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Psychological Impact of Cyber-Bullying: Implications for School Counsellors
L'effet psychologique de cyber-intimidation : Implications pour les conseillers scolaires

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ABSTRACT

Cyber-bullying is a significant problem for children today. This study provides evidence of the psychological impact of cyber-bullying among victimized children ages 10 to 17 years (M = 12.48, SD = 1.79) from 23 urban schools in a western province of Canada (N = 239). Students who were cyber-bullied reported high levels of anxious, externalizing, and depressed feelings/behaviours for all types of cyber-bullying they experienced, with girls reporting more severe impact than boys. Strategies are discussed for school counsellors working with youth who have been victimized through electronic means.

RÉSUMÉ

Cyber-intimidation est un problème important pour les enfants d'aujourd'hui. Cette étude fournit des preuves de l'effet psychologique de la cyber-intimidation chez les victimes, des enfants âgés de 10 à 17 ans (M = 12,48, SD = 1,79) de 23 écoles urbaines dans une province de l'ouest du Canada (N = 239). Les étudiants, victimes de cyber-intimidation, ont déclaré avoir vécu des sentiments et des comportements d'anxiété, d'extériorisation, et de dépression pour tous les types de cyber-intimidation qu'ils ont vécus. Les filles ont indiqué des effets plus sévères que les garçons. Des stratégies sont discutées pour les conseillers scolaires qui travaillent avec des jeunes victimes de cyber-intimidation par moyen de média électronique.

Emerging research has shown that electronic communication may be used to bully others, resulting in a form of bullying called *cyber-bullying*. The harmful experience of this type of bullying remains unclear in the literature. Although some studies have found that cyber-bullying can have a negative emotional (e.g., sadness, scared) or behavioural (e.g., violent, missed school) impact on those who have been victimized (Beran & Li, 2007; Willard, 2007; Wolak, Mitchell, & Finkelhor, 2006), some results show no impact or inconsistent types of impact (Smith et al., 2008; Ybarra, Mitchell, Wolak, & Finkelhor, 2006). It is possible that this may vary as a function of the type of cyber-bullying experienced. School bullying has been divided into direct forms such as physical (e.g., punching) and verbal (e.g., threatening), as well as indirect forms (e.g., spreading rumours, gossiping, and

social exclusion that occur in the absence of the targeted child; van der Wal, de Wit, & Hirasing, 2003). Given that these multiple forms of school bullying have a varied effect on children and adolescents (Marini, Dane, & Bosacki, 2006), it is likely that different types of cyber-bullying have specific consequences on targeted children. It is essential that school counsellors have a comprehensive understanding of the complexity of cyber-bullying to effectively support victimized children. The current study examined seven types of cyber-bullying and their impacts.

cyber-bullying

It is estimated that children in Canada and the United States spend 3 to 4 hours per day consuming media through the use of an electronic communication device (e.g., cell phone or laptop; Media Awareness Network, 2005; Subrahmanyam & Lin, 2007). In Canada, for example, 84% of children between 8 and 18 years of age have Internet access at home, 66% have a cell phone (many with Internet capability, text messaging, and cameras), and 29% have their own laptop computer (Rideout, Foehr, & Roberts, 2010). In addition, 22% of children have their own webcams and 24% have access to handheld Internet devices (Roberts, Foehr, & Rideout, 2005). These devices can be used almost anywhere, and they provide many opportunities for children to send intimidating, threatening, or embarrassing messages to others. Specifically, cyber-bullying is defined as "using electronic forms of communication (computers, cell phones, or other handheld devices) to bully an individual or a group of individuals" (Willard, 2007, p. 28). Cyber-bullying involves seven specific types: name calling (e.g., calling another student a "loser" on text message), threatening (e.g., threatening to harm another student via e-mail), rumour-mongering (e.g., spreading a rumour about another student over the Internet), sending private pictures (e.g., sending an embarrassing picture of a student without consent), impersonation (e.g., pretending to be someone else on Facebook), sexual comments (e.g., sending unwanted sexual texts or photos), and sexual behaviours (e.g., being asked to do something sexual via e-mail; Mishna, Cook, Gadalla, Daciuk, & Solomon, 2010; Mitchell, Ybarra, & Finkelhor, 2007; Willard, 2007). A recent Canadian study found that 21% of children experienced cyber-bullying at least once in the last three months, while 34% of children cyber-bullied others (Mishna, Beran, Poole, Gadalla, & Daciuk, 2011).

impact of school bullying and cyber-bullying

Children who have been cyber-bullied report high levels of psychological impact, including sadness, embarrassment, anxiety, and depression (Beran & Li, 2007; Juvonen & Gross, 2008; Ybarra, 2004; Ybarra & Mitchell, 2004b). They are also likely to feel angry and are at risk of increased violence toward others (Beran & Li, 2007; Patchin & Hinduja, 2006; Ybarra, Diener-West, & Leaf, 2007; Ybarra & Mitchell, 2004a). Despite this emerging evidence of harm, some studies show no or different types of harm (Cassidy, Jackson, & Brown, 2009; Dempsey, Sulkowski,

