The emotional impact of cyberbullying:

Differences in perceptions and experiences as a function of role.

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Abstract

Research is accumulating to confirm adverse consequences of cyberbullying. Less is known about the perceptions, expectations and reactions of those involved as a function of their different roles (e.g., as bullies, victims, bully-victims) and how this relates to their experiences of traditional bullying. We examined whether cyberbullies' beliefs about the impact of their actions reflects the impact as reported by cybervictims themselves. We tested also whether the emotional reactions to cyberbullying differed depending upon whether the victim was or was not also a victim of traditional bullying behaviors. Participants were 1353 Spanish adolescents. Approximately 8% reported experiences of cyberbullying (compared to 12% reporting experiences of traditional bullying). Cyberbullies believed that their victims would experience more discomfort than cybervictims actually reported experiencing. Those who had experienced victimization in both traditional and cyber contexts evaluated cyberbullying as having greater negative impact than did those who had experienced victimization only in cyber contexts. Perceptions differed according to role and the context(s) in which bullying has been experienced. Findings are discussed in relation to the ways in which technologically delivered aggression may differ from traditional bullying.

1. Introduction

Bullying and peer aggression are widespread in children's lives (Gradinger, Strohmeier, & Spiel, 2009). Bullying involves the repeated use of aggressive behaviors toward one's peers, in a context where there is an imbalance of power between the aggressor and the victim, and where the aggressor intends to cause harm or distress (Olweus, 1993). Traditional bullying behaviors include physical (e.g., kicking), verbal (e.g., calling someone nasty names), and relationship-focused (e.g., exclusion) aggression (Whitney & Smith, 1993). However, contemporary children and young people also now utilize mobile phone technology and other electronic media to perpetrate bullying behaviors (Fenaughty, & Harré, 2013; Patchin & Hinduja, 2006; Smith, Mahdavi, Carvalho, Fisher, Russell, & Tippett, 2008). This latter phenomenon, known as *cyberbullying,* has been defined as "being cruel to others by sending or posting harmful material or engaging in other forms of social aggression using the internet or other digital technologies" (Willard, 2007, p. 265).

Although incidences vary across studies, reports from North American, European, and Australian investigations show that involvement in or observation of cyberbullying are common experiences for many young people (Beran & Li, 2007; Estévez, Villardón, Calvete, Padilla & Orue, 2010; Görzig, 2011; Hinduja & Patchin, 2008; ISEI-IVEI, 2009; Jones, Mitchell & Finkelhor, 2013; Keith & Martin, 2005; Patchin & Hinduja, 2006; Smith et al., 2008; Ybarra & Mitchell, 2008). In Tokunaga's review (2010) of 25 peer-reviewed articles on cybervictimization, the average of students victimized online once was 20-40%. This raises important questions about the impact of the experiences and, in particular, about the perceptions, expectations and reactions of those involved.

Age and gender variables have been widely examined in investigations of both traditional bullying and cyberbullying (Monks, Robinson, & Worlidge, 2012; Perren & Gutzwiller-Helfenfinger, 2012; Raskauskas y Stoltz, 2007; Smith et al., 2008; Slonje & Smith, 2008; Slonje, Smith, & Frisén, 2013; Tokunaga, 2010). The emotional impact of each form of bullying has also attracted a lot of research interest (Ackers, 2012; Anderson & Hunter, 2012; Beran & Li, 2005; Dehue, Bolman, & Völink, 2008; Hoff & Mitchell, 2009; Patchin & Hinduja, 2006). The findings to date have been inconsistent. In some cases, boys tend to be overrepresented as bullies, cyberbullies and bully/victims (Ackers, 2012; Arseneault, Bowes, & Shakoor, 2010; Boulton & Underwood, 1992; Dehue et al., 2008; Gradinger et al., 2009; Perren & Gutzwiller-Helfenfinger, 2012; Slonje & Smith, 2008); in other cases, girls have been reported to be the most involved in cyberbullying (Jones et al., 2013; Schenk & Fremouw, 2012), generally as cybervictims (Campbell et al., 2012; Estévez et al., 2010; Görzig, 2011; Ortega et al., 2009), and in still others, there are no gender differences (Beran & Li, 2005; 2007; Monks et al., 2012; Patchin & Hinduja, 2006; Smith et al., 2008). With respect to age, the overall pattern of findings is somewhat clearer, indicating a curvilinear line with the high cut-off point in middle adolescence lower incidences later in high school (after 17-18 years old) (Tokunaga, 2010).

