

Invited expert discussion paper

Cyberbullying: An overrated phenomenon?

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The paper argues that several claims about cyberbullying made in the media and elsewhere are greatly exaggerated and have little empirical scientific support. Contradicting these claims, it turns out that cyberbullying, when studied in proper context, is a low-prevalence phenomenon, which has not increased over time and has not created many “new” victims and bullies, that is, children and youth who are not also involved in some form of traditional bullying. These conclusions are based on two quite large samples of students, one from the USA and one from Norway, both of which have time series data for periods of four or five years. It is further argued that the issue of possible negative effects of cyberbullying has not received much serious research attention and a couple of strategies for such research are suggested together with some methodological recommendations. Finally, it is generally recommended that schools direct most of their anti-bullying efforts to counteracting traditional bullying, combined with an important system-level strategy that is likely to reduce the already low prevalence of cyberbullying.

Keywords: Cyberbullying; Victims; Bullying.

Over the past five or six years, newspapers, the popular press, and the research community as well as educators and parents have paid a good deal of concerned attention to a relatively new form of bullying among schoolchildren and youth, usually named cyberbullying or electronic

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bullying. Cyber- or electronic bullying, which are the terms I will use in this paper, is broadly defined as bullying performed via electronic means such as mobile/cell phones or the internet. The general picture created in the media—and often also by researchers and authors of books on cyberbullying—is that cyberbullying is very frequent, that it has increased dramatically over time and that this new form of bullying has created many new victims and bullies in addition to the victims and bullies involved in “traditional” bullying. In addition, it is often argued or implied that cyberbullying is very difficult for adults to discover and counteract, creating a feeling of powerlessness in adults and maybe students as well.

In this paper I will argue that the claims about cyberbullying made in the media and elsewhere are often greatly exaggerated and that such claims, by and large, have very little scientific support. Such claims may also have some unfortunate consequences, which I will sketch briefly. My arguments are based on empirical analyses of several large-scale studies two of which have cross-sectional or school-level longitudinal data, respectively, at four and five time points. Furthermore, I will report some analyses about the possible negative effects of being exposed to cyberbullying. I will also discuss briefly some methodological issues in research on cyberbullying. Finally, I will also present some thoughts on how to counteract cyberbullying and suggest steps a school or community can take to further reduce and prevent cyberbullying among their students.

Due to the character of the paper and its conclusions, some of which may represent a challenge to the field or parts of the field, I will not provide much detail about samples, measurement instruments and other methodological issues. However, what will be presented in the following pages will hopefully be sufficient for a reader to get a good grasp of what kind of analyses have been conducted and their implications.

In order not to single out individual studies or researchers, I have also chosen not to give much reference to research related to the claims that will be scrutinized. However, readers interested in finding references to recent cyberbullying research will benefit from consulting the previous issue of this journal (*European Journal of Developmental Psychology*, 9(1), 2012).

BRIEFLY ON METHODS

Participants/samples

Most of the key research issues sketched above will be highlighted with data from two large-scale studies, one from the USA and one from Norway. The very large sample from the USA consists of four cohorts of schools, all of which were to implement (for the first time) the Olweus Bullying Prevention Program (OBPP; Olweus & Limber, 2010) 3–4 months after having

administered the Olweus Bullying Questionnaire (OBQ; below). The numbers of students and schools in the four cohorts for four time periods were: 2007, 65,274 students in 159 schools; 2008, 140,758 students in 468 schools; 2009, 148,515 students in 472 schools; and 2010, 95,943 students in 250 schools. Students came from grades 3 to 12 and to compensate for some under representation of participants from the senior high school level, data were weighted to give each grade roughly the same weight. Participants were thus 450,490 students in 1,349 schools in total, actually representing about 1% of the total US student population in grades 1–12 (50 million students). In the present file, each school is represented with data from only one time point. It cannot be asserted definitively that these cohorts were nationally representative but we know that schools applying for participation in the OBPP come from all over the USA. In addition, we see that our prevalence results for bully/victim problems do not differ much from nationally representative bully/victim prevalence data from large-scale (but still much smaller) samples in the Health Behaviour in School Children (HBSC) project in 2006, using the same basic global questions from the OBQ (Craig et al., 2009).

To increase robustness and generalizability of the findings, I also used a sample of 41 schools in Oslo, the capital of Norway. These schools, which represented approximately one third of all schools in Oslo, had all started with the OBPP several years earlier. However, as part of the community's anti-bullying work, all of the schools took the OBQ on a regular basis. For these schools, we thus have longitudinal data (at the school level) for five years, from 2006 to 2010. In this way, we obtained data from exactly the same schools over a substantial period of time. The school populations in Oslo (and most of Norway) are usually very stable and about 25% of the students in Oslo have a non-Norwegian ethnic background. A total of approximately 9,000 students from grades 4–10 participated in the yearly measurements (with a new grade 4 cohort entering and the grade 10 cohort leaving each year).

