The Nature and Impact of Cyberbullying and Cyber-harassment in South African Schools

Completed Research Paper

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Abstract

Innovation Cyberbullying, bullying via electronic media and communication, is on the increase. It has been thrust to the forefront of the public agenda, with concerns about the psychological and health impacts resulting from online victimisation. Traditional anti-bullying strategies do not appear to be effective. This article adds to the existing research by investigating the nature and impact of cyberbullying in South Africa. 1258 adolescent children from eight urban schools in Cape Town responded to our survey examining the nature, extent and impacts of cyberbullying. Incidents of cyberbullying were examined in relation to gender, age and school grade, internet usage, traditional bullying factors, and economic factors. There was a significant incidence of cyberbullying. We found significant correlations with gender, age, grade, perceived academic performance and frequency of internet access. Cyberbullying impacts were perceived as negative, eliciting feels of anger, fear and depression, and in one case, suicidal ideation.

Keywords

Cyberbullying; bullying; victim; adolescences; pupils; school; South Africa.

Introduction

Never before has information and education been so readily accessible, since the internet opened up a wealth of opportunities for learning, exploration, and social and public engagement (Burton & Mutongwizo, 2009). However, internet access is not without its dangers and carries with it inherent risks, from exposure to inappropriate content to undesirable contact with strangers to inappropriate conduct perpetrated by children, which includes the relatively new phenomenon of cyberbullying. Cyberbullying is an unfortunate by-product of the combination of ubiquitous access to electronic media with teenage aggression (Hinduja and Patchin, 2008). It has been thrust to the forefront of the public agenda after a number of high profile cases have unfolded in the media, including suicides prompted by cyberbullying (Giumetti & Kowalski, 2016). Internet-related risks in South Africa are on similar with those evident in the US and Europe (Burton & Mutongwizo, 2009; von Solms & de Lange, 2011).

The level of risk facing children and the harassment that takes place via electronic media has historically been neglected (Hinduja & Patchin, 2008). However, the number of children being cyberbullied is on the rise and constitutes a significant minority. But, given that cyberbullying research has primarily been conducted in developed countries such as the US and Europe, it is important to find out whether cyberbullying is equally prevalent in less developed countries, and particularly Africa. Only a small number of early studies conducted in South Africa (Kowalski, Giumetti, Schroeder & Lattanner, 2014). Thus little is known about the prevalence of the problem or about the coping strategies employed by cyberbully victims in South Africa (Badenhorst, 2011). South Africa, as an emerging economy, lags behind developed countries in many regards, but over the last decade it has seen rapid mobile phone growth, and it now boasts a penetration rate of close to 100% (Asongu, 2015). This study represents a comprehensive survey undertaken with in a developing country, and it makes a unique contribution to current empirical research because of the unique contextual factors, and the potential effect that rapid growth may have had on the nature of the phenomenon. The indication is that, because of this dramatic and sudden growth,
parents and teachers have not had sufficient time to adjust psychologically and educationally to the ethical, social and behavioural implications of internet access and its abuse.

The primary purpose of this research is to investigate the nature and impact of cyberbullying within the South African context using a quantitative approach. The core objectives of this research are:

- To identify cyberbullying impacts as well as coping strategies used by pupils;
- To determine influencing factors contributing to incidents of cyberbullying.

This paper used a quantitative approach surveying a large sample of 1258 school-going children aged between 12 and 17 to answer the above objectives. It aims to make a contribution to the understanding of the phenomenon and poses the research question “What is the nature, and potential root causes of cyberbullying, and what are its impact on South African Youth?”. The academic community should benefit from being able to compare the findings across different nations. Additionally, the findings will hopefully provide insight for concerned parties, enabling them to develop practical strategies and policies to reduce this social problem.