Nichols, & Storch, 2009; Smith et al., 2008; Ybarra et al., 2006). For example, Mitchell and colleagues (2007) found that sexual solicitation online was linked to depression and delinquent behaviours, but threats of a nonsexual nature were associated with depression but not delinquent behaviours. Some researchers suggest that some graphic types of cyber-bullying, such as personal videos or pictures sent to others, are more hurtful than other types, given the highly public and revealing nature of these forms of cyber-bullying (i.e., a student can actually be shown in a hurtful or embarrassing context; Slonje & Smith, 2008; Smith et al., 2008). Thus, different types of cyber-bullying may be related to specific forms of harm.

SEX AND GRADE DIFFERENCES

Differences in harm between boys and girls have not been clearly delineated in the research. Ybarra (2004) found that boys victimized by cyber-bullying were more likely to report depressive symptomatology than girls, whereas other studies have found no significant sex differences (Dempsey et al., 2009). Recent research indicates that impact may depend on the type of cyber-bullying; one study found that more boys than girls reported feeling afraid when threatened through electronic means (Cassidy et al., 2009).

It has been suggested that younger students may feel more impacted by cyber-bullying than older students because they have not yet developed the same level of social skills and coping strategies compared to their older peers (Beran & Tutty, 2002; Larke & Beran, 2006; Ybarra et al., 2006). Willard (2007) found that students between Grades 6 and 7 were more likely to feel distress from cyber-bullying than students between Grades 8 and 12, but this finding has not been supported in other studies (e.g., Beran & Li, 2005; Smith et al., 2008). It is currently unclear whether the impact of cyber-bullying differs between lower- and higher-grade students (Smith et al., 2008; Ybarra et al., 2006).

THE CURRENT STUDY

The current study examines the psychological impact of seven types of cyber-bullying (name calling, threatening, rumour-mongering, sending private pictures, impersonation, sexual comments, and sexual behaviours). It was predicted that the type of impact would vary as a function of the type of cyber-bullying experienced, as well as the sex and grade of the child who was victimized. The first research question is: Is the impact of cyber-bullying different for each type of cyber-bullying experienced? The second research question is: Does the impact vary based on sex and grade? Consistent with previous cyber-bullying studies (Cassidy et al., 2009; Ybarra et al., 2006), it was expected that boys and younger children would report more distress than girls and older children. This study provides insight into the psychological impact of the different types of cyber-bullying. These results will inform school counsellors about appropriate intervention and prevention strategies.

METHOD

Participants

A total of 524 students from Grades 6, 7, 10, and 11 between the ages of 10 and 17 years (M = 12.4, SD = 1.82) were surveyed. Only students who indicated they had been cyber-bullied were included in this study. These grades were chosen to address the mixed results for this age group reported in the research. Due to limited access to the Grade 10 students, the four that were sampled were excluded from the final sample. A total of 239 participants (M = 12.48, SD = 1.79; 89 boys and 150 girls) are included in subsequent analyses. The majority of the participants spoke English (n = 175; 73.2%) and were born in Canada (n = 186; 77.8%).

Procedure

Principals of schools within an urban city in a western Canadian province were contacted. If a principal consented to the school's participation (23 schools; agreement rate 60%), a research assistant presented the study and distributed consent form packages to entire classes. Students were asked to provide assent as well as take a package home to ask a parent or guardian for consent. Students that returned the signed parent consent forms and provided student assent were administered the student questionnaires in small groups by a research assistant. A total of 20% of eligible students participated. No data were collected from nonparticipants; thus, we cannot ascertain whether there were differences between those who did or did not participate. All participants were informed that the purpose of the study was to understand their experiences of cyber-bullying. The time to complete the survey was about 30 minutes.

Measures

Questions from the section that pertains to cyber-bullying were drawn from a questionnaire administered by Mishna et al. (2010). Participants first reported demographic information such as grade, sex, age, and language spoken. Then they were asked the following question: "In the past 3 months when you have been online did anyone ever: call you a name, threaten you, spread a rumour about you, send a private picture of you to others, pretend to be you, send you sexual words or images, or ask you to do something sexual?" Those who responded affirmatively to this question about cyber-bullying were then asked to respond separately to each type (e.g., "In the past 3 months when you have been online, how often has anyone ever called you a name?"). These seven different types of cyber-bullying are reported in Table 1 with demographic information of the participants who were victimized. Participants could report experiencing more than one type of cyber-bullying. The term "bullying" or "cyber-bullying" was not used in the questions to avoid misinterpretation.

