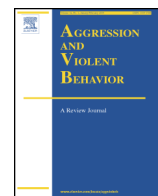




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Aggression and Violent Behavior



Cyber and school bullying: Same or different phenomena?

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ABSTRACT

According to most definitions, cyber-bullying is another type of bullying that occurs with the use of information and communication technologies. Nevertheless, a significant number of researchers dispute whether it constitutes another type of school bullying materialized with different means, or a different type of aggression that has unique characteristics and distinctive participant profiles. The present paper aimed at reviewing existing research literature regarding the similarities and differences between the two phenomena. Overall, there are three positions regarding the differences between cyber-bullying/victimization and school bullying/victimization: a) they constitute the same phenomenon, but are realized with different means, b) they are similar only in specific aspects and under certain circumstances, and finally c) they are completely distinct phenomena. The debate regarding the similarities between the two phenomena is deemed essential, since if it is established that they constitute the same phenomenon, similar prevention and intervention practices could be applied, while on the contrary, in case of significant differences, further investigation will be required for the identification of effective practices.

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1. Introduction

Over the last years, the study of cyber-bullying and cyber-victimization has expanded noticeably worldwide. Although school bullying and school victimization among children have been long-standing and pervasive social issues (Jones, Manstead, & Livingstone, 2011), cyber-bullying has only recently become the center of scientific attention. While as respective reviews indicate, the term “cyber-bullying” did not exist a decade ago (Notar, Padgett, & Roden, 2013), gradually, studies worldwide investigated the prevalence of cyber-bullying and cyber-victimization, their correlates (in terms of both personal and

contextual factors) (e.g., Şahin, 2012), the motives for participation, and efficient prevention and intervention practices.

As various sources suggest, bullying is not a recent phenomenon. According to academic and non-academic references, incidents resembling bullying have been evident before 1885 (Koo, 2007). Repetitive proactive aggressive behaviors manifest in all countries, among participants of varying ages and in different contexts. Although research has primarily focused on bullying in school grounds, it is a frequent behavior in other places as well, in which members interact on a regular basis (Björkqvist, Lagerspetz, & Kaukiainen, 1992). Examples include families, correctional institutes, higher education institutions, etc. Among children and adolescents, experiences of such repetitive behavior have been described with the term *bullying*, whereas the term *harassment* is usually used for the respective behavior among adults (Roberts, 2008).

Conclusively, regardless the rising research activity on bullying during the last decades, the incidence of the phenomenon has not

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increased, since it is assumed to have been stable and evident worldwide (e.g., Berger, 2007). What varies is the context in which the behavior takes place and its specific manifestation. The forms and types of the bullying behavior, as well as the used means, largely hinder on the individual characteristics of the participants (e.g., gender, age, social skills), as well as various contextual parameters. For example, in terms of individual factors, young children tend to employ more direct bullying behaviors, contrary to older children and girls (e.g., Tapper & Boulton, 2004). In terms of contextual factors, developments that affect the social behavior of people have a significant impact on the manifestation of bullying behaviors as well.

A recent development that has drastically affected the ways that individuals engage in interpersonal relationships, is the extended use of information and communication technologies. This rapid change in the communication and social interactions of people had significant effects, both positive and negative, the latter of which, also include cyber-bullying (e.g., Kowalski, Limber, & Agatston, 2008).

Generally, cyber-bullying has been viewed as a more convenient type of aggression, since cyber-bullies take advantage of the characteristics of the information and communication technologies (i.e., anonymity, infinite audience, limited adult supervision, etc). Due to its expediency, reasons for cyber-bullying involvement vary greatly, including willful and proactive aggression (Calvete, Orue, Estévez, Villardón, & Padilla, 2010), revenge, reaction to envy, prejudice and intolerance (for disability, religion, gender), shame, pride, guilt, and anger (Hoff & Mitchell, 2009; Jones et al., 2011). It has further been suggested that cyber-bullying is employed by students who cannot confront their victim face-to-face, but also by students who feel restless and seek for adventure and excitement. As Kowalski et al. (2008) state, “just as there is a variety of possible motives for engaging in traditional forms of bullying, there also is a long list of reasons why adolescents might engage in cyber-bullying” (p. 79). A key element for understanding cyber-bullying involvement is online disinhibition.¹

Computer mediated communication, especially in its earlier forms, had been regarded as a “poorer” mean of communication, due to the limited non-verbal cues it provides (Yao & Flanagan, 2006). The technological advancements, as well as more thorough investigations, led researchers to conclude that the quality and effects of online communication hinders on the richness of the used mean, the personal characteristics of the individual user, as well as the norms of the online community (Postmes & Spears, 1998; Yao & Flanagan, 2006). Although not all means of computer mediated communication are inherently impersonal, some of them provide the user with the ability of anonymity, and combined with the reduced social cues and adult supervision, they may lead young users to effects of de-individualization and aggressive behavior (Postmes & Spears, 1998; Yao & Flanagan, 2006).

