cyberbullying in schools: An examination of preservice teachers' perception

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Abstract: This study examines preservice teachers' perceptions about cyberbullying. Specifically, the following questions guide the research: (i) To what extent are preservice teachers concerned about cyberbullying? (ii) How confident are preservice teachers in managing cyberbullying problems? (iii) To what extent do preservice teachers feel prepared to deal with cyberbullying? (iv) To what extent do preservice teachers think that school commitment is important? Survey data were collected from 154 preservice teachers enrolled in a two-year post-degree program in a Canadian university. The results show that although a majority of the preservice teachers understand the significant effects of cyberbullying on children and are concerned about cyberbullying, most of them do not think it is a problem in our schools. In addition, a vast majority of our preservice teacher have little confidence in handling cyberbullying, even though the level of concern is high.

Please note: This article contains some text used by the author in other publications.

Résumé : La présente étude examine la perception des futurs enseignants à l'égard de la cyberintimidation. Plus précisément, les questions suivantes ont orienté la recherche : (i) Dans quelle mesure les futurs enseignants sont-ils préoccupés par la cyberintimidation ? (ii) À quel point les futurs enseignants sont-ils confiants dans leur capacité de gérer des problèmes de cyberintimidation ? (iii) Dans quelle mesure les futurs enseignants se sentent-ils prêts à faire face à la cyberintimidation ? (iv) Dans quelle mesure les futurs enseignants pensent-ils que l'engagement de l'école est important ? Les données de l'enquête ont été recueillies auprès de 154 enseignants non encore à l'emploi inscrits dans un programme de deux ans aux cycles supérieurs dans une université canadienne. Les résultats montrent que bien que la majorité des futurs enseignants comprennent les effets significatifs de la cyberintimidation sur les enfants et soient préoccupés par ce phénomène, la plupart d'entre eux ne pensent pas que la cyberintimidation constitue un problème dans nos écoles. En outre, une grande majorité de nos futurs enseignants s'avèrent peu confiants dans leur capacité de gérer la cyberintimidation, même si leur niveau de préoccupation est élevé.

Introduction

School bullying is not a new issue. Over the last few years, a great deal of media attention has given to school bullying events involving children who have committed suicide and

homicide as a result of being bullied (Dedman, 2000). Research suggests that both victims and offenders of bullying have much higher risk to engage in antisocial activities in adulthood (Olweus, 1994, 2003). Although the issue of bullying has received much attention in the popular media, fewer people recognize a growing problem-cyberbullying. With the dramatic development of technology, bullies have found a new playground – cyberspace. Recent research has found that about one in four students report being victims of cyberbullying (Bamford, 2005; Li, 2006, 2007a; Wolak, Mitchell & Finkelhor, 2006). A close relationship between bullying and cyberbullying as well a bully-cyberbully-victim cycle has been identified (Hinduja & Patchin, 2008; Li, 2007b; Patchin & Hinduja, 2006). The phenomenon leads to the increased recognition that cyberbullying may become a serious problem (Li, 2006). Some researchers argue that

> The negative effects inherent in cyberbullying are not slight or trivial and have the potential to inflict serious psychological, emotional, or social harm. When experience among members of this highly impressionable and often volatile adolescent population, this harm can result in violence, injury, and even death and later criminality for both the initiator and recipient of bullying. (Patchin & Hinduja, 2006, p.149)

This study, therefore, aims to explore the social context of cyberbullying through the examination of preservice teachers' perceptions.

Context – Technology and Youth

New technologies such as personal computers and cellular phones have become ubiquitous in our society. Research conducted by the US government in 2002 indicates that about 90% of adolescents use computers (National Telecommunications and Information Administration, 2002). OECD's 2006 study, analyzing the first international comparative data from 41 different countries regarding youth technology use based on PISA 2003, shows that almost all 15-year old students have used computers and in particular, over 90% of US or Canadian youth use computers almost every day for a wide range of purposes. In Canada, about 95% of the students have access to computers at home or at school (OECD, 2006).