Emotional impact is equally controversial. Several studies have reported symptoms such as depression, fear, sadness, anxiety, suicidal ideation, remorse, worry, stress, embarrassment, and loneliness in all students involved (Arseneault et al., 2006; Biebl et al., 2011; Campbell et al., 2012; Gradinger et al., 2009; Hawker & Boulton, 2000; Hinduja & Patchin, 2010; Hoff & Mitchell, 2009; Kumpulainen & Rasanen, 2000). However, while some researchers have found differences in emotional impact, internalizing and externalizing problems by age, gender, type of aggression

(bullying/cyberbullying) or by role (Monks et al., 2012; Ortega et al., 2009; 2012; Schultze-Krumbholz, Jäkel, Schultze & Scheithauer, 2012). Perren & Gutzwiller-Helfenfinger (2012) did not obtain significant associations between any of these variables and involvement in traditional bullying or cyberbullying.

Our aim in the present study was therefore to extend the existing empirical literature in two ways. First, we examined whether cyberbullies' beliefs about the impact of their actions accurately reflects the impact as reported by cybervictims themselves. Second, we tested whether the emotional reactions to cyberbullying differed depending upon whether the victim was or was not also a victim of traditional bullying behaviors.

1.1. Emotional impact of traditional and cyber peer aggression

Abundant evidence confirms that traditional bullying has negative psychological consequences, not only for those on the receiving end (Biebl, DiLalla, Davis, Lynch, & Shinn, 2011; Hawker & Boulton, 2000; Juvonen & Gross, 2008; Kochel, Ladd, & Rudolph, 2012; Kumpulainen & Rasanen, 2000) but also for bullies themselves, for those who experience both roles (bully-victims), and for bystanders (Garaigordobil & Oñederra, 2010; Gradinger et al., 2009; KaltialaHeino, Rimpelä, Marttunen, Rimpelä, & Rantanen; 1999; Rivers & Noret, 2013; Roland, 2002; Trach, Hymel, Waterhouse, & Neale, 2010). Evidence is also accumulating to indicate that cyberbullying is harmful (Beran & Li, 2005; Campbell et al., 2012; Dehue et al., 2008; Gradinger et al., 2009; Hoff & Mitchell, 2009; Juvonen & Gross, 2008; Patchin & Hinduja, 2006; Ortega et al., 2009; Raskauskas & Stoltz, 2007; Slonje et al., 2013; Tokunaga, 2010; Ybarra & Mitchell, 2008). While it is true that victims of cyberbullying are often also victims of traditional bullying (Olweus, 2013), cyberbullying has a number of distinctive features, including greater ease of anonymity for aggressors, potentially large audiences,

persistence of actions over time (e.g., a YouTube video being available for people to view for weeks, months, or even years), and the relative invisibility of victims' experiences and reactions (Dredge, Gleeson, & de la Piedad Garcia, 2014).

While the growing body of work noted above has shown that cyberbullying does have negative effects, to date few studies have examined how the perceptions and evaluations of emotional impact might vary with role and context, i.e. depending who the cyberbully is or the anonymity of the incident(s) (Mishna, Saini & Solomon, 2009; Schenk & Fremouw, 2012). This issue is important because it informs our understanding of motives and interpretations, which in turn may affect subsequent behavior, such as bullies' readiness to repeat their behavior (Arsenio & Lemerise, 2004; Dodge & Somberg, 1987) and victims' strategies and capacities for coping (Bellmore, Chen, & Rischall, 2013; Fenaughty & Harré, 2013; Hunter, Durkin, Heim, Howe, & Bergin, 2010). In this paper, we examine the beliefs of bullies, bully-victims, and victims about the emotional outcomes of cyberbullying.