People experiencing de-individuation, frequently do not act as individuals, but contrary they go along with whatever the group is doing, including negative behaviors such as cyber-bullying. Due to the absence of accountability cues, the user's concerns regarding the reactions of others are reduced (Joinson, 1998). Combined, online disinhibition and de-individuation may empower cyber-bullies to act more harshly than they might in a face to face situation. Due to the lack of physical and social cues, cyber-bullies may feel that since they are not personally confronted with the victims, they will not have consequences for their actions, thus exhibiting aggressive and impulsive behavior (Dehue, Bolmon, & Vollink, 2008).

Despite the increasing scientific attention on cyber-bullying, results of studies differ largely, mainly due to the lack of conceptual clarity regarding the phenomenon (Tokunaga, 2010; Vandebosch & Van Cleemput, 2009). Since according to most definitions, cyber-bullying is a sub-category of bullying which occurs within digital mediums

(Wong-Lo & Bullock, 2011), most studies on cyber-bullying have been mainly framed by the same theories as school bullying. Nevertheless, a significant number of researchers disputes whether cyber-bullying/victimization constitutes another type of school bullying/victimization materialized with different means, or a completely different type of aggression due to the characteristics of the information and communication technologies (anonymity, alias, etc.), with distinctive participant profiles, motives, personal characteristics, and roles. Overall, there are three main positions regarding the conceptualization of cyber-bullying/victimization: a) both cyber-bullying/victimization and school bullying/victimization constitute the same phenomenon, but are realized with different means, b) cyber-bullying/victimization is a somewhat similar phenomenon to school bullying/victimization, but only in specific aspects and under certain circumstances, and finally c) cyber-bullying/victimization is a completely distinct phenomenon from school bullying/victimization.

The debate regarding the similarities between cyber-bullying/victimization and school bullying/victimization is deemed essential, since if it is established that they constitute the same phenomenon, similar prevention and intervention practices could be applied, while on the contrary, in case of significant differences, further investigation will be required for the identification of effective practices (Bauman, 2013).

1.1. Cyber-bullying/victimization and school bullying/victimization: similar phenomena

The significant high correlations between cyber-bullying/victimization and school bullying/victimization (e.g., Hinduja & Patchin, 2008), have led some researchers to question whether these phenomena differ, while it has been suggested that a small number of students is actually involved only in cyber-bullying/victimization (Olweus, 2012). Based on large scale studies conducted in U.S.A. and Norway, Olweus states that factor analytic techniques indicate a common factor for cyber-bullying and school bullying. Similarly, Bauman and Newman (2013), found that factor analyses did not differentiate survey items in terms of cyber-bullying/victimization and school bullying/victimization but contrary in terms of type of behavior (e.g., general harassment, use of offensive language, harassment using images), a finding which, as Bauman (2010) suggests, demonstrates that cyber-bullying/victimization is in fact a variant of school bullying/victimization.

Studies concluding that students who participate in both phenomena simultaneously adopt the same role, support this argument (Dempsey, Haden, Goldma, Sivinsk, & Wiens, 2011; Katzer, Fetchenhauer, & Belschak, 2009; Kowalski et al., 2008; Pornari & Wood, 2010). For example, Twyman, Saylor, Taylor, and Comeaux (2010) found that the vast majority of cyber-bullies were simultaneously school bullies. Furthermore, students experiencing school victimization are more likely to be victims and online (Katzer et al., 2009; Kowalski et al., 2008; Pornari & Wood, 2010; Raskauskas & Stoltz, 2007; Raskauskas, 2010; Smith et al., 2008; Twyman et al., 2010).

Involvement in cyber-bullying has been found to be predicted by school bullying (Casas, Del Rey, & Ortega-Ruiz, 2013). Nevertheless, not all studies support these arguments, since other findings indicate that not all students participating in cyber-bullying have previous involvement in school bullying (e.g., Hemphill et al., 2012), while longitudinal analysis has revealed that the two phenomena have significantly less overlap than simple bivariate analyses indicate (Low & Espelage, 2013). Students' involvement in both phenomena can be linked to their problematic social skills and peer relations. According to Seepersad (2004), although computer mediated communication can have beneficiary social effects for the user, students with problematic offline relations are unlikely to experience the positive effects of the Internet. For example, students who have incompetent social skills may face even greater difficulty in interpreting others' messages when connecting to the Internet, due to the limited social cues that the computer mediated communication provides. Furthermore, similarly to

¹ A user's tendency to behave in a different manner online than s/he would normally do in a physical context (positively or negatively), due to the aforementioned ICT characteristics (Suler, 2004).

students participating in school bullying/victimization, students implicated in cyber-bullying/victimization have been found to use maladaptive coping strategies (e.g., Kokkinos, Antoniadou, Dalara, Koufoglazou, & Papatziki, 2013), have low self-esteem, and hold positive beliefs regarding aggression (e.g., Burton, Florell, & Wygant, 2013). As Riebel, Jäger, and Fischer (2009) suggest, cyber-bullying is another strategy in the repertoire of a typical bully, while results of their study indicated that cyber-bullying, and both physical and verbal school bullying have a common factor structure in terms of coping strategies.

