

Research Article

Cyberbullying among University Students: Gendered Experiences, Impacts, and Perspectives

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Cyberbullying is an emerging issue in the context of higher education as information and communication technologies (ICT) increasingly become part of daily life in university. This paper presents findings from 1925 student surveys from four Canadian universities. The overall findings are broken down to determine gender similarities and differences that exist between male and female respondents' backgrounds, ICT usage, experiences with cyberbullying, opinions about the issue, and solutions to the problem. We also examine the continuities between these findings and those of earlier studies on cyberbullying among younger students. Our findings also suggest that gender differences, which do emerge, provide some support for each of the three theoretical frameworks considered for understanding this issue, that is, relational aggression, cognitive-affective deficits, and power and control. However, none of these three models offers a full explanation on its own. The study thus provides information about cyberbullying behaviour at the university level, which has the potential to inform the development of more appropriate policies and intervention programs/solutions to address the gendered nature of this behaviour.

1. Introduction

Over the last several years, both youth and adults have benefited from the advancement of information and communication technologies (ICT), including increased access to the Internet and mobile phones. Research on the relationship between “emerging adults” and ICT suggests that gender differences exist. It appears that young women are more involved than young men in emailing, social networking, and texting [1–3]. Young women's use of blogs, instant messaging, social networking, and so forth is marked by expressive language, with considerably more emotional content [4]; in some cases, it helps with their psychosocial development and social adjustment [5, 6]. According to research by Miltsov [7], even heavy Internet use (30 or more hours per week) does not detract from women's wellbeing, although the same is not true for men's wellbeing. On the other hand, research by Chen and Tzeng [8] suggests that it is the type of usage, rather than the amount, which is a better predictor of academic

success and psychosocial adjustment. Further, the mobility of the devices can be more gratifying for young women who “may feel stronger ties to their cell phone than college aged [sic] males because it allows for independence to pursue their own interests while also being immediately accessible when they are needed by family members or friends” [9, page 2179].

Along with the advantages come certain disadvantages or risks, including the one that is the focus of this paper: cyberbullying. We start from our understanding of cyberbullying at the middle school and high school levels and move into a newer area of research, cyberbullying at the university level. Cyberbullying at the university level can be seen as a bridge in the continuum of this behaviour from childhood and youth into adulthood. Cyberbullying scholarship has begun to examine the continuities between the cyberbullying occurring in the K-12 sector, universities, workplaces, and beyond [10–17]. In this paper, we examine data from an ongoing study of cyberbullying at the university level and consider the gendered differences in

university students' involvement with ICT and cyberbullying, their perspectives on cyberbullying, and solutions to the problem. Through this examination, we consider three theoretical frameworks that may be used to help explain these differences.

2. Theoretical Perspectives

2.1. Cyberbullying and Gender. Research suggests that females are more likely to be on the receiving end of cyberbullying than they are with traditional face-to-face bullying [18–21] and that new forms of sexual and gender harassment, such as “sexting,” “morphing,” “virtual rape,” and “revenge porn,” have emerged [22–26]. Some of the differences between face-to-face bullying and cyberbullying serve to exacerbate the impacts of the cyberbullying on victims. The longer “shelf life” of cyberbullying text or images, for example, can place the victim in harm's way for longer periods of time compared to face-to-face bullying. Previous studies of middle and high school students have found higher proportions of girls reporting that they have been victims of cyberbullying [19, 27–29]. Females are also more likely to be perpetrators of cyberbullying primarily targeting other females, sometimes within their “friendship groups” [19, 22, 26, 28, 30–32].

Three theoretical frameworks may assist us in understanding cyberbullying at the university level: relational aggression, deficits in affective and cognitive empathy, and the Power and Control model.

The relational aggression perspective is one that describes girls' bullying behaviour as being more covert and secretive than is true of boys' bullying behaviour. Relational aggression seeks to damage or disrupt friendships, group inclusion, or social status through such tactics as rumours, gossip, and slander [33]. The anonymity of the Internet therefore fits well with the girls' preferred “style” of bullying [19, 22, 34, 35]. The types of ICT usage described above for emerging adult women are also in line with a relational perspective.