Schools are challenged by the influx of technology in all aspects of our lives, particularly as many workplaces are demanding new forms of information production and communication. Education is feeling the pressure to offer learning opportunities using technology as well as provide more flexible modes of learning such as online learning. In response, schools and governments have invested heavily in technology hardware and software, and in online learning in schools. In the province of Alberta, 23 school districts have created online schools in 2004 (Li & Crichton, in press). Many Alberta teachers are using technology to create educational opportunities to enhance learning.

In a similar vein, the cellular phone has become more popular. By the middle of 2005 the number of total cell phone carriers had reached 2.4 billion (Numbers.com, 2007). In the US alone, the number of text messages sent per month was 7.2 billion in 2005, but this number has jumped to 75 billion by June 2008 (CTIA, 2008). These numbers continue to multiply at a steady rate and cell phones are in increasingly common use by youth ages 10-19 years (McKeown, 2008).

These numbers paint a picture of how new technologies are used by youth, both in and out of schools, suggesting an augmentation of our traditional activities and behaviours. While providing invaluable tools to enhance student learning, these new technologies also increase the likelihood of using them for deviant purposes such as cyberbullying (Patchin & Hinduja, 2006). For example, the anonymity, the lack of supervision in chat rooms, the possibility of allowing people to contact others anytime, anyplace, are all contributing to increased opportunities for cyberbullying. This calls for further exploration of this new phenomenon.

Cyberbullying – Further Defined

Cyberbullying can be briefly defined as "sending or posting harmful or cruel text or images using the Internet or other digital communication devices" (Willard, 2004). According to Willard, various forms of cyberbullying exist. These include:

> *Flaming* – sending angry, rude, vulgar messages directed at a person or persons privately or to an online group; *harassment* – repeatedly sending a person offensive messages;*cyberstalking* – harassment that include threats of harm or is highly intimidating;*denigration* (put-downs) – sending or posting harmful, untrue, or cruel statements about a person to other people; *masquerade* – pretending to be someone else and sending or posting material that makes that person look bad or places that person in potential danger; *outing and trickery* – sending or posting material about a person that contains sensitive, private, or embarrassing information, including forwarding private messages or images. Engag[ing] in tricks to solicit embarrassing information that is then made public; and *exclusion* – actions that specifically and intentionally exclude a person from an online group. (Willard, pp. 1-2)

Cyberbullying can occur in blogs (interactive web journals), websites, emails, listservs, chat, instant messaging, and text/digital image messaging via mobile devices. It can relate to gender, racial, religious, and cultural biases.

Cyberbullying can occur at different age levels and it can be devastating for victims and their families. Possible psychological harm inflicted by cyberbullying, just like bullying, may be reflected in low self-esteem, school failure, anger, anxiety, depression, school avoidance, school violence and suicide (Bargh & McKenna, 2004; Beran & Li, 2005; Ybarra & Mitchell, 2004). It is even possible that the damage resulted from cyberbullying is greater than bullying because there is no easy escape for the cyber victims and harmful materials can be easily preserved as well as quickly and widely spread. Further, many people who would not harass others face-to-face may cyberbully peers because they believe that they can hide or it is acceptable to engage virtually in such behaviour (Willard, 2004).

Studies of traditional bullying have identified a victim-bully cycle in school (Besag, 1989; Ma, 2001). That is, many victims of bullying are also bullies themselves. Moving to cyberspace, similar patterns are discerned. For example, Hinduja and Patchin (2008) conducted an online survey of 1378 users (self-reported under age 18) between 2004 and 2005. The majority of the respondents were Caucasians and from the US. Analysis indicates that about one in three are cyber-victims. Almost one in five have bullied others online. In addition, involvement in traditional bullying is closely related to cyberbullying. In this sample, offline bullies are more than five times as likely to be cyberbullies as those

who are not involved in regular bullying. In a similar vein, victims of offline bullying are more than 2.5 times as likely to be cyber victims. A study conducted in Canada and China (Li, 2007a) has compatible findings. The survey of 461 Grade 7 (264 Canadian and 197 Chinese) students shows that over half of the students have either experienced or heard about cyberbullying incidents. The percentages of students involved in cyberbullying are similar to that of Hinduja and Patchin's study (2008). Close to half of the cyber victims, however, do not know who the predators are. Culture and engagement in traditional bullying are strong predictors not only for cyberbullying, but also for cyber victimization. Gender also plays a significant role, as males, compared to their female counterparts are more likely to be cyberbullies.

