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Abstract

Electronic harassment and cyberbullying can take various forms and involve a range of perpetrators. This study utilised survey results from 1,673 New Zealand students aged 12 - 19 years to explore electronic harassment on the internet and mobile phones and the distress associated with it. Overall, a third of participants reported electronic harassment in the prior year, with half (53.7%) rating it as distressing. Specific hypotheses and findings were that: mobile phone harassment would be more common and distressing than internet harassment, this was supported with 7% more participants reporting mobile phone harassment and 5.5% more reporting distress from it compared to internet harassment; females would report more harassment than males, this was supported for mobile phone harassment as females' odds of harassment was approximately twice that of males (however the hypothesis did not hold for internet harassment); females would report more distress from harassment, this was supported for both internet and mobile phone harassment, with females' odds of distress approximately twice as high as males; that some forms and perpetrators would be associated with more distress than others, again this was supported with the most distressing form of mobile phone harassment being direct verbal aggression and for harassment on the internet being rumour spreading. The study also found a preponderance of harassment from school peers. As predicted there were multiple interactions between the harassment forms and perpetrators and gender. These results highlight important differences in how harassment is delivered and experienced across the mobile phone and internet modalities. The findings point to the need to explicitly consider mobile phone harassment, as well as better ways to tailor interventions to address distressing harassment. Schools are well placed to address electronic harassment alongside other bullying interventions.

Keywords

Harassment, Cyberbullying, Bullying, Covert Bullying, Internet Safety, Gender

1. Introduction

Electronic harassment describes interpersonal aggressive situations where someone is targeted online and/or on mobile phones in order to harm him or her. Cyberbullying is a subset of this phenomenon. Cyberbullying usually describes the application of Olweus' original conceptualisations of bullying [1] to electronic harassment, including situations that are repetitive and involve power

imbalances between the target and the producers of the harassment. The nature of electronic harassment means that certain situations may not meet the criteria for cyberbullying, particularly when the anonymity that cyberspace can allow makes it difficult to identify repetition and power imbalances. Noting this difficulty, this article seeks to explore the impact of electronic harassment on young people, whilst bearing in mind that many electronic harassment situations may also meet the criteria of cyberbullying.

In 2006 the devastating impacts of electronic harassment were made apparent to New Zealand (NZ) when high-profile media reporting linked the suicide of a 12 year old girl to “text bullying” [2]. Suicide concerns are not the only negative outcome ascribed to electronic harassment. The USA Youth Internet Safety Survey (YISS) demonstrated that male participants (aged 9–19 years) who disclosed being targeted by online harassment were more likely to report borderline and clinically significant social problems [3] and were approximately three times more likely to report major depressive symptoms [4] than participants who did not report online harassment. The Growing up with Media survey in the USA also found that targets of online harassment were significantly more likely to truant and carry weapons to school [5].

In addition to the negative associations mentioned above, these researchers also assessed how young people *felt* about their experiences of electronic harassment. Both iterations of the YISS found that around a third of harassment targets reported significant emotional distress (self-rated as “very or extremely upset or afraid”) after harassment on the internet [3; 4]. Using the same criteria, the Growing up with Media survey found that around 25% of participants reported that their experience of internet harassment was distressing [5]. Hasebrink, Livingstone, and Haddon’s [6] review of 200 European studies on risk in cyberspace, suggested that young people who reported feeling distressed, uncomfortable or threatened by a challenge, perhaps represented those “for whom risk poses a degree of harm” (p. 24). Building on this contention, the current analysis will

explore feelings of distress from electronic harassment as a proxy measure of harm. Distress is operationalized in this research as the degree to which participants reported feeling upset as a result [3].

Qualitative findings from a study we conducted with NZ young people [7] suggest that such distress may be differentially associated with the modality of harassment, with mobile phone harassment perceived as more distressing than internet harassment. For instance, some participants said that the always-available nature of mobile phones, and their single point of contact (cf. the multiple contacts provided by the internet), made them “more personal” than the internet, which may explain this finding. The significance of this finding is underscored by the proliferation of mobile phone activity in NZ, which was reported by 93.1% of participants ($n = 1,655$) in the broader project. Other NZ research with 9,107 secondary school students found that three times as many of them reported harassment on mobile phones compared to the internet [8]. Together these research findings emphasise the potential for harassment to be a significant issue for countries where many young people use mobile phones.

The rapidly growing body of research on electronic harassment and cyberbullying, as reviewed by Tokunaga [9], demonstrates the variety of forms that such harassment may take. Research has explicitly explored the reception of harassing messages [8; 10-12] and images [11; 13; 14], theft of the target’s electronic identity [11], having harassing information, rumours, or images about the target distributed electronically [3; 5], ostracism [11], and threats of harm [5; 11]. This literature highlights the potential for overt and covert electronic harassment.

