Abstract

Do victims of bullying tend to be also cyber bullies? Do cyber bullies lack empathic responsiveness? These questions are discussed controversially [1, 24, 27]. In the present study, 2,070 students of Luxembourg secondary schools completed an online questionnaire that included a German version of the Cyber bullying questionnaire [24] and a newly developed scale on empathy. To further the understanding of the relationship between cyber bullying and bullying, frequency analyses (chi square) were calculated. The present findings support the hypotheses (a) that there is a link between traditional bullying and cyber bullying, (b) that bullies tend to be cyber bullies, and (c) that victims of bullying also tend to be victims of cyber bullying. In addition, students who hear of, or witness acts of traditional bullying, have a significantly higher probability of hearing of cyber bullying. Traditional victims also tended to be cyber bullies. Furthermore, ANOVAs indicated significant differences between cyber bullies and non-cyber bullies. Cyber bullies demonstrated less empathic responsiveness. The implications of the findings are discussed with regard to interventions on cyber bullying.

Keywords
Cyber bullying, traditional bullying, empathy, Luxembourg

1 INTRODUCTION

School violence and bullying are serious societal problems. [10, 22, 25]. Many teachers and administrators recognize the problem of school bullying. However, only few are aware that students are being harassed also in the context of electronic communication. The present study aims at furthering the understanding of this new phenomenon, called cyber bullying.

To do so, this study presents a definition of cyber bullying. It also investigates the relationship between traditional bullying and cyber bullying and examines the role of empathy in this new form of aggressive behaviour.

1.1 Definition of cyber bullying

Recently, cyber bullying has emerged as a new phenomenon resulting from the advancement of new communication technologies. In current definitions, it has been described as the deliberate and repeated harm inflicted through the use of computers, cell phones, and other electronic devices [8], carried out as an aggressive act by a group or individual, against a victim who cannot easily defend him or herself [23].

Cyber bullying may occur in various forms, including flaming / trolling, harassment / cyber stalking, denigration, impersonation / identity theft, outing, photo shopping, exclusion, threatening with physical harm or happy slapping [26]. The latter aspect even links traditional and cyber bullying: an unsuspecting person is recorded while being harassed or physically abused, and the resultant digital photo or video is uploaded to a web site or otherwise sent around for public viewing. Various electronic communication tools support cyber bullying, for example, cell phones (e.g., phone call, text message, picture / video clip bullying) or Internet use (e.g., email, through instant messaging, via websites, chat room bullying).

Currently, studies in different European countries, USA, Canada and Australia report a prevalence rate of cyber victimisation of 3 % to 26 %, and cyber bullying of 6 % to 17 % [3, 16, 19, 24, 27].

In comparison with traditional bullying cyber bullies remain more anonymous. In addition, cyber bullies have a more unique sense of power and control and a stronger feeling of imperviousness to sanctions. Altogether, cyber bullying appears to be a more pervasive phenomenon, which may occur at any time and any place [26]. With respect to the specific characteristics of current communication technologies there seems to be no place to hide for those becoming victims of cyber bullying, whereas the perpetrators benefit from the breadth of the audience.
and the greater invisibility compared to traditional forms. Nevertheless, the question emerges whether or not cyber bullying is more or less only a covert form of psychological bullying [24].

Only few studies analyzed the relationship between traditional bullying and cyber bullying [2, 12, 15, 17, 24], yielding mixed findings. Some studies suggested that victims of traditional bullying are also targets of online attacks [12, 14, 21, 24]. Those researchers found that students’ roles in traditional bullying predicted the same behaviour in cyber bullying, in addition, bullied students proved to be also cyber bullies [27, 28]. However, there was no significant overlap between traditional bullying and cyber bullying in other studies [20].

The first aim of the study was therefore to examine the relationship between traditional and cyber bullying. Particularly, the hypothesis was tested that bullied students (victims), in order to take revenge, also engage more often in cyber bullying, thus becoming the perpetrator [27].

1.2 Empathy and cyber bullying

Empathy is defined as sharing another person’s emotional state [5]. Different approaches describe empathy as a multidimensional construct with cognitive and emotional components [4] that have to be taken into account to understand empathic responsiveness [9].