For each of the seven types of cyber-bullying, children then reported how they were impacted by checking any of 18 impact items (scared, embarrassed, hard to concentrate, anxious, sick, nervous, angry, decrease in school grades, want to run

away, missed school, cranky, violent, hurt self, hard to sleep, eat more/less, sad, lonely, and depressed). A principal components analysis with Varimax rotation was used to identify how the impact items were associated (initially completed for the first type of cyber-bullying and then verified with the other types of cyber-bullying). Factor loadings of 0.33 or larger for the impact items were considered significant (Stevens, 2002) and used to identify factors. This analysis resulted in three factors (psychological impact areas), with 6 of the 18 impact items making up each factor. The first factor was labelled *anxiety* and included the impact items of fear, anxiety, embarrassment, nervousness, impaired concentration, and stomach aches; the Cronbach alphas of the anxious items across the types of cyber-bullying ranged from .67 to .81. The second factor was labelled *externalizing* and included impact items of anger, irritability, decrease in school grades, wanting to run away, missing school, and violence toward others; the Cronbach alphas of the externalizing items across the types of cyber-bullying ranged from .64 to .86. The third factor was labelled *depression* and included impact items of sadness, loneliness, depression, suicide ideation, changes in appetite, and difficulty sleeping; the Cronbach alphas of the depressed items ranged from .73 to .89. In addition to this evidence of validity and reliability, content validity is demonstrated by the involvement of experienced researchers, practitioners, school administrators, and piloting in the development of these items (Mishna et al., 2010).

Table 1
Demographic Description of Victims by Type of Cyber-Bullying

Demographics	*Called names*	*Threat-ened*	*Rumour spread*	*Private picture sent*	*Imper-sonated*	*Sent something sexual*	*Asked to do sexual act*
Total	158	65	119	17	82	59	35
Sex							
Boy	49	21	34	7	25	19	6
Girl	109	44	85	10	57	40	29
Grade							
6	59	20	38	4	28	20	10
7	82	40	62	9	44	30	16
11	17	5	18	4	10	9	9
No data	0	0	1	0	0	0	0
Age							
10–11	45	17	31	3	24	16	9
12–13	96	43	68	10	47	33	16
16–17	16	5	18	4	10	9	9
No data	1	0	2	0	1	0	1
How long in Canada							
Born in Canada	126	52	96	12	65	47	31
2–4 years	13	5	9	2	5	3	0
5 or more years	14	7	9	2	9	7	3
No data	5	1	5	1	3	2	1

RESULTS

Type of Cyber-Bullying and Impact

We examined how students, who experienced each type of cyber-bullying, were impacted by each of the 18 impact items. Anger was most often reported by students who were called names (n = 65, 41%), had rumours spread about them (n = 60, 50%), were threatened (n = 21, 32%), or were impersonated (n = 28, 34%). For students victimized through private pictures sent to others, the most common reaction was embarrassment (n = 6, 35%). For students that were sent sexual words or images (n = 59), the most common reaction was feeling angry (n = 19, 32%) and scared (n = 19, 32%). A large percentage of students who were asked to do something sexual (n = 35) felt scared (n = 12, 34%). Overall, anger was the most common reaction with feeling scared as the second most common.

Using the subscale impact scores and types of cyber-bullying, correlations were calculated to examine whether students who were victimized had distinct or combined anxious, externalizing, and depressed feelings or behaviours (see Table 2). Across all seven types of cyber-bullying, there were moderate to large significant relationships among anxious, externalizing, and depressed feelings and behaviours. As such, students that reported one type of impact likely reported another type. Students reported being impacted similarly across types of cyber-bullying.

Sex and Grade Differences in Rate of Cyber-Bullying and Impact

Independent samples t-tests were calculated to determine sex differences in reported anxious, externalizing, or depressed experiences as a result of cyber-bullying. As there were 21 comparisons, the Bonferroni Multiple Comparison Test was used to reduce the criterion of significance from 0.05 to 0.002 (Howell, 2007). The results, presented in Table 3, show that the effect sizes ranged from medium to large (Howell, 2007). Of the students who were called names and threatened, significantly more girls than boys reported anxiety, externalizing, and depression. For rumours spread online, there was no significant sex differences regarding anxiety or externalizing; however, girls reported higher levels of depressed reactions than boys. No significant sex differences in anxious, externalizing, or depressed feelings and behaviours were found when youth were impersonated, had private pictures sent to others, were sent sexual information, or when asked to do something sexual.

One-way ANOVAs and post-hoc comparisons were conducted to identify grade differences in anxious, externalizing, or depressed impact. The results are presented in Table 4. Using the adjusted level of significance of $p < .002$, it appears that there are no significant differences across grades.

