Cyberbullying

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Introduction

Over the last 30 years, media has changed from being something to consume and being produced only by professionals to the so-called social media (cf. Collier, 2012), which is interactive and user-generated and correspondingly less controllable. One of the risks of social media is cyberbullying. A review of youth online risk research has shown it to be the most common online risk for adolescents (Palfrey, Boyd, & Sacco, 2010).

Cyberbullying is defined as repeated aggressive acts perpetrated through electronic or digital media with the intent to or the result of harming others (Nocentini et al., 2010; Smith et al., 2008; Tokunaga, 2010). It can be performed by individuals or groups. "Using technology, a bully can send or post hurtful, humiliating, or even threatening messages and content to a victim, to third parties, or to a public forum or environment that many other online participants visit" (Patchin & Hinduja, 2012b, p. viii). Therefore, cyberbullying can take place privately with messages or pictures/videos only directed at the victim or publicly for others to see.

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Some definitional aspects of cyberbullying are still under discussion among researchers and within large researcher networks (such as the COST IS0801 Action on Cyberbullying,¹ for example, which has brought together researchers from 28 European countries, Israel and Australia). In research papers, definitions and operationalization vary regarding forms of cyberbullying, technologies (e.g., Internet vs. cell phone), frequency, and questionnaire construction (e.g., single global questions vs. specific behavior checklists) (Berne et al., 2013). Additional definition criteria have also been proposed and partly even empirically tested, such as the extent of anonymity and publicity (Menesini et al., 2012; Nocentini et al., 2010).

The specific characteristics differentiating cyberbullying from traditional school bullying are related to the characteristics of digital media in general:

- Physical distance
- 24/7 nature and pervasiveness (victim is available at all times and in all places)
- Persistence and searchability of digital contents
- No temporal, spatial, and numerical limits regarding potential and invisible audience
- Ability of content to be copied and pasted from anywhere to anywhere
- Potential anonymity of the perpetrator

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¹More information on the COST IS0801 Action can be found at https://sites.google.com/site/costis0801/

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- Lack of emotional feedback and thus less awareness of the impact of one's own actions on the recipient
- Lack of fear on the perpetrator's part as sanctions are unlikely to occur (Boyd, 2008; Kowalski & Limber, 2007; Patchin & Hinduja, 2012a; Raskauskas & Stoltz, 2007; Slonje & Smith, 2008)

Roles investigated in cyberbullying research are: "cyberbullies," "victims of cyberbullying," and "cyberbully-victims," meaning individuals who are both perpetrators and victims of cyberbullying. Recently, research interest has focused on the witnesses of cyberbullying.

Cyberbullying may lead to serious detrimental outcomes for those involved. Ševčíková, Šmahel, and Otavová (2012) were able to show that it is particularly serious when it overlaps with the "real" world. That is, when virtual threats are likely to be carried out in the physical world. Anonymity is a crucial element because the victim cannot easily assess the probability of the offender actually carrying out the threat. Also, people are more easily drawn into online environments meaning that peers and friends of the victim could be involved or at least become witnesses and thus increase the victim's feelings of powerlessness. Further, classmates and schoolmates who might not otherwise witness the bullying can be witnesses of cyberbullying through the easy distribution of digital material. Ševčíková et al. (2012) conclude that the greater the connection between physical and digital world coupled with the greater the likelihood that online experiences will interfere with offline relationships, the greater the perceived harm.

Cyberbullying overlaps with traditional school bullying. Traditional bullying has been shown to correlate with or predict the same status in cyberbullying namely traditional bullies tended to be cyberbullies while traditional victims were also cybervictims (Raskauskas & Stoltz, 2007; Smith et al., 2008; Ybarra, Diener-West, & Leaf, 2007). Proof for a retaliation hypothesis—traditional victims taking revenge in cyberspace—has also been found (Ybarra & Mitchell, 2004). However, Menesini (2012) reports additive effects of traditional and cyberbullying on externalizing and internalizing symptoms with each phenomenon showing differential impact.

DSM IV and Incidence/ Prevalence Rates

Cyberbullying is not a disorder specified by the DSM IV. However, cyberbullying victimization is associated with a number of relevant diagnoses.

Below, relevant DSM IV categories, diagnoses, and symptoms are presented depending on the respective role in cyberbullying. For perpetrators of cyberbullying, these most probably accompany or even cause their behavior, while for victims of cyberbullying they are likely a result of negative online experiences. As little longitudinal research has been undertaken, there are no causal relations. Many studies have merely identified correlational associations or crosssectional predictive values.