Does harm occur in cyberbullying? A study of 432 students from grades 7-9 in Canadian schools has reported a variety of negative consequences (Beran & Li, 2005). Among the 100 cyber victims, more than half state that they felt anger on several occasions, and about one in three report feeling sad and hurt. This is consistent with previous research in traditional bullying which indicates ill effects when students are socially excluded (Leary & Downs, 1995; Leary, Haupt, Strauser & Chockel, 1998). These ill effects can include depression, substance abuse, and aggression (Patchin & Hinduja, 2006).

Technology allows people to be connected without geographic or time boundaries which makes cyberbullying possible both in and out of schools. Evidence shows that cyberbullying occurs in various places including schools, homes, and friends' houses. For example, Opinion Research Corporation (2006) conducted a telephone survey in the US, taking a national sample of 503 preteens (6-11 years of age) and 512 teens (12-17 years of age). Amongst the cyber victims, 45% of preteens and 30% of teens are cyberbullied at school, while 44% of preteens and 70% of teens have received the messages at home. As well, the results of a survey study (Smith, Mahdavi, Carvalho & Tippett, 2006), involving 92 students aged between 11-16 years in England, show that most cyberbullying is coming from one or a few students in the same class or year group.

Significance of the Study

Cyberbullying is a relatively new phenomenon. The digital nature of it allows a permanent record of negative information that has the potential to affect students' current and future psychological and emotional states. This can significantly impact students' learning which may be reflected in their low school commitment, problematic behaviour, and substance abuse. Research studies about bullying have indicated that school communities is an important factor in bullying-related issues. Within school communities, teachers, who are often at the forefront of dealing with student behaviours, play a significant role in fighting bullying. In fact, it is found that teacher awareness combined with commitment can reduce bullying by 50% (Boulton, 1999; Olweus, 1991, 2003). Previous research (Pepler, Craig, O'Connell, Atlas & Charach, 2004; Siu, 2004) related to bullying asserts that since teachers' perceptions and beliefs affect their behaviours, understanding their perceptions is a necessary first step to help teachers develop a good understand of and skills to

manage bullying.

The close tie between bullying and cyberbullying suggests that teacher beliefs and behaviour may significantly contribute to fighting cyberbullying. Since cyberbullying occurs both inside and outside of schools, teachers can play an important role in addressing this problem. In addition, because the negative effects on cyber victims can directly or indirectly impact their learning, teachers need to be prepared to deal with this issue. A thorough understanding of teachers' (including pre- and in- service teachers') perceptions and attitudes toward cyberbullying, therefore, is imperative before we can tap into the issue of cyberbullying intervention. To date, few, if any, studies have examined cyberbullying issues through the lens of teacher/preservice teachers. This study, therefore, focuses on preservice teachers' perceptions. The information obtained may contribute not only to the Canadian research literature related to cyberbullying but also to the development of sustainable, shared knowledge about cyberbullying. As well, it may provide valuable information to guide school and government policy-makers.

Research Questions

This study examines preservice teachers' perceptions and understandings about cyberbullying. Specifically, the following questions guide the research:

- To what extent are preservice teachers concerned about cyberbullying?
- How confident are preservice teachers in managing cyberbullying problems?
- To what extent do preservice teachers feel prepared to deal with cyberbullying?
- To what extent do preservice teachers think that school commitment is important?