Covert forms of harassment (sometimes called relational or indirect harassment) rely on harming the target by diminishing their social standing and peer relationships [11; 15], thus undermining their ability to relate others in positive ways [16]. Relating to others positively is a critical requirement for

positive adolescent development, as so many developmental tasks at this age rely on relationships (developing identity, developing intimacy, etc.) [17]. Thus, compared with overt harassment (sometimes called direct harassment), even when it involves threats and real physical confrontations, covert harassment is associated with more enduring negative outcomes for young people [18; 19].

Electronic media can be a powerful tool for such covert harassment, particularly as digital data can be used to widely distribute sensitive information (e.g., videos) about the target, potentially increasing harm by increasing the audience to their humiliation. This would suggest that forms of harassment that reach more bystanders may be more distressing than direct messages sent to the target. Smith and colleagues' research [13] with 360 Swedes (aged 12-20) demonstrated that forms of harassment that distributed sensitive images of the target online were rated as more likely to be distressing than other forms of online or offline harassment. Additionally, multiple instances of electronic harassment have also been associated with distress [3; 4].

Distress has also been hypothesised to be increased when young people experience anonymous harassment, because the anonymity that the internet can enable may inflate feelings of powerlessness in the target [20] and limit their ability to take action against an unknown harasser. Conversely, distress may also be increased when harassment involves particular categories of harassers well known to the target. For instance, electronic harassment from peers [21-24] may be associated with increased distress if peers allow the target no respite from face-to-face harassment during school hours or electronically when they get home. Ybarra et al. [3] also found that electronic harassment inflicted by adults was more likely to be distressing than peer abuse, perhaps reflecting the increased power adults may have compared to young people. Finally, the increased role of electronic communication in adolescents' sexual relationships [25; 26] indicates that some young

people may be harassed by romantic partners. The media makes it clear that such harassment may involve the distribution of sexual images of the target, which may increase chances of distress [21].

Although the literature differs widely in how it conceptualises the modalities, forms, and producers of this harassment, analyses of gender differences are almost universal [9]. The broader harassment literature demonstrates that young women and girls are more likely to report covert forms of harassment than the overt and physically aggressive forms of harassment more common to young men and boys [15; 27-31]. As covert harassment is amenable to electronic delivery [11], particularly the distribution of rumours, some argue that young women may in turn be more likely to harass (and be harassed) electronically than young men [32]. Interestingly, Card, Stucky, Sawalani, and Little's [33] offline-bullying review found little support for gender differences in rates of covert harassment. Tokunaga's [9] review was unable to determine whether gender differences were present in electronic harassment prevalence, with some studies producing these and others not.

2. Research Questions

Our study aims to explore the prevalence and characteristics of electronic harassment via the internet and mobile phones, as well as exploring how distress is associated with particular characteristics of the harassment situation in each modality. Additionally, given that gender may well play a role in how harassment is conducted and experienced, each of the following questions will include a gender analysis.

1) Are there any differences in the prevalence of electronic harassment on mobile phones vs. internet? Based on the most recent NZ data [8] we would expect more reports of mobile phone harassment than internet harassment (hypothesis 1). The broader harassment literature [15; 27-31]

would also suggest that young women are more likely to report electronic harassment than young men on both modalities (hypothesis 2).

2.) How distressing is electronic harassment across internet and mobile phone modalities? The literature indicates that internet harassment is often associated with distress [3-5], and we expect mobile phone harassment will often be rated as distressing (hypothesis 3). Given that mobile phones may be viewed as more personal and significant in young people's lives than the internet [7], we predict more distress from harassment on this modality (hypothesis 4). Given that females have reported internet harassment to be more distressing than males in USA research [38] we predict this will be the case with regard to both internet and mobile phone harassment (hypothesis 5).

3.) Are particular forms and producers of harassment more likely to produce distress? The research demonstrates that some forms [13, 14] and producers [3; 20-24] of electronic harassment are more likely to be associated with distress, however few studies have been able to explore these factors in one sample. We aim to explore how these forms and producers are associated with distress. The forms that will be tested include the reception of harassing messages [8; 10-12] and images [11; 13; 14], theft of the target's electronic identity [11], having harassing information, rumours, or images about the target distributed electronically [3; 5], ostracism [11], and threats of harm to the target [5; 11] or others (including property), and "other" forms of harassment that are not covered by these categories (assessed separately both on and off that modality). The producers that will be tested include peers [21-24] including friends and ex-friends as well as peers at school, older harassers [3], current and former romantic partners [25; 26], and anonymous harassers [20]. Based on the literature [38] we will explore whether gender differences may be identified across these particular characteristics.