Additional analyses were performed on a relatively large-scale US data set, which my colleagues at Clemson University, Robin Kowalski and Sue Limber, graciously gave me permission to use for the purposes of the present paper. These data were collected in six middle schools in the southeastern and northwestern USA and comprised 2,684 students in grades 6, 7 and 8 with data on both forms of bullying and a well-known scale on self-esteem. More details about this sample can be found in Kowalski and Limber (2007) and Kowalski, Limber, and Agatston (2008).

Measures and procedure

Students in all three study samples completed anonymously the Revised Olweus Bullying Questionnaire (Olweus, 1996) with a detailed definition of

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bullying and 39 key questions some of which also had sub-questions. The definition stresses the three common criteria of bullying that I had already suggested in the 1980s: Intentionality; some repetitiveness; and a power imbalance between perpetrator(s) and target (Olweus, 1986, 1999, 2010a; Solberg & Olweus, 2003). This student-adapted definition reads as follows:

We say a student is being bullied when another student, or several other students:

- say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names
- completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose
- hit, kick, push, shove around, or lock him or her inside a room
- tell lies or spread false rumours about him or her or send mean notes and try to make other students dislike him or her
- and other hurtful things like that.

When we talk about bullying, these things may happen repeatedly, and it is difficult for the student being bullied to defend himself or herself. We also call it bullying when a student is teased repeatedly in a mean and hurtful way.

But we *don't call it bullying* when the teasing is done in a friendly and playful way. Also, it is *not bullying* when two students of about the same strength or power argue or fight.

It is worth noting that this definition focuses on traditional, mostly face-to-face bullying and there is no reference to cyberbullying.

After the definition, the students respond to a global or general question about having been bullied in the past couple of months, with five frequency response alternatives. This general question is followed by eight questions about various forms or ways of being bullied covering the three main categories or facets of verbal, physical, and indirect or relational bullying. Since 2005, a question about cyberbullying with two sub-questions about mobile phone or internet has been added in the two first-mentioned studies. The general question format is presented in Figure 1. The questionnaire also contains parallel questions about bullying other students in the past couple of months, using basically the same five frequency response alternatives. In agreement with statistical and other considerations, a student is being classified as being bullied (or as having bullied others) when he or she has responded “2 or 3 times a month” or more often (Solberg & Olweus, 2003).

In the third study, the ordinary 39 OBQ questions (but without the items about cyberbullying) were administered to the students followed by a global cyberbullying question, “How often have you been bullied electronically in the past couple of months?” (with the five standard frequency alternatives) and 22 other questions about cyberbullying and some other questions in

4	How often have you been bullied at school in the past couple of months?	<input type="checkbox"/> I haven't been bullied at school in the past couple of months <input type="checkbox"/> it has only happened once or twice <input type="checkbox"/> 2 or 3 times a month <input type="checkbox"/> about once a week <input type="checkbox"/> several times a week
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Have you been bullied at school in the past couple of months in one or more of the following ways? Please answer all questions.

5	I was called mean names, was made fun of, or teased in a hurtful way	<input type="checkbox"/> it hasn't happened to me in the past couple of months <input type="checkbox"/> only once or twice <input type="checkbox"/> 2 or 3 times a month <input type="checkbox"/> about once a week <input type="checkbox"/> several times a week
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12a	I was bullied with mean or hurtful messages, calls or pictures, or in other ways on my mobile phone or over the Internet (computer). (Please remember that it is not bullying when it is done in a friendly and playful way.)	<input type="checkbox"/> it hasn't happened to me in the past couple of months <input type="checkbox"/> only once or twice <input type="checkbox"/> 2 or 3 times a month <input type="checkbox"/> about once a week <input type="checkbox"/> several times a week
12b	In case you were bullied on your mobile phone or over the Internet, how was it done?	<input type="checkbox"/> only on the mobile phone <input type="checkbox"/> only over the Internet <input type="checkbox"/> in both ways

Figure 1. Excerpt from the Revised Olweus Bullying Questionnaire.

a second section of the questionnaire. The cyberbullying questions were preceded by the following definition: “Here are some questions about being *bullied electronically*. When we say ‘bullied electronically’, we mean bullied through e-mail, instant messaging, in a chat room, on a website, or through a text message sent to a cell phone.” In this section, students also responded to separate questions about the five means or channels of cyberbullying mentioned in the definition (e-mail, instant messaging, etc.). These questions used the same frequency response alternatives as the other questions about traditional bullying and cyberbullying, which is an important prerequisite to making meaningful comparisons between traditional and cyberbullying.