Theoretical Framework

Social Development Theory (Vygotsky, 1978) provides a theoretical foundation for this study. In this view, social interaction plays a fundamental role in the children's development. "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological)" (Vygotsky, 1978, p. 57). Culture contributes to children's development in two ways: 1) children construct knowledge through culture, and 2) culture provides children with the process of their thinking. That is, children's behaviours and mental functions are learned and shaped through their interaction with significant people around them. These people include parents, teachers, and peers. Through interactions with these significant people in children's lives (whether in real life or in a virtual world), children derive meaning and learn the habits of mind of their culture. Hence, bullying, online or offline can occur as a result of experiencing aggressive and antisocial behaviours at home or in the society. In addition to peer and family factors, school climate can impact rates / incidents of bullying. For example, students who are being bullied are likely to feel unsafe and disrespected. Schools with clear school policies and positive school climates are more likely to experience a low frequency of bullying (Espelage, Bosworth & Simon, 2000; Olweus, 2003). The "mutual

influences of family, peers, school, and teachers serve to instigate, maintain, and exacerbate bullying-" (Siu, 2004, p.22) related behaviours. Although cyberbullying occurs in the digital world, similar claims can be made.

In particular, amongst the adult groups, teachers are at the forefront of coping with students' learning behaviour problems and it is their responsibility to create safe learning environments. Their attitudes in counteracting bullying and cyberbullying, therefore, are important determinants of intervention (Espelage et al., 2000; Kallestad & Olweus, 2003). This study, hence, examines teacher perceptions of cyberbullying by focusing on preservice teachers.

Method

Sample

A convenience sample of 154 preservice teachers enrolled in a teacher education program in a Canadian university provided the data for analysis. A total of 200 questionnaires were delivered and 46 were returned uncompleted, yielding a response rate of 77%. Of these preservice teachers, 23.7% were males and 76.2 % were females. Further, over 48% of them were in the first year of the program and close to 52% were in the second year.

This teacher education program was a two-year post-degree program. The goals of the program were for preservice teachers to gain theoretical and practical knowledge for teaching. The program offers various on-campus courses and field experiences. The participants of this study were pursuing training at either the elementary or secondary school level.

Measures

Because cyberbullying is a relatively new phenomenon, limited research is available in this field. Consequently, few measures have been developed to assess cyberbullying and related issues. In fact, no instrument has been found that dealt with preservice or in-service teacher perceptions about cyberbullying. However, the close link between bullying and cyberbullying suggest that information obtained from research in bullying can be instrumental for studies of cyberbullying. The author developed a questionnaire (see Appendix) based on previous research related to school bullying (Siu, 2004) and the researcher's experiences. Although participants' technology experience was a related issue, this topic was not included in the questionnaire because it was outside the scope of this study.

There were a total of 26 items in the survey. It included two major areas: (i) preservice teachers' demographic data, and (ii) their perceptions about cyberbullying and about their educational experiences in relation to cyberbullying. Responses for each perception item were indicated using a five-point Likert scale, with responses ranging from strongly disagree to strongly agree. The Alpha coefficient of the internal reliability of the instrument was 0.88.

Two methods were used to establish the content validity of the instrument: First, the instrument was developed based on an existing, field-tested instrument, namely "Teachers' Attitude About Bullying Questionnaire" developed by Siu (2004). Although cyberbullying has its unique characteristics, there were parallels found between bullying and cyberbullying. The existing instrument provided a solid foundation for the development of the cyberbullying survey, in terms of its validity. Second, a multidisciplinary panel of experts (including educators, psychologists, and statisticians) reviewed the instrument. Five reviewers rated the appropriateness of items to their dimensions by assigning values of 1 (relevant), 0 (cannot decide), or -1 (not relevant). Ninety six percent of the items were rated as 1, which was taken as an indication of good content validity. The remaining item was revised based on the experts' suggestions.

Procedures and Analysis

An ethics review was first sought from the Research Ethic Board (REB). After receiving the ethics approval, the 'Teachers' Perceptions about Cyberbullying Questionnaire' was administered by a research assistant to preservice teachers during regular on campus courses. The REB recommended not using consent forms to insure complete anonymity. Instead, it was suggested to simply take unfilled questionnaires as the indication of unwillingness to participate.