Participants of the two phenomena have been found to share common psychological characteristics. For example, Patchin and Hinduja (2010) found that strain and anger/frustration have an influence on both types of bullying independent of each other, while other studies have indicated high levels of stress, low self-esteem and depression in both groups of participants (e.g., Aricak et al., 2008). Delinquent behavior and substance abuse, such as smoking and drinking, have been associated with both phenomena (e.g., Litwiller & Brausch, 2013; Vieno, Gini, & Santinello, 2010), while several studies have indicated suicidal behaviors in all participants (e.g., Bauman, Toomey, & Walker, 2013; Litwiller & Brausch, 2013).

1.2. Cyber-bullying/victimization and school bullying/victimization: partially related phenomena

Although several researchers support the use of a common definition for cyber-bullying/victimization and school bullying/victimization (Kiriakidis & Kavoura, 2010; Patchin & Hinduja, 2006; Vandebosch & Van Cleemput, 2008), others argue that not all cyber-bullying/victimization incidents meet the established bullying criteria (e.g., Bauman, 2010). Specifically, due to the characteristics of the information and communication technologies, the criteria of intentionality, repetition, and power imbalance are doubted. As Vandebosch and Van Cleemput (2008) remark, definitions of cyber-bullying/victimization usually consist of two elements: a) certain aspects of school bullying/victimization or even the entire definition, and b) a description of the electronic means that the bully uses. Thus, most cyber-bullying/victimization definitions refer to some aggressive, harmful behavior, carried out by one or more perpetrators using some electronic medium. The behavior is described, in some definitions, as deliberate on the part of the bully, repeated against the same victim, and characterized by power imbalance between the participants.

Although most cyber-bullies plan to cause harm to their victim (Aoyama, 2010), which in fact may be greater compared to school bullying/victimization due to the larger audience provided by information and communication technologies (Vandebosch & Van Cleemput, 2008), not all cyber-bullying/victimization acts are intended to cause harm. Cyber-bullies frequently reported that their behavior was meant as joking, while they did not believe that it had real consequences for any party involved (Englander & Muldowney, 2007). This perception may be attributed to the anonymous nature of the Internet and the absence of non-verbal social cues, which can cause a lack of awareness to the users regarding the consequences of their actions. A large scale study by Law, Shapka, Hymel, Olson, and Waterhouse (2012) confirmed that although 30% of the students reported participation in a “cyber-bullying” incident, 95% of them claimed that the act was intended as joking and not to inflict harm.

The characteristic of repetition is not always included in cyber-bullying/victimization definitions since, due to the nature of the information and communication technologies, aggressive acts can be carried out with ease and be instantly displayed to large crowd (Mishna, Cook, Gadalla, Daciuk, & Solomon, 2010; Shariff, 2005; Strom & Strom, 2005), thus rendering the repetition of the aggressive act redundant (Fauman, 2008). Consequences of such actions are difficult to control and avert, since material posted online can be easily located but difficult to delete, therefore causing equal suffering to that of continuous and repetitive acts materialized offline (e.g., Piazza & Bering, 2009). For example, an edited image that depicts the victim in an embarrassing fashion can be

instantly posted online and be seen by numerous users, or even be further disseminated (Shariff, 2005; Strom & Strom, 2005). The wide use of mobile phones with integrated cameras renders photo/video taking and sharing convenient and speedy, a feature that can be used against the victim (Piazza & Bering, 2009). Material can be easily uploaded online, but difficult to erase, while once posted it can be easily located, downloaded and forwarded by any user (e.g., Piazza & Bering, 2009). Based on these arguments, some researchers support that repetition is not always a prerequisite for cyber-bullying, since a single act may be sufficient to cause great fear and distress to the victim (Fauman, 2008). The views of students partly converge in this respect, as teenagers claim that a single negative act through information and communication technologies can be regarded as cyber-bullying, but only if school bullying has preceded (Vandebosch & Van Cleemput, 2008).

Power imbalance between the bully and the victim is a key feature of school bullying, but in the case of cyber-bullying it may be differently defined since in cyber-space it is not clear what constitutes power and who holds it. Some researchers suggest that superior information and communication technologies skills may put some students in an advantageous position (Patchin & Hinduja, 2006), but as Dooley, Pyzalski, and Cross (2009) argue, taking and disseminating pictures, or creating a fake profile in social network sites does not require advanced technological skills. Other researchers propose that the advantage of cyber-bullies may stem from their capability to conceal identity (Ybarra & Mitchell, 2004), since it minimizes their need for power superiority (Fauman, 2008). Studies verify that anonymity is an important factor for students who only participate in cyber-bullying (and not in school bullying) incidents (Vandebosch & Van Cleemput, 2008), while it is one of the characteristics that may contribute to online disinhibition (Suler, 2004). For these reasons, some researchers choose not to include power imbalance in the definition of cyber-bullying/victimization (e.g., Belsey, 2005; Kiriakidis & Kavoura, 2010).