The Kowalski and Limber study (Kowalski et al., 2008) also contained a couple of psychosocial or psychological adjustment variables and for the analyses in the present paper, I selected Rosenberg's (1965) 10-item general Self-Esteem Scale. This scale was clearly the scale with the strongest associations (Pearson r about .30) with the variables of interest in the present context. Here we used reversed scoring for relevant items so as to make the scale a measure of poor self-esteem. The internal consistency reliability of the scale (Cronbach's alpha) was .86. A similar, partly overlapping, scale was used in our own study of the functionality and construct validity of parts of the questionnaire in an earlier study (Solberg & Olweus, 2003).

In the analyses of prevalence and change over time we wanted to compare cyberbullying with another form of bullying and one question on direct verbal bullying was chosen for comparison (see Figure 1). Direct negative verbal comments are a characteristic of almost all traditional forms of bullying and can in a sense be seen as prototypical of such behaviour.

Generally, the OBQ is a well-established questionnaire with good psychometric properties, and summary scales of being bullied and bullying others have shown high internal consistency, typically above .80 (e.g., Breivik & Olweus, 2012). The two global questions in particular have been used in a number of international studies including the so-called HBSC studies, which are repeated every four years, with large samples from 40 countries or more in recent years (for example Craig et al., 2009). Several empirical and conceptual analyses have attested to the functionality, construct and concurrent validity of the two global questions (Olweus, 2010a; Solberg & Olweus, 2003) and a scale of bullying others using item response theory analyses (Breivik & Olweus, 2012).

TWO MAJOR CLAIMS

The *first two major media (and in part, researcher) claims* to be scrutinized assert that cyberbullying is a very frequent phenomenon among today's children and youth and that the frequency or prevalence of the phenomenon has increased dramatically in recent years, partly in parallel with, and a maybe also as a consequence of, increasing accessibility and use of electronic devices such as mobile phones and the internet.

One of the obvious reasons why some researchers (several of whom seem to come from different fields than psychology) have reported high or very high prevalence figures of cyberbullying is that cyberbullying has been studied "in isolation", that is, outside a general context of (traditional) bullying, and often also without a general student-friendly definition of what is meant by bullying. To put cyberbullying in proper perspective, it is in my view necessary to study it in the context of (traditional) bullying more

generally. One cannot talk about a phenomenon as bullying unless a reasonably precise definition has been provided to the respondents or the formulation of the questions or other measures used make it quite clear that the contents conform to what is usually implied in bullying. Bullying implies a form of relationship with certain characteristics and the term should not be used as a blanket term for any form of negative or aggressive act (cf. Hunter, Boyle, & Warden, 2007; Olweus, 2010a).

What results are obtained when cyberbullying is studied in the broader context of other forms of bullying is shown in Figures 2, 3, 4 and 5. Figure 2 illustrates the results for the very large US sample (with approximately 440,000 students) of being exposed to direct verbal bullying and to cyberbullying, respectively, for the four consecutive years between 2007 and 2010. The average across-time prevalence for being verbally bullied is 17.6 and the corresponding figure for being cyberbullied is 4.5%. The average for bullying others verbally is 9.6% whereas the corresponding figure for cyberbullying others is 2.8% (Figure 3).

The Norwegian data with prevalence figures from the 41 schools over a five-year period from 2006 to 2010 show a very similar pattern of results but at somewhat lower prevalence levels (Figures 4 and 5). The average prevalence for being verbally bullied is 11.0 while corresponding figure for being bullied by electronic means is 3.4%. For bullying others the relevant figures are 4.2% and 1.4%.

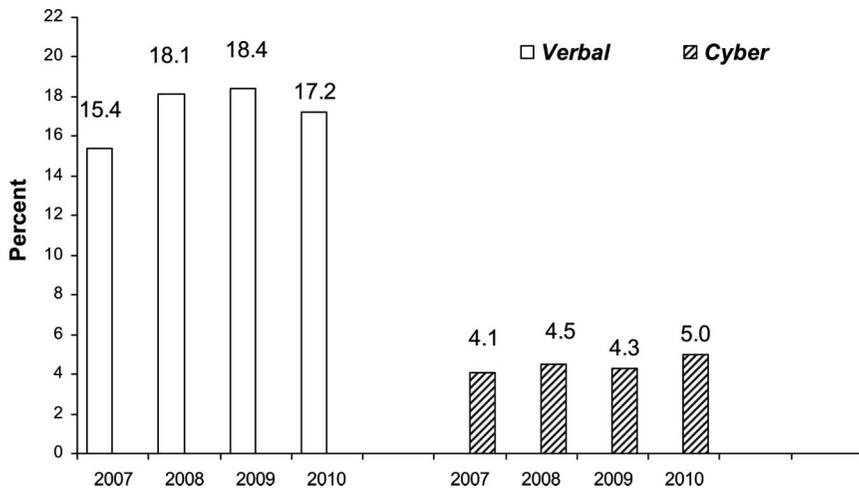


Figure 2. US time series data for 2007–2010 for verbal bullying (being bullied) and cyber bullying (bullied electronically). Data from all over the USA. Total $n = 447,000$.