**Literature Review**

**Definition**

Several definitions for cyberbullying have been offered in the literature, most of which are derived directly from well-established traditional bullying definitions. Generally, the three main attributes of repetition, the intention to do harm and the imbalance of power are deemed to be necessary if an incident is to be considered an act of cyberbullying (Patchin & Hinduja, 2008; Šlégllová & Černá, 2011; Smith, Mahdavi, Carvalho, Fisher, Russell & Tippett, 2008). However, consensus on a standardised definition has proven difficult and the differences in these descriptions have been problematic (Burton & Mutongwizo, 2009; Šlégllová & Černá, 2011). This research adopts Tokunaga’s definition: “Cyberbullying is any behaviour performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others.” (Tokunaga, 2010:278).

Some authors operationalise cyberbullying without requiring ‘repeated’ behaviour (Tokunaga, 2010), in part since in cyberspace a single bullying instance can inflict repeated harm through the permanence of some media and ease of copying and forwarding. We adopt this stance since our focus is on the impact; thus our operational definition does (also) not require repeated incidents but we require a recent incident, namely at least one occurrence in the past two months. Other authors would classify a single instance as cyberharassment (Tokunaga, 2010) and this term has therefore been included in the paper title. Cyberbullying can be categorised into the following types: harassment (its narrow meaning is restricted to rude, insulting or threatening messages), flaming, denigration (disparaging comments), identity theft, outing, exclusion, trolling and cyber stalking (Li, 2010; Mark & Ratcliffe, 2011; Tokunaga, 2010).

**Prior Empirical Research**

Cyberbullying research in emerging countries is still in its infancy, in part due to the recent technological innovations that make it possible (von Solms & de Lange, 2011). The key studies have primarily been conducted in first world countries, and have had varying results due to differing questionnaires and sample groups (Kowalski et al, 2014; Smith et al, 2008; Barlett & Coyne, 2014).

An early Canadian study involving 432 pupils from grades 7 to 9 found a quarter had been subjected to online victimisation (Beran & Li, 2005). Another survey conducted by the i-SAFE America Foundation discovered that 57% of 1500 pupils from grades 4 to 8, had been subjected to hurtful or angry messages online, with 13% indicating that this happened often. 53% of pupils admitted to sending hurtful messages (7% often). 42% of pupils said that they had been bullied online with 7% very often so (Li, 2007). These particular studies are not unique in their findings and, on average, approximately 10% - 40% of all participants have been victims by a cyberbully (Kowalski et al, 2014; von Solms & de Lange, 2011). Although different definitions of cyberbullying lead to different prevalence figures, studies are in agreement that the number of children being cyberbullied is rising and is a significant minority (Kowalski et al, 2014).

A study of the relationship between the victim’s age and the prevalence of cyberbullying has been the emphasis of the majority of research. A definitive understanding of this relationship would ensure the
most effective use of target resources and programmes. Tokunaga (2010) suggests that, although the research is not clear, data does suggest that a curvilinear relationship exists, with the greatest frequency of victimisation occurring in Grades 7 and 8.

The evidence supporting a relationship between gender and cyberbullying is contradictory with only some studies providing support for using gender as a predictor for victimisation (Barlett & Coyne, 2014; Tokunaga, 2010). Most studies found no indication of gender bias (Burton & Mutongwizo, 2009; Hinduja & Patchin, 2008). Burton and Mutongwizo (2009) posit that despite slightly higher reported incidents of cyberbullying amongst girls (33.1% compared to 29.3%), gender is unlikely to be a sound predictor of cyber violence within the South African context.

The first published South African study (Burton and Mutongwizo, 2009) surveyed 1726 youngsters aged 12 to 24. Their findings established that the penetration of electronic media into the lives of South African children is evident with most electronic harassment at that time occurring via voice calls (18.3%) and text messages (SMSs; 16.9%). A later study by von Solms and de Lange (2011) surveyed 1594 students in the Eastern Cape Province. Since their purpose was to investigate the preferred online activities of South African children, their results in terms of cyberbullying are hard to assess, especially since they combined Mxit (a light-weight instant messaging app developed in South Africa for feature phones) and other social media sites into a single question. A third study, conducted by Oosterwyk and Parker (2010) in two Cape Town schools, found that most pupils had their own cell phones (93%) and that 1 in 3 students (36%) was subjected to electronic bullying at school.