The relationship between empathy and aggressive behaviour has been examined with a particular focus on adolescence [18]. A meta-analysis confirmed the negative correlation between antisocial behaviour and of empathy [11]. Both cognitive and emotional components of empathy mitigate aggressive behaviour and violence [11].

To date, only few studies addressed the empathic responsiveness of traditional bullies. These studies reported a weak negative correlation between empathy and involvement in bullying others [6], which was particularly prevalent for boys [7].

As mentioned earlier, cyber bullies remain more anonymous as traditional face-to-face bullies. This anonymity, or distance, between the perpetrator and the victim implies that perpetrators will be prevented from observing the immediate consequences of their behaviour. Hence, cyber bullies may experience less empathy for their victims than traditional bullies. However, first research findings do not support this role of empathy for cyber bullying. Cyber bullies were not found to show a lack of empathy in comparison to victims, bully-victims, and non-involved [1]. Apparently, cognitive and affective empathy do not seem to be differential processes in cyber bullying [1].

Hence, the second aim of the present study was to analyse the role of empathy in relation to cyber bullying. In particular, the hypothesis that cyber bullies show less empathy than not cyber bullies was tested.

2 METHOD

2.1 Participants

The sample consisted of 2,070 students. A total of 941 (45.5 %) boys and 1,127 (54.5 %) girls from Luxembourg schools participated in the online-study (2 missing values), who attended 7th to 13th grade classes from Luxembourg secondary schools (56.9 % from 7th to 9th grades). A total of 22 of 30 secondary schools of Luxembourg participated. The mean age of the sample was 15.9 years (SD = 2.3; range: 12 - 24). Participants received school permission to participate before the collection of data in classroom. Only few participants (1.1 %) were excluded from analyses because of missing data.

2.2 Measures

Cyber bullying questionnaire. A short-modified German version of the cyber bullying questionnaire (30 items) was used [23]. Students indicated on a 6-point ordinal scale (almost daily, several times a week, about once a week, about once in a month, 1-3 times a year, never) how often they had become victims (14 items), actors (14 items), or witness (2 items) of bullying. Two general questions asked whether students experienced bullying of any kind (as victims, actors, or witness), or cyber bullying in particular, in the current school year (the study was conducted at the end of the school year). Students were also asked how often they had become victims of cyber bullying or had actively cyber bullied others (same 6-point ordinal scales), separately for inside and outside school for each of six media types (i.e., text message, picture/video clip, phone call, email, websites/chat room, or instant messaging)
Empathy scale. A novel scale was used. Empathy was measured with 4 items. Students indicated their agreement to statements on a 5-point Likert scale (“fully agree”, “slightly agree”, “partly agree”, “slightly disagree”, “totally disagree”) [13]. Statements included, for example, “I find websites that make fun of other people amusing”, or “Persons being harassed or threatened via cell phone or Internet deserve so.” (Cronbach’s α = .71; r̄ range .43 to .58). In addition, anxiousness about being cyber bullied was tested with 3 items (Cronbach’s α = .79; r̄ range .59 to .70; e.g., “I am afraid of being harassed or threatened via cell phone or internet.”). Finally, preference of “virtual” contacts was tested with 4 items (Cronbach’s α = .68; r̄ range .46 to .51; e.g., “It’s easier to make friends online than in everyday life.”). Both anxiousness and preference of “virtual” contacts used the 5-point scale mentioned earlier.

Demographic questionnaire. To test for demographic pattern of involvement in cyber bullying, students recorded their gender, age, and overall years in school.

3 RESULTS

3.1 Incidence of cyber bullying compared to bullying

To gain a basic understanding of the situation in Luxembourg, the extent to which students experience cyber bullying was examined. Given that adolescents’ experiences of bullying may enhance the understanding of cyber bullying, traditional bullying was also investigated.

In our sample, 11.5 % reported being bullied by traditional bullying often (almost daily, several times a week, about once a week, about once in a month), 17.8 % only 1-3 times a year, and 70.7 % never during the last school year. With respect to cyber bullying, 4.3 % of the students reported having experienced cyber bullying often, 9.8 % only 1-3 times a year, and 85.8 % never.