Following the REB's recommendation, the preservice teachers were first informed that the purpose of the research was to study their perceptions about cyberbullying. They were instructed to return the questionnaire in envelopes provided. They completed the questionnaire anonymously and no consent form was used.

In this paper, quantitative analysis of student questionnaires was used to examine preservice teachers' perceptions about cyberbullying. The cases with missing values were eliminated from the analysis. It is important to note that although the original questionnaire used a 5-point Likert scale, the final report used a 3-point Likert scale. This decision was made due to unevenly distributed responses for some items (e.g. School Policies, about 1% say strongly disagree, 3% disagree). Collapsing the two categories would ensure enough variance and allow better interpretation. To insure consistency, a 3-point Likert scale was used to report all of the results.

Results

To what extent were preservice teachers concerned about cyberbullying? Three statements were included in the survey: "cyberbullying is a problem in schools", "children are affected by cyberbullying', and "I am concerned about cyberbullying". The analysis of the data showed that about one in three preservice teachers believed that cyberbullying was a problem in schools. One in six did not think it was a problem in schools while about half held neutral positions.

When asked whether children were affected by cyberbullying, the pattern had changed. A majority (over 65%) of the preservice teachers agreed that cyberbullying affected children

while only about 10% disagreed. Close to half of them agreed that they were concerned about cyberbullying. The rest of them were almost evenly split between disagree or neutral (Table 1).

Table 1. *Percentages of preservice teachers concerned about cyberbullying*

Items	Disagree or strongly disagree	Neutral	Agree or strongly agree
Problem in schools	15.9%	45%	31.9%
Children are affected	10.5%	24.0%	65.5%
I am concerned	22.6%	27.8%	49.7%

The focus then shifted to preservice teachers' confidence in relation to deal with cyberbullying. Regarding this issue, two items were included in the survey: "I feel confident in identifying cyberbullying", and "I feel confident in managing cyberbullying". It was found that vast majority of them were not confident in either identifying or managing cyberbullying problems. Table 2 presents the details.

Table 2. *Preservice teachers' confidence*

Questions	Disagree or strongly disagree	Neutral	Agree or strongly agree
Identify cyberbullying	53.3%	33.6%	13.1%
Manage cyberbullying	60.1%	28.8%	11.1%

Next, preservice teacher beliefs about the importance of school commitment were examined. Here, the school commitment was broadly defined to include issues ranging from school policy, classroom strategies, to school activities. Specifically, six items in the questionnaire were concerned with this issue: "Schools should develop policies on cyberbullying"; "Schools should use professional development days to train staff about cyberbullying"; "Teachers should use a curriculum on cyberbullying to teach children"; "Teachers should organize classroom activities to deal with cyberbullying"; "School administrators should organize school-wide activities to deal with cyberbullying"; and "Schools should discuss cyberbullying with parents".

Table 3. *Percentages* of preservice teachers' beliefs about school commitment*

Questions	Disagree or strongly disagree	Neutral	Agree or strongly agree
School policies	4.6%	18.5%	75.3%
Training teachers	11.0%	20.8%	67.6%
Curriculum	16.9%	35.7%	46.1%
Classroom activities	12.9%	33.1%	53.2%
School-wide activities	13.6%	31.2%	53.1%
Discuss with parents	8.4%	23.4%	67.5%

** The percentages may not add up to 100% due to missing values*

The responses demonstrated that a vast majority of the preservice teachers believed that schools should develop policies on cyberbullying, discuss it with parents, and train staff about this problem. However, these preservice teachers were split, roughly half-and-half, in their opinions about getting teacher commitment through curriculum or classroom activities or having school-wide activities. Table 3 provides details.

The last question was concerned with how prepared teachers were in their university education. To answer this question, two statements were presented in the questionnaire: "my current university education has been preparing me to manage cyberbullying" and "I want to learn more about cyberbullying in my university education". The responses showed that almost all preservice teachers felt that their current university education did not prepare them to manage cyberbullying. Close to 45% of them wanted to spend time in their university education to learn about cyberbullying, while about one in five of the preservice teachers were not interested in gaining such knowledge through their university training (Table 4).