Table 2
Type of Cyber-Bullying and Impact: Pearson Product-Moment Correlations

Type of cyber-bullying and impact		Called names		Threatened			Rumours Spread			Private picture		
		Ext	Dep	Anx	Ext	Dep	Anx	Ext	Dep	Anx	Ext	Dep
Called names	Anx	.60**	.71**	.91**	.46**	.60**	.73**	.46**	.56**	.73*	.62*	.48
	Ext		.75**	.58**	.80**	.65**	.60**	.76**	.63**	.54	.44	.48
	Dep			.79**	.74**	.85**	.69**	.66**	.82**	.78**	.71*	.76**
Threatened	Anx				.67**	.80**	.60**	.50**	.67**	.87*	.72	.68
	Ext					.81**	.44**	.78**	.62**	.44	.39	.70
	Dep						.55**	.64**	.73**	.59	.79*	.92**
Rumours	Anx							.67**	.70**	.88**	.74*	.75*
	Ext								.69**	.79**	.81**	.77**
	Dep									.75*	.68*	.78**
Private picture	Anx										.82**	.87**
	Ext											.89**
	Dep											

Note. Anx = anxious impact; Ext = externalizing impact; Dep = depressed impact.
*$p < .05$. **$p < .01$.

Table 2 continued on next page

Type of cyber-bullying and impact		Impersonated			Sent sexual			Do sexual		
		Anx	Ext	Dep	Anx	Ext	Dep	Anx	Ext	Dep
Called names	Anx	.37**	.50**	.51**	.64**	.32	.46**	.65**	.15	.51**
	Ext	.48**	.44**	.49**	.37*	.48**	.38*	.42*	.26	.37
	Dep	.42**	.53**	.62**	.56**	.62**	.69**	.59**	.44*	.58**
Threatened	Anx	.34	.62**	.50**	.80**	.57**	.65**	.56*	.30	.41
	Ext	.18	.21	.40*	.46*	.78**	.68**	.38	.56*	.41
	Dep	.44*	.51**	.68**	.70**	.76**	.87**	.67**	.55*	.61**
Rumours	Anx	.59**	.65**	.60**	.78**	.51**	.64**	.83**	.37	.70**
	Ext	.69**	.70**	.68**	.40*	.70**	.49**	.70**	.54**	.65**
	Dep	.44**	.68**	.60**	.62**	.72**	.83**	.73**	.73**	.79**
Private pic.	Anx	.85**	.89**	.79*	.94**	.64	.66	.95**	.82*	.93**
	Ext	.96**	.94**	.94**	.90**	.86*	.81*	.91*	.98**	.98**
	Dep	.92**	.87**	.95**	.86*	.92**	.91**	.88*	.99**	.99**
Impersonated	Anx		.74**	.77**	.60**	.55**	.43	.72**	.56*	.58*
	Ext			.77**	.74**	.53*	.69**	.86**	.80**	.77**
	Dep				.56**	.57**	.64**	.84**	.70**	.73**
Sent sexual	Anx					.58**	.71**	.94**	.64**	.92**
	Ext						.77**	.67**	.80**	.78**
	Dep							.77**	.83**	.91**
Do sexual	Anx								.52**	.79**
	Ext									.72**

Note. Anx = anxious impact; Ext = externalizing impact; Dep = depressed impact.
*$p < .05$. **$p < .01$.

Table 3
Sex and Impact of Cyber-Bullying: T-tests

	Sex				
Type of cyber-bullying	Girls *M*(*SD*) (*n* = 150)	Boys *M*(*SD*) (*n* = 89)	*t*	*df*	*d*
Called names (*n* = 156)	(*n* = 107)	(*n* = 49)			
Anxious	.15 (.22)	.03 (.11)	4.43***	154	.69
Externalizing	.20 (.23)	.05 (.10)	5.59***	154	.85
Depressed	.20 (.26)	.04 (.10)	5.84***	150	.81
Threatened (*n* = 65)	(*n* = 44)	(*n* = 21)			
Anxious	.24 (.29)	.03 (.15)	3.91***	63	.91
Externalizing	.23 (.29)	.02 (.08)	4.54***	55	.99
Depressed	.23 (.33)	.01 (.04)	4.33***	45	.94
Rumours (*n* = 119)	(*n* = 85)	(*n* = 34)			
Anxious	.19 (.24)	.08 (.18)	2.87	83	
Externalizing	.23 (.24)	.10 (.17)	3.24	81	
Depressed	.22 (.28)	.06 (.15)	3.97***	106	.71
Private Pictures (*n* = 17)	(*n* = 10)	(*n* = 7)			
Anxious	.32 (.27)	.02 (.06)	3.35	10	
Externalizing	.28 (.37)	.07 (.13)	1.67	12	
Depressed	.25 (.34)	.00 (.00)	2.36	9	
Impersonated (*n* = 82)	(*n* = 57)	(*n* = 25)			
Anxious	.16 (.26)	.07 (.20)	1.70	57	
Externalizing	.17 (.23)	.07 (.13)	2.66	76	
Depressed	.14 (.24)	.03 (.13)	2.67	75	
Sent Sexual (*n* = 59)	(*n* = 40)	(*n* = 19)			
Anxious	.22 (.27)	.05 (.10)	3.46	54	
Externalizing	.15 (.23)	.06 (.10)	2.05	57	
Depressed	.16 (.26)	.04 (.09)	2.67	54	
Do sexual (*n* = 35)	(*n* = 29)	(*n* = 6)			
Anxious	.22 (.25)	.03 (.07)	3.64	30	
Externalizing	.11 (.21)	.03 (.07)	1.73	25	
Depressed	.12 (.23)	.03 (.07)	1.70	29	