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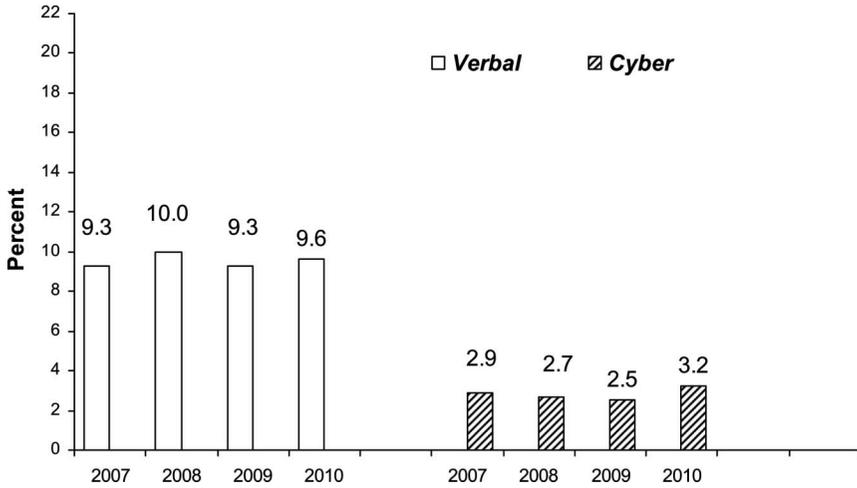


Figure 3. US time series data for 2007–2010 for verbal bullying (other students) and cyber bullying (other students). Data from all over the USA. Total $n = 440,000$.

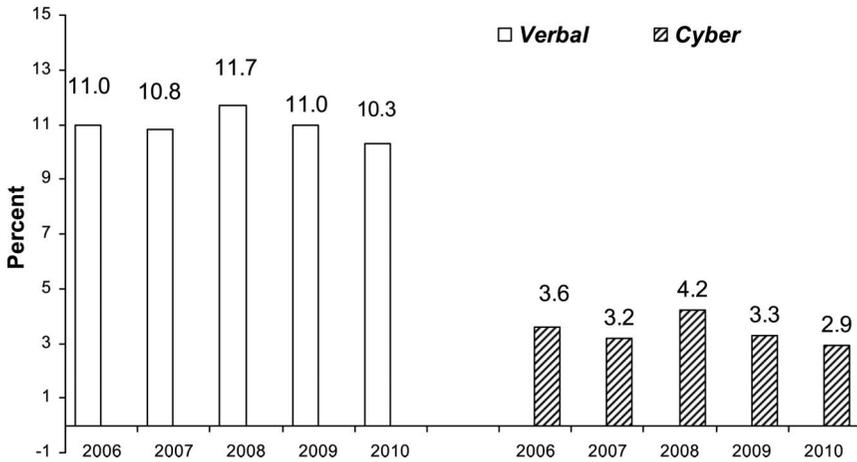


Figure 4. Norwegian time series data for 2006–2010 for (direct) verbal bullying (being bullied) and cyber bullying (bullied electronically). Forty-one Oslo schools and 9,000 students, girls and boys, at each time point.

With regard to the second claim concerning the presumably dramatic increase of cyberbullying over time, all four figures show that basically no systematic change in prevalence has occurred over the time periods studied. This is true of both being cyberbullied and cyberbullying others—as well as of being bullied and bullying others by direct verbal means.

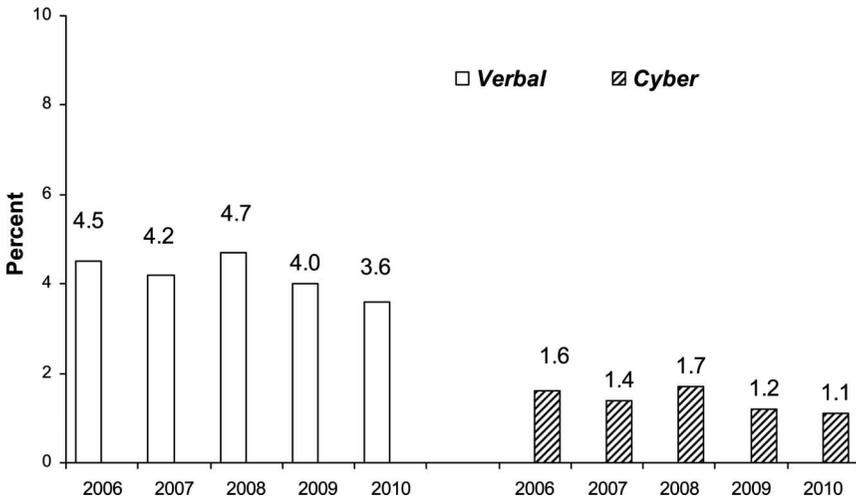


Figure 5. Norwegian time series data for 2006–2010 for (direct) verbal bullying (other students) and cyber bullying (other students). Forty-one Oslo schools and 9,000 students, girls and boys, at each time point.