Table 4. *Preparation of preservice teachers*

Questions	Disagree or strongly disagree	Neutral	Agree or strongly agree
University prepares me	81.8%	14.9%	3.3%
Want to learn more	19.0%	36.6%	44.4%

Discussion and Conclusion

This study explores cyberbullying through the examination of preservice teachers' perceptions about cyberbullying. The analysis of a survey data collected from 154 preservice teachers sheds light on this issue. Particularly, the following section highlights the emergent themes.

The first important finding concerns preservice teachers' beliefs about cyberbullying problems in schools. Although a majority of the preservice teachers understand the significant effects of cyberbullying on children and are concerned about cyberbullying, they do not think it is a problem in our schools. This shows that, although cyberbullying has

been identified as a serious problem in school systems (Bamford, 2005; Campbell, 2005; Li, 2006, 2007b), a majority of our preservice teachers are not aware the significance of this problem. One possible explanation is that, unlike bullying, victims of cyberbullying usually do not have visible bruises or other marks; therefore it is easy to disguise. Teachers, therefore, have more difficulties to identify such problems.

The second significant finding is that a vast majority of our preservice teacher do not feel confident in handling cyberbullying, even though the level of concern is high. They do not know either how to identify the problem, or how to manage it when it occurs. Thus, despite wanting to confront cyberbullies and support victims,

> Teachers may feel helpless and powerless if they consider themselves as lacking in the skills to do so. These feelings may create considerable stress for teachers if parents and school administrators expect them to ensure the safety of the students. (Siu, 2004, p.44)

Considering that teachers' confidence can help students develop a sense of security and safety (Boulton, 1999), it is important for teachers to develop knowledge and skills about cyberbullying, which in turn, will increase their confidence.

Third, most preservice teachers have identified the need for school commitment on combating cyberbullying. Specifically, higher percentages of teachers believe that school policy, teacher training, and involvement of parents are important than that of the teachers who consider curriculum, classroom or school-wide activities addressing cyberbullying to be essential.

Last, less than 4% of the participating preservice teachers have indicated that they have received training to manage cyberbullying, although most of them have showed the desire to learn more about it in their university education. Considering that cyberbullying is a relatively new phenomenon, this finding is not surprising. In addition, topics such as curriculum learning are likely to receive more attention in educational programs than topics related to socio-emotional development of children which include bullying/cyberbullying issues. Consistent with research studies involving traditional bullying (Siu, 2004), preservice teachers have reported the need for training on cyberbullying and dissatisfactory of their preparation in their current education.

Although a delimitation, I caution that the fact that the information of preservice teachers' technology experience (beyond the scope of this study) was not collected does affect the interpretation of the results. It is possible that many of these preservice teachers have limited experience with the types of computer-mediated communication tools such as chat rooms, cell phone text messages, etc., hence their ability to recognize or deal with these types of problems would be affected. In this study, less than a third of the preservice teachers think cyberbullying is a problem in school. This may be because these teachers do not really use technology themselves, or within their instructional activities. As well, the majority of the preservice teachers' low confidence level in identifying and managing cyberbullying may relate to their lack of experience with the technologies where cyberbullying occurs.

Implications

The ultimate merit of any educational research is its implication in educational practice. Findings from this study of cyberbullying focusing on preservice teacher perceptions point to several policy and educational implications. A significant implication is that we need to consider cyberbullying when developing educational programs. There is a need for teacher education to include information about cyberbullying, which is not currently a core component of teacher training programs. Teachers need to understand the significant implication of cyberbullying as well as to learn how to identify and handle such incidents. Some possible approaches include offering conferences or information sessions on cyberbullying, designing assignments integrating cyberbullying discussions, or even courses which focus on bulling and cyberbullying issues. Teachers also need to provide better supervision when technology is used in classrooms for learning (Patchin & Hinduja, 2006). As well, we need to enrich teachers' experiences with technology use, both inside and outside of classrooms, so that they can better understand how to effectively and ethically use technology.