The affective and cognitive deficits perspective has been used to explain boys' involvement [36]. In assessing its applicability to adults, we should consider that women generally have higher scores on measures of empathy [37] and greater ability with nonverbal skills, for example, identifying emotions and noticing paralinguistic cues such as changes in voice intonation and facial differences [3, 9]. As such, cyberbullying involvement may be impacted by

- (1) the fact that online exchanges do not always immediately provide the feedback on the impact of one's words or actions, which is often useful in eliciting empathy;
- (2) the fact that changes in voice tone and body language are not available in online exchanges, which may level the playing field for women whose superior language skills rest on the ability to decode those cues.

A third perspective to consider when examining the dynamic of cyberbullying is the Power and Control model [38]. This model is borrowed from the field of intimate partner violence but may assist in understanding cyberbullying

that occurs in the university context where power imbalances exist between faculty and students, as well as between students in dating relationships, and/or between students of different ages and levels. There has also been research documenting the online components of intimate partner violence between college-aged individuals [39–43]. The model uses a Power and Control Wheel, which sets out the various elements that constitute abuse. Those elements that relate closely to cyberbullying abuse are those that use intimidation and threats, harmful language, social standing, exclusion, harassment, and technology to send unwanted messages, all within a relationship in which the abuser exerts control over the victim.

As a preliminary exercise, it is our intention in this paper to consider the relevance of these three theoretical models when examining our research findings on gender and cyberbullying at the university level.

2.2. Cyberbullying in Higher Education. Cyberbullying research has exploded in recent years but has for the most part been focused on cyberbullying behaviours at the middle school and high school levels (see Cassidy et al. [44] for a comprehensive review of this literature). Researchers, such as our team, are now looking into the continuation of this problem after high school, into postsecondary education, including the body of work about cyberbullying in the workplace.

The term “cyberbullying” may have a juvenile connotation, which is at odds with assumptions about adult behaviour. However, the types of threatening, degrading, harassing, and intimidating behaviours that adults undertake do fit within the scope of cyberbullying. Cyberbullying refers to online exchanges where there is an intent to harm the recipient. Currently “cyberbullying” is the term most often used when describing relevant behaviour at the university level [11–13, 16, 17, 45–60], as well as in the workplace [14, 15, 61–63], although other terms are also used. For example, online or cyberharassment has been used [10, 41, 64–66], as have cyberstalking [24, 39, 65] and technology-based sexual coercion [43].

Studies conducted to date on cyberbullying at the university level have documented highly variable prevalence rates for victimization and perpetration. The variations may be partially accounted for by differing definitions of cyberbullying, time frames, and methodologies. Table 1 summarizes the prevalence rates reported in these studies.

Two Turkish studies specifically examined gender differences in cyberbullying among postsecondary students. Akbulut and Eristi [45] found that male students were more likely to be both cyberbully victims and perpetrators. On the other hand, Dilmaç [47] found that male students were more likely to report cyberbullying behaviour, whereas female students were more likely to report victimization. As such, no clear gender patterns have yet emerged within the research literature. Gender differences, however, have been a key consideration in the previous literature on younger students [19, 67], and the continuities between cyberbullying in high school and in university [10, 13] suggest that these differences are an area worth investigating.

TABLE 1: Cyberbullying prevalence rates found in previous studies of undergraduate students.

Study	<i>n</i>	Reported cyber-victimization (%)	Reported cyber-perpetration (%)
Beran et al. [10]	1368	8.6	4.1
Dilmaç [47]	666	55.3	22.5
Englander [13]	—	8	3
Finn [65]	339	10–15	—
Lindsay and Krysik [66]	420	43.3	—
Molluzzo and Lawler [48]	121	7	10
Schenk and Fremouw [49]	799	8.6	—
Turan et al. [51]	579	59.8	—
Walker et al. [52]	120	11	—
Wensley and Campbell [53]	528	11.6	3.8
Zalaquett and Chatters [17]	613	19	5
Zhang et al. [54]	134	62	40

3. Current Study

This paper reports on findings from parts of a broader study of cyberbullying at the university level, which includes a policy scan [68], student and faculty surveys [69], student focus groups, faculty interviews, and policymaker interviews at four Canadian universities. We are reporting here on the analysis of the student surveys. An online survey was disseminated through various groups' mailing lists at the universities to gain maximum exposure. The surveys contained 100 items, including yes/no questions, multiple choice questions, and open-ended questions. A copy of the online questionnaire is available upon request.