Various published studies on cyber-bullying/victimization indicate a great discrepancy in terms of participation frequency (5% to 70% depending on the study; Suzuki, Asaga, Sourander, Hoven, & Mandell, 2012). This stark difference may be attributed to the fact that many of the reported incidents do not in fact involve cyber-bullying/victimization, but other behaviors that do not comply with all bullying criteria (e.g., Wolak, Mitchell, & Finkelhor, 2007). A review of studies regarding cyber-bullying revealed that indeed, many assessment instruments do not use the concept of cyber-bullying, but instead measure various constructs (i.e., Internet harassment), while arguing they explore cyber-bullying (Berne et al., 2013).

Wolak et al. (2007), used a telephone survey among 1500 Canadian adolescents (15–17 years) in order to investigate whether online aggression can be considered as cyber-bullying. According to the results, most online aggression incidents did not qualify all the bullying criteria. Specifically, most victims of online aggression reported that they didn't feel discomfort due to the experience, while almost half of them claimed that they were able to terminate the incident by blocking the bully, or by just ignoring him. In their vast majority, incidents of online aggression were isolated and not repetitive events, and only caused discomfort to younger users who were attacked by older bullies.

Similarly, a study of Bauman et al. (2013) revealed that victims of cyber-bullying, frequently do not report feeling “defenseless” or “embarrassed” by the incident. According to the researchers, this could be attributed to the nature of the Internet, since feelings such as embarrassment require the presence of other people in order to be felt, whereas victims of cyber-bullying are not confronted face to face with the aggressors. According to Ortega et al. (2012), there is a group of cyber-victims who claim that they have not been emotionally affected, since anonymity protects them from disturbing social emotions.

Research evidence indicates both common and unique factors for school bullying/victimization and cyber-bullying/victimization (e.g., Brighi, Guarinia, Melottia, Gallib, & Gentaa, 2012), which as

researchers suggest, this may be attributed to the fact that cyber-bullying is a general phenomenon with very different “branches”. As Ortega et al., (2012) argue, some types of cyber-bullying may be more similar to specific types of school bullying, thus rendering the comparison between the general categories (school bullying and cyber-bullying) ineffective.

For these reasons, some researchers propose either the exclusion of cyber-bullying/victimization behaviors from the bullying spectrum (and its inclusion to a broader category of “online aggression”), or only the inclusion of those incidents that comply with all the bullying criteria (e.g., Wolak et al., 2007). The inclusion of incidents that are not characterized by repetition, power imbalance, and willful pain infliction, may contribute to a false estimation of cyber-bullying incidence (Wolak et al., 2007).

1.3. Cyber-bullying/victimization and school bullying/victimization: distinct phenomena

Olweus' position regarding the insignificance of the study of cyber-bullying/victimization as a separate phenomenon was met with considerable demerit by the scientific community; some researchers claimed that its study is significant due to the high bully–victim prevalence (e.g., Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012), while others argued that it may in fact involve students who do not ordinarily participate in school bullying/victimization (e.g., McLoughlin, Meyricke, & Burgess, 2009). Regarding the participation of some students exclusively in cyber-bullying/victimization and not in school bullying/victimization, McLoughlin et al. (2009) found that, when interviewed, students described cyber-bullying as type of bullying whose participants are not only the ‘Big bullies’ (i.e., the socially or physically powerful kids in school), but other students as well, who would not dare to bully in physical settings. Ybarra, Diener-West, and Leaf (2007) found that although some overlap exists between cyber-victimization and school victimization, 64% of youth that reported being cyber-victimized online were not victimized at school. Furthermore, the rate of cyber-victimization was similar for youth who attended schools and students who were home-schooled, suggesting that cyber-victimization is not always an extension of school victimization.

The characteristics of information and communication technologies (potential anonymity, pseudonymity, asynchronous communication, power, status equalization, and lack of supervision), may in fact be responsible for participation differences between cyber-bullying/victimization and school bullying/victimization, since they may lead to uninhibited behavior that the user would not normally display offline (Suler, 2004). Therefore, by taking advantage of the information and communication technologies, some cyber-bullying/victimization participants may differ in terms of their personal characteristics from those participating in school bullying/victimization (e.g., Cooper, 2004). For example, according to Englander and Muldowney (2007), some students may bully only through information and communication technologies due to the perceived lack of consequences or their limited social skills that preclude them from bullying at school. Furthermore, as Brown, Jackson, and Cassidy (2006) suggest, cyber-bullying may be a mean of retaliation for school victimization experiences, for students who do not possess the necessary skills to react offline but acquire power through the provided anonymity of information and communication technologies or their superior technological skills (Beran & Li, 2005; Fegenbush & Olivier, 2009; Ybarra & Mitchell, 2004). For example, information and communication technologies may give users a sense of power and entitlement that they do not experience in physical settings, while anonymity may allow school victims to claim superiority over students who they perceive as more powerful in the physical setting (Beran & Li, 2005; Ybarra & Mitchell, 2004).