3. Methods

3.1 Recruitment

The University of Auckland Human Participants Ethics Committee (UAHPEC) approved participant recruitment from five high schools (see Table 1). Schools were sampled to include a range of participants from different regions, including rural regions. Due to differential access to the internet in NZ by rural vs. urban and social economic status [34], the sampling sought to include young people across these demographics. Socio-economic status (SES) differences were indexed via decile rankings; for funding purposes, NZ schools are ranked based on their students' SES, with 10 representing the highest 10% of social economic indicators and 1 the lowest 10%. The first author identified incomplete or suspicious surveys (e.g., where there was systematic checking of one column of responses, or less than two thirds of the survey was completed, etc.) and 148 responses were removed. The final sample ($N = 1,673$) represented an approximate response rate of 53.7%.

[Insert Table 1 about here]

3.2 Participants

A gender skew was present; 62.3% of participants who provided gender information ($n = 1,668$) were female ($n = 1,039$). The ages of participants ranged from 12 to 19, with a mean of 15.3 ($SD = 1.44$). Participants could nominate any ethnicity description, and 8.5% ($n = 141$) selected more than one. The majority (38.9%, $n = 651$) identified as 'NZ European or Pākehā', followed by 'Asian' (23.0%, $n = 385$), 'Indian' (19.4%, $n = 324$), 'Other Ethnicity' (10.1%, $n = 169$), 'Pasifika' (9.1%, $n = 152$), Māori (4.6%, $n = 77$), and 'Other European' (4.4%, $n = 74$).

3.3 Survey Instrument and Measures

The questionnaire was based on the results and language of the focus group research (see Fenaughty and Harré, submitted). Only items relevant to the current study are described, and the full questionnaire is described elsewhere [7]. Two items explored the range and frequency of electronic harassment in the "past year (in the 12 months up till today)". The *Growing up with*

Media survey [5] and the YISS2 [35], also used this time frame. Frequencies of such harassment were measured with six items: “No”; “Yes, everyday or nearly every day”; “Yes, two or three times a week”; “Yes, once or twice a month”; “Yes, one time every few months”; and “Yes, this happened only once in the year”. A very similar response framework was used in the *Growing up with Media* survey [5].

Electronic harassment items were introduced with a question that asked if, in the past year, “someone ever tried to use [a mobile phone] [the internet] to bully or be mean and hurtful to you”. These questions did not include examples of what these forms of harassment could look like, as the interest was on any self-defined experiences that young people themselves decided were bullying, mean, and hurtful. A number of other studies have used similar definitions for framing cyberbullying and electronic harassment (i.e., see [5] for an almost identical definition).

Following an affirmative response, participants were asked to think about “the most serious time in the past year” when someone tried to bully or harass them on the internet and/or a mobile phone, and answer the following items with reference to that situation. The question used the “most serious time” to ensure that participants who had experienced more than one harassment situation referenced both a common characteristic and the more significant events.

The items assessing direct forms of harassment included whether people would: 1. Say, message, write, and/or text mean, hurtful, or nasty things; 2. Send “scary or disgusting pictures or videos”; 3. Threaten physical harm, like “texting to say they were going to get you”; 4. “Threaten to tell others embarrassing things” about the target; and 5. “Threaten to damage and hurt someone or something” the target cared about. Indirect forms included when people would: 6. “Spread rumours about” the target, even if untrue; 7. Not let the target talk, text, comment, message, or be friends with those who were harassing them (like they ignored them); 8. Send “mean or embarrassing

pictures or videos” of the target to others. The Growing Up with Media [5] questionnaire included similar questions to items 1, 3, 6 above and Cross et al. [11] included questions similar to items 1, 3, 4, 6, 7, and 8 above.

The next item collected data on who participants thought had targeted them, including age, gender, shared school attendance, whether the person(s) harassing them were part of a group, [ex-]friends, [ex-]boyfriends/girlfriends, or anonymous. Participants who reported electronic harassment were asked how they felt about their most serious experience on a five point scale: “Extremely upset”, “Very Upset”, “Upset”, “Just a little bit upset”, “Not at all upset”. The YISS2 questionnaire also used this as a measure of distress [35]. If a participant reported being upset, very upset, or extremely upset, this was categorised as “distressed”.

3.4 Analysis

Although the survey was constructed to measure a number of variables in an interval fashion, strongly skewed or binomially distributed results resulted in the construction of a number of dichotomous variables. As such, the analysis used Pearson’s Chi-Square test, Fisher’s exact test, and logistic regression analysis. Logistic regression analysis involved assessing univariate predictors for significance before combining such predictors into a broader model to test multivariate significance. In all cases, the assumption of normality of the data was not assumed, [2-tailed] significance of at least $p < .05$ was achieved, independence of variables was required, and sample size assumptions of tests were met (i.e., five or more cases per cell in Pearson’s Chi-Square test, and no less than one per cell in 20% of the logistic regression cells) [36]. Additional assumptions [e.g., see 36] for multivariate logistic regression were met for these analyses, including the lack of significant co-linearity and the linear distribution of scale variables, at least 15 cases per explanatory variable, as well as passing the Hosmer-Lemeshow goodness-of-fit test.