Brief comments on the first two claims

As documented by the reported prevalence percentages and the four figures based on two very solid samples with different designs, cyberbullying is actually a *quite low-prevalence phenomenon*, representing only some 25 to 35% of the level of traditional bullying by direct verbal means. It is obvious that the “psychological threshold” for endorsing the global items on cyberbullying is much higher than for direct verbal bullying. The two global questions about cyberbullying are actually among the various bullying items/forms with the lowest prevalence rates. And even if one takes into account the possibility that certain forms of cyberbullying such as being exposed to a single episode of a personally embarrassing picture might not be adequately classified as being bullied (“2 or 3 times a month” or more; a point to be discussed below), there is no doubt that there are *many more children and youth involved in traditional verbal bullying than in cyberbullying*. As a check on the robustness of the findings, the reported empirical prevalence and time series analyses were also performed with the alternative of “once or twice” (and not “2 or 3 times a month”) as a lower-bound criterion for being classified as being bullied. The pattern of results for these analyses remained very much the same.

Similarly, and in spite of increasing accessibility and use of mobile phones and computers, there were *no indications of increases in prevalence of*

cyberbullying over time, either as regards being bullied or bullying other students. The same was true of direct verbal bullying.

DEGREE OF OVERLAP OF TRADITIONAL BULLYING WITH CYBERBULLYING

A third common claim made by the media and some researchers alike is that the new form of cyberbullying has created many new victims and perpetrators of bullying. This claim is based on an assumption and maybe some empirical data to suggest that children and youth who are involved in cyberbullying are to a considerable degree different to those engaged in traditional bullying.

To check on this claim, we recoded all the eight different forms of being traditionally bullied into dichotomous 1/0 variables of being bullied (“2 or 3 times a month” or more vs. not being bullied or “only once or twice”) and created a summary variable with a value range between 0 and 8. This summary variable, recoded into a being traditionally bullied (1) variable versus not being traditionally bullied (0), was then cross-classified with the dichotomized being cyberbullied variable (1 vs. 0). This cross-classification thus informs us about the degree of overlap between any form of being bullied traditionally and being cyberbullied. The same procedure was applied to the eight questions about bullying other students traditionally and questions about the cyberbullying others (1/0). These analyses were performed on the US sample from 2007 with some 65,000 participants and on the 2008 data set for the Oslo schools with approximately 9,000 participants.

Results documented a very high degree of overlap: Of students who had been exposed to cyberbullying in the US sample, 88% had been bullied in at least one traditional way. Also, for cyberbullying others the overlap was 88%. The results for the Oslo schools were similar, with degree of overlap being 93% and 91%, respectively.

Brief comments

In these analyses, there was only a very small percentage, about 10%, of the participants, who had only been cyberbullied or had only cyberbullied others. These results suggest that *the new electronic media have actually created few “new” victims and bullies*. To be cyberbullied or to cyberbully other students seems to a large extent to be part of a general pattern of bullying where use of the electronic media is only one possible form, and, in addition, a form with a quite low prevalence.

These results also suggest that even if most cyberbullying actually occurs outside school hours, as has been documented in several other surveys, many—very likely, *most*—episodes of cyberbullying originate in the school setting.

Possible problems with the data or reported analyses?

Before possibly accepting the above conclusions, it is of course useful to discuss if there are special problems with the data or analyses I have used to substantiate my refutation of the common claims.

It can first be pointed out that the cyber items in the OBQ fitted well with the other forms of being bullied or bullying others, respectively. This was evident from the fact that all of the being-bullied items could be well represented by a single (being bullied) dimension or factor in exploratory and confirmatory factor analyses. The same was true of the bullying-others items as regards a separate dimension.

In addition, it may be useful to investigate how the cyber items relate to variables they can be expected to be associated with, that is, examine some aspects of the construct validity of the cyber items. Since there are no obvious psychosocial adjustment variables in the standard setup of OBQ and, consequently, in the two large-scale studies, I have used the Kowalski and Limber data set for these analyses making use of the Rosenberg Self-Esteem Scale.