Another implication from this research underscores the importance of a holistic and proactive approach to address unethical uses of technology including cyberbullying. Policy makers, administrators, police officers, parents, educators are all key stakeholders to combat cyberbullying. School policies, training programs all need to consider technological advances to avoid any problems or to best address them when they arise. Together, we can build a harmonious society, taking advantage of all new technologies.

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References

Bamford, A. (2005). Cyber-bullying. Classroom, 25(1), 18-19.

Bargh, J., & McKenna, K. (2004). The internet and social life. Annual Review of Psychology, 55, 573-590.

Beran, T., & Li, Q. (2005). Cyber-harassment: A new method for an old behavior. Journal of Educational Computing Research, 32(3), 265-277.

Besag, V. (1989). Bullies and victims in schools. Milton Keynes, UK: Open University Press.

Boulton. (1999). Concurrent and longitudinal relations between children's playground behavior and social preference, victimizations, and bullying. Child Development, 70, 944-954.

Campbell, M. (2005). Cyber-bullying - An old problem in a new guise. Australasian Journal of Guidance and Counselling, 15(1), 68-76.

CTIA. (2008). Wireless Quck Facts. Retrieved Dec. 19, 2008, from CTIA: The Wireless Association website: http://www.ctia.org/consumer_info/service/ index.cfm/AID/10323

Dedman, B. (2000). Schools may miss mark on preventing violence. Chicago Sun-Times, p. B6.

Espelage, D., Bosworth, K., & Simon, T. (2000). Examining the social context of bullying behaviors in early adolescence. Journal of Counseling and Development, 78(3), 326-333.

Hinduja, S., & Patchin, J. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. Deviant Behavior, 29(2), 129-156.

Kallestad, J. H., & Olweus, D. (2003). Predicting teachers' and schools' implementation of the Olweus Bullying Prevention Program: A multilevel study. Prevention & Treatment, 6(21), 1-11.

Leary, M., & Downs, K. (1995). Interpersonal functions of the self-esteem motive: The self-esteem system as a sociometer. In M. Kernis (Ed.), Efficacy, agency, and self-esteem (pp. 123-144). NY: Plenum.

Leary, M., Haupt, A., Strauser, K., & Chokel, J. (1998). Calibrating the sociometer: The relationship between interpersonal appraisal and state self-esteem. Journal of Personality and Social Psychology, 74, 1290-1299.

Li, Q. (2006). Cyberbullying in schools: A research of gender differences. School Psychology International, 27(2), 157-170.

Li, Q. (2007a). Bullying in the new playground: A research into cyberbullying and cyber victimization. Australasian Journal of Educational Technology, 23(4), 435-454.

Li, Q. (2007b). New bottle but old wine: A research on cyberbullying in schools. Computers and Human Behavior, 23(4), 1777-1791.

Li, Q., & Crichton, S. (in press). Modeling the model: Encouraging communities of practice. In J. Salmons & L. Wilson (Eds.), Handbook of Research on Electronic Collaboration and Organizational Synergy.

Ma, X. (2001). Bullying and being bullied: To what extent are bullies also victims? American Educational Research Journal, 38(2), 351-370.

McKeown, D. (2008). Cell phone use by children and youth (Staff Report). Toronto: Medical Officer of Health.

National Telecommunications and Information Administration. (2002). A nation online: How Americans are expanding their use of the Internet. Retrieved Jan. 7, 2009. from

http://www.digitale-chancen.de/transfer/downloads/ MD222.pdf

Numbers.com, C. (2007). Cell phone usage statistics. Retrieved April 8, 2008, fromhttp://www.cellnumbers.com/cell-phone-usage.aspx

OECD. (2006). Are students ready for a technology-rich world? What PISA studies tell us. Paris: Organisation for Economic Cooperation and Development (OECD).

Olweus, D. (1991). Bully/victim problems among school children: Basic effects of a school based intervention program. In D. Pepler & K. Rubin (Eds.), The development and treatment of childhood aggression (pp. 411-448). New Jersey: Erlbaum.