Incidence/Prevalence Rates

Because cyberbullying is not a classical clinical disorder, no incidence rates or epidemiology have been assessed or analyzed. Research methods are seldom standardized and vary regarding the presentation of a definition, the number of items, administration type (e.g., online question-naire vs. school-based survey), and the reference period among others. Therefore, only prevalence rates can be reported.

Prevalence rates vary greatly across and within countries. For example, in Germany (the country of origin of the authors) prevalence rates range from 3 to 43 % for cyberbullying victimization and from 8 to 33 % for cyberbullying perpetration (Katzer, Fetchenhauer, & Belschak, 2009a, 2009b; Schultze-Krumbholz & Scheithauer, 2012; Wachs, 2009). Internationally, the prevalence of cyberbullying victimization ranges from 6 % in Spain and Turkey to 72 % in the US (Aricak et al., 2008; Juvonen & Gross, 2008; Ortega, Elipe, Mora-Merchán, Calmaestra, & Vega, 2009; cf. Suzuki, Asaga, Sourander, Hoven, & Mandell, 2012) and for cyberbullying perpetration from 4 % in the US to 36 % in Turkey (Aricak et al., 2008; Kowalski & Limber, 2007; cf. Suzuki et al., 2012). Depending on the studies included in the syntheses or reviews, mean victimization rates are 24 % and mean perpetration rates across all countries are 16–18 % (Patchin & Hinduja, 2012a; Suzuki et al., 2012).

DSM IV Categories and Cybervictims

In the following sections we try to classify the potential consequences of cyberbullying for perpetrators, victims, and bully victims under the existing DSM-IV-TR categories (4th ed., text rev.; American Psychiatric Association, 2000). Research on the impact of cyberbullying has focused mainly on subclinical levels. As the majority of empirical research focuses on children, adolescents, and young adults, we will not report on personality disorders.

Cybervictims showed significantly elevated levels of depression, anxiety, phobic anxiety, and paranoia compared to non-victimized participants. Victims also scored higher on the Global Severity Index and the Positive Symptom Total subscales which is in line with many previous studies showing victims to experience high levels of stress and anxiety (e.g. Campbell, Spears, Slee, Butler, & Kift, 2012; Finkelhor, Mitchell, & Wolak, 2000). Therefore, victims may exhibit an *Acute Stress Disorder* or even a *Posttraumatic Stress Disorder*.

Empirical evidence has been found in many studies for depressive symptoms (e.g., Erdur Baker & Tanrikulu, 2010; Gradinger, Strohmeier, & Spiel, 2009; Perren, Dooley, Shaw, & Cross, 2010; Schultze-Krumbholz, Jäkel, Schultze, & Scheithauer, 2012) as well as suicidal ideation and suicide attempts (Hinduja & Patchin, 2010; Schenk & Fremouw, 2012) to be associated with cyberbullying victimization. Thus, victims may show symptoms of a *Mood Disorder* and may have suicidal thoughts or intentions.

Further, research has linked *Somatization Disorders* to cyberbullying victimization. Victimized students report feeling sick, having trouble sleeping, headaches, and stomachaches (e.g., Carter, 2011; Gradinger et al., 2009; Techniker Krankenkasse Landesvertretung, 2011). Additionally, *Substance Use* (mainly alcohol and marihuana) is also increased among victims of cyberbullying (Goebert, Else, Matsu, Chung-Do, & Chang, 2011; Hinduja & Patchin, 2008).

Although no links have been reported explicitly so far, cyberbullying victimization may also be associated with *School Phobia* and *Social Phobia*. The anonymity of an attack upsets the victims and they become suspicious of their social surroundings (Raskauskas & Stoltz, 2007; Spears, Slee, Owens, & Johnson, 2009).

Apart from these mostly internalizing problems, a number of studies have also found victims to exhibit externalizing symptoms such as aggression (e.g. Schultze-Krumbholz, Jäkel, et al., 2012; Sontag, Clemans, Graber, & Lyndon, 2011).