Key Differences between Traditional Bullying and Cyberbullying

Despite the fact that cyberbullying research is largely guided by traditional bullying literature, there are several key differences which can be attributed to the inherent qualities of electronic communication and the devices being used (Tokunaga, 2010). The core differences revolve around anonymity, reach, lack of immediate feedback and punitive fear (Betancourt, 2016).

In the case of face-to-face bullying, the power differential lies in the bully’s greater physical strength (physical bullying) or social standing (psychological bullying). However, in the case of cyberbullying, the power of online bullies often lies in their anonymity (Badenhorst, 2011). Students who would not normally engage in traditional school-yard bullying may be tempted to do so in response to the anonymity associated with an online environment (Campbell, 2005). However, research indicates that in 40%-50% of all incidents, the identity of the cyberbully is known to the victim (Kowalski, Limber & Agatston, 2008).

Another key difference between the two types of bullying lies in the reach of the perpetrator. Cyberbullies are able to extend their reach well beyond the walls of the school-yard and are able to “follow” their victim inside their home. This persistent onslaught of bullying behaviour may result in even greater damage than traditional bullying (Betancourt, 2016). A further danger is the potential of harmful material being distributed to a wider audience: emails and text messages can be quickly and easily distributed, while video material and images posted on social media sites run the risk of going viral, increasing the victim’s torment. The lack of immediate feedback that the perpetrator receives can result in bullies feeling less remorse or empathy for the victim (Slonje & Smith, 2008).

The Impacts of Cyberbullying

The impact cyberbullying has on a child is very similar to that experienced by one subjected to traditional bullying. However, due to the covert nature of cyberbullying, plus the reach of the perpetrator combined with the humiliation of the child across a wider audience, the reaction can be more severe (Hinduja & Patchin, 2010). Although dependent on the frequency, length and severity of the threat, children tend to have a greater internalised negative affect towards the cyberbullying (Tokunaga, 2010).

The general impacts of cyberbullying on children include poor academic performance at school, decline in quality of family relationships, low self-esteem, and depression (Badenhorst, 2011; Hinduja & Patchin, 2010; Li, 2010; Mark & Ratcliffe, 2011; Ybarra & Mitchell, 2008). Sometimes, an increase in absenteeism and truancy rates was recorded, because students felt that school was no longer a safe place (Beran & Li, 2005). The psychosocial problems and affective disorders emphasise the serious nature of the phenomenon. In particular, teenage suicide and suicidal ideation continues to be a significant public
health concern: studies have established a significant link between bullying and an increased risk of suicidal thoughts as well as attempts and successful suicides (Hinduja and Patchin, 2010). Depression, low self-esteem, hopelessness and loneliness are precursors to the suicidal behaviour. Hinduja and Patchin (2010) present research indicating that cyberbully victims are 1.9 times as likely to attempt suicide than those that have not been bullied; a finding validating the concern surrounding cyberbullying.

**Research Questions and Research Methodology**

The research questions focus on identified gaps in South African research. In particular, the following research questions are posited to address the research objectives:

- To what extent do South African children experience cyberbullying?
- What coping strategies are children employing to combat cyberbullying behaviours?
- Are gender, age, technology usage/exposure and traditional bullying factors also influences on cyberbullying behaviour?

The first two research questions will be discussed using descriptive statistics. The last question is inferential and can be stated as statistically testable null hypotheses i.e. the incidence of cyberbullying (conducting or susceptibility) does not differ by gender ($H_1$), age or grade ($H_2$), internet usage ($H_3$) or traditional bullying factors (i.e. traditional bully or victim) ($H_4$).

Given that the research is aiming to get some representative overall picture of the situation, we opted for a positivist survey-based approach. This is not to deny the importance of the qualitative and more interpretivist approaches to this issue which other researchers have taken and make important contributions to the lived experiences of victims and bullies. However, the quantitative approach allows us to get a better feel for the overall incidence rates – which are currently an unknown – as well as the relative importance of various influencing factors. Thus both approaches are seen to be complimentary and valid but they answer different research questions.