The prevalence rates for bullying other students for traditional bullying were 14.0 % often, 18.2 % only 1-3 times a year, and 67.9 % never during the last school year. With regard to cyber bullying, 5.0 % reported having bullied others often, 5.6 % only 1-3 times a year, and 89.4 % never.

For traditional bullying, the incidence of witnessing bullying was 40.3 % often, 30.7 % only 1-3 times a year, and 29.0 % never. With respect to cyber bullying the numbers were 17.0 % often, 22.9 % only 1-3 times a year, and 60.1 % never.

Overall, more adolescents experienced being bullied inside school than outside school. Cyber bullying, however, was more often experienced outside school than inside school. These results are in line with other research findings [24].

In addition, gender differences were found for traditional bullying and cyber bullying. Girls were more likely to become victims of cyber bullying than boys (χ² = 23.06; p<.001), however, this was not the case for becoming the perpetrators of cyber bullying (χ² = 0.24; n.s.). On the other hand, boys were more often traditional bullies than girls (χ² = 23.48; p<.001).

3.2 Relationship of traditional bullying and cyber bullying

Findings support the hypothesis that there is a link between traditional bullying and cyber bullying that bullies tend to be cyber bullies, and that victims of bullying also tend to become victims of cyber bullying. In addition, students who hear of, or witness acts of traditional bullying have a significantly higher probability of also hearing of cyber bullying (see table 1).
Traditional Bullying

<table>
<thead>
<tr>
<th>Traditional Bullying</th>
<th>Non-Cyber victim</th>
<th>Victim of Cyber Bullying</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Victim</td>
<td>1365</td>
<td>98</td>
<td>228.85</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Victim of Bullying</td>
<td>411</td>
<td>195</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Cyber bully</td>
<td>1369</td>
<td>33</td>
<td>314.19</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Bully</td>
<td>476</td>
<td>186</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Witness</td>
<td>574</td>
<td>25</td>
<td>36.87</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Witness of Bullying</td>
<td>1271</td>
<td>194</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Victim</td>
<td>1341</td>
<td>119</td>
<td>31.67</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Victim of Bullying</td>
<td>505</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Contingencies between traditional bullying and cyber bullying

The present findings also support the Ybarra and Mitchell hypothesis. Traditional victims tend to be cyber bullies ($\chi^2 = 31.67; p<.001$): 16.6% of victims of traditional bullying are also cyber bullies, whereas the same was true for only 8.2% of those students that were not victims of traditional bullying.

3.3 Traditional bullying, cyber bullying, and empathy

Cyber bullies show a greater lack of empathy for others being victimized than do non-cyber bullies ($F_{(1, 2065)} = 31.97; p < .001$). However, no differences were found between victims and not victims of cyber bullying (see table 2 for group means). Boys and girls did not differ.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>non-cyber bullies mean (SD)</th>
<th>cyber bullies mean (SD)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference for &quot;virtual&quot; contacts</td>
<td>2.60 (1.01)</td>
<td>2.78 (0.99)</td>
<td>5.27</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Lack of empathy</td>
<td>2.39 (0.97)</td>
<td>2.78 (0.98)</td>
<td>31.97</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Anxiousness about being cyber bullied</td>
<td>1.95 (1.11)</td>
<td>2.26 (1.24)</td>
<td>13.75</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Preference for &quot;virtual&quot; contacts</td>
<td>non-victim of cyber bullying</td>
<td>victim of cyber bullying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of empathy</td>
<td>2.61 (1.02)</td>
<td>2.67 (0.95)</td>
<td>1.27</td>
<td>n.s.</td>
</tr>
<tr>
<td>Anxiousness about being cyber bullied</td>
<td>2.44 (1.00)</td>
<td>2.40 (0.89)</td>
<td>0.01</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