The first section asked for background information about the respondents, basic demographic variables, and information about their ICT usage patterns. The second section asked about any cyberbullying experienced in the last 12 months. The third section asked about any cyberbullying engaged in during that time. The fourth section asked respondents to rate various solutions to cyberbullying. The fifth section asked them to provide their opinions regarding a list of statements relating to cyberbullying.

Cyberbullying was defined at the outset of the survey as “cyberbullying uses language that can defame, threaten, harass, bully, exclude, discriminate, demean, humiliate, stalk, disclose personal information, or contain offensive, vulgar or derogatory comments. Cyberbullying is intended to harm or hurt the recipient.”

Respondents were then provided with a list of examples of cyberbullying including receiving nasty, mean, rude, vulgar, hurtful, or harassing email or text messages; having terrible, derogatory, sexist, racist, or homophobic things written about you online; someone posting an embarrassing photo or video of you online; someone pretending to be you online; and being deliberately excluded from an online group or chat.

From September 2012 to April 2014, 1925 online surveys were completed at four Canadian universities. The surveys were collected using Fluid Surveys online tools. The surveys were anonymous and no identifiers were used. As such, it would be possible for an individual to complete the survey more than once, but the researchers felt this risk was

outweighed by the preservation of respondent anonymity, as agreed with the research ethics board at the universities.

Most respondents skipped over parts of the surveys; for instance, if they had not experienced cyberbullying, there was no reason for them to complete the set of questions pertaining to these experiences. Nonetheless, survey fatigue did result in approximately 10% of respondents stopping their involvement before the fourth or fifth sections. Thus, the *n* for the final sections is 1733 instead of 1925. The average completion time was 22 minutes.

4. Findings

4.1. A Gendered Issue. As the responses came in, it became apparent that gender would be an issue worth examining. While the student population at these universities varies between 53% and 57% female, 74% of the 1925 respondents to the survey are female. Survey respondents were also asked to respond to whether they would be willing to volunteer to participate in a focus group on solutions to the problem of cyberbullying. Approximately 75% of student volunteers were women. The same patterns emerged with the collection of the faculty surveys and recruitment of volunteers [69]. We wonder why women seem to have a greater interest in, or willingness to engage with, this topic than do men. This query, as well as our previous findings of gender differences regarding cyberbullying, led to this paper.

4.2. Background Variables. As noted above, 74% of student survey respondents were female, 25% were male, and fewer than 1% identified as having an alternative gender identity (10 respondents). Given their very small number, we did not include this group in the gender analysis.

The data from the surveys indicate that, with very few exceptions, the male and female respondents have very similar profiles. In terms of demographics, 71% of respondents were born in Canada, 71% identify English as their first language, and the main racial or ethnic group identification rates are 51% Caucasian, 25% Asian, and 12.5% South Asian. Nearly two-thirds live with their family at home.

In terms of their academic profile, 23% are in their first year of university, 20% second year, 23% third year, and 31% fourth year, with a slightly higher representation of female lower division students and male upper division students. The average grades are similar for both male and female respondents: 58% are B students, one-third As, and 8% Cs, with slightly fewer female students identifying themselves as C students.