In a pioneering investigation of children's own perceptions in this domain, Monks et al. (2012) found that individuals varied in terms of how impactful they believed cyberbullying to be, compared to traditional bullying: 24.5% felt that it was less upsetting for the victim than traditional bullying, 36.2% regarded it as of similar effect, and some 39.3% judged it to be more upsetting than traditional modes. Sticca and Perren (2013), working with Swiss adolescents, found a slight bias to perceive cyberbullying as more upsetting but the effect sizes were small and there were stronger effects for the public nature of the assault and the anonymity of the assailant, irrespective of medium. Fenaughty and Harré (2013), based on a large sample of New Zealand adolescents, found that approximately 50% of those who had experienced cyberbullying regarded it is upsetting, very upsetting or extremely upsetting. These

findings suggest that there is considerable variation in how young people perceive the impact of cyberbullying. It is possible that their own involvement in such aggression (for example, as bully or as victim) may influence their perceptions of its impact. Monks et al. (2012) were concerned with the perceptions of children irrespective of their actual involvements and acknowledged that they did not examine how victims actually felt. The present study addressed this issue by contrasting the perspectives of cyberbullies, cybervictims and cyberbully-victims.

1.2. *Bullying and perceptions of its Consequences*

Children and young people often underestimate the impact of their behaviour on other young people. Boulton and Underwood (1992) report that victims aged 8- to 12-years old are significantly more likely than bullies and uninvolved children to think that bullies feel good, happy, brilliant, or clever when they pick on other children. Some 64% of victims felt that bullies would feel this way, while only 35% of children who used bullying behaviours reported experiencing those emotions. Differences between victims' and bullies' perceptions were also reported by Kochenderfer-Ladd (2004), with non-victims of bullying systematically under-estimating how upsetting victimization was. Though not directly related to emotions, it has also been reported that young people differ in their attributions of blame depending on their bullying role, the duration of victimization (Camodeca, Goosens, Schuengel, & Terwogt, 2003), whether the victim is an in- or out-group member (Gini, 2007), and whether the victim is male or female (Baldry, 2004). Roos, Salmivalli and Hodges (2011) found that personal factors (sex and aggression level) and context effects (witness type and victim's reactions) predicted different emotional reactions to acts of aggression. In short, perceptions of the nature and impact of traditional bullying vary with role and context.

Taken together, findings suggest that both traditional bullying and cyber aggression can have negative and potentially enduring effects on all parties involved. Perceptions of the effects of traditional bullying vary with role, such that bullies may underestimate the hurtful effects of their actions upon victims. Perceptions of the effects of cyberbullying as a function of role have not been extensively explored.

From an individual perspective, experiences of real-world bullying and cyber bullying may or may not be aligned. Large scale studies suggest that around 90% of cybervictims also experience traditional bullying, while the remaining 10% are 'pure' cybervictims (Olweus, 2013). This may bear on the individuals' perceptions and emotional reactions. We reasoned that a person who is the victim of both traditional and cyberbullying may find the cyber experience more distressing than does a person who is victimized only in the latter context. The individual who has suffered direct, traditional aggression has concrete experiences of discomfort to draw upon and these may form part of his or her conceptual and emotional appraisal of any victimization event. An alternative possibility is that a person who is unaccustomed to experiencing aggression in face-to-face contexts may find cyberaggression especially alarming because it is a distinctive event in her or his life. Although previous research has compared the impact of traditional bullying and cyberbullying, few studies have distinguished between those who have experienced aggression in both contexts with those who have only been victimized in cyber environments (Beran & Li, 2007; Juvonen & Gross, 2008; Ortega et al., 2009; Ortega et al., 2012).

Hence, the purpose of this study was to throw further light on young people's perceptions concerning the emotional impact of cyberbullying. In particular, we sought to examine whether cyberbullies and cybervictims perceived the emotional consequences of this form of aggression in the same way. Given previous research

relating to traditional aggression, we expected that cyberbullies would underestimate the impact of their behavior relative to victims' estimations of the impact of cyberbullying. We aimed also to compare the perceptions of those who have experienced victimization via both routes (i.e., real world and cyber world) versus those who have experienced only victimization via cyberbullying. We expected that those who had experienced both types of bullying would regard cyberbullying as more impactful than would those who had experienced only the latter.