Research findings support the notion that students participating in cyber-bullying/victimization have unique characteristics, which could be related to the aforementioned nature of the information and

communication technologies; for example, cyber-bullies have greater moral disengagement (Wachs, 2012), lower self-esteem and greater anxiety (e.g., Yang et al., 2013). In terms of psychological effects, cyber-bullying seems to cause greater harm to the participants (anxiety, depression) (e.g., Beckman, Hagquist, & Hellström, 2013; Hay, Meldrum, & Mann, 2010), since cyber-incidents are perceived as worse due to the anonymity of the aggressor, the wider audience, the enduring nature of the written word and images, and the aggressor's ability to reach the target at any time and place (e.g., Campbell, Slee, Spears, Butler, & Kift, 2013; Sticca & Perren, 2013). Depressive symptoms and attempts of suicide are also high in the case of cyber-bullying/victimization (Chang et al., 2013; Schneider, O'Donnell, Stueve, & Coulter, 2012; Wang, Nansel, & Iannotti, 2010) and as Bonanno and Hymel (2013) note, cyber-bullying/victimization experiences contribute to depressive symptomatology and suicidal ideation over and above the contribution of involvement in traditional forms of bullying. Contrary to school bullying, participation in cyber-bullying is not related to the number of friends (Wang, Iannotti, & Nansel, 2009), but as other studies report, cyber-victims have significantly more social difficulties than school victims (Campbell et al., 2013).

The shift between the role of bully and victim may be the most significant difference between cyber-bullying/victimization and school bullying/victimization; although it is not clear which effect precedes, a vicious circle is ultimately created, since participation in one phenomenon increases the likelihood of participation in the other (Del Rey, Elipe, & Ortega-Ruiz, 2012; Mishna et al., 2012). For example, in a study by Li (2005), one third of the school victims received cyber-bullying as well, while 16.7% of them acted simultaneously as cyber-bullies. Accordingly, 30% of school bullies reported maintaining the same behavior online, while 27.3% of them were involved in cyber-bullying as bully-victims. Similarly, Gradinger, Strohmeier, and Spiel (2009) investigated simultaneous involvement in cyber-bullying/victimization and school bullying/victimization and found that most students participate in both phenomena as bully-victims, while most school bullies participated in cyber-bullying as victims.

According to Law et al. (2012), factor analytic results of the responses of 17,551 students (aged 10–18) revealed a common factor for cyber-bullying and cyber-victimization, unlike school bullying and school victimization which loaded onto two separate factors, possibly indicating that cyber-bullying/victimization frequently refers to mutual attacks. As Mishna et al. (2012) note, the high percentage of bully-victims in cyber-bullying/victimization, renders it a unique phenomenon, since it is easier for the victim to counterattack through the Internet. Gradinger et al. (2009) investigated the observed prevalence of participant roles in cyber-bullying/victimization and school bullying/victimization and found that most students participated as bully-victims in school bullying/victimization or in both phenomena, while only few were classified as school-bullies but not cyber-victims. Nevertheless, they did not find any school victims who simultaneously acted as cyber-bullies. As Gradinger et al. (2009) argue, multiple participations in bullying/victimization incidents may be related to more serious adjustment problems. That is why Seepersad (2004) proposes that when designing cyber-bullying/victimization intervention programs it is important to take into account any previous involvement of the students in school bullying/victimization, as well as the possibility that some cyber-bullying/victimization participants may differ in terms of their characteristics. Furthermore, as researchers argue, students who participate in multiple forms of bullying and victimization have more adjustment problems and it is important for schools not to overlook this fact during prevention and intervention efforts (Gradinger et al., 2009).