The background data on ICT usage suggest that the majority use their computers in private (over half of respondents use the computer mainly in their bedroom). Most respondents spend quite a bit of time online daily. For their university course work, 54% spend one to two hours or less online per day, with female students generally spending more time online for university course work. During their free time, 59% spend three hours or more online per day, including 11% who spend more than six hours per day online during their free time, with male students generally spending more of their free time online. The evening hours of 6 pm to midnight are the peak usage hours, but afternoon usage is also common, both during the week and on weekends. The same top five online activities are preferred by both males and females, but in varying order. For female respondents, the highest ranked were (1) school work, (2) email, (3) Facebook/MySpace, (4) entertainment, and (5) news. For male respondents, the rankings were (1) email, (2) school work, (3) entertainment, (4) news, and (5) Facebook/MySpace. Virtually all respondents (98% or more) used the Internet for their school work and for email. Male respondents were more likely than female respondents to use the Internet for chats/MSN and forums. Female respondents were somewhat more likely than male respondents to use the Internet for blogs, Facebook/MySpace, and Twitter.

4.3. Facebook and “Unfriending”. The final background questions asked respondents whether they are on Facebook, have ever “unfriended” anyone, or have been “unfriended” by anyone. Female respondents are more likely to respond in the affirmative to all three questions as seen in Table 2.

“Unfriending” may or may not constitute cyberbullying, the determinant here being the intent behind the action, and while most respondents do not give any indication of ill intentions behind the act of “unfriending” a Facebook contact, some of the reasons cited can give us pause.

We asked respondents to explain why they had “unfriended” people on Facebook and 1391 responded to this open-ended question. The majority of these respondents (54%), both male and female, specified reasons that we categorized as pragmatic: they are no longer in contact with this person, the person is not part of their life offline, they do not really know the person, or they were “cleaning out” their friend list. However, other reasons mentioned may indicate a relationship with cyberbullying: 34% cited interpersonal conflict and tension (the person is, or their posts are, annoying, inappropriate, negative, hurtful, or they had a falling-out or a breakup), with 12% citing self-protection (the person had harassed, stalked, or bullied them; they found the person’s posts offensive; or they did not want to give them access to their personal information). Male respondents were

more likely than female respondents to cite interpersonal conflict and tension, but female respondents were much more likely than male respondents to refer to self-protection as a reason for “unfriending” someone.

When asked to give reasons why others “unfriended” them, 34% of the 1134 respondents stated that they do not know why (with several adding that they do not care). Male respondents were less likely than the women to know why they had been “unfriended.” The same categories of responses as above were used with 38% citing pragmatism and 26% interpersonal conflict and tension, but only a handful of respondents suggesting that someone may have “unfriended” them for self-protection. Slightly more female respondents than male respondents cited each of the latter three categories of responses.

4.4. Students’ Experiences with Cyberbullying. Having defined cyberbullying at the outset of the survey and again within the survey sections pertaining to experiences with cyberbullying, we asked respondents whether they had been cyberbullied by a student they knew within the university, by someone they did not know, and/or by a faculty member (including teaching assistants and tutor-markers) and whether they had participated in cyberbullying others at the university. Table 3 provides the prevalence rates of cyberbullying victimization and perpetration by gender reported by the respondents to the student survey.

The overall prevalence of cyberbullying victimization among students in the last 12 months was 24.1%. This number is a cumulative total of victimization, whether by another student they know at the university, someone they do not know, and/or a faculty member. When asked directly if they have experienced cyberbullying (as defined in the survey) in the last 12 months by a friend or acquaintance at the university, more female than male students responded “yes,” whereas, when asked if they had experienced cyberbullying by someone they did not know, more male than female respondents said they had. Only 2% of both student groups said they had been cyberbullied by a faculty member.

The primary formats through which cyberbullying was experienced by these students were social networks (55%), email (47%), text messages (43%), and non-course-related blogs, forums, or chat rooms (25%). Female students were much more likely than males to report having experienced cyberbullying over social networks and via text messages, while males were more likely than females to report cyberbullying on non-course-related blogs, forums or chat rooms. Both of these trends are consistent with the respondents’ gendered ICT usage patterns discussed above. However, among the small number of respondents who experienced extensive cyberbullying, including once a week or several times a week, male respondents were overrepresented. Males, who accounted for approximately a quarter of respondents to this set of questions, were overrepresented among those who experienced extensive cyberbullying via email (41%), email photo (50%), and text message (31%) and on course-related sites, blogs, forums, or chats (38%), as well as other blogs, forums, or chat rooms (33%), to have been impersonated online (38%) and in the category “other” (58%), which

TABLE 2: Percentage of respondents by gender who answered “yes” to Facebook questions.