There has been a lack of consistency between surveys, in particular relating to the time-framing of the questions, which range from last year to the last two months, while some have no time frame. For this study, the research instrument design process was cognisant of a range of surveys, which included the work of Burton & Mutongwizo, 2009; Li, 2007; Mark & Ratcliffe, 2011; Smith et al., 2008; Slonje & Smith, 2008; von Solms & de Lange, 2011. The foundation of this research instrument was based mainly on the work of Smith (2008), who has, in turn, included the key elements of the Revised Olweus Bully/Victim (Olweus, 2003) and DAPHNE questionnaires, which are established instruments. This not only utilises an established psychometric instrument, but allows for cross-study comparisons.

The research used an online survey consisting of 35 questions. An online approach provided anonymity and privacy, which in turn allowed people to feel more comfortable in discussing these sensitive issues. The questionnaire had five main sections: demographics and academic progress (6 questions); internet accessibility and use (8); traditional face-to-face bullying (3), cyberbullying (14); and a comments section. The definitions of bullying and cyberbullying purposefully excluded the word “repeatedly” to allow the researchers to differentiate between once-off incidents of bullying (by some researchers defined as harassment) and frequent bullying. The time frame was set to a relatively recent history (the last two months). The instrument was piloted on a small group of 20 pupils which resulted in distinguishing between internet access from home versus school, and on a PC versus a mobile device.

The target sample was school-going children between the ages of 12 and 17. A stratified sampling approach was taken by selecting schools that represented diversity across gender, age and economic factors. After ethics approval was received from the University and formal approval from the Western Cape Education Department, the survey was distributed in 8 schools. A total of 1287 responses were collected; responses that were incomplete on key questions were deleted, leaving a sample size of 1258.
Data Analysis and Findings

Demographics

The sample consists of 1258 respondents all under the age of 18, with the distribution of responses across gender weighted towards males (58.8% male and 41.2% female). The age distribution was fairly uniform across grades 6 to 9 and ages 12 to 15 but only half as many respondents in grade 10 or age 16. A small number of respondents were aged 11 (5.5%) or 17 (0.7%).

The questionnaire was completed by five primary schools and three senior schools. Two schools are girls-only, three are boys-only and the other three are co-educational. Just over half of the pupils were from schools servicing the middle-to-lower (annual school fees between ten and twenty thousand Rand; 25.1%) and lower income (fees less than R10,000 pa; 28.9%) communities, ensuring a good spread across the sample. Only 14.1% of pupils were from the upper class school (fees above R30,000 pa). 1 in 7 respondents (168, or 13.4%) indicated that they had no internet access at home. Approximately one-third (420) had access in their bedrooms, and approximately another third (391) in the living room. 39% of pupils indicated that their parents or caregivers made no attempt to limit or monitor access at home versus only 16% of parents and caregivers that monitor access frequently and effectively. Over 75% of pupils had internet access at school with 48% indicating that access was strictly monitored by staff.

Pupils spent a mean of 7 hours (median of 4 hours) on the internet per week. When usage is compared with Smith et al. (2008), general internet usage in the South African sample is (significantly; p<0.0001) lower than in the United Kingdom (UK), despite the fact that our survey was conducted more than four years later, vividly illustrating the digital divide between youth in South Africa and the developed world.

However, 88% of all pupils owned a cell phone and 93% of those phones provided internet access. These rates are double what was reported in the Burton and Mutongwizo (2009) survey. Most (56%) pupils made frequent use of their cell phone (every couple of hours 23% to hourly 33%) to communicate with peers. Interestingly, the schools that had implemented strict cell phone policies had pupils with the highest cell phone usage during the day.