4. Results

4.1 Research question one: Are there any differences in the prevalence of electronic

harassment on mobile phones vs. internet? Overall, a third (33.2%) of participants ($n = 1,673$) had experienced electronic harassment in the prior year. A quarter (24.5%) said they had been harassed on mobile phones at least once in the prior year compared to 17.5% who reported internet harassment. This supports hypothesis 1 which predicted that mobile phone harassment would be the more common harassment modality. Hypothesis 2 predicted gender differences in both modalities. In total 36.0% of female participants reported electronic harassment compared to 28.4% of male participants. In terms of overall likelihood, female participants were 42% more likely to report at least one form of electronic harassment than male participants ($\chi^2(1) = 9.99, p < .01; OR = 1.42; 95\% CI = 1.14-1.77$). More female participants reported mobile phone (28.4%) harassment than males (18.3%), and females' odds of reporting mobile phone harassment were nearly two times greater than that for males ($\chi^2(1) = 21.52, p < .001; OR = 1.77; 95\% CI = 1.39-2.26$). However, the same was not true for internet harassment (reported by 17.4% of male participants and 17.6% of female participants), which had no statistical difference in prevalence by gender. This indicates partial support for hypothesis 2; females were more likely to report mobile phone, but not internet harassment.

4.2 Research question two: How distressing is electronic harassment across internet and mobile phone modalities?

In total, 52.9% of the young people who reported electronic harassment indicated that at least one of those experiences was distressing. This supports hypothesis 3 that predicted such distress. Hypothesis 4 predicted that mobile phone harassment would be more distressing than internet harassment. While just over half (53.7%) of those who had been harassed on a mobile phone reported distress, nearly half (48.2%) of participants also reported distress from internet harassment, suggesting marginal support for hypothesis 4. Hypothesis 5, predicting gender

differences in distress was also supported; two thirds (62.2%) of female participants reported distress following harassment compared to 37.7% of male participants. Females' odds of reporting distress were two and a half times higher than males ($\chi^2(1) = 22.08, p < .001; OR = 2.46; 95\% CI = 1.69-3.61$). By modality, 55.7% of females reported distress following internet harassment compared to 34.7% of males, indicating they were just over twice as likely to do so ($\chi^2(1) = 11.13, p < .001; OR = 2.37; 95\% CI = 1.42-3.96$). Similarly, 57.9% of females reported distress from mobile phone harassment compared to 40.9% of males. This indicated the odds of female distress following mobile phone harassment were nearly twice that of the male participants ($\chi^2(1) = 8.18, p < .01; OR = 1.99; 95\% CI = 1.24-3.20$).

4.3 Research question 3: Are particular forms and producers of harassment more likely to produce distress?

Table 2 shows which forms and perpetrators of electronic harassment were associated with distress (note, this table does not include the 204 participants who experienced harassment but did not report distress). These results are discussed with reference to the modality of the harassment.

[Insert Table 2 about here]

With regard to mobile phone harassment, univariate analyses demonstrated that the form and perpetrator of harassment was associated with varying levels of distress. Distress was associated with receiving mean, nasty, and hurtful communications ($p < .05$), socially ostracising the target by not letting them communicate with or befriend others ($p = .038$), threatening to damage someone or something of value to target ($p < .042$), and being subject to "other mean and hurtful" harassment not via mobile phones" ($p < .001$). Perpetrators associated with greater distress included people at school ($p = .020$), more than one harasser ($p = .002$), and those who were a good friend ($p = .031$).

Significant gender differences were identified for eight forms and producers of mobile phone harassment. Males were significantly more likely than females to report mobile phone harassment that involved threats to someone or something of value to them ($p < .001$), social ostracism ($p = .03$), having mean or embarrassing images of themselves sent to others ($p < .001$), being sent scary or disgusting images ($p < .001$), harassers who were male ($p < .001$) and anonymous ($p = .016$). Females were more likely than males to report mobile phone harassment involving mean, nasty or hurtful comments ($p = .013$); harassers who were female ($p < .001$) and around their age ($p = .022$).

Univariate analyses revealed that nine factors were associated with distress from internet harassment. These included rumours being spread about the target ($p < .001$), socially ostracising the target by not letting them communicate with or befriend others ($p = .016$), threatening the target with physical harm ($p = .022$), threatening the target with the dissemination of embarrassing information ($p = .002$), threatening damage to something or someone of value to the target ($p < .001$), and harassing the target in other ways involving the internet ($p < .001$). Perpetrators associated with distress, included males ($p = .049$), harassment produced by a boyfriend or girlfriend ($p = .041$), and harassment from an ex-girlfriend or boyfriend ($p = .007$).