DSM IV Categories and Cyberbullies

Perpetrators of cyberbullying have repeatedly been shown to be more aggressive than noninvolved students and to show other conduct problems (e.g., Gradinger et al., 2009; Schultze-Krumbholz & Scheithauer, 2009; Sontag et al., 2011; Sourander et al., 2010). As bullying others is one symptom of a Conduct Disorder, cyberbullying behavior can be part of such a diagnosis. Further, cyberbullying perpetration is associated with delinquency (Ybarra & Mitchell, 2004). Cyberbullying offenders also show hyperactivity and concentration problems more often than nonoffenders (Sourander et al., 2010; Ybarra & Mitchell, 2007), thus a diagnosis of Attention Deficit/Hyperactivity Disorder might be comorbid with cyberbullying perpetration. Also, similar to victims of cyberbullying, perpetrators often show increased rates of Depression along with suicidal ideation and suicide attempts (Hinduja & Patchin, 2010; Ybarra & Mitchell, 2004).

Biological/Genetic factors

A search of the research literature did not uncover any empirical studies on cyberbullying and biological/genetic factors.

Individual Factors Influencing Risk and Resiliency

Most of the research in the field of cyberbullying has focused on individual factors influencing risk and resiliency with a stronger emphasis on risk factors. It is important to note once again that there is still only a very small number of (shortterm) longitudinal studies on cyberbullying, meaning that many of the following factors for risk and resiliency have only been identified on the basis of correlations or cross-sectional regression analyses. Therefore, no causal relations can be deduced and the mentioned factors remain potential "causal" risk or protective factors.

One very general aspect is gender. A research synthesis conducted by Patchin and Hinduja (2012a) yielded gender differences for cyberbullying victimization and offending. In 8 out of 13 published studies they found girls to be victims more often, while two studies found no difference. On average, 21.8 % of girls and 19.5 % of boys were victims of cyberbullying. While for some time researchers have argued that due to the nature of cyberbullying being more covert and relational it is to be expected that girls would be offenders more often, Patchin and Hinduja (2012a) found the opposite to be true in 11 out of 13 studies reporting offending rates. On average, 14.1 % of girls and 18.5 % of boys were offenders across the 13 studies. The types of victimization and offending also differ by gender. In a study from the UK, girls were victims and offenders more often on all assessed types of cyberbullying except bullying on websites or using manipulated pictures (Smith et al., 2008).

Regarding age, there is a clear peak in middle school around eighth grade (Ortega et al., 2009; Williams & Guerra, 2007). A large crosssectional study with different age cohorts found that adolescents between 12 and 19 years old were cyberbullies most often and that most cybervictims were in the age groups of 12–19 and 20–26 years. Further research reports show increasing rates of cyberbullying from middle school through high school (Patchin & Hinduja, 2012a; Wolak, Mitchell, & Finkelhor, 2006).

In many studies, the strongest predictor of cyberbullying perpetration and victimization was the respective experiences in traditional bullying (i.e., traditional bullying perpetration is a strong predictor of cyberbullying perpetration and traditional bullying victimization is a strong predictor of cyberbullying victimization) (Fanti, Demetriou, & Hawa, 2012; Katzer et al., 2009a, 2009b; Raskauskas & Stoltz, 2007).

One individual factor related to cyberbullying is self-esteem. Patchin and Hinduja (2010) found both perpetrators and victims to show lower rates of self-esteem than non-involved students. Especially due to the cross-sectional nature of the data, one might argue that low self-esteem is a result of cyberbullying victimization. And indeed, research has shown that self-esteem decreases when the extent of cyberbullying victimization increases (Brighi et al., 2012). However, this is not sensible when looking at perpetrators as the experience of power over others should rather increase their feelings of selfesteem. Therefore, low self-esteem is possibly a precursor of victimizing others online.

Further, lack of self-control was found to be associated directly with cyberbullying and to a lesser extent cyberbullying victimization, and indirectly via traditional bullying and traditional bullying victimization consistently across 25 European countries (Vazsonyi, Machackova, Sevcikova, Smahel, & Cerna, 2012). Low selfcontrol is associated with low ability to conform to social norms and rules and low inhibition of immediate pleasure-fulfillment regardless of consequences (Gottfredson & Hirschi, 1990; Vazsonyi et al., 2012). This is in line with results regarding Conduct Disorders and Antisocial Personality Disorder. Also in line with this, moral disengagement (Almeida, Correia, Marinho, & Garcia, 2012), low levels of empathy and remorse (Schultze-Krumbholz & Scheithauer, 2009; Slonje, Smith, & Frisén, 2012; Steffgen, König, Pfetsch, & Melzer, 2011), and high scores of callous-unemotional traits (Fanti et al., 2012) have been found for cyberbullying perpetrators emphasizing that cyberbullies pay little attention to, are less able to recognize, or simply do not care about their victims' distress. For example, boys with low scores of cognitive empathy (i.e., perspective-taking) reported more cyberbullying perpetration irrespective of low or high scores of affective empathy while for girls high levels of affective empathy buffered the effects of low cognitive empathy (Ang & Goh, 2010).