Incidents of (Traditional) Bullying and Cyberbullying

When asked about incidents of traditional bullying, almost 24% of respondents indicated that they had been victims of (traditional) bullying or harassment in the last two months, while similarly 29% acknowledged that they had been responsible for at least one bullying act (Figure 1). What is particularly concerning is the fact that more than 6% of pupils (roughly 2 pupils in every class) is bullied on a regular basis (several times a month) with 3.2% being victimised at least weekly. The apparent anomaly that there appear to be more traditional bullies than victims can be explained if a few victims are bullied frequently by multiple bullies or if there are differences in perception of the phenomenon between bully and victim.

![Figure 1 Traditional versus cyber-bullying incidents in the previous two months](image-url)
By contrast, 16.2% of respondents indicated that they had been victims of cyberbullying, with frequent cyber-victims roughly half the proportion of traditional victims (Figure 1). Only 7.2% felt or reported that they had been a perpetrator, but the proportion of frequent cyberbullies is less than one-fifth of the traditional bullies. There are roughly twice as many cyber-victims than cyber-bullies. There are several possible causes for this. Some bullies may target multiple victims. There may be a reporting bias: 13.0% of respondents did not answer the question for cyber-bullying and 4.6% did not answer the cyber-victimisation question. Electronic communications can easily be misinterpreted, and what is intended to be funny, can easily be hurtful, causing distress. Finally, the longevity of the electronic messages on a number of platforms entails that they only need to be sent once but the hurtful impact is inflicted every time the message is forwarded or seen.

Burton and Mutongwizo (2009) stated that, in a 12 month period, 46.8% of respondents reported experiencing some form of cyber violence. A comparison with the much smaller UK study (Smith, 2008) shows a significant difference between traditional bullying statistics ($p<0.0001$), with the South African schools having much lower traditional bullying incidents as reported by the victims. Surprisingly, however, South African cyberbullying incidents almost match those of the UK with the difference in the cyberbullying incidence rates not statistically significant ($p = 0.2848$). It is particularly worrying that South Africa has already ‘caught up’ to the overseas incidence rates of 2008 despite its digital divide.

Almost three times as many respondents (280 responses to 94) indicated that cyberbullying incidents occur outside of school time. These results are in agreement with both local and international research, and speak to the reach, pervasiveness and ubiquity of electronic communication, in particular mobile phones (Li, 2007; Hinduja & Patchin, 2008; Smith et al, 2008). When asked to identify the type of media used, respondents indicate that instant messaging services like were overwhelmingly the weapons of choice for perpetrators (252 responses versus 78 for cell phone and 63 for social media sites.).

Usually, the perpetrator is known to the victim: in most cases it is a fellow pupil (34.6%) or pupils (11.4%) from the same school or known pupils from other schools (17.2%), in rare cases an adult (2.2%), but in 34.6% of the cases the bully is unknown, using the anonymity of the internet to disguise the attacker (Badenhorst, 2011).

Respondents who had been cyberbullied were asked to indicate how they felt once they had been victimised online. Many expressed feelings of anger (47), being upset (41), depression (30), embarrassment (27), stress (26), concern (25) and fear (24). Interestingly, many indicated that it didn’t bother them (47). More worryingly, under the option to add their own thoughts, one pupil expressed that s/he felt “suicidal” as a consequence of cyberbullying.

Gender differences in Cybervictim/Bullying

The effect of gender on the rate of cyberbullying incidents remains undecided, with many studies contradicting each other. Initially, results pointed to gender as a predictor, but later studies indicate that neither males nor females are more likely to be affected by cybervictimisation and cyberbullying.