Significant gender differences were identified in six forms or producers of internet harassment. Males were significantly more likely to report internet harassment that involved being sent scary or disgusting images ($p < .001$), having mean or embarrassing images of themselves sent to others ($p = .007$), and harassers who were a boyfriend or a girlfriend when it happened ($p = .004$). Female participants were more likely to report internet harassment involving mean, nasty or hurtful comments ($p = .016$), harassers who were female ($p = .023$) and around their age ($p = .006$).

In order to determine which of the significant characteristics above were most likely to predict distress, all significant characteristics (including gender) were simultaneously entered into a multivariate regression model for each modality (see Table 3). These results are presented by the modality of the harassment.

The multivariate analysis revealed that only participant gender, the reception of mean, nasty, and hurtful communications, and being subject to other mean and hurtful harassment actions not via mobile phones, predicted distress from mobile phone harassment. When holding the variables in the model constant, females were 2.07 times more likely to report distress than males. Participants who reported receiving mean, nasty, and hurtful communications were 1.68 times more likely to report distress. Experience of other mean and hurtful harassment actions not via mobile phones (e.g., in-person and/or via internet harassment) was associated with 1.85 times greater probability of distress.

(Insert Table 3 about here).

In order to explore whether the frequency of different forms of mobile harassment was associated with distress, a logistic regression (controlling for gender) was conducted on this data as well. Although a significant result was produced, the low R^2 value (below .1) suggested that this factor was not powerful enough to be deemed significant [36].

The multi-variate analysis on internet harassment revealed that only participant gender, rumour spreading, and harassment in other ways involving the internet, predicted distress. When holding the variables in the model constant, females were 2.33 times more likely to report distress than males. Those who reported that rumours had been spread about them online were 2.06 times more

likely to report distress. Similarly, participants who had been bullied in some other way on the internet were 2.08 times more likely to report distress.

A logistic regression assessing the impact of multiple forms of internet harassment on distress (controlling for gender effects) was also found to be significant ($\chi^2(2) = 35.46, p < .001, n = 272$) and associated with a small, but significant, R^2 value (.16). The logistic regression model, where B (gender) = .95 ($SE = 0.28$), B (number of harassment forms) = .37 ($SE = .08$), and B (constant) = -2.46 ($SE = 0.53$), produced the following odds ratio (and 95% confidence interval) for distress: 1.45 (1.23–1.70). The model shows that each additional form of internet harassment experienced by a participant increases their likelihood of distress by 45.5%.

5. Discussion

The focus of this study was to explore the prevalence and characteristics of electronic harassment including the role of gender. The research sought to explore any differences between internet and mobile phone harassment, and the factors associated with distress. The results supported our first hypothesis that mobile phone harassment was more prevalent than internet harassment. These results reflect NZ research [8], that used a much more limited definition of electronic harassment. This finding underscores the need for interventions that explicitly focus on this modality.

In total, around a third of participants reported at least one experience of electronic harassment across either internet and/or mobile phone modalities in the prior year. Although this is similar to some comparable studies, [5; 14; 37] it is slightly higher than others [3; 8]. The elevated amounts of harassment may reflect the slight female sample skew. Although a few studies of this age group did not show gender differences [3; 14], others have found that females report more electronic harassment [5; 8; 11; 32]. This was also true of our study, supporting our second hypothesis that young women were more likely to report electronic harassment.

Jackson, Cassidy, and Brown's study [32] of 365 Canadian young people, proposed that the disproportionate number of female targets reflected that electronic harassment could be particularly effective for indirect and relational aggression. They quoted Leckie's [29] Australian research, which demonstrated that young women usually used relational aggression to harass others. Interestingly, a recent large scale review found negligible differences between young men and women's rates of *offline* indirect harassment [33]. Our findings demonstrate that the phenomena of covert electronic and offline harassment differ, particularly in the disproportionate involvement of young women. Our study found that this gender effect was strongest for harassment on mobile phone modalities. Previous research with this sample (Fenaughty, 2010) found that young women were significantly more likely to report using mobile phones to communicate than young men, and this increased use may in turn explain these gender differences in harassment on this modality.

Our study also used broad definitions of harassment, not limited to reception of mean and nasty comments [8; 37] or limited only to internet harassment and missing mobile phone harassment [3; 4]. This enabled us to sample a larger range of harassment behaviours, and may account for the high rates we uncovered. For instance, the 18.1% of participants in the Youth '07 study [8] who reported electronic harassment were those who said others had said, written, texted, or messaged "nasty and unpleasant things" to them, no other forms of electronic harassment were measured. This particular form of harassment represented around 75% of the harassment in our study.