Another risk factor is constituted by positive attitudes towards this kind of behavior (Vandebosch & Van Cleemput, 2009) and justification of violence attitudes (Calvete, Orue, Estévez, Villardón, & Padilla, 2010; Williams & Guerra, 2007); the more favorable an adolescent's attitudes are towards cyberbullying, the higher the intention to perform this behavior (Heirman & Walrave, 2012). Barlett and Gentile (2012) found that positive attitudes towards cyberbullying and reinforcement or perception of positive gain of cyberbullying behavior, respectively, mediated the stability of cyberbullying perpetration across time.

Of course, media usage patterns also influence involvement in cyberbullying. Intensive use has been shown to be a risk factor especially for cyberbullying victimization (e.g., Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012; Wolak, Mitchell, & Finkelhor, 2007). Also, Internet use in private places at home increases the risk for victimization compared to using the Internet in a more public place in the home (Sengupta & Chaudhuri, 2011). Often, victims of cyberbullying show a lack of knowledge about strategies for safe media use. Research has found lack of knowledge about risky online behavior like sharing passwords or talking to strangers online to be associated with cyberbullying victimization (Hinduja & Patchin, 2009; Mishna et al., 2012; Sengupta & Chaudhuri, 2011).

Little is known about factors influencing resiliency. Ubertini (2010) found that factors which have been demonstrated to protect against traditional bullying, specifically life satisfaction and social support, did not protect against the effects of being a cybervictim.

Family Factors Influencing Risk and Resiliency

Few studies have been conducted on family factors influencing risk for and resiliency against cyberbullying and cyberbullying victimization. Thus, results are from single studies and can be contradictory.

One important factor is the parent- or caregiver-child relationship. A poor emotional bond characterized by low trust in the child, child and caregiver not getting along or unable to discuss problems as well as not often having fun together is linked to increased rates of cyberbullying perpetration. Further, infrequent monitoring (i.e., not knowing where the child is most of the time and whom the child is spending time with) was also associated with the child cyberbullying others (Katzer et al., 2009a; Ybarra & Mitchell, 2004). Both these factors remained significant even after controlling for significant personal characteristics. Poor family relationships were also linked to cyberbullying victimization. For boys, victimization was predicted by lower rates of family self-esteem and for girls by increased rates of parental loneliness (feeling rejected and abandoned in caregiver-child relationships) (Brighi, Guarini, Melotti, Galli, & Genta, 2012). Students with close relationships to their parents were victims of cyberbullying less often than students with a distant relationship (Accordino & Accordino, 2011).

Specific monitoring techniques for media use are associated with reduced risk of becoming a victim of cyberbullying. Mesch (2009) found evaluative mediation, specifically rules regarding which websites the child is allowed to visit, to negatively predict cyberbullying victimization. Analyses by gender revealed no significant effect for girls, but protective effects for boys and the strategies "monitoring software installed which records online activities" and "rules for the kind of personal information the child can share with people they talk on the Internet" (Mesch, 2009, p. 390).

In a Japanese study, parental control of Internet use at home was only indirectly linked to cyberbullying and cyberbullying victimization by influencing the amount of Internet use which in turn predicted cyberbullying perpetration and victimization (Aoyama, Utsumi, & Hasegawa, 2012).

Family social support is another relevant protective factor, both against cyberbullying and cyberbullying victimization. Generally, high levels of family social support predicted decreases in cyberbullying perpetration one year later (Fanti et al., 2012). But this factor is of special significance for cyberbullying victimization: in single-parent households family social support was associated with decreases in cyberbullying victimization at low rates of friend support. Low family support coupled with low friend support predicted the highest levels of cyberbullying victimization.

Results on parenting styles are inconsistent so far. Dehue, Bolman, Vollink, and Pouwelse (2012) have linked cyberbullying perpetration to parenting styles with more permissive or neglectful styles, respectively, allowing for more cyberbullying perpetration of the child. Contrary to this, in a study from Turkey authoritarian attitudes were found to increase cyberbullying perpetration (Dilmaç & Aydoğan, 2010). The same authors also reported authoritarian parental attitudes to increase cyberbullying victimization while protective-demanding attitudes reduced the risk of being victimized.