*** = p <.002

Table 4
Grade and Impact of Cyber-Bullying: One-Way ANOVA

	Grade					
Type of cyber-bullying	Six *M*(*SD*) (*n* = 88)	Seven *M*(*SD*) (*n* = 111)	Eleven *M*(*SD*) (*n* = 39)	*F*	*df*	*p*
Called names (*n* = 156)	(*n* = 59)	(*n* = 80)	(*n* = 17)			
Anxious	.08(.19)	.15(.21)	.07(.17)	2.08	153	.13
Externalizing	.12(.19)	.19(.23)	.10(.12)	2.58	153	.08
Depressed	.12(.20)	.18(.26)	.11(.20)	1.36	153	.26
Threatened (*n* = 65)	(*n* = 20)	(*n* = 40)	(*n* = 5)			
Anxious	.10(.25)	.22(.27)	.13(.30)	1.33	63	.27
Externalizing	.10(.23)	.21(.27)	.07(.15)	1.70	63	.19
Depressed	.09(.24)	.20(.32)	.03(.07)	1.50	63	.23
Rumours (*n* = 118)	(*n* = 38)	(*n* = 62)	(*n* = 5)			
Anxious	.16(.19)	.20(.26)	.04(.11)	3.67*	117	.03
Externalizing	.15(.17)	.24(.26)	.12(.16)	3.18	117	.05
Depressed	.14(.19)	.24(.31)	.07(.16)	3.62*	117	.03
Private Pictures (*n* = 17)	(*n* = 4)	(*n* = 9)	(*n* = 4)			
Anxious	.08(.17)	.31(.28)	.04(.08)	2.58	15	.11
Externalizing	.08(.10)	.33(.37)	.00(.00)	2.30	2(15)	.14
Depressed	.08(.17)	.24(.35)	.00(.00)	1.17	2(15)	.34
Impersonated (*n* = 82)	(*n* = 28)	(*n* = 44)	(*n* = 10)			
Anxious	.12(.22)	.17(.28)	.05(.08)	1.03	2(81)	.50
Externalizing	.09(.14)	.20(.25)	.02(.05)	4.78*	2(81)	.03
Depressed	.10(.17)	.13(.26)	.00(.00)	1.43	2(81)	.38
Sent Sexual (*n* = 59)	(*n* = 20)	(*n* = 30)	(*n* = 9)			
Anxious	.11(.15)	.24(.30)	.06(.12)	2.18	2(58)	.10
Externalizing	.11(.16)	.14(.24)	.07(.12)	.43	2(58)	.73
Depressed	.10(.17)	.16(.28)	.02(.06)	1.08	2(58)	.37
Do Sexual (*n* = 35)	(*n* = 10)	(*n* = 16)	(*n* = 9)			
Anxious	.22(.18)	.25(.30)	.06(.08)	1.62	2(34)	.20
Externalizing	.07(.09)	.14(.26)	.06(.12)	.51	2(34)	.68
Depressed	.08(.18)	.16(.28)	.02(.06)	.90	2(34)	.45

*$p < .05$.

DISCUSSION

The main purpose of this study was to examine whether different types of cyber-bullying were related to various types of psychological impact. It was found that three forms of impact—anxiety, externalizing, and depression—were related to all seven types of cyber-bullying experienced. The results also demonstrated that the sex of the victim was related to the psychological impact of types of cyber-bullying.

Psychological Impact of Cyber-bullying

Previous research has been mixed as to whether cyber-bullying has an impact on children's anxiety, depression, and externalizing behaviours (Beran & Li, 2005; Cassidy et al., 2009; Dempsey et al., 2009; Li, 2007; Ybarra, 2004; Ybarra et al., 2006; Ybarra et al., 2007). Some research that examined cyber-bullying as one behaviour found that children reported more sad, anxious, depressed, angry, and violent feelings and behaviours, whereas some have not (Beran & Li, 2005; Juvonen & Gross, 2008; Patchin & Hinduja, 2006; Ybarra, 2004; Ybarra & Mitchell, 2004a, 2004b; Ybarra et al., 2007). These conflicting results may be related to whether researchers break down cyber-bullying into specific types. One study that examined two different types of cyber-bullying found that different types impacted children in various ways (Mitchell et al., 2007). In our study, we found that students victimized using all types of cyber-bullying reported experiencing anxious, externalizing, and/or depressed feelings or behaviours.