Extrapolating these results, definitions that only focus on the transmission of nasty comments may miss around a quarter of electronic harassment experiences, especially those that are indirect and covert.

Our second research question aimed to explore the extent of distress associated with electronic harassment. Supporting our third hypothesis, around half of our participants reported distress from electronic harassment, compared to a third of the YISS2 participants [38]. This difference may reflect a number of factors, including the fact that our study assessed mobile phone harassment, potential cultural differences between young people in the USA and NZ, and the fact that the YISS2 study used a slightly stricter criterion for distress. It is interesting to note that although a qualitative study suggested that harassment on mobile phones would be more distressing [7], the proportion of current participants reporting distress on mobile phones in our study (53.7%) was only slightly higher than distress associated with internet harassment (48.2%). This lent minimal support to our fourth hypothesis that mobile phone harassment will be more distressing than that carried out on the internet.

The increased distress in our study relative to the YISS2 [38] study may again reflect our slight female skew. Like the YISS2 study [e.g., 3], our findings showed that female participants were about twice as likely to report distress with each harassment modality, supporting hypothesis 5. Leckie [29] suggested that increased rates of female distress could represent that female harassment, compared to male harassment, may often involve the divulgence of secrets by former friends. Notably, however, we found that harassment by good friends was not particularly distressing, calling into question this conclusion.

Alternatively, to the extent that certain discourses prevent males from occupying victim identity positions (e.g., see Connell [40] for discussion about hegemonic masculinity), it may be very difficult for some males to report being victimised. Instead, it may be more palatable to say they experienced harassment but were too tough to be affected by it. These discourses do not prohibit women occupying these positions to the same extent. If this explains some of the gender differences in this study, it also highlights issues around supporting male students to report harassment in ways

that fit with hegemonic masculinities. For instance, such approaches could leverage 'desirable' traits by emphasising bravery at acknowledging vulnerability, and their 'effectiveness' at resolving the issue in a timely manner by engaging others in useful social support. The concepts of brotherhood and mate-ship could also be extended to empower male bystanders to take positive and proactive action.

We also found that distress levels differed according to the form and perpetrator of harassment. The most distressing form of electronic harassment was the reception of mean, nasty, and hurtful comments, messages, and text messages; online and on mobile phones. This finding is also reflected in results from the YISS2 which focussed on internet-only harassment [10], and Cross and colleagues' work with younger adolescents [11]. The next most distressing forms involved rumour spreading, threats of physical violence, and social isolation. The implications of these findings are that campaigns and future survey questions that focus specifically on these forms are likely to capture most experiences of electronic harassment.

There were differences in what forms were particularly distressing when comparing mobile phones and the internet, indicating, as suggested by previous research, that these forms are distinct [7]. For instance, mobile phone harassment that involved receiving mean and nasty comments and experiencing other mean and hurtful things not via that technology (e.g., potentially being harassed face-to-face or via the internet), was particularly distressing. This may represent the utility of mobile phones for direct communication, which may make them effective as a tool for direct verbal aggression. This was not the case for this form of harassment on the internet. Websites often provide 'blocking' buttons and 'report abuse' functions, which can be relatively easily deployed to block, direct aggressive communication online. Alternatively, rumour spreading on the internet was particularly distressing, as well as the experience of other mean and hurtful experiences online. The internet is particularly suited to broadcasting material in a way that mobile phones are not. It may

be that the internet both enables public sharing of information, and requires it, for effective harassment.

Various features of those who harass others have been hypothesised to be associated with distress [41]. However after controlling for other significant factors, our study did not find that any particular perpetrator characteristic predicted distress. The results nonetheless demonstrated interesting findings. Nearly half (40%) of those reporting distressing harassment said that the producers were at their school, raising significant issues for schools (discussed in depth below). This may also explain why around 60% of harassment producers on mobile phones, and 40% of the harassment producers on the internet, were friends or [ex]-friends with the target. Wolak et al. [38] reported that 44% of internet-based harassers in the YISS2 were also “offline friends or acquaintances of youth”. Given that adolescence is a time of exploring and testing opinions, ideas, morals, and values, as well as exploring sexuality and intimacy [42], such development may test, strengthen, weaken, and even end, existing friendships. Some of these friendship breakups and relationship transitions may become harassing situations and explain the high proportion of [ex]friends and [ex]romantic partners, as producers of harassment.

The fact that anonymous harassment was not associated with distress may reflect the fact that serious harassment may be about exercising one’s power [to produce hurt, harm, and control] over another (e.g., see Rigby [31], who explores harassment motivation), meaning that harassers may often want their targets to know who is in control/responsible for this abuse.