Social and Community Factors Influencing Risk and Resiliency

Repeatedly, the responsibility of schools as well as the connection between cyberbullying and peer relations in school is highlighted. However, very little research has focused on social and community factors promoting or reducing the risk of cyberbullying. As with family factors, the following description relies on single, mostly cross-sectional studies.

One important social factor is school climate. It seems that a positive perceived school climate functions as a protective factor against cyberbullying perpetration. The more adolescents perceive themselves as connected to their school and the climate to be fair, trusting, and pleasant, the lower is their involvement in cyberbullying as perpetrators (Williams & Guerra, 2007). Primary schools with rules about the use of Internet and cell phones as perceived by students showed lower rates of cyberbullying. In Australian secondary schools, predictors of cyberbullying victimization were higher levels of connectedness between students and higher overall levels of academic achievement (Cross et al., 2012).

Peers and peer relations also seem to play an important protective role. Students who perceive friends their age as trustworthy, caring, and helpful report lower levels of cyberbullying perpetration (Calvete et al., 2010; Williams & Guerra, 2007). Schoffstall and Cohen (2011) were able to reveal links between cyberbullying perpetration and low levels of peer functioning. The more students engaged in cyberbullying, the lower peer optimism (optimism regarding peer relations) they showed, the fewer mutual friendships they reported, and the less socially acceptable and popular they were rated by their classmates.

High friend support is associated with decreases in cyberbullying victimization one year later. If students experience high friend social support, family social support does not significantly account for any changes across time (Fanti et al., 2012). Cyberbullying victimization is further predicted by low popularity in the online community (Katzer et al., 2009b).

Another factor which can be treated as a community factor is norms about cyberbullying. When students perceive negative social pressure and disapproval for cyberbullying from significant others such as peers, parents, or school personnel, they are less inclined to engage in cyberbullying as perpetrators (Heirman & Walrave, 2012).

A risk factor on the societal level is exposure to violence. Calvete et al. (2010) linked direct (being a victim) and indirect (being a witness) exposure to violence on four levels (school, neighborhood, home, and television) to increased rates of cyberbullying perpetration. Media violence exposure predicts both cyberbullying and cyberbullying victimization (Fanti et al., 2012).

Evidence-Based Treatment Interventions for Cyberbullying

For cyberbullying and cyberbullying victimization, there is no specific clinical intervention or prevention. Rather, most programs are a blend of intervention and prevention intervention aimed to reduce existing rates as well as prevent emerging cases.

Approaches to reducing cyberbullying and cyberbullying victimization can be categorized into three groupings (Snakenborg, Van Acker, & Gable, 2011, p. 90):

- Laws, rules and policies which intend to regulate media use or exert control over media contents
- Curricular programs which aim at education about the safe use of digital media, avoiding and addressing cyberbullying, addressing the consequences or promoting specific (e.g., social) skills
- Technological approaches such as filters and blocking software

None of the presented interventions have been evaluated three times or more as this research is in its infancy. Only the most prominent programs will be presented as there are a myriad of interventions addressing cyberbullying. In Germany, for example, every school counselor currently develops his or her own (mostly not evaluated) approach and materials. As Snakenborg et al. (2011, p. 90) describe the situation:

Keyword searches of social science databases including the Web of Science, Academic Search Premier, Ovid, and ERIC turned up no peerreviewed empirical studies for the prevention of or intervention with cyberbullying.

What Works

A search of the research literature did not uncover an intervention that met the criteria of three successful trials.

What Might Work

Immediate intervention occurs with report and blocking functions. However, the "report button" is not well accepted among youths, especially if conflicts result from known peers sharing the same social environment (e.g., Wagner, Brüggen, Gerlicher, & Schemmerling, 2012). Blocking abusive users from being able to post or send offensive content may provide immediate relief in an acute situation. This is often used by students to cope with the situation (Slonje, Smith, & Frisén, 2013; Smith et al., 2008). However, the user might re-register with a new account and start harassing the victim again.

Presently, there is no evaluated or theoretically founded immediate intervention strategy. What is often proposed—in cases of cyberbullying victimization—is to document the deed for later purposes of proof, to stop the communication (i.e., not to "fight back") and to block the perpetrator from profiles, mail accounts, etc. (e.g., Kowalski, Limber, & Agatston, 2008; Schultze-Krumbholz, Zagorscak, Siebenbrock, & Scheithauer, 2012).