The current results support previous research suggesting that individuals report feeling anxious when cyber-bullied (Cassidy et al., 2009; Dempsey et al., 2009; Juvonen & Gross, 2008). Victimized students may feel anxious because they believe there is no escape from the perpetrator, as many youth are using technology at home and school (Media Awareness Network, 2005). This belief may create a sense of helplessness and lack of control, which can bring forth feelings of anxiety, fear, worry, and nervousness, as demonstrated in previous research (Beran & Li, 2005; Juvonen & Gross, 2008; Mishna, Saini, & Solomon, 2009) and the current study. Victimized students may feel anxious because of a belief that their parents will restrict their access to communication tools if they tell anyone (Kowalski & Limber, 2007), they are likely to confront cyber-bullying incidents alone at their home (Juvonen & Gross, 2008), and they may not have support or guidance when encountering cyber-bullying (Mishna, Wiener, & Pepler, 2008). Victimized individuals may feel anxious because they do not feel like they can control or stop the cyber-bullying (Smith et al., 2008). School counsellors need to be aware and concerned that students subjected to cyber-bullying may be experiencing a range of anxious feelings, some of which can be addressed in counselling.

The results of this study also support previous research suggesting that being victimized through cyber-bullying is associated with reportedly higher rates of externalizing behaviours. Victimized students may exhibit externalizing behaviours because they are having trouble communicating their thoughts or feelings (Ybarra et al., 2006) and thus resort to these behaviours to release their distress (van Daal,

Verhoeven, & van Balkom, 2007). School counsellors need to be aware of the potential for students who are victimized to use externalizing behaviours as a release or in retaliation, and to work with students to manage these behaviours. These results provide evidence that cyber-bullying is reportedly connected to depression (Patchin & Hinduja, 2006; Ybarra, 2004; Ybarra & Mitchell, 2004a), a finding that has not been found in other research (Dempsey et al., 2009; Ybarra et al., 2006). One possible reason all seven types of cyber-bullying were related to depression is that all could be considered similarly degrading, shocking, or humiliating. In addition, as a result of being victimized, children and adolescents may decrease their time spent talking to their friends through electronic communication. This decrease could cause sadness and depression, as electronic communication is often used to develop and maintain friendships and romantic relationships (Media Awareness Network, 2005; Wolak et al., 2006). It is important for school counsellors to remain cognizant of the link between being cyber-bullied and depression, as well as anxiety and externalizing behaviours, when working with individuals who have been victimized.

Sex and Grade Differences in the Impact of Cyber-Bullying

Research on sex differences in cyber-bullying has been fraught with conflicting results. Some studies that examined cyber-bullying as one broad behaviour found no difference in impact between boys and girls (Dempsey et al., 2009), and, in contrast, others found that boys report more distress than girls (Ybarra, 2004). By examining different types of cyber-bullying, the present study showed that impact varies by type of cyber-bullying. That is, girls report more anxious, externalizing, and depressed feelings and behaviours than boys when called names and threatened, and more depressed feelings when rumours were spread about them. These findings are consistent with school bullying research suggesting that girls are more impacted than boys (Galen & Underwood, 1997). The findings are also consistent with research examining the difference between boys and girls and the impact of direct (called names, threatened) and indirect (rumours spread) forms of school bullying (Marini et al., 2006; van der Wal et al., 2003). Thus, by investigating specific types of cyber-bullying, the current study suggests that the impact of cyber-bullying is similar to school bullying. These results are also consistent with sexual harassment studies that suggest that girls are more frequently sexually harassed than boys and are more impacted (Barak, 2005; Felix & Green, 2010; Shute, Owens, & Slee, 2008).

There are several reasons why girls would report a greater impact than boys. Girls may report more impact than boys because of the gender differences in conversational styles, as many boys believe that informing others about their problems may place them in an unfavourable light (Fox & Butler, 2007; Li, 2006). However, girls may report greater impact because they are more likely to express their distress and feelings of hurt, sadness, and depression to others than boys (Galen & Underwood, 1997). As such, boys may underreport their feelings about cyber-bullying. School counsellors need to remain aware of these sex dif-

ferences and the potential reasoning for said differences; more research is needed to determine if girls actually experience greater impact than boys or if this greater impact is related to reporting differences.

There was no sex difference when students were asked to do something sexual, were sent sexual information, were impersonated, or when a private picture was sent to others, suggesting these types of cyber-bullying were equally distressing for both sexes. This lack of a sex difference may be because these types of cyber-bullying are considered more severe than other types. As demonstrated by Slonje and Smith (2008) and Smith et al. (2008), a picture or video sent to others can be considered more negative than other types of cyber-bullying. As such, it is possible that for both boys and girls the sexually based types of cyber-bullying, as well as impersonation and private pictures sent to others, are considered to be the most negative types of cyber-bullying. It is important for school counsellors to keep in mind the distressing nature of these types of cyber-bullying for both boys and girls; future research may want to examine whether in fact these types of cyber-bullying are considered more negative than other types.

Previous research has suggested that cyber-bullying may impact students in lower grades differently than students in higher grades (Ybarra et al., 2006). Our findings did not support a hypothesis of these grade differences, which is consistent with other studies (Beran & Li, 2005; Smith et al., 2008). It is possible that students of all ages find cyber-bullying distressing and lack the coping strategies to deal with the impact such a harmful form of bullying. Thus, school counsellors need to be aware that children may be at risk of harm from cyber-bullying at any age.