2. Material and methods

2.1. Participants

The sample consisted of 1353 students aged 12 to 20 (M= 14.77, SD= 1.62), with 47.3% male. Of these, 1170 (86.5%) were in compulsory secondary education, and 183 (13.5%) were in non-compulsory education. These was a representative sample randomly selected based on the total amount of students enrolled in compulsory and non-compulsory education, using level and ownership school as selection criteria.

Twenty-two schools located in Murcia, Spain, were invited to participate. Of these, 21 took part (public schools, $n = 11$; private schools, $n = 10$).

2.2. Instrument

The instrument used was the long version of the self-report "CYBERBULL Questionnaire" (Giménez, Arnaiz, & Maquilón, 2013) based on the "Cyberbullying Questionnaire" developed by Ortega, Calmaestra & Mora-Merchán (2007). The anonymous survey consisted of 27 questions, including 25 close-ended and two qualitative items. The survey was divided into five sections: "Youth use of technologies", "Involvement in traditional bullying and cyberbullying", "Bystanders' experiences of peer and cyberaggression", and "Prevention of online bullying" (open

ended questions). Demographic information was also collected. We provided definitions of bullying and cyberbullying after the first section. For bullying, we used a definition adapted from Olweus (1993) as "(an) aggressive intentional act, inside or in the area around the school, where the bully harms another peer repeatedly, taking advantage of the fact that the victim cannot defend himself or herself". For cyberbullying, we used the definition as "wilful, violent and repeated harm against peers using electronic devices like mobile phones and computers" (Hinduja & Patchin; 2009; Patchin & Hinduja, 2006).

Youth use of technologies. Students were asked about ownership of mobile phones and computers, whether they had access to internet through them, and parental control of their internet access.

Involvement in traditional bullying and cyberbullying. Several questions were included about students' involvement in traditional bullying: (a) whether they had been involved ("*Yes/No*"), (b) aggressors'/victims' gender ("*a boy, a girl, boys' group, girls' group, mixed group*"), (c) frequency in the last month ("*1 or 2 times, 3-4 times, 1-3 times/week, more than 3 times/week*"), and (d) duration of victimisation ("*less than 1 month*", "*1-3 months*", "*3-6 months*", "*more than 6 months*", and "*always*"). These choices were based on previous research (Hunter & Boyle, 2004; Patchin & Hinduja, 2006; Solberg & Olweus, 2003). We also enquired about the form of victimization (physical, verbal, indirect), and about whether students sought social support. All these questions were presented from the perspectives of both bullies and victims. This section was followed by one which assessed involvement in cyberbullying, and this repeated the same questions but referring to cyberbullying via mobiles phones and computers.

Emotional reactions. Students who identified themselves as cyberbullies or cybervictims reported upon the emotional impact of those experiences or behaviours.

Cyberbullies were asked about the perceived impact of their actions upon victims. Cybervictims' were asked about the impact of the experience on themselves (i.e., how they felt).To achieve this, we developed a short scale which assessed negative emotional impact. Five negative emotions were included: "*offended*", "*defenceless*", "*rejected*", "*sad*", and "*scared.*" Each item was rated using the same five-point Likert scale mentioned above. This scale demonstrated good reliability among both cyberbullies (α= 0.89) and cybervictims (α= 0.83).

2.3. Procedure

The survey was piloted in one primary and one secondary school. Following minor amendments, it was assessed by Delphi's Method where six experts in bullying/cyberbullying and in methodology and statistics evaluated the questionnaire.

A total of 45 schools was recruited, selecting randomly from all available schools in the Region of Murcia. The lead author telephoned relevant school staff to seek their permission and to organise arrangements to collect parents' permission to conduct the study. After gaining approval, students were selected randomly at each of the class levels available. The anonymous survey was administered to the whole sample by the first author and two graduate assistants. Completion of the questionnaire took around 20 minutes.