The result for the global question about being cyberbullied (with the five frequency response alternatives) is presented in Figure 6, showing a monotone-increasing, basically linear relation with level of poor self-esteem:

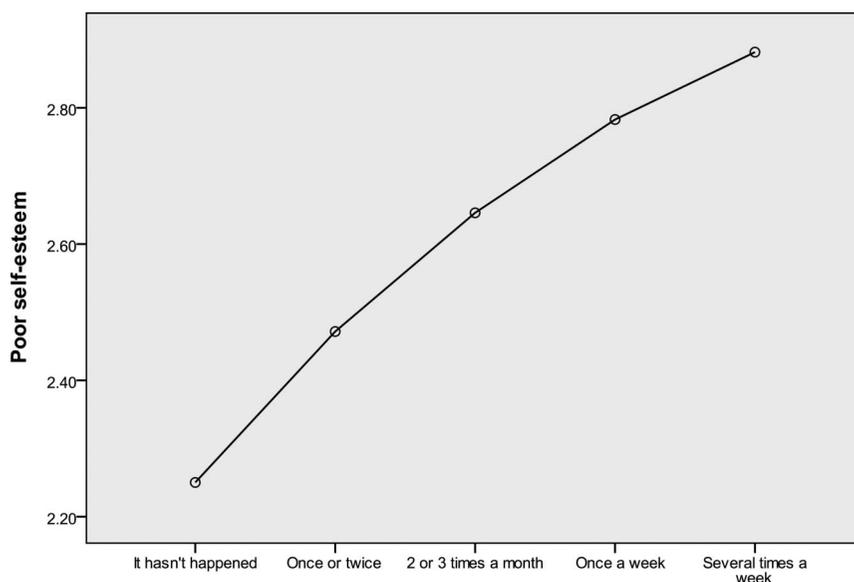


Figure 6. Relationship between frequency of being cyber bullied and degree of poor self-esteem.

Students who were exposed to cyberbullying more often, tended to have systematically poorer self-esteem. This result is very much as expected and quite similar to what was found in our previous analyses of the relation between a scale of Global Negative Self-Evaluations (Alsaker & Olweus, 1986) partly built on Rosenberg's scale, and the global question of being bullied in traditional ways (Solberg & Olweus, 2003).

It is also useful to look at the relation between the five different means or channels of being cyberbullied and poor self-esteem. Since the prevalence rates for some of these variables were quite low, making the results for the individual high-frequency categories somewhat unstable, it was natural to collapse the three highest frequency categories into a single category. For all five channels—e-mail, instant messaging, chat room, website, and mobile/cell phones—there was a clear monotone-increasing, linear relation between the three frequency categories (“not cyberbullied”, “once or twice”, “2 or 3 times a month or more often”) and poor self-esteem. Thus, the more often a student had been exposed to cyberbullying in any of the five listed ways, the poorer the student's self-esteem. It may also be mentioned in this context that there were substantial correlations between use of the five different channels: With regard to being bullied, the average correlation between the channels was about .50 and for bullying others about .60.

These results for both the global and the individual cyberbullying items are also quite interesting from another point of view. Among researchers, legitimate concerns have been raised about whether, and possibly how, the repetitiveness criterion in the general definition of (traditional) bullying can be applied to cyberbullying. For example, will the use of “2 or 3 times a month” as a lower-bound criterion for classifying a respondent as being bullied miss important information and misclassify students when it comes to cyberbullying? It is obvious that some ways of being cyberbullied such as having been exposed to a personally embarrassing picture or video on a website are often single—and not repeated—acts for both target and perpetrator but can spread quickly to a large group of people. Being exposed to such cyber behaviour can certainly be very distressing for the target and it might be considered a “misclassification” if the student were categorized as “not being cyberbullied” because the event happened only once.

If such “misclassifications” occurred for many episodes of cyberbullying, one would not expect a regular linear increase in poor self-esteem with increasing frequency of cyberbullying but rather some different pattern with an elevated level of poor self-esteem for the “once or twice” category. This was clearly not the result of our empirical analyses and this, then, seems to indicate that use of the standard frequency alternatives worked quite well in our samples. One reason for the obtained, maybe somewhat unexpected, results might be that cyber behaviours such as posting negative pictures or videos are after all very rare phenomena and will therefore impact a small

number of targets. On the other hand, it is also worth pointing out that one of the forms of traditional bullying, that of “spreading false rumours”, is with regard to the implicated spreading mechanisms somewhat similar to the special forms of cyberbullying referred to. And for this form of traditional bullying, there was also a regular, basically linear relation between the five frequency categories and poor self-esteem (as with the other traditional forms). Applying the standard criterion of some repetition for defining somebody as being bullied thus appears to have functioned quite well also for this form of bullying.

Although these results *seem to indicate that cyberbullying items function in roughly the same way as items on traditional bullying*—which could be a desirable result from the perspective of simplicity—it must be emphasized that only one “external” psychosocial adjustment variable has been used in these analyses. Poor self-esteem is no doubt a meaningful and important variable in this context but to find out if the obtained results can be generalized more broadly, it is obviously necessary to use a larger set of external variables and, very likely, also more channels or means of cyberbullying. *More research on this issue is clearly needed.*

ARE THERE NEGATIVE EFFECTS OF BEING CYBERBULLIED AND HOW DO WE FIND OUT?