Strengths, Limitations, and Future Research

The current study adds to our understanding of the impact of cyber-bullying. This study investigated seven individual types of cyber-bullying, while many previous studies only examined cyber-bullying as one general behaviour. As such, we were able to determine that each type of cyber-bullying caused distress. By examining specific variables, we were able to determine that for some types of cyber-bullying, girls reported more impact than boys. The study also suggests that the impact of being asked to do something sexual, being sent sexual information, and having private pictures sent to others is not related to the sex of the victimized individual. To help improve our understanding of cyber-bullying, future research should consider and report on different types of cyber-bullying rather than defining it as a single behaviour (Dempsey et al., 2009).

The findings should be interpreted within the limitations of the study. First, the data were collected in 2007 and 2008; since that time, other methods of communicating and more sophisticated handheld devices have become available. As other research has demonstrated that children's access to electronic communication typically increases over time (Media Awareness Network, 2005), the prevalence rates demonstrated in this study may underestimate the current prevalence of

cyber-bullying, which may have occurred because of the low response rate. Second, the one-way ANOVA analyses had unequal variances; however, recent research has suggested that one-way ANOVA with heterogeneity of variances are still robust. A review by Norman (2010) of parametric measures suggests that one-way ANOVAs do not require the assumption of normality and will provide robust results with unequal variances.

Third, it should be noted that this study did not measure clinical disorders associated with anxiety, externalizing, and depression, but rather focused on the associated feelings and behaviours. Any level of these experiences was considered relevant psychological impact of cyber-bullying, and thus the study was not limited to only clinical disorders. Fourth, the survey was entirely self-report, and the survey items, particularly the impact items, were open to the respondents' interpretations of the meaning of the specified feelings and behaviours.

Finally, the research does not acknowledge outside factors that may have contributed to the psychological impact reported by children. Being bullied at school and significant events in the child's life, such as moving or a death in the family, were not examined in this study. These other factors may have increased the levels of anxious, externalizing, and depressed feelings or behaviours reported by the children (Smith et al., 2008; Wolak et al., 2006; Ybarra, 2004). Future research should consider bullying at school and other significant events in a child's life when investigating the impact of the different types of cyber-bullying.

implications for school counselling interventions

School counsellors are in a position to help children reduce their risk of cyber-bullying, as well as cope with cyber-bullying when it occurs (Sabella, Patchin, & Hinduja, 2012). Sabella and colleagues (2012) suggest that school counsellors need to ensure they are informed by research evidence when addressing cyber-bullying. Results of the current study provide important information for school counsellors, specifically that cyber-bullying is linked to anxious, externalizing, and depressed feelings and behaviours of youth. School counsellors have a variety of methods that can help students acquire knowledge and skills to manage cyber-bullying, including guidance curriculum, individual counselling, group counselling, peer-helping, consultation with parents and teachers, referrals to other support services, psychoeducation, and systemic intervention and advocacy (Sabella et al., 2012). Through a multi-disciplinary approach, school counsellors can use these methods to reframe how students understand, confront, experience, and cope with cyber-bullying. In general, school counselling interventions to managing bullying take the form of individual, group, and school-wide strategies utilizing a variety of the above-named approaches (Beran, 2003). However, addressing bullying and cyber-bullying in schools requires an appreciation of the complexity of the problem, and thus a multi-disciplinary comprehensive approach incorporating all of these levels may be successful at reducing bullying (Cunningham & Whitten, 2007).

Dealing with Cyber-Bullying

School counsellors are in the unique role of both leadership and direct student support that gives them opportunities to guide the comprehensive strategies needed to address cyber-bullying. They can encourage school administration to develop policies and procedures that promote reporting from students. According to a study that addressed the cyber-bullying reporting practices of Canadian students in Grades 6 through 9, approximately half of students feel they would confide in school personnel, 76% would confide in their friends, 57% would tell their parents or guardians, and 25% indicated they would not tell anyone if they were victimized (Cassidy et al., 2009). Thus, it appears that the majority of students are willing to tell someone if they are cyber-bullied. It is important that school counsellors are willing to listen to these reports and take action. Indeed, students are not likely to report cyber-bullying to school personnel for fear of retaliation by the perpetrator or being labelled a "rat." Additionally, students are unlikely to report cyber-bullying if it has not been addressed in the school's mandate or policies (i.e., if it is considered the student's problem, not the school's), or if they believe that the school staff could not stop the bullying (Cassidy et al., 2009). Therefore, school counsellors need to ensure that students feel that school staff care about cyber-bullying: that they are willing to listen, to take immediate action, and to show sincere concern. It is also important for schools to develop positive working relationships with parents, inform them when cyber-bullying is occurring, and work with them in developing solutions. Cassidy and colleagues (2009) found that students actually trust that their parents are more likely to find a solution to cyber-bullying than school officials. Thus, students may feel more confident in solutions that involve both school officials and their parents. Some suggestions for aiding in students' reporting of cyber-bullying include setting up an anonymous phone line or box to report cyber-bullying (reducing fear of retaliation or being labeled a "rat"), making it known that school officials do not tolerate cyber-bullying, ensuring cyber-bullying is properly addressed at the school level, and developing a positive school culture that does not condone cyber-bullying (Cassidy et al., 2009; PrevNET, 2012).