<table>
<thead>
<tr>
<th>Number of incidents</th>
<th>All Respondents</th>
<th>Traditional Victim</th>
<th>Traditional Bully</th>
<th>Cybervictim</th>
<th>Cyberbully</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>518 (41.2%)</td>
<td>135 (46.1%)</td>
<td>124 (34.3%)</td>
<td>94 (48.5%)</td>
<td>28 (35.4%)</td>
</tr>
<tr>
<td>Male</td>
<td>740 (58.8%)</td>
<td>158 (53.9%)</td>
<td>238 (65.7%)</td>
<td>100 (51.5%)</td>
<td>51 (64.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>1258 (100%)</td>
<td>293 (100%)</td>
<td>362 (100%)</td>
<td>194 (100%)</td>
<td>79 (100%)</td>
</tr>
<tr>
<td>$\chi^2$ value</td>
<td>4.245</td>
<td>9.332</td>
<td>5.815</td>
<td></td>
<td>0.708</td>
</tr>
<tr>
<td>p-value (df=1)</td>
<td>0.0394*</td>
<td>0.00023*</td>
<td>0.0159*</td>
<td></td>
<td>0.4001</td>
</tr>
</tbody>
</table>

Table 1 Gender bias in bullying incidents

To test the difference in gender of incidents of cybervictimisation and cyberbullying, overall incidents were grouped and a Chi-Squared test was used to test the null-hypothesis of categorical independence. The test showed a significant effect of gender, with girls significantly more likely overall to be both victim ($\chi^2= 9.332, p=0.0023$; see Table 1) and bystander ($\chi^2= 8.435, p=0.0037$). However, there is no significant difference in incidents of acknowledged cyberbullying behaviour ($\chi^2=1.38, p=.24$). The gender difference is also very pronounced and statistically significant for traditional bullying. Smith et al. (2008) obtained
similar results with regards to victimisation, but also for cyberbullying behaviour. The null-hypothesis of no gender impact must thus be rejected and girls are more likely to be cybervictims and bystanders.

Investigating the female-cybervictim relationship further, it emerged that the victim-ratio is, at 25.1%, significantly higher ($\chi^2 = 16.63, p<.0001$) in the girls-only schools; when compared with the (also higher) victim-ratio in boys-only schools (15.9%) However, since only two girls-only schools were included in this sample, there may be a small-sample bias and this needs further investigation. If this result is validated in future research, it calls for an urgent and critical intervention in girls-only schools.

**Age/Grade group differences in Cybervictim/Bullying**

Although Barlett & Conye (2014), in a meta-synthesis of current literature, point to inconsistencies in research, Tokunga (2010), suggests that there is a curvilinear relationship, with the greatest frequency of victimisation occurring in Grades 7 (12-13 years of age) and 8 (13-14 years of age). An ANOVA test was used to compare the means of both age and grade against incidents of cybervictimisation and cyberbullying, grouping incident categories. The result revealed a significant effect of both age ($F=2.144, p=.046$), and grade ($F=4.836, p=.001$) on victimisation. Figure 2 shows the curvilinear relationship between grade and cyberbullying; the corresponding age graph looks almost identical. Thus the null hypothesis of no age/grade correlation is rejected: pupils in grade 6, between the ages of 11 to 12 years old, are more likely to be victims.

The large gap between perceptions of cybervictimisation and bullying, in Grades 6 and 7 (or from ages 11 to 12) can possibly be attributed to a lack of awareness. Initially, according to social presence theory, young pupils may not be aware that their actions constitute bullying behaviour but, as they become more aware, the perceptions and incidents converge. An alternative or additional explanation is that, as pupils become older, they engage in more bullying behaviour towards younger pupils and are less likely themselves to be subjected to bullying behaviour.

We also investigated whether pupils are older than the statistical norm for their grade were more likely to engage in bullying behaviour. Most revealingly, pupils older than the norm for the grade are more than two-and-a-half times more likely to be cyberbullies than their ‘normal age’ grade-peers (highly significant at $p = 0.0044$) and, perhaps surprisingly, also 68% more likely to be cyberbullied (significant at $p = 0.0353$) than the others in their grade. This contrasts to a complete absence of any such effect in the traditional bullying environment. This latter finding is perhaps quite contrary to a popular perception that the ‘repeaters’ in a class tend to be the trouble-makers. However, it is hard to reconcile this with the opposite finding in the cyber-realm: are they more sophisticated in the use of technology, thereby escaping adult monitoring? This finding requires more in-depth research and validation.