3. Results

First, we report percentages of involvement in traditional bullying and cyberbullying. Then, we examine the perceived emotional impact of cyberbullying as a function of role.

3.1. Involvement in Bullying and Cyberbullying.

One hundred and sixty one participants (11.9%) reported involvement in traditional bullying. Of these, 108 (67.1%) reported being victims, 28 (17.4%) reported being bullies, and 25 (15.5%) were involved as bully/victims. Regarding the frequency of traditional bullying incidents, the majority of victims (52.2%) reported that they had been targets of bullying between 1 or 4 times in the last month, 18.7% reported being victimised 1-3 times per week, and 29.1% reported being victimised more than 3 times per week. Some 47.2% of bullies reported harassing others at a low level in the past month (1-4 times), 13.2% reported doing so 1-3 times every week, and 39.6% reported relatively high levels of over 3 times every week. No gender effect was found in bullying or victimization. We found a decrease on involvement across age, in which 89 (55.3%) of those involved in any role were 12-14 years old, 66 (41%) were 15-17 years, and only 6 (3.7%) were 18-20 years old. Involvement in cyberbullying was lower than traditional bullying, with 104 students involved (7.7%). Of these, 68 (65.4%) reported being cybervictims, 20 (19.2%) being cyberbullies, and 16 (15.4%) reported being both cyberbully and cybervictim.

With respect to the frequency of cyberaggression by phone, a majority of cyberbullies (86%) indicated that they attacked victims 1-4 times/month, 4% reported 1-3 times weekly, and 20% reported more than 3 times weekly With respect to the frequency of cyberaggression via computer, 61.1% reported perpetuating this form of aggression 1-4 times/month, 19.4% reported doing so 1-3 times weekly, and a further 19.4% reported more weekly . Cybervictims confirm they are more cyberbullied by computers as bullies said the majority in a low level monthly (1-4 times, 75.1%), 1-3 times weekly (17.5%), and more than 3 times weekly (7.5%). By phone, victims suffered online bullying 1-4 times/month (86%), 1-3 times weekly (10%), and more than 4 times weekly (4%). Again, no gender effects were found in both roles. The same

age trend was found here, whereby 51 (49%) were 12-14 years old students and 48 (46.2%) were 15-17 years old. A further 57 participants (4.2%) were involved in both traditional and cyberbullying; among these, 26 indicated that they had acted as both traditional bullies and as cyberbullies and 48 reported having been traditional victims and cybervictims. There were no associations between either age and traditional bullying, $\chi2$ (2) = .75, p = .689, or age and cyberbullying, $\chi2$ (2) = 1.06, p = .587.

With regards to gender, boys were more likely to engage in bullying as aggressors and bully/victims, while girls were more likely to report being victims. These associations were significant for both traditional bullying, $\chi2$ (2) = 10.47, p = .005, and cyberbullying, $\chi2$ (2) = 13.95, p < .001. In addition, we found a significant association between gender and being involved in both traditional and cyberbullying experiences, $\chi2$ (4) = 28.21, p < .001.

Insert Table 1 about here

3.2. Perceived Emotional Consequences of Cyberbullying

Examination of the responses to the individual impact items (Table 2) revealed that the most common emotional reaction that was expected of victims by cyberbullies was "scared", followed by "offended". In contrast, cybervictims actually reported that the most intense emotion was "sad", followed by "rejected." For those who reported experiencing both roles (cyberbully-victims), the most highly rated emotional response (when actually victimized) was "offended", followed by "scared".

We evaluated first whether cyberbullies' perceived impact and/or cybervictims' reported impact were associated with age and gender. The correlation between age and cyberbullies' perceived impact was not significant, r (N = 36) = -.07, p = .67, and there

was no impact of gender on those perceptions, t (34) = 1.13, p = .27 (two-tailed).