Table 2: Mean differences of cyber bullies and victims of cyber bullying in empathy
Traditional bullies show a greater lack of empathy than non-bullies \( (F_{(1, 2063)} = 20.17; p < .001) \), but no differences were found between victims and not victims of bullying (see Table 3 for group means). In contrast to other findings [7], boys as well as girls bullying behaviour was significantly associated with lower levels of empathic responsiveness.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>non bullies mean (SD)</th>
<th>bullies mean (SD)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference for &quot;virtual&quot; contacts</td>
<td>2.60 (1.02)</td>
<td>2.65 (0.96)</td>
<td>1.21</td>
<td>n.s.</td>
</tr>
<tr>
<td>Lack of empathy</td>
<td>2.36 (0.98)</td>
<td>2.59 (0.95)</td>
<td>20.17</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Anxiousness about being cyber bullied</td>
<td>1.99 (1.13)</td>
<td>1.98 (1.13)</td>
<td>0.03</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>non-victim of bullying mean (SD)</th>
<th>victim of bullying mean (SD)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference for &quot;virtual&quot; contacts</td>
<td>2.59 (1.01)</td>
<td>2.68 (0.97)</td>
<td>3.13</td>
<td>n.s.</td>
</tr>
<tr>
<td>Lack of empathy</td>
<td>2.42 (0.99)</td>
<td>2.46 (0.96)</td>
<td>0.44</td>
<td>n.s.</td>
</tr>
<tr>
<td>Anxiousness about being cyber bullied</td>
<td>1.93 (1.13)</td>
<td>2.11 (1.11)</td>
<td>9.14</td>
<td>&lt; .01</td>
</tr>
</tbody>
</table>

Table 3: Mean differences of bullies and victims in empathy

Victims of traditional bullying compared to not having been victims of bullying are also more anxious being cyber bullied \( (F_{(1, 2062)} = 9.14; p < .01, \) see Table 3 for group means). This is true especially for the female sample \( (F_{(1, 1127)} = 22.32; p < .001) \).

4 DISCUSSION

The present study confirms once again that cyber bullying is less prevalent than traditional bullying and that cyber bullying is experienced more often outside than inside of school [24]. Even if findings are not directly comparable because of methodological differences in the studies, the current prevalence rate for Luxembourg appears to be low.

In line with other findings, it was found that bullies tend to be cyber bullies, and that victims of bullying also tend to be victims of cyber bullying as well [20, 24]. In addition, the Ybarra and Mitchell hypothesis was also confirmed. Traditional victims tend to be cyber bullies.

It was found that, compared to non-cyber bullies, cyber bullies show less empathy for others being victimized. These findings are in accordance with studies showing a negative relationship between empathy and aggression [18].

However, some limitations have to be considered. For example, because data were collected online, generalization of findings may be limited. Furthermore, from a methodological point of view, the way in which empathy was measured by a new short scale may have contributed to the results. Because only a global measure for empathy was used and because affective as well as cognitive empathy may provide a unique contribution to this relationship, future research has to replicate the current findings by assessing both aspects of empathy.

As the focus of the study was cyber bullying in general, future research should also take into account different modes and roles in cyber bullying (e. g. as direct versus indirect aggression).

Finally, also the cross-sectional design and the used methodology do not allow interpreting for causal effects. Experimental or longitudinal study designs have to be planned.
There are important implications of these findings for intervention. Results have to be considered during the design and development of new anti-bullying trainings. Because a majority of cyber bullies are also traditional bullies, who are therefore relatively easy to identify and to reach for intervention programs, interventions that prove to be effective for traditional bullies might also be applicable for cyber bullies. In addition, some more specific interventions have to be added [24].

5 REFERENCES


Unlike normal bullying cyberbullying is anonymous and can take place anywhere which is a major problem for schools. Topics covered in the article are types of cyberbullying and can happen anywhere. Roles in cyberbullying, school climate, prevention and intervention programs, law and resources available are topics covered in the article. There is a myriad prevention and intervention programs. The negative impacts of bullying on schooling, relationships and the emotional and psychological health of young people who are its victims can be long term; in some cases, the impacts continue into early adulthood [4]. There are also long-term implications for bullies; for example, they have been found to typically exhibit higher levels of antisocial, violent and/or criminal behavior in.