**Internet use and involvement as cyberbully/victim**

In this study, virtually all of the pupils used the internet (99%) with only 9 pupils indicating that they did not access the internet. Using the ANOVA test, no significant differences were identified in the amount of time spent on the internet per week and in either cybervictimisation ($F=2.174, p>0.05$) or cyberbullying behaviour ($F=2.117, p>0.05$). There was, however, a statistically significant effect of frequency of access
on both cybervictimisation and bullying, in both email and chatroom access, which is traditional computer-based electronic communication (F=2.494, p=0.041) and cell phone communication (F=4.510, p=0.001). The conclusion is that users that check email/chat rooms and communicate frequently via cell phone are at greater risk to both cybervictimisation and bullying behaviours.

**Relationships between Traditional Bullying and Cyberbullying**

As hypothesised, many of the cybervictims were also victims of traditional bullying, and many of the cyberbullies were also traditional face-to-face bullies (Table 2). However, a significant number of traditional victims also tended to be cyberbullies; in fact, more cyberbullies were victims of traditional bullying (40) as were not (34). Thus the null hypothesis is rejected and the hypothesis that traditional bullying factors influence cyberbullying behaviour is supported (Beancourt, 2016).

<table>
<thead>
<tr>
<th>Not a cybervictim</th>
<th>Cybervictim</th>
<th>Chi-Squared, p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a traditional victim</td>
<td>833 (91.4%)</td>
<td>78 (8.6%)</td>
</tr>
<tr>
<td>Traditional victim</td>
<td>171 (60.2%)</td>
<td>113 (39.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Not a cyberbully</th>
<th>Cyberbully</th>
<th>Chi-Squared, p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a traditional bully</td>
<td>727 (94.4%)</td>
<td>27 (3.6%)</td>
</tr>
<tr>
<td>Traditional bully</td>
<td>286 (85.1%)</td>
<td>50 (14.9%)</td>
</tr>
</tbody>
</table>

| Not a traditional victim | 789 (95.6%) | 36 (4.4%) | X²=35.362, p<.0001 |
| Traditional victim | 226 (85.5%) | 40 (15.0%) |

<table>
<thead>
<tr>
<th>Not a cybervictim</th>
<th>Cybervictim</th>
<th>Chi-Squared, p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a traditional victim</td>
<td>861 (95.8%)</td>
<td>38 (4.2%)</td>
</tr>
<tr>
<td>Cybervictim</td>
<td>151 (80.3%)</td>
<td>37 (19.7%)</td>
</tr>
</tbody>
</table>

**Table 2 Traditional bullying factors versus cyberbullying factors**

The importance of these findings can hardly be under-estimated. A full two-thirds of the cyberbullies were also traditional bullies, thus any strategies addressing cyberbullying should also look at traditional bullying and vice versa. However, there is also a contingent of cyberbullies which are not traditional bullies and need a different strategy. Similarly, three-fifths of cybervictims are also victims of traditional bullying, thus suffering additional psychological hardship. However, this also implies that 40% of cybervictims do not fall into the traditional bullying victim category. Thus, these cross-tabulations confirm that there are both strong similarities and cross-overs between traditional and cyberbullying, but they also vindicate that the cyberbullying phenomenon has unique and distinct characteristics and thus needs dedicated research attention (Chandrashekhar, Muktha & Anjana, 2016).

**Summary and other Relationships**

A linear discriminant analysis summarises the findings and also reveals some additional interesting information. Table 3 shows the statistical significance (p-values) of various variables in discriminating against any and habitual (= several times per month) cyberbullies/victims. Extramural activities, hours spent online and cellphone ownership were not statistically significant discriminators.