Similarly, age was not correlated with cybervictims' reported impact, r (N = 84) = -.06,

p = .600, and gender also had no effect, t (82) = -1.50, p = .14 (two-tailed). There was,

however, a significant difference for 'sadness', on which girls scored higher (M= 2.42,

SD= 1.57) than boys (M= 1.62, SD= 0.85), t (82) = -2.72, p = .008 (two-tailed).

Turning to the overall scale scores, we compared the perceptions of cyberbullies

and cybervictims. These revealed that cyberbullies believed that victims would

experience a more serious negative emotional reaction (expected victims' reactions: M=

2.70, SD = 1.28) than cybervictims actually reported experiencing (victims' reported

reactions: M= 1.88, SD = 1.04). This difference between the two groups was significant,

t (86) = 2.92, p = .004 (two-tailed), and represented a medium effect size (Cohen's d =

0.63).

Cyberbully-victims' reactions and perceptions were also evaluated. Due to their

unique position as both bully and victim, these students reported (i) how they thought

victims would feel and (ii) how they personally felt when victimized. Cyberbully-

victims did not differ from pure cyberbullies on how they thought victims would feel, t

(34) = 1.59, p = .120 (two-tailed). Neither did cyberbully-victims differ from pure

cybervictims when reporting how they actually felt when cyberbullied, t (82) = 0.52, p =

.607 (two-tailed). We compared cyberbully-victims' perceptions of how victims would

feel with their own reported feelings when actually victimized, and again there was no

significant difference, t (15) = -1.28, p = .221 (two-tailed).

Insert Table 2 about here

Finally, we compared negative emotional reactions to cyberbullying experiences in children who were victims in both traditional and cyber contexts with those who were victims only in cyber contexts. Those young people who were victims in both contexts reported higher levels of negative responses to cyberbullying (M= 2.54, SD= 1.16) than did those who suffered only cyberbullying (M= 1.60, SD= 0.80. This difference was significant, t (66) = -3.96, $p < .001$ (two-tailed), with a large effect size (Cohen's d = 0.98).

4. Discussion and conclusions

Recent studies with Spanish samples show that, as in other countries, technology and the internet are part of students' daily life lives (García-Martín & García-Sánchez, 2013; Martínez de Morentin, Cortés, Medrano, & Apodaca, 2014), with a preference for entertainment and social communication uses rather than educational purposes. Unfortunately, some social uses can include harassment and aggression against peers in the context of anonymity and large audiences (Slonje et al., 2013; Tokunaga, 2010). In this context, how young people perceive and interpret social experiences is an important dimension of the psychological consequences of those experiences. The present findings revealed that cyberbullies believed that their victims would experience more discomfort than cybervictims actually reported experiencing. We found also that those who had experienced victimization in both traditional and cyber contexts evaluated cyberbullying as having greater negative impact than did those who had experienced victimization only in cyber contexts. In a large cross-sectional sample of individuals from age 12 to age 20, we found little evidence of gender-related differences in these respects, with the only exception of 'sadness' emotion in which girls scored higher than boys, results similar to those of Perren et al. (2012). These results contrast with previous studies in

which emotional reactions and emotions vary by role, age, gender (Monks et al., 2012; Patchin & Hinduja, 2006; Ortega et al., 2009; 2012; Schultze-Krumbholz et al., 2012). It may be that there are regional or national differences in the strength of gender differences or it may be that, as familiarity with the devices of the cyberworld becomes even more ubiquitous, there are changes in the ways that girls are using the new media for social (and antisocial) purposes. These questions call for research in a wider range of locations and for careful monitoring of evolving practices. Regarding age, we did obtain age related differences, with the frequency declining with age, in common with other studies (Tokunaga, 2010; Schneider et al., 2012; Slonje & Smith, 2008; Slonje et al., 2013). It should be noted that other studies have reported a greater prevalence of cyberbullying in older pupils (Smith et al., 2008) or no age differences (Perren & Gutzwiller-Helfenfinger, 2012); hence, we surmise that additional contextual factors influence these patterns and further research is needed to distinguish developmental changes from environmental variables.