School counsellors can mobilize support from other adults. Parents can be encouraged to learn about how cyber-bullying may occur and talk with their children to share their own perspectives and childhood bullying experiences. School counsellors can also encourage parents to engage in Internet monitoring through such actions as placing computers in public areas of the home, setting time limits for the Internet and communication devices, using filters or protection software, and encouraging face-to-face social interactions (Campbell, 2005). School counsellors can invite experts to teach students about cyber-safety, such as not sharing important information (passwords, address, or phone number), ways to make their communications more private (privacy settings), ways to block unwanted material (blocking friends on Facebook, contacting the cellular provider to block specific phone numbers), and not putting any information online that students would

not want classmates to view. Students who are victimized can be encouraged not to reply to hurtful messages and to save any hurtful messages to discuss with the school counsellor, parents, or school administrators (PrevNET, 2012).

School counsellors need to talk with students about cyber-bullying and be ready to listen to incidents that may be occurring. They can acknowledge the impact it may have had on the students and together develop a plan of action. This plan might involve looking for opportunities to avoid situations where bullying may occur, practicing assertive language and computer skills, encouraging the student to engage in other healthy activities and develop positive relationships with other peers, developing a plan to monitor any future bullying, and engaging other adults in the school/home to provide various types of support (PrevNET, 2012).

Managing the Impact of Cyber-Bullying

Support for students subjected to bullying may also involve encouraging them to participate in extracurricular activities where friendships can be built, assigning empathetic older students or adult volunteers as mentors, teaching online safety, and promoting positive online behaviours that reduce the risk of further victimization (Chibbaro, 2007; Froeschle, Mayorga, Castillo, & Hargrave, 2008; Sabella, 2009). Social support groups may also be helpful for students who are impacted, so they learn they are not alone and can develop skills to address and cope with bullying together (Milsom & Gallo, 2006).

The results of the current study suggest that girls are more likely to be impacted by some types of cyber-bullying than boys. Thus, girls and boys may benefit by having separate groups when discussing bullying and cyber-bullying. Group interventions may be essential to teach girls necessary coping skills, particularly related to name calling, threatening, or rumours, as these appear to be the more distressing forms of cyber-bullying for girls. Girls may also benefit from a group approach that includes a contact person (Olweus, 1993), as girls tend to cope with distress by talking to others (Galen & Underwood, 1997). This contact can be the school counsellor and should be knowledgeable about electronic communication (Dellasega & Adamshick, 2005).

The results of this study demonstrate that all students reported similar impact when cyber-bullying was sexual in nature or involved pictures. However, for these types of cyber-bullying, it may still be beneficial if the intervention is implemented separately for boys and girls, given the sensitive nature of sexual cyber-bullying. By separating boys and girls, they may feel more comfortable in developing, sharing, and hearing strategies to cope with these types of cyber-bullying (Sapouna, 2010).

School counsellors are often involved in planning and conducting school-wide interventions; a school-wide intervention involves creating a safe and supportive school culture that accepts diversity, minimizes bullying, and allows all students to feel safe and accepted (Beran, 2003). Pearce, Cross, Monks, Waters, and Falconer (2011) suggested six main indicators of an effective school-wide approach for reducing school bullying and cyber-bullying: (a) building knowledge and capacity for action; (b) establishing a supportive school culture; (c) establishing

proactive policies, procedures, and practices about bullying within the school; (d) developing understanding and competencies within the entire school community (e.g., student, staff, and family engaged in learning about bullying); (e) encouraging protective school environments (i.e., appropriate supervision and activities); and (f) establishing school-family-community partnerships. School counsellors should be vigilant to ensure that school-wide bullying interventions focus on cyber-bullying as well as school bullying. As this study has demonstrated, cyber-bullying can have a considerable impact on students; targeting only school bullying ignores the effects and prevalence of cyber-bullying, which may, in turn, decrease the overall effectiveness of the intervention (Marini et al., 2006). It is important for school counsellors to recognize that a single person is unlikely to affect significant change; part of the role of the school counsellor is to mobilize the student body, teachers, and parents in combatting cyber-bullying (Beran, 2003).

CONCLUSION

The findings of the present study suggest that cyber-bullying is a significant problem for children. We obtained strong evidence that electronically victimized students (Grades 6, 7, and 11) report anxious, externalizing, and depressed feelings or behaviours for all types of cyber-bullying experienced. Furthermore, characteristics of victimized youth, such as gender, differentially affect impact for each type of cyber-bullying. Overall, this study demonstrates the importance of examining different types of cyber-bullying to gain a comprehensive understanding of this phenomenon and its impact on children, and it offers strategies for school counsellors when working with these youth.

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