Both media and researchers have told us that there are many serious negative effects of cyberbullying, typically of the same kind as effects of traditional bullying: depression, poor self-esteem, anxiety, suicidal ideation, and psychosomatic problems like headaches and sleep disturbances, to name a few. Although cyberbullied children certainly report such problems or symptoms (as also evidenced in the above analyses of self-esteem), it is difficult to know if, or to what extent, these problems actually are a consequence of cyberbullying. This is because the great majority of cyberbullied children and youth are also bullied in traditional ways, as documented above. How do we try to find out what the “true” effects of cyberbullying are, independent of possible effects of traditional bullying? I cannot see that this issue has received much systematic and useful research attention so far.

In my view, there is no obvious and straightforward approach that will provide a clear-cut answer but I will report here on two strategies that may provide some pointers. First, we can take a closer look at the self-esteem of the group of students who are “pure” cyber-victims, that is, those who have been cyberbullied (“2 or 3 times a month” or more) but not been bullied in traditional ways. Second, there is also a group of students who have been bullied in both traditional and electronic ways and for this “combined” group, we can use regression analyses, for example, to find out about the

relative contributions of cyber- versus traditional bullying to poor self-esteem. Both sets of analyses will be conducted on the Kowalski and Limber data set and with the poor self-esteem variable as a kind of criterion or outcome variable. (In these analyses, I see poor self-esteem largely as an effect or consequence of bullying and not the other way around, poor self-esteem “causing” more bullying—the latter being a position that is contradicted by a lot of evidence, e.g., Arseneault et al., 2006; Arseneault, Bowes, & Shakoor, 2010; Olweus, 2010b; Ttofi, Farrington, Lösel, & Loeber, 2011, and is in my view no longer tenable.)

Regarding the first approach, the pure cyber victim group ($n=45$, 27 girls and 18 boys) had an elevated level of poor self-esteem ($p < .000$) compared to the non-involved students. The students in this group had approximately the same level of poor self-esteem as the group of pure traditional victims (ns) but clearly lower than the combined traditional and cyberbullied group ($p < .000$). This result suggests that there may be some negative effects of being cyberbullied, at least for this relatively small group of students who were only exposed to this form of bullying. This is of course an interesting result although it is natural to wonder how representative this group is of the larger group of students who are bullied in both traditional ways and via electronic means? Do the students in this group have some special characteristics in addition to the fact that they are only exposed to one form of bullying?

AND WHAT IS THE RESULT WHEN CYBERBULLYING IS COMBINED WITH TRADITIONAL BULLYING?

In the second approach, based on the combined group of students, the correlation of being traditionally bullied (the sum of the eight dichotomized forms of traditional bullying) with poor self-esteem was .30 ($p < .005$) while the corresponding value for the global being-cyberbullied question was only .08 (ns). Accordingly, in the regression of these variables on self-esteem, the summary traditional being bullied variable significantly predicted poor self-esteem, whereas the cyberbullied variable did not contribute significantly. The interaction between the two being bullied variables was also tested but did not increase prediction (ns). Very similar results were obtained when the global being-bullied variable (one item) was used instead of the summary variable.

Brief comments

The result for the combined group suggests that being cyberbullied does not have much of an effect over and above the negative effects generated by

traditional bullying. Accordingly, a tentative conclusion from these two sets of analyses *could be that the issue of possible negative effects of being cyberbullied is context specific*: If a student is bullied only (or mainly) via electronic means, this is likely have a negative effect on his or her psychosocial adjustment or well-being as measured by poor self-esteem (which is substantially correlated with similar variables such as depression and anxiety). However, if the student is exposed to both traditional and cyberbullying, the additional effect of cyberbullying seems to be negligible. When the student is bullied in several traditional ways (three on the average in the combined group), the addition of cyberbullying does not seem to markedly increase the distress or plight of the exposed student.

But, as emphasized above, the reported results and the conclusion about the possible effects of cyberbullying, although fairly reasonable in my view, must be seen as tentative. Here, I have suggested two ways of estimating the possible negative effects of cyberbullying but there are also other ways of conducting such research. This issue obviously needs to be the focus of several additional studies and approaches, including longitudinal ones.

Nonetheless, the reported results can form the basis of two methodological conclusions or recommendations. The first is that reporting about or researching negative effects of cyberbullying should not be done without taking the possible, co-existing negative effects of traditional bullying into account in one way or another. And if the research is focused on bullying, it is quite *essential to study the phenomenon in a context of bullying* (and not without context or in a context of being victimized or exposed to negative or aggressive behaviour more generally).