The finding that cyberbullies believed that victims would experience a more serious emotional reaction than victims actually reported experiencing was contrary to expectations. Previous research with traditional bullies and their victims had found the inverse relationship, with bullies underestimating the impact of their aggression (Kochenderfer-Ladd, 2004). It may be that beliefs about cyberbullying are influenced by other considerations. For example, one possibility is that cyberbullying is perceived as an often anonymous form of aggression. Anonymity appears to intensify expectations of the impact of either type of bullying (Sticca & Perren, 2013) but it is more readily arranged in cyber assaults than in face-to-face bullying. Another possibility is that, from the perspective of the cyberbully, a person performing an aggressive act via electronic media, such as sending a threatening or abusive message,

perceives few or no immediate impediments to power; in the absence of direct evidence of outcomes, it is possible to imagine that the intended consequence came about; in contrast, in face-to-face aggression there may be more directly available evidence of whether the bullying 'worked' or not. Perren et al. (2012) have suggested that the absence of direct contact between perpetrator and victim lowers the cyberbully's emotional engagement regarding feelings of remorse; if the bully has less reason to feel sorry for his/her actions, then he or she may assume that the actions have had the appropriate effect on the target. Yet another possibility derives from the fact that cyberbullying has attracted a lot of media attention (Moreno, & Whitehill, 2012; Slonje & Smith, 2008; this tends to be alarmist (e.g., publicizing instances of suicide linked to cyberbullying) and it may influence children's expectations, especially when their own experiences are minimal. In short, beliefs about cyberbullying, whether derived from a sense of anonymity and remote power, or the dangers highlighted in the popular media, may exaggerate its perceived impact.

In contrast, traditional contexts of bullying entail observations of the victim's reactions: a victim may not always display as much discomfort as the aggressor anticipated or desired, and this could lead to underestimations of impact. Although further research is needed to confirm and clarify such processes, note that a possible outcome is that as the cyberbully attributes higher levels of impact to his or her actions than may actually be the case, he or she may find this a gratifying mode of aggression and be motivated to repeat it.

It should be acknowledged that, in the present methodology, the cyberbullies and cybervictims were not likely to be focusing on the same specific events in which both parties had been involved. With a large sample of respondents as tested here, it is reasonable to assume that both groups were reflecting on broadly similar events;

importantly, their perceptions of the impact of that class of events differed. Nevertheless, future research could attempt to chart reactions to identical events from different perspectives. This could be investigated in naturalistic studies, as well as in experimental and role play studies, by locating specific incidents and soliciting ratings of severity from both parties.

A distinctive feature of this study was that we were able to compare those who reported victimization in both domains (traditional and cyber) with those who reported victimization in only the cyber context. Those who experienced both types attributed higher levels of negative emotional impact to cyberbullying than did those who experienced only cybervictimization. Previous research has shown that children vary in terms of how impactful they believe cyberbullying to be, relative to traditional bullying (Monks et al., 2012), with some regarding traditional as the most upsetting, some regarding cyberbullying as more upsetting, and some regarding the two forms as equally upsetting. The present results indicate that this judgment may be influenced by whether the young person has experienced both or just one type of aggression.

Several explanations are possible. One is that the effects of victimization in two contexts are additive: the young person has suffered an accumulation of negative events. For example, an aggressor who is making life difficult in the playground may also pursue the victim through electronic means; the overall effect of the hostile relationship may affect the victim's interpretation of the cyber experience. Similarly, some individuals may have characteristics which render them more vulnerable to victimization (Arseneault et al., 2010; Erath, Tu, & El-Sheikh, 2012; Tom, Schwartz, Chang, Farver, & Xu, 2010); these individuals may be more likely to attract abuse via both routes and also to attract stronger abuse. It is possible that young people who are victimized only via cyber routes are more robust – their peers do not normally pick on

them, and so they are better able to withstand unpleasant events via cyber channels. Another possibility is that the severity of cyberbullying actually is greater among those who experience both types of bullying, perhaps because the cyber messages are tied to other, direct interpersonal events, or perhaps because the bully himself or herself is skilled in administering discomfort via any mechanism. While these hypotheses call for further research, the present evidence does underscore the likelihood that perceptions differ according to role and the context(s) in which bullying has been experienced.