2. Methodological issues

Overall, although high and statistically significant correlations between cyber-bullying and school bullying and between cyber-victimization and school victimization have been found (Bauman,

2013), the simultaneous participation of students in the phenomena has not been thoroughly investigated. Thus, for the purposes of the present review, a bibliographic search was conducted in order to identify studies which examined simultaneous cyber-bullying/victimization and school bullying/victimization involvement, and have been published in peer reviewed journals. The following electronic databases were used: Cambridge Journals, HEAL-Link Library, ERIC, Informaworld, Ingenta Connect, Oxford ProQuest Research Library, Reference Online, PsycInfo, Sage, Science Direct, Scopus, Wiley Online Library, Wilson Education and Wilson Social Sciences. Keywords, as well as combinations of keywords included: *cyber-bullying*, *cyber-victimization*, *Internet bullying*, *Internet victimization*, *online bullying*, *online victimization*, *school bullying*, and *school victimization*. A time frame of seven years (2007 to 2014) was applied within the search results. Overall, the search resulted in 41 studies which are presented in descending chronological order in Table 1. The studies varied in terms of sample size (60 to 20,406 students), participants' age (10–21 years old), country of origin, assessment method, and statistical analysis. Although the findings of this selective search are not exhaustive, they are indicative of the great variability among studies, which consequently impedes an objective comparison of the results. Therefore, conclusions and generalizations regarding the simultaneous involvement of students in both phenomena should be limited to the respective target population of each study. Although there has been a significant increase in the number of studies investigating the phenomena during the last years, in most cases they are conducted with small samples and with a variety of short, purposely constructed self-report questionnaires. Only few studies were longitudinal, qualitative in nature, or conducted with large diverse samples.

Following the methods used for the assessment of school bullying/victimization, two main approaches are used for the measurement of cyber-bullying/victimization: the assessment of participation based on a global question and secondly the use of descriptive items. The use of a global question (e.g., "Have you been cyber-bullied during the last month?") may be unfit for the formation of a clear picture, since each participant may hold different views regarding what cyber-bullying is. Furthermore, global questions do not allow for distinctions between the various types of cyber-bullying. These limitations may be better overcome with the use of multiple descriptive items (Menesini, Nocentini, & Calussi, 2011).

Concurrent participation is most frequently detected through correlation, regression or factor analysis (Holfeld & Grabe, 2012), while studies that categorize students into participant roles, do not use the same classification method. As Gradinger, Stromheimer, and Spiel argue (2010), the method of classification into participant roles, the designated threshold for including a student into the "participants", as well as the reported frequency of participation in the incidents, all vary depending on the employed cyber-bullying/victimization and school bullying/victimization definition, methodology, and sample. Therefore, results cannot be easily compared and generalized. Researchers have most commonly been employing the conventional classification approach of school bullying/victimization for cyber-bullying/victimization (victim, bully, bully-victim, non-involved), based on a cutoff score for at least one item (e.g., "2–3 times a month") or a total score that exceeds a group-based standardized magnitude such as a standard deviation Schultze-Krumbholz et al. (2014). In a recently published study, Schultze-Krumbholz et al. (2014) used latent class analysis to examine subtypes of cyber-bullying involvement and found that previous classifications cannot be applied in the case of cyber-bullying/victimization, since contrary to school bullying/victimization, cyber-bullying/victimization is better described with a three class solution (non-involved, bully-victims, and perpetrators with mild victimization). The lack of a victim class may be explained, according to the researchers, by the victim's ability to counterattack the aggression, an assumption that can be supported by the identification of the "perpetrators with mild victimization" group. Based on their findings,

researchers advise to consider these classification differences when investigating cyber-bullying/victimization involvement.

Some researchers attempted to solve the aforementioned issues with the use of qualitative studies. For example, Vandebosch and Van Cleemput (2008) used focus groups in order to investigate students' views regarding the nature of cyber-bullying. Overall, the results indicated that students consider an online aggressive incident as cyber-bullying if it causes pain to the victim, if the bully is more powerful (due to the anonymity) and in some cases, if it is characterized by repetition. According to the participants, proactive aggression is not a characteristic of cyber-bullying, since in several cases school victims employ the Internet to take revenge by cyber-bullying their offenders. Furthermore, participants reported that occasionally actions perceived as cyber-bullying may actually be intended as joking on the part of the bully.

Similarly, by using semi-structured interviews, Varjas, Talley, Meyers, Parris, and Cutts (2010) found that according to high school students, cyber-bullying can be attributed to internal motives (revenge for school victimization, negative feelings against the victim, effort to improve self-concept, proactive bullying in order to avoid future victimization, new identity exploration, seeking of peer acceptance, jealousy, anonymity, online disinhibition), and external motives (lack of consequences for negative actions, not having to face the victim directly). Internal motives were overall more frequent, while contrary to the expectations of the research group, the online disinhibition effect was not a frequently reported motive.

3. Conclusions

During the last decade, an increasing scientific interest has been developed regarding the participation of children and adolescents in cyber-bullying/victimization. As Mark and Ratliffe (2011) argue, ever since cyber-bullying/victimization emerged, a debate begun regarding whether it is a different form of aggression, or a variant of school bullying/victimization.

Since the field of school bullying/victimization has a long standing history of scientific studies and efforts for the development and implementation of awareness, prevention and intervention programs, combating cyber-bullying/victimization naturally and legitimately were initiated from what was already known in the field of bullying. Nevertheless, the use of the same methods requires a precise knowledge about the similarities of the two phenomena.