We also found gender differences in the form and perpetrators of electronic harassment, including that that female participants are more likely than males to be harassed by someone around their age who is less likely to be anonymous. This implies peer-based harassment, possibly from those in their class or year level at school. Given this finding in conjunction with greater female reports of

harassment and distress in general, it may be that schools should pay particular attention to these issues for girls. Conversely, although the sample sizes were small, the findings suggested that young men were more likely to report harassment via the reception of nasty, upsetting and embarrassing images as well as sensitive images of themselves being sent to others. Future research and interventions addressing electronic harassment for young men would be advised to address these forms specifically.

Before discussing the conclusions and implications of our findings we would not like to briefly discuss some of the research limitations. Participants in this study were not randomly selected, however the research design purposively sampled students from five diverse schools to generate a sample that would represent various demographics of young people in NZ.

The survey upon which this research was based was developed for this study and has not previously been deployed elsewhere so it is difficult to ensure the validity and reliability of the measures. To address this limitation we used or adapted a number of items from previous published research. Additionally, a pilot study helped establish that items were measuring the phenomena of interest. The general correlation of our findings with comparable overseas research suggests reliability.

Although much of this article discusses distress, the study only used a single measure of distress and a more complete battery of distress questions may have provided more accurate results.

Unfortunately questionnaire size constraints precluded these. As such, we utilised a distress measure that was deployed by other peer-reviewed studies in this area (i.e., the large scale *YISS1* and *YISS2*).

While the current survey was anonymous, participants may nonetheless have been wary about reporting victimisation (either as a target [being “vulnerable”] or as a producer of harassment [being

“mean”]). The findings may thus under represent the proportion reporting such challenges [11].

Finally, the analysis often used conservative statistical techniques to compensate for the non-normal distribution or small sample sizes. These factors may have reduced the power to identify significant relationships, and a minority of significant relationships may not have been identified.

6. Conclusions and Implications

Nearly half (40%) of those reporting harassment said that the producers were at their school. These findings, in addition to school requirements to provide safe and supportive environments [43], highlight the opportunity for schools to take a lead on this issue. Schools that acknowledge covert harassment and take appropriate action (as highlighted by Cross et al. [11]) can decrease harassment and reduce distress among young people. Such action pivots on ‘whole-school’ approaches that highlight the role and responsibility for everyone in the school community, including parents and caregivers, to understand and address harassment. Instead of pathologising the targets or producers of harassment, whole-school approaches shift attention to preventing school communities that enable such harassment to persist.

The study shows that particular categories of young people may benefit from additional support and intervention. Young women seem particularly vulnerable, possibly due to such harassment often being covert and relational. Young people who face harassing comments on mobile phones, rumour spreading on the internet, as well as multiple different forms of harassment are more likely to be distressed, making support in such situations more critical. Additionally, extra care may be required to support young men who have experienced harassment involving the distribution of harassing images.

Although we believe harassment is never acceptable and no young person should expect it, there are certain things young people can do to prevent future electronic harassment. Prevention is

particularly important given that a large amount of harassment was produced by people who were not at school with the target of the harassment, who would therefore be unavailable to school interventions. The fact that rumour spreading, and the distribution of sensitive images of young men, was particularly distressing, in combination with the high proportions of [ex] friends involved in electronic harassment, has important implications: safety messages should encourage young people to protect their secrets and sensitive images by not sharing their passwords with friends, even best friends or romantic partners. Additionally, harassment by romantic partners and/or their associates supports the need for education and messaging around understanding the risks of distributing sexual or sensitive material with romantic partners electronically (“sexting”).

The large amount of reported covert harassment clearly indicates opportunities for bystanders to play a role in supporting the targets of such harassment. The anonymous nature of the internet can enable peers to take action without the same fears of recrimination that may accompany attempts to support offline targets of harassment. For instance, peers can semi-anonymously forward-on harassing material to authorities (especially schools) who can intervene in harassment situations, without fear of recrimination; secondly, the ability for the internet to enable private conversations between people can also empower peers to support targets of harassment by sending them critical messages of support and affirmation.

Finally these results demonstrate that while one half of students may not be upset by an experience of electronic harassment, the other half may find it distressing. These data show that it is important to listen to the young person’s experience rather than making assumptions. People can further support targets of electronic harassment by responding calmly, empathising, not advocating ignoring as a strategy or banning them from the technology, but rather negotiating with the target next steps, helping to collect evidence, and getting effective authorities to intervene where possible [40]. Ultimately our findings show that many institutions, people, including young people themselves,

have a role to play in preventing and managing distressing electronic harassment among teenaged young people.

Table 1. Characteristics, Response Rates, and Sample Sizes, for Participating Schools.

School Characteristics				Final Sample*	
School	Region	Metropolitan	Decile Rating	Response Rate	Sample Size
A	Waikato	No	5	53.7%	175
B	Auckland	Yes	4	56.8%	978
C**	Otago	No	5	51.2%	241
D	Wellington	Yes	8	66.7%	90
E**	Auckland	Yes	10	64.0%	189
Sample Total				53.7%	1,673

Note. * The final sample values represent the numbers of participants from each school after incomplete or suspicious surveys were removed from the data set. ** Single-sex girls schools.