In addition, I want to call attention to another methodological issue related to sample size. Considering the fact that cyberbullying is a low-prevalence phenomenon (about 3–5% for being cyberbullied and 1–3% for cyberbullying others as recorded in the current samples), even what may appear a decent sample of, say, 1,000 students will probably identify only 30–50 cyber-victims, consisting of both boys and girls. The numbers of cyberbullies will be even less, 10 to 30 (if one sticks to the criterion of some regularity). So, if one is interested in examining pure cyber-victims versus combined victims (and/or bullies), for example, the numbers of participants in the various cells dwindle quickly. And to use a lower threshold for classification such as “once or twice” is often not a good solution since this makes it more difficult to find meaningful and reliable patterns of results. Such a strategy is also likely to end up with more chance findings leading to less consistency and progress in the field. Here the obvious basic message is that it is *important to have large enough samples to secure adequate statistical power for the issues one wants to study*.

UNFORTUNATE CONSEQUENCES OF THE DISTORTED MEDIA PICTURE

Getting back to the media picture, I want to briefly touch on two likely unfortunate consequences. First, such a distorted portrayal of reality will probably generate a lot of unnecessary anxiety and tension among parents and maybe teachers and students. It may also create feelings of powerlessness and helplessness in the face of the presumably “huge” and ubiquitous cyberbullying problem.

Second, such a picture is likely to result in an unfortunate shift in the focus of anti-bullying work if digital bullying is seen as the key bullying problem in the schools. This would probably also result in funnelling a lot of resources in a “wrong” direction while traditional bullying—which is clearly the most prevalent and most serious problem—would be correspondingly downgraded.

But should the results and conclusions be interpreted to mean that we should just disregard and stop bothering about cyberbullying among children and youth? No, that is not the bottom line of the present paper. Since both intuition and some empirical research asking about the perceived impact of hypothetical cyberbullying exposures (Smith et al., 2008) clearly suggest that some forms of bullying such as posting painful or embarrassing pictures or videos may have markedly negative effects, it is important also to take cyberbullying seriously both in research and intervention/prevention. I don’t want to trivialize or downplay cyberbullying but I definitely think it is necessary and beneficial to *place cyberbullying in proper context and to have a more realistic picture of its prevalence and nature.*

HOW CAN WE COUNTERACT AND PREVENT CYBERBULLYING?

Very briefly, technologically oriented researchers and many book authors tend to emphasize the importance of teaching students, parents, and educators various aspects of “netiquette” concerning such things as internet safety, how the different technologies function, and how to behave properly on the net. It is probably useful for most students, parents, and educators today to achieve a certain level of such basic knowledge about the new technologies. And many schools could certainly benefit from introducing and strictly enforcing clear rules about the use of cell phones and computers/the internet in the schools.

At the same time, there seem to be basic limitations to what can be achieved with such a technological approach, according to a recent meta-analysis (Mishna, Cook, Saini, Wu, & MacFadden, 2011). In this research

synthesis, the possible effects of three psycho-educational interventions designed to increase internet safety and decrease risky online behaviour were investigated with middle-school students. The authors concluded that there were clear indications of increased internet safety knowledge, in particular for one of the programs (I-SAFE), but none of the interventions seemed to change the students' own risky or inappropriate online behaviour. Although being a small-scale meta-analysis and not focusing directly on cyberbullying, this research certainly suggests that to reduce cyberbullying, it is not enough to increase awareness and knowledge about the new technologies.

Given that traditional bullying is much more prevalent than cyberbullying and that the great majority of cyberbullied students are also bullied in traditional ways, it is natural to recommend schools to *direct most of their efforts to counteracting traditional bullying*, preferably using a programme with documented effects (cf. Ttofi & Farrington, 2009). In some of our own large-scale intervention studies with relatively few measures focusing directly on cyberbullying (Olweus & Limber, 2010), we have observed (unpublished) that levels of cyberbullying have gone down substantially in parallel with reductions in traditional bullying. Such effects have also been convincingly documented in a recent paper from the large-scale Finnish KiVa project (Salmivalli & Pöyhönen, 2011). The authors conclude that “reducing cyberbullying does not necessarily require programs tailored to target especially these specific forms of bullying (p. 68)”.

Such a conclusion is certainly in line with the general thrust of this paper. At the same time, I think we should also make use of the possibility that attention to cyberbullying cases can lead to a disclosure of what actually goes on in terms of traditional bullying in the school context. In addition, the great focus on cyberbullying in the media and research can probably be used to revitalize societal interest in the phenomenon of school bullying more generally and the need to systematically address this pressing social problem.

A FINAL SYSTEM-LEVEL PROPOSAL

Technological experts tell us that in most cases, it is quite possible, although maybe somewhat time consuming, to disclose the sender(s) of negative bullying messages communicated via electronic means. Accordingly, and in concluding, I propose that a very important, and presumably quite effective, measure an individual school or community can take in counteracting and preventing cyberbullying is to *invest time and technical competence in disclosing thoroughly a few identified cases of cyberbullying—and then communicate clearly and openly (but anonymously) the results to the*

students. This system-level strategy can substantially increase the perceived risk of disclosure and will very likely be able to reduce further the already low prevalence of cyberbullying.

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