Although opinions regarding their similarities vary, overall, most researchers seem to converge that cyber-bullying/victimization is not an entirely distinct phenomenon from school bullying/victimization. The two phenomena comply with the same basic bullying criteria, except for the cases in which the cyber-bullying incident is meant for joking, or does not cause discomfort to the victim. Frequently, cyber-bullying/victimization incidents are the result of previous school bullying/victimization involvement, or even an extension of school bullying/victimization, with students adopting the same participant role.

However, as studies indicate, the two phenomena have significant differences as well, which should be taken into account in terms of prevention and intervention. More specifically, existing studies indicate that: a) there is a small group of cyber-bullying/victimization participants that has no previous involvement in school bullying/victimization with this issue deserving further investigation, b) students participating simultaneously in both phenomena do not always adopt the same role, as they may have opposing or multiple roles, and c) bullying through the Internet happens with greater ease, low cost and high profit for the bully (psychological pain of the victim), which may cause additional students to participate and mutual attacks to occur between students.

Table 1

Studies examining cyber-bullying/victimization and school bullying/victimization simultaneous involvement (presented in descending chronological order).

Author (year)	Sample	Measures	Findings
Schultze-Krumbholz et al. (2014)	6260 students (M = 14.8 years) from six European countries (Poland, Spain, Italy, United Kingdom, Germany, Greece)	The European Cyber-bullying Intervention Project Questionnaire (ECIPQ; Brighi et al., 2012).	Latent class analysis indicated that different classification roles apply for CB and SB.
Bauman et al. (2013)	1491 high school students	Items from the 2009 Arizona Youth Risk Behavior Survey (YRBS; Arizona Department of Education, 2009).	Depression mediated the link between SV and suicide attempts similarly across gender, whereas depression mediated the link between CV and suicide attempts only for females. Similarly, depression mediated the link between SB and suicide attempts for females only. Depression did not mediate the link between CB and suicide attempts for either gender.
Bonanno and Hymel (2013)	399 adolescents (M = 14.2 years, grades 8–10)	10-item self-report measure adapted from measures originally developed by Olweus (1993).	Involvement in CB or CV, uniquely contributed to the prediction of both depressive symptomatology and suicidal ideation, over and above the contribution of involvement in SB. SB and CB had a similar relationship to normative beliefs about aggression and peer attachment.
Burton et al. (2013)	851 middle-school students (10–16 years, grades 6–8)	CB/V measure.	Although students who had participated in SV reported that their experience was harsher and crueler, mental health correlates revealed that CV participants reported significantly more social difficulties, and higher levels of anxiety and depression than traditional victims.
Campbell et al. (2013)	3112 students (9–19 years)	Self-report paper-based survey (as described by Campbell et al., 2013).	Multiple relations between the predictor variables of SB and CB were identified.
Casas et al. (2013)	893 secondary school students (M = 13.8 years)	ECIPQ, Spanish version (Brighi et al., 2012).	Both CB and SB and/or victimization experiences were independently associated with increased depression.
Chang et al. (2013)	2992 students (grade 10)	12 newly developed items (Chang et al., 2013).	A substantial overlap between involvement in SB and CB. The physical, psychological, and academic correlates of the two types of bullying resembled one another.
Kowalski and Limber (2013)	931 students (grades 6–12)	Participants read a definition of CB and completed a series of questions about their experiences with CB (Kowalski & Limber, 2013).	Both SB and CB were associated with substance use, violent behavior, unsafe sexual behavior, and suicidal behavior, with CB accounting for slightly more variance in all behaviors.
Litwiller and Brausch (2013)	4693 high school students (M = 16.11 years)	3 newly developed CB items.	Overlap between CB and nonphysical SB was initially found significant, but longitudinal analyses revealed less overlap since parental monitoring was associated with higher levels of CB, while nonphysical SB levels were associated with both higher family violence and lower parental monitoring.
Low and Espelage (2013)	1023 students (10–15 years, grades 5–7)	4-item CB scale based on Ybarra, Espelage, and Mitchell (2007- in Low & Espelage, 2013)	Public and anonymous scenarios were perceived as worse than private and not anonymous. Cyber scenarios were perceived as worse than traditional, although effect sizes were found to be small. CB had different predictors than SB.
Sticca and Perren (2013)	838 adolescents participated in study 1 (M = 13.7 years) and 881 adolescents in study 2 (M = 14.2 years)	Hypothetical bullying scenarios (ranked regarding their severity) were experimentally manipulated based on the medium, publicity and anonymity.	
Yang et al. (2013)	1344 students (grade 4) and their parents completed questionnaires in 2004. Two years later (grade 6), a follow-up was conducted	4-item CB/V scale.	
Beckman et al. (2012)	3820 students (13–16 years)	CB items adapted from Smith et al. (2008) and the Swedish translation by Slonje and Smith (2008).	The association with mental health was not stronger for CB than for SB.
Brighi et al. (2012)	2326 secondary schools students (11–21 years)	DAPHNE Questionnaire (Genta, et al., 2012- in Brighi et al., 2012).	Both common and unique factors of SB/V and CB/V were identified.
Dehue, Bolman, Völlink, and Pouwelse (2012)	1184 students (10–14 years)	4- item CB/V measure (Liebrand, Ijseendoorn & Van Lieshout, 1991- in Dehue et al., 2012)	Evident similarities between the different forms of bullying and victimization
Del Rey et al. (2012)	274 secondary students (11–18 years)	ECIPQ (Brighi et al., 2012).	Results indicated some overlap between SB and CB. SV predicted SB and CV, while SB predicted SV, CV and CB.
Erentaitė, Bergman, and Žukauskienė (2012)	1667 high school students (15–19 years)	7-item self report questionnaire assessing cell-phone and Internet bullying (Erentaitė et al., 2012)	35% of SB victims were also bullied in cyberspace. Adolescents who experienced verbal and relational SB, showed a higher risk of CV a year later.
Hemphill et al. (2012)	696 students (12–17 years)	CB was assessed using an item developed by the authors to be similar to the SB question.	15% of students engaged in CB, 21% in SB, and 7% in both. Both similarities and important differences emerged in the predictors of CB and SB. Only prior engagement in relational SB predicted CB.
Law et al. (2012)	Study I: 17,551 adolescents (grades 8–12) Study II: 733 adolescents (11–18 years)	The Safe Schools and Social Responsibility Survey for Secondary Students (Law et al., 2012).	Study II: adolescents did not differentiate between roles but made distinctions among the methods used for the aggressive act.
Lester, Cross, and Shaw (2012)	1745 students (12 years) and 1616 students (14 years)	2 items from the Youth Internet Survey (Ybarra & Mitchell, 2004- in Lester et al., 2012).	CV ^a wasn't an independent risk factor over and above levels of SV and SB for engagement in problem behaviors.