Question	% of males	% of females	Total (%)
Are you on Facebook?	87	93	91
Have you ever unfriended anyone on Facebook?	63	78	74
Has anyone ever unfriended you on Facebook?	57	65	62

TABLE 3: Students’ reported cyberbullying victimization and perpetration experiences.

Experiences	% of males	% of females	Total (%)
<i>Victims Of CB</i>			
Overall (in last 12 months)	25.4	23.8	24.1
By a friend or acquaintance at university	9.4	13.6	12.4
By someone they did not know	19.3	12.2	14.0
By a faculty member	1.8	2.0	2.0
<i>Perpetrators Of CB</i>			
Overall (in last 12 months)	6.6	4.5	5.1
Of another student at university	5.1	3.1	3.6
Of a faculty member	2.7	1.5	2.0

was predominantly used by those who had experienced cyberbullying in online gaming (71% of whom were male students).

Among those students who knew the person who was bullying them, same-gender cyberbullying was more typical and female respondents were more likely to report that the person who was cyberbullying them was someone they thought was supposed to be a friend.

We asked those students who had been targeted by cyberbullies about the effects of their experiences using a list of 11 yes/no questions. Table 4 reports the frequency with which each of the effects was acknowledged by respondents.

Over a third of all participants who had been cyberbullied reported that it affected their ability to do their assignments; it affected their relationships outside of the university; they experienced mental health issues; and/or they felt that their emotional security or their physical safety was threatened. Female respondents were more likely than males to acknowledge each of these effects, as well as all of the other effects as noted in Table 4. Female respondents were also more likely than male respondents to have tried to stop the cyberbullying (57% versus 41%); however, the majority of both male and female respondents who had tried to stop the bullying against them reported that their efforts were unsuccessful.

Female students were much more likely to have told someone than male respondents (60% compared to 42%), and, mostly, the people they told were friends, partners, or family members. Few students told anyone working at their university whether teaching personnel, administrative, or support personnel.

When asked directly if they had participated in cyberbullying another student at their university, 5% of male respondents and 3% of female respondents admitted that they had engaged in such behaviour. Here again, same-gender cyberbullying is more common and female respondents are much more likely to admit to cyberbullying a friend than

a classmate, acquaintance, or someone they do not know, while male respondents are equally likely to bully someone from any of these groups. A small number of respondents also admitted to cyberbullying a faculty member (including teaching assistants, tutor-markers, among others)—3% of male respondents and 1.5% of female respondents, as well as three of the 10 respondents who identified their gender as alternative. However, it should be noted here that the number of respondents who admitted to cyberbullying others is quite low compared to the number who have been cyberbullied. These statistics may not fully reflect the extent of the cyberbullying behaviour that is taking place at these universities, given that some individuals may be unwilling to admit or even to acknowledge participating in socially undesirable behaviours.

We asked student respondents about the reasons (or perceived reasons) for cyberbullying someone or why they might have experienced it themselves. Male and female respondents gave similar reasons for being victimized (their interpersonal problems, do not know, their physical appearance, and “other,” including such items as differences of opinion/beliefs, cyberbullying was part of an online game, or meant as a joke). Females also cited “their gender” as a primary reason for being cyberbullied, while males also listed their ethnicity as among their top choices. Among those students who admitted to cyberbullying another student, the two most cited reasons were the same for male and female respondents: the person upset them and the person bullied them first. The third most common response for male respondents was that it was fun, whereas for female respondents it was that they just did not like the person. Among the small number of respondents who admitted to cyberbullying a faculty member, the responses were similar for males and females: the faculty member had upset them, they did not like the faculty member’s teaching style, or they just did not like the faculty member, accompanied by many

TABLE 4: Acknowledged effects of cyberbullying, by gender of victim.