Apart from confirming the above relationships, it emerges that parent monitoring affects cyberbullying as opposed to teacher monitoring which affects cybervictimisation significantly; the latter is, in fact, the only significant discriminator for the (small number) of habitually victimised pupils. Also of interest is the fact that pupils who rated themselves as academically excelling were very significantly less likely to be cybervictims or cyber bullies, even though there is no such effect in traditional bullying behaviour. Conversely, among pupils perceiving their own academic progress as below average, the incidence of victimisation almost doubles whilst the bullying behaviour triples (although numbers are relatively small).
Table 3 Statistical significance of variables to discriminate bullying phenomena

<table>
<thead>
<tr>
<th>Variable</th>
<th>CyberBully Any</th>
<th>CyberBully Frequent</th>
<th>CyberVictim Any</th>
<th>CyberVictim Frequent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.4882</td>
<td>0.1705</td>
<td>0.0026*</td>
<td>0.1922</td>
</tr>
<tr>
<td>Grade</td>
<td>0.0338*</td>
<td>0.0296*</td>
<td>0.0028*</td>
<td>0.3256</td>
</tr>
<tr>
<td>Age</td>
<td>0.0251*</td>
<td>0.0128*</td>
<td>0.3798</td>
<td>0.8853</td>
</tr>
<tr>
<td>Academic Progress</td>
<td>0.0369*</td>
<td>0.0135*</td>
<td>0.0005*</td>
<td>0.0606</td>
</tr>
<tr>
<td>Parent monitors internet</td>
<td>0.0468*</td>
<td>0.4318</td>
<td>0.8337</td>
<td>0.3139</td>
</tr>
<tr>
<td>Teachers monitor internet</td>
<td>0.9824</td>
<td>0.8069</td>
<td>0.0277*</td>
<td>0.0100*</td>
</tr>
<tr>
<td>Online Frequency</td>
<td>0.0464*</td>
<td>0.5006</td>
<td>0.0214*</td>
<td>0.7302</td>
</tr>
<tr>
<td>Cell use frequency</td>
<td>0.0411*</td>
<td>0.4271</td>
<td>0.0063*</td>
<td>0.4823</td>
</tr>
</tbody>
</table>

(* = significant at 5% confidence)

Conclusion

This research investigated the influencing factors, the impacts, and the coping strategies employed by children to combat cyberbullying behaviours. 1258 pupils from eight urban schools within Cape Town were part of the study. Children reported increasing access to the internet, in particular via mobile device, with much of this activity being unmonitored by caregivers. Although South Africa may lag behind the US in many regards, and traditional bullying remains a real concern, cyberbullying is on the rise.

Impacts were perceived as negative, eliciting feelings of anger, fear and depression and, in a single case, suicidal ideation. The findings support current research that identifies age/grade and traditional bullying as key influencing factors. However, contrary to the majority of findings, girls were found to be more frequent cybervictims. A critical observation is the difference in reported incidents and perceived cyberbullying behaviour, particularly among pupils of ages 11 to 12. This highlights that current anti-bullying programmes are not adequately addressing cyberbullying behaviours. Reasoning for this can be attributed to the dramatic and sudden growth of mobile technologies, and there has not been sufficient time to adjust psychologically and educationally to the ethical, social and behavioural implications of internet access and its abuse.

This research provides a platform for further research. In particular, the relationship between incidents of cybervictimisation and gender needs to be investigated further, particularly the indication that these levels may be heightened in single sex girls’ schools. Also, the differences in reported incidents and perceived cyberbullying behaviour identifies inadequacies in current anti-bullying programmes. This highlights a need to adjust current anti-bullying strategies. Frequency of access along with the distinct lack of active guardianship are equally areas which require further empirical attention. Additionally, there is a need for a standardised definition, with a framework to classify online harassment behaviours. Future research could propose and test the tenets of this standardised definition.

In summary, apart from gender and internet access frequency, other important cyberbullying antecedents were absolute and relative age, academic progress and, most importantly, a strong link with traditional bullying behaviours. Since gender, relative age and academic progress are not statistically significantly associated with traditional bullying behaviour, this information will be fundamental in the development of a cyberbullying risk assessment framework to enable concerned parties to evaluate children’s exposure and to recommend interventions to combat the phenomenon.

References