Olweus, D. (1994). Bullying at school: Long-term outcomes for the victims and effective school-based intervention program. In L. Huesmann (Ed.), Aggressive Behavior: Current Perspectives (pp. 97-130). NY: Wiley.

Olweus, D. (2003). A profile of bullying at school. Educational Leadership, 60(6), 12-19.

Opinion Research Corporation. (2006). Cyberbully preteen. Retrieved Nov. 12, 2008, fromhttp://www.fightcrime.org/cyberbullying/cyberbullyingteen.pdf

Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary look at cyberbullying. Youth Violence and Juvenile Justice, 4(2), 148-169.

Pepler, D., Craig, W., O'Connell, P., Atlas, R., & Charach, A. (2004). Making a difference in bullying: Evaluation of a systemic school-based programme in Canada. In P. Smith, D. Pepler & K. Rigby (Eds.), Bullying in schools: How successful can interventions be? (pp. 125-140). Cambridge: Cambridge University Press.

Siu, C. (2004). Pre-service teachers' attitudes about school bullying: A new perspective. University of Calgary, Calgary.

Smith, P., Mahdavi, J., Carvalho, M., & Tippett, N. (2006). An investigation into cyberbullying, its forms, awareness and impact, and the relationship between age and gender in cyberbullying (Research Brief): Anti-Bullying Alliance.

Vygotsky, L. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Willard, N. (2004). Educator's guide to cyberbullying: Addressing the harm caused by online social cruelty. Retrieved July 11, 2005, from http://cyberbully.org

Wolak, J., Mitchell, K. J., & Finkelhor, D. (2006). Online victimization of youth: 5 years later. Alexandria, VA: National Center for Missing & Exploited Children. Alexandria, Virginia: National Center for Missing & Exploited Children.

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.

Appendix: Survey on School Cyberbullying for Preservice Teachers

About You: Gender: Male [ ] Female [ ] **Year in Program:** 1st 2nd or more

Please state how much you agree with the following statements. Circle a number from 1-5 where 1 states you strongly disagree and 5 states you strongly agree. Please think of children in Kindergarten to Grade 12 in local schools when answering these questions.

	Strongly Disagree =1				Strongly Agree = 5
1. Cyberbullying is a problem in school……..	1	2	3	4	5
1. Children are affected by cyberbullying……	1	2	3	4	5
1. I am concerned about cyberbullying……....	1	2	3	4	5
1. I feel confident in identifying cyberbullying…….	1	2	3	4	5
1. I confident in managing cyberbullying…….....	1	2	3	4	5
1. If I knew cyberbullying at a school I would do something……..	1	2	3	4	5
1. Schools should develop policies on cyberbullying…….	1	2	3	4	5
1. Schools should use professional development days to train staff about cyberbullying…….....	1	2	3	4	5
1. Teachers should use a curriculum on cyberbullying to teach children……	1	2	3	4	5
1. Teachers should organize classroom activities to deal with cyberbullying……	1	2	3	4	5
1. School administrators should organize school-wide activities to deal with cyberbullying……..	1	2	3	4	5
1. Surveys should be given to children to ask them about their experiences of being cyberbullied……..	1	2	3	4	5
1. Committees should be formed in schools to look at the problem of cyberbullying……	1	2	3	4	5
1. Schools should discuss cyberbullying with parents……..……..	1	2	3	4	5
1. School assemblies should address cyberbullying……	1	2	3	4	5
1. Schools should link with community resources to deal with cyberbullying ……	1	2	3	4	5
1. TV and other media should discuss cyberbullying……	1	2	3	4	5
1. Children should receive counselling to deal with cyberbullying……	1	2	3	4	5
1. School resources should be used to help teachers deal with cyberbullying……..	1	2	3	4	5
1. My current university education has been preparing me to manage cyberbullying……	1	2	3	4	5
1. I want to learn more about cyberbullying in my university education……	1	2	3	4	5
1. In comparison to other topics I want covered in my university education, cyberbullying is just as important……	1	2	3	4	5

Do you have any other comments about school cyberbullying? (use the other side if needed)