Effects acknowledged by respondents who reported they were a victim of cyberbullying in the last 12 months	% among male victims (<i>n</i> = 105)	% among female victims (<i>n</i> = 309)	Total (%) among all victims
Emotional security or physical safety threatened	21	44	39
Affected ability to do assignments (productivity, loss of confidence, concentration problems, etc.)	28	45	41
Grades suffered as a result	17	26	24
Felt like dropping out of the university	8	17	14
Missed classes as a result	9	20	17
Affected friendships at the university	17	30	27
Affected personal relationships outside of the university	25	47	41
Mental health issues (anxiety, depression, emotional outbursts, etc.)	25	47	42
Physical health issues (headaches, stomach problems, nausea, heart palpitations or chest pain, sweating, etc.)	10	30	26
Felt suicidal or thought about harming self	7	17	14
Made them want to cyberbully back	28	31	30

other specific responses describing the faculty member as a “bad professor,” condescending, unpleasant, or mean. Female respondents cited a few cases where the faculty member had bullied them first. A few male respondents provided reasons such as wanting to hurt the faculty member and wanting to tarnish their reputation.

We also asked the self-identified perpetrators of cyberbullying about the intent of their cyberbullying. Both male and female respondents who had bullied other students and/or faculty members said they intended the cyberbullying to be insulting and also defaming when aimed at faculty. Several males also reported intents such as humiliating, harassing, and threatening, which was not the case for females.

4.5. Opinions about Cyberbullying at University and Its Solutions. We put a list of statements to the respondents and asked them to rate their agreement with each of them on a scale ranging from strongly disagree, disagree somewhat, neutral (neither agree nor disagree), agree somewhat, to strongly agree, or do not know. For the purposes of analysis, the responses were considered separately and then the two disagree responses (strongly disagree and disagree somewhat) were collapsed and the two agree responses were likewise collapsed, in order to heighten the differences in overall opinion. On several questions, male and female responses were similar. For instance, both genders generally agreed that they would like to help create a more kind and respectful online world and that they would report cyberbullying if they could do it anonymously. The vast majority disagreed (somewhat or strongly) with the statement “Cyberbullying cannot hurt you; it’s just words in virtual space.”

However, there were responses to a few statements where gender differences emerged. Males were more likely than females to disagree (44% versus 38%) with the statement “It is the university’s responsibility to stop or prevent on-line

bullying.” Female students were more likely than males to disagree with the statements “Cyberbullying is a normal part of the on-line world; it cannot be stopped” (47% versus 32%) and “I have the right to say anything I want on-line because of freedom of expression” (58% versus 43%).

While some gender differences in experiences with cyberbullying have been highlighted above, we found a relatively high degree of agreement between male and female students as far as solutions to the problem of cyberbullying at university. Respondents were provided with a list of 15 suggested solutions to cyberbullying at the university level and asked to rate their top five choices. Overall, the top five choices in descending order were to

- (1) provide counselling/support services for cyberbullied victims;
- (2) establish an anonymous phone-in line for reporting cyberbullying;
- (3) develop a more respectful university culture where kind behaviour is modelled by all;
- (4) suspend or expel students who participate in cyberbullying;
- (5) engage the university community in developing a strong university anti-cyberbullying policy.

An analysis of the choices by gender revealed that male and female students both ranked these top five choices the highest; however, there were some variations in order. Counselling for victims was the number one choice for both male and female respondents. However, female students ranked the anonymous phone-in line second and policy third, while male students ranked a kinder culture second and the anonymous phone-in line third. Both groups ranked suspensions and expulsions fourth. Female students ranked

a kinder culture fifth, whereas male students ranked policy fifth.

5. Discussion and Conclusion

The survey findings demonstrate the pervasiveness of ICT in the lives of university students. This starting point helps us to focus on the importance of the relationships and interactions that occur within this context. Well over 20% of student respondents to this survey have been victims of cyberbullying in the past 12 months. These numbers are consequential in making a case for cyberbullying as a key issue within the higher education context, just as it has been at the lower levels.