Table 2. Gender Differences and Distress by Different Forms and Perpetrators of Electronic Harassment (*n* = 334)

Form and Producer(s) of Harassment	Proportion Distressed On Mobile Phone (<i>n</i> = 203)			F
	Female (<i>n</i> = 165)	Male (<i>n</i> = 38)	Total	
Said, texted, messaged, mean, nasty, hurtful things to target	85.5%*	68.4%*	82.3%*	8
Spread rumours about target	43.0%	34.2%	41.4%	4
Threatened to hurt target physically	33.3%	42.1%	35.0%	2
Did not let target talk, text, comment, message, or friend them	29.1%*	47.4%*	32.5%*	2
Did other mean and hurtful things not via that technology	35.8%	42.1%	36.9%***	1
Did something else mean or hurtful via that technology	23.0%	34.2%	25.1%	2
Threatened to damage someone or something of value to target	16.4%***	42.1%***	21.2%*	2
Threatened to tell other people embarrassing things about target	19.4%	23.7%	20.2%	1
Sent mean or embarrassing pictures or videos of target to others	1.2% ^{†††}	28.9% ^{†††}	6.4%	7
Sent scary or disgusting pictures or videos to target	3.0% ^{††}	18.4% ^{††}	5.9%	1
Producer(s) of Harassment				
Around target's age	82.4%*	65.8%*	79.3%	7
Female	69.7%***	31.6%***	62.6%	6
At target's school	58.2%	73.7%	61.1%*	4
Male	40.0%***	71.1%***	45.8%	4
More than one person bullied the target	35.8%	47.4%	37.9%**	3
Anonymous	23.0%*	42.1%*	26.6%	3

A good friend (when it happened)	36.4%	44.7%	37.9%*	2
Already an ex-friend (when it happened)	27.9%	28.9%	28.1%	2
Already an ex-boyfriend/girlfriend (when it happened)	20.6%	31.6%	22.7%	1
A boyfriend/girlfriend (when it happened)	11.5%	21.1%	13.3%	8

Note. Significant Chi-square results are recorded using the following symbols: *** $p < .001$; ** $p < .01$; * $p < .05$. Significant Fisher's Exact Test results are recorded using the following symbols: ††† $p < .001$; †† $p < .01$; † $p < .05$.

Table 3. Results of Multivariate Logistic Regression of Significant Univariate Predictors Associated with Distressing Electronic Harassment.

Model Predictors and Constant	B (SE)	95% CI for Odds Ratio			Model $\chi^2(df)$	R^2 (Nagelkerke)
		Lower	Odds Ratio	Upper		
Mobile phone harassment						
Gender (Female vs. Male)	-.73** (0.27)	1.23	2.07	3.47		
Said, texted, messaged, wrote, mean, nasty, hurtful things to target	-.52* (0.26)	1.00	1.68	2.82		
Did not let target talk, text, comment, message, or be friends with them	-.28 (0.25)	.81	1.32	2.16		
Threatened to damage someone or something of value to target	-.41 (0.31)	.83	1.51	2.78		
Experienced other mean and hurtful things not via that technology	-.61* (0.27)	1.09	1.85	3.13		
Producer of harassment was at same school as the target	-.35 (0.23)	.91	1.42	2.22		
Harassment was produced by more than one person (a group)	-.39 (0.26)	.90	1.48	2.44		
Harassment produced by a good friend (when it happened)	-.38 (0.24)	.91	1.46	2.34		
Constant	2.13 (0.40)				41.67*** (8)	.14
Internet harassment						
Gender (Female vs. Male)	-.85** (0.30)	1.31	2.33	4.17		
Rumours spread about target	-.72* (0.33)	1.08	2.06	3.92		

Did not let target talk, text, comment, message, or be friends with them	-.34 (0.36)	.70	1.41	2.83	
Threatened to hurt target physically	.27 (0.41)	.34	.76	1.70	
Threatened to tell other people embarrassing things about the target	-.25 (0.50)	.48	1.28	3.42	
Threatened to damage someone or something of value to target	-.67 (0.49)	.81	1.96	4.72	
Was targeted by something else mean or hurtful via that technology	-.73* (0.37)	1.00	2.08	4.33	
Harassment was produced by a male	.48 (0.28)	.36	.62	1.07	
Harassment was produced by a boyfriend/girlfriend (when it happened)	-.48 (0.53)	.58	1.62	4.55	
Harassment was produced by an ex- boyfriend/girlfriend (when it happened)	-1.06 (0.61)	.88	2.89	9.52	
Constant	3.37 (0.77)				47.99*** (10)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$

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