What Doesn't Work

Due to a lack of research, there is no knowledge about interventions with no or contrary effects.

Psychopharmacology and Cyberbullying

A search of the research literature did not uncover any empirical studies on cyberbullying and psychopharmacological treatment.

The Prevention of Cyberbullying

There is very little research on the prevention of cyberbullying. Some cyberbullying-specific programs have been developed and published and will be presented with information on their effectiveness. Due to novely of these programs, none of them can provide three or more successful trials.

What Works

A search of the research literature did not uncover a prevention intervention that met the criteria of three successful trials.

What Might Work

Many of the following programs have been developed for the school context. Most are universal preventive programs with indicative aspects as they address bully and victim roles.

CyberMentors (https://cybermentors.org. uk/) is a peer-support scheme by the UK charity. Adolescents are trained to be able to mentor in and outside of school. They can refer mentees to a team of senior mentors and counselors. CyberMentors has been evaluated twice. The first evaluation by Banerjee, Robinson, and Smalley (2010) found the training to be highly accepted and respected among youths. It increased awareness and reporting rates and was perceived as helpful to some extent. The program required intensive and ongoing monitoring which not all schools were willing to give. Banerjee and colleagues found indications that in some of the schools overall ethos and school atmosphere were beginning to change. A second evaluation found CyberMentors to be easily accessible for both mentors and mentees and both parties felt well supported: 80 % of mentees found the advice they received helpful (Thompson, Robinson, & Smith, 2012). Its website reports that as of January 2012 more than 7,000 CyberMentors had been trained, more than 890,000 private mentoring interactions had taken place, 99 % of mentors rated the training workshops as "good" or "excellent," 96 % of involved teachers perceived the scheme as effective, and 72 % of mentees reported improved well-being (BeatBullying, 2012).

Medienhelden (engl.: media heroes; Schultze-Krumbholz, Zagorscak et al., 2012) is a structured, school-based, manualized program for Grades 7-10 which is implemented by trained teachers during regular school classes or by trained youth professionals in after-school groups which meet regularly. The development and evaluation of the program was funded by DAPHNE III and the European Commission and was part of a DAPHNE III cyberbullying project.² According to the particular needs of teachers and schools, there are two versions of the program. The Medienhelden curriculum lasts approximately ten weeks with 90 min per week and the Medienhelden project day lasts one day with four sessions of each 90 min. The program aims at awareness-raising, change of subjective norms and attitudes, empathy training, perspective-taking, media competency, class climate, and peer relations. Methods utilized, among others, are education, empathy training, role plays, peer-to-peer tutoring, moral dilemma discussions, and student-to-parent tutoring. The project day includes most of these subjects in a shortened version. Teachers rated the program as highly applicable and well-liked. They perceived a desired change in their classes (Jäkel, Schultze-Krumbholz, Zagorscak, & Scheithauer, 2012). In a pretest-posttest design with a 9-month interval, schools were asked to randomly assign their participating classes to either control or intervention group. Evaluation of target variables showed that the control group showed higher levels of cyberbullying compared to the whole sample nine months post-intervention and lower levels of social skills (empathy and perspectivetaking), subjective health, and self-esteem. The intervention group taking part in the project day reported stable levels in most of the variables and an increase in perspective-taking. The intervention group with the Medienhelden curriculum also showed reduced levels of cyberbullying and increased levels of the other variables (Schultze-Krumbholz, Wölfer, Jäkel, Zagorscak, & Scheithauer, 2012). For these analyses, 654

²For more information on this project see http://www. bullyingandcyber.net/en/ecip/project

students from 35 school classes provided longitudinal data. Medienhelden is available as a book with CD-ROM including all the teaching materials. It is advisable to also take part in the 2-day teacher training (at additional costs) before implementing the program the first time.