5.1. Continuity of Issue. We concur with the findings of Beran et al. [10] and Englander [13], as well as the suggestion made by others [11, 12, 15], that important continuities exist between cyberbullying at the lower levels of the education system and at university in terms of experiences, effects, and perceived solutions to the problem. Our findings suggest that same-gender targeting is more common than opposite-gender targeting, with females especially likely to target and be targeted by other females within their friendship groups. While this sort of cyberbullying is only one of the types of situations that arise, it is one that places cyberbullying at university on a continuum from what occurs among younger students, in middle and high school.

Female respondents in this study reported a wider range of ill effects stemming from their cyberbullying experiences than male respondents and they did so in greater numbers than the male respondents. Our earlier work also found that middle and high school girls were impacted by the cyberbullying they experienced to a greater degree than the boys [19, 27].

Female students were more likely to tell someone close to them about their cyberbullying experiences than were the males, but few respondents told university representatives about the cyberbullying. This finding too is consistent with what we noted among middle and high school students [19, 27, 28]. The majority would tell their friends, but far fewer would tell their parents and fewer still would tell school officials.

Also, in the survey responses about solutions to cyberbullying, we note that the anonymous phone line, which rates highly among university students, was also popular with the younger students [19, 27, 28].

5.2. Gender Differences. Female students responded to the survey in far greater numbers and also responded more readily to the calls for focus group volunteers than males. Male respondents tended to have a more hands-off attitude than the women, as demonstrated by their agreement with statements to the effect that cyberbullying is normal and that it is not the university's responsibility to stop or prevent it.

Male students were somewhat more likely to be targeted overall, but especially more likely to be targeted by someone they do not know and to be on the receiving end of extensive cyberbullying in a variety of online contexts. Also, based

on our findings, male students are more likely to admit to cyberbullying others, whether other students or faculty members. Female students are more likely to be targeted by someone they thought was a friend and are also more likely to target their friends when they engage in cyberbullying, as was also found to be the case by Jackson et al. [19] with girls in grades 6 to 9.

Female respondents targeted by cyberbullying report a greater range of negative impacts on their academic and personal lives than do men and they are more likely than men to tell someone close to them if they have been targeted. The same finding also emerged from an earlier study of grade 6 to 9 students [19]. One possible explanation for the much higher survey participation level of women may be that, although they do not experience cyberbullying in greater numbers than men, they are more negatively impacted by it.

Gender-based targeting is reported by female respondents in addition to the other reasons for targeting reported by males as well. Shariff and Gouin [26] as well as Halder and Jaishankar [24] discuss the various forms of gender and sexual harassment to which girls and women are particularly vulnerable online. Cyberbullying is but one such category of the risks faced by women and girls online.

5.3. Theoretical Models. At the outset of this paper, we mentioned three theoretical models that may have some applicability to our understanding of cyberbullying at university. Each finds some initial support from our results, although no single model provides a full explanation of the variety of phenomena reported. Our findings suggest these models may be worthy of further in-depth study in subsequent research.

The relational aggression perspective addresses the relationships attacked by cyberbullying. Among the findings presented here, we note that the same-gender targeting, especially among female friendship groups, lends credence to this model for some of the university cyberbullying situations. Female students are more likely than males to experience cyberbullying over social networks and text messaging, suggesting a relationship between the victim and the person cyberbullying them. Female respondents' greater involvement with social media, notably with Facebook, does situate their ICT usage more firmly within the category of relationship-based usage. The research literature does suggest that this type of usage has many benefits for young women [4–7, 9]. On the other hand, when cyberbullying infiltrates these social media, young women are bound to be particularly affected.

Female respondents in our study also report that their relationships inside and outside the university have been impacted by the cyberbullying they have experienced. Such a finding is in accordance with the relational aggression perspective. It suggests that if the cyberbullying was intended to bring about friendship troubles, exclusion, or harm to reputations [33], it has been rather effective in reaching those goals.