Our results have implications for both teachers and parents. Some recent studies have found educators are unaware about the extent of cyberbullying (Cassidy, Brown & Jackson, 2012). Both teachers and parents are likely, however, to encounter some alarming reports in the mass media about the cruelty of cyberbullying. The present findings suggest that teachers and parents should be aware that young people being bullied in both traditional and cyber contexts will be particularly distressed, more so than when cybervictimization is experienced in the absence of traditional bullying. Those students may require additional help and support. How adults should deal with our finding that cyberbullies seem to overestimate their impact upon cybervictims is a little more difficult. Introducing cyberbullies to this information may help to undermine their feelings of self-efficacy with regards to aggressive behavior (Andreou, 2004) and could help to encourage them to use more positive interpersonal actions. However, relaying such information to the cyberbully carries with it the risk that the bully intensifies his or her actions, or chooses a more direct (traditional) form of aggression in order to bring about greater distress. Telling cybervictims is also a double-edged sword: this has the potential to belittle their lived experiences and may tempt adults into believing that the child is not experiencing a particularly distressing event (when research clearly indicates otherwise). On the other hand, such information may help

cybervictims to see that they are coping with the demands of the situation more effectively than they may realize, acting as a stepping stone toward the use of adaptive coping strategies, such as positive reappraisal (Salmivalli, Karhunen, & Lagerspetz, 1996).

Teachers' intervention to prevent and/or counteract cyberbullying is desirable (Diamanduros, Downs & Jenkins, 2008) but evidence indicates that, even where they exist, relevant policies or specific programs are not being implemented sufficiently (Cassidy et al., 2012). In this context, school psychologists have an important role in the assessment, prevention and intervention of bullying (Sherer & Nickerson, 2010) and in alerting teachers to the nature of the problem, its relationship to other forms of bullying, and the ways in which children (victims, cyberbullies, and bystanders) can be helped to address and cope with these experiences.

In summary, this study has highlighted interesting and novel findings with respect to the perceived and actual impact of traditional and cyberbullying. These discoveries indicate that there may be important ways in which bullies' perceptions and victims' actual reported emotional reactions differ, and that young people who experience both traditional and cyber victimization are at particular risk of experiencing negative emotions. Future research should aim to evaluate the different processes which have been suggested as possible explanations for these effects.

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Table 1

Frequency and percentage related to involvement in traditional bullying and

cyberbullying

Type	Role	Gender (%)	
		Boys (N= 72)	Girls (N= 89)
Traditional (*N* = 161)	Bully	16 (57.1%)	12 (42.9%)
	Victim	39 (36.1%)	69 (63.9%)
	Bully/victim	17 (68%)	8 (32%)
Cyber (*N* = 104)	Bully	16 (80%)	4 (20%)
	Victim	24 (35.3%)	44 (64.7%)
	Bully/victim	10 (62.5%)	6 (37.5%)

Table 2

Mean Negative Emotional Reactions by Role

	Cyberbully[1]	Cybervictim[2]	Cyberbully-victim[3]
	M[4] (SD)	M (SD)	M (SD)
Scared	3.15 (1.46)	1.78 (1.32)	2.03 (1.19)
Offended	2.90 (1.62)	1.98 (1.25)	2.25 (1.06)
Rejected	2.65 (1.39)	2.04 (1.41)	1.53 (0.56)
Sad	2.60 (1.46)	2.18 (1.40)	1.91 (0.95)
Defenceless	2.20 (1.54)	1.75 (1.33)	1.56 (1.01)

[1]Cyberbullies' perceived effects on victims. [2]Cybervictims' reported effects on self. [3]Cyberbully-victims' reported effects on self. [4]Range of scores was from "1 = never" to "5 = always."

Highlights

- We compared beliefs about cyberbullying among bullies and victims

- We investigated whether the victim was also a victim of traditional bullying

- Cyberbullies believed victims experience more distress than victims report

- Perception of cyber vs traditional bullying impact varied with role and experience

- We discuss differences between technologically delivered and traditional bullying