Surf-Fair (Pieschl & Porsch, 2012) is another German manual-based program. The program aims to educate about cyberbullying and possible coping strategies and to reduce cyberbullying behavior in Grades 5-6. A video of a fictitious real-life situation is used to follow the method of anchored instruction. Students identify, discuss, and try to solve the presented problems. A CD-ROM provides the video as well as teaching materials. Surf-Fair consists of different modules and activities which can be implemented as a whole or only in the form of single elements. These are divided into introductory activities, activities with a specific focus and closing activities. The authors recommend implementing at least one exercise from each of these sections. Therefore, Surf-Fair presents a tool box which is to be assembled by the teacher specific to his or her needs. The program has not been evaluated as a whole so far. A first evaluation compared one class with a 90-min session with a class with two 90-min sessions (and a control class with no intervention). Cyberbullying und cyberbullying victimization increased in the control class, remained stable in the one-session class, and decreased in the two-session class. The two-session class further showed an increase in knowledge about cyberbullying and technological coping strategies (Pieschl, 2010; Urbasik, 2010, as cited in Pieschl & Porsch, 2012). Surf-Fair is available as a book including the CD-ROM.

In Spain, the *ConRed* program (Ortega, Del Rey, & Casas, 2012) was developed to tackle cyberbullying. It focuses especially on interaction in online social networks. The program aims to promote understanding of online safety strategies, foster positive uses of technology, promote supportive attitudes towards victims, and prevent cyberbullying and abuse of technology (e.g., Internet addiction). The program consists of eight sessions and first evaluation results indicate

increased supportive attitudes towards victims and reduced problems (Bullying and Cyber, 2011; Del Rey, Casas, & Ortega, 2012).

No evaluation information was available for Cyber Bullying: A Prevention Curriculum for Grades 3-5 (Limber, Kowalski, & Agatston, 2009) and Cyber Bullying: A Prevention Curriculum for Grades 6-12 (Limber, Kowalski, & Agatston, 2008). These programs are not explicitly research-based. However, the authors have an extensive knowledge of the topic due to their previous research. Goals of the curricula are awareness-raising, promoting skills and resources for respectful interactions online, providing students with information on how to get help, and enhancing positive uses of technology. The manuals are accompanied by CD-ROMs with resources, handouts, and teaching materials. The curriculum for Grades 3-5 consists of five sessions with 40 min each to be taught weekly and consisting of a story, a discussion, and activities (Limber et al., 2009). The curriculum for Grades 6-12 consists of eight 50-min sessions. Real-life scenarios and peer-leaders are utilized as methods of teaching about cyberbullying (Limber et al., 2008).

What Doesn't Work

A widely known resource is the video Let's fight it together by Childnet International (2007). It presents a cyberbullying situation with different roles of involvement and especially emphasizes the consequences of cyberbullying. The website provides accompanying teaching materials. This resource was evaluated by Thompson et al. (2012) within a DAPHNE III-funded project on cyberbullying. From the study, it seems that students only saw the film, but were not provided the lesson materials. Thus, the researchers did not find significant impact on the coping strategies used by students who saw the video. Generally, the students liked the video overall; 87 % rated it as at least "good". The video and materials are available online and are free of charge. We conclude from this that education-only interventions are unlikely to work.

Thompson et al. (2012) also evaluated the Child Exploitation and Online Protection Centre (CEOP) video resource Exposed. This video shows a girl sending her new boyfriend explicit photos who passes them on. Eventually, these photos get uploaded to a website and are thus made available to other students. As the CEOP focuses on sexual abuse, this video presents a sexting situation. However, this behavior can be viewed as a form of cyberbullying, especially with the incidents following the sending of the photos. Before using this resource, teachers must be trained by CEOP personnel in a half-day training (cf. Thompson et al., 2012). CEOP also provides lesson plans. Teachers reported feeling more confident about recognizing cyberbullying problems after the training. Students rated the video as satisfactory to good; higher ratings were achieved with younger students, girls and students involved in sexting incidents themselves. However, no significant effects on coping strategies were found. Materials and training for Exposed are free of charge.

A more general strategy which comes up regularly after high-profile media cases is the prohibition of cell phones in school. However, Steffgen, König, and Pfetsch (2009) found no significant change in cyberbullying and cyberbullying victimization as most cyberbullying takes place outside school anyway. Cyberbullying possibly only gets pushed into after-school time with this strategy.

Recommended Best Practice

From our review of the literature, we recommend that

- Cyberbullying incidents be reported for immediate relief
- Communication be stopped with offensive individuals for immediate relief
- Communication channels be blocked for this cyberbully for immediate relief
- Positive parent-child relationships reduce the pain of cyberbullying
- Positive social skills and media competence reduce cyberbullying

- Positive school climate and peer relations in school reduce cyberbullying
- Rules on technology use, especially at home, reduce cyberbullying
- A need exists for the evaluation of prevention programs on cyberbullying

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