The affective and cognitive empathy perspective suggests that males are involved in bullying to a greater extent due to lack of empathy for victims. We also see partial support for

this model in some of the survey responses. Male students admit to engaging in cyberbullying in greater numbers than female students and they appear to be more aggressive than females when they are involved in cyberbullying as perpetrators. We noted more male respondents indicating intents such as humiliating, harassing, threatening, and wanting to hurt a faculty member or tarnish their reputation. Male students were also more likely than females to admit to engaging in cyberbullying as retaliation for prior bullying against them. Further, the opinions about cyberbullying expressed by the male respondents tended more towards cynicism than the females' opinions. For instance, "cyberbullying is normal, it cannot be stopped," and "freedom of expression means I can say anything I want online" were statements that garnered greater support among males than females. Furthermore, the empathy perspective may account for the higher female survey participation because even those who have not directly experienced the problem can see its potential harm.

The Power and Control model allows us to describe cyberbullying as a form of abuse where one party attempts to exert control over the other. Among the reasons cited by respondents for the cyberbullying they experienced, physical appearance, gender (for females), and ethnicity (for males) suggest that power dynamics may be at play in some of the exchanges. A small number of respondents also invoked "other" reasons and described cyberbullying as one of the ways in which power dynamics play out within the online gaming community. The intentions behind cyberbullying also suggest power and control: insulting, defaming, humiliating, harassing, threatening, and spreading rumours. Shariff and Gouin [26] also comment on the hierarchies of power, which exist in society and can manifest in a number of ways in online exchanges.

Additionally, however, there are significant parallels to be derived from the intimate partner violence literature, which are quite consistent with our own findings. From that research, it has been found that women are more concerned about their safety because of the abuse and experienced more serious harms resulting from the abuse than did male victims of abuse [70, 71]. Our own study results support those findings. Part of the issue, which emerges here, is the one of power and control. As noted above, one possible explanation for the much higher survey participation level of women may be that, although they do not experience cyberbullying in greater numbers than men, they are more negatively impacted by it. They do fear for their safety more than do the males. Such an explanation is also supported by our finding that female respondents were much more likely than male respondents to report having "unfriended" someone on Facebook for self-protection types of reasons. The emerging forms of online gender and sexual harassment may theoretically target male and female alike. However, the hierarchies of power in the online world seem to place women in a particularly vulnerable position, just as they do in the offline world [24, 26].

In the end, no one theoretical model may be adequate to explain those different gender dimensions of cyberbullying. But we have seen that it is important to consider the relationship issue, the cognitive-affective component, as well as the

power and control dimension in order to understand more comprehensively the role gender differences play in the phenomenon itself. The consideration of the three perspectives represents an initial attempt to explain gender differences in cyberbullying at the university level.

This research represents a foundational step toward assisting university administrators and policymakers in their attempts to determine the nature, extent, and impacts of cyberbullying at the university level, as well as informing their development of more appropriate policies and intervention programs/solutions to address the gendered nature of this behaviour.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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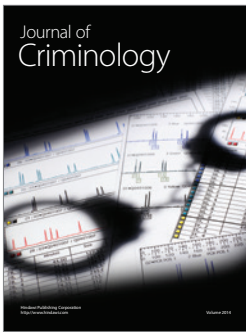
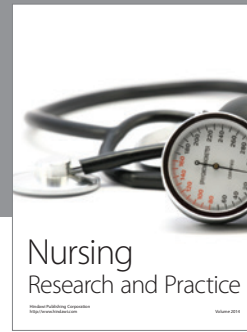
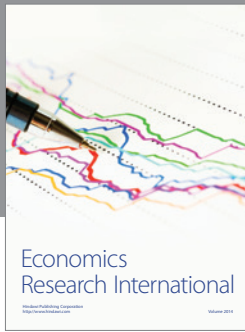
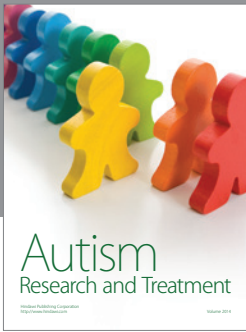
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