Olweus (2012)	Analyses were performed on three data sets which comprised of: a) 450,490 students from USA (grades 3–12), b) 9000 students from Norway (grades 4–10) and c) 2684 students from US (grades 6–8)	Revised Olweus Bullying Questionnaire (Olweus, 1996- in Olweus, 2012).	CB was a low-prevalence phenomenon, stable over time while most participants had simultaneous involvement in SB.
Ortega et al. (2012)	5862 students from Italy, Spain and England (M = 14.20 years)	DAPHNE Questionnaire (Genta et al., 2012- in Ortega et al., 2012)	A lower percentage of cyber-victims reported feeling anger compared to SB victims. Feelings of helplessness and embarrassment were infrequently reported by cyber-victims. CB through cell phone evoked the same feelings as direct SB, whereas CB through the Internet evoked the same feelings as indirect SB.
Schneider et al. (2012)	20,406 students (grades 9–12)	CB was measured with one question (as described by Schneider et al., 2012).	More students reported SB than CB, while many CB victims were also SB victims and vice versa. Psychological distress was highest among simultaneous CB and SB victims. Youth with low school performance and school attachment were more likely to be victimized with CB only.
Wachs (2012)	518 secondary schools students (11–17 years, grades 5–10)	10-item questionnaire for the assessment of bullying/victimization roles: 5 items assessed being a bully, victim, assistant, defender and bystander of SB/V and another 5 items assessed the equivalent roles for CB/V.	Students involved in CB showed greater moral disengagement. High school satisfaction emerged as a protective factor for nearly all roles, while feeling lonely, unpopular and being friendless appeared as risk factors for CV.
Kumazaki, Suzuki, Katsura, Sakamoto, and Kashibuchi (2011)	Two-wave panel study of 884 elementary, 2421 secondary, and 1003 high school students from Japan	10-item scale based on Ono and Saito (2008- in Kumazaki et al., 2011).	Having proficient ICT ^b skills increased CB in secondary students. Having good netiquette did not affect CB, but decreased SB in elementary and secondary students. In secondary and high school students, having good netiquette diminished the augmenting effects of ICT skills on CB.
Sontag, Clemans, Graber, and Lyndon (2011)	300 students (M = 12.89 years)	4-items newly developed CB/V item.	Cyber bullies reported lower levels of reactive aggression, while combined CB and SB bullies demonstrated the poorest psychosocial profile. CB and combined CB and SB victims reported higher levels of reactive aggression and were more likely to be cyber bullies.
Bauman and Pero (2010)	30 deaf and hard of hearing (HOH) students (grades 7–12) and a matched group of 22 hearing students	The modified self-report survey Student Use of Technology (Bauman, 2010).	A larger proportion of Deaf/HOH participants was involved in SB, while in the hearing group the rates were similar.
Hay et al. (2010)	424 adolescents (10–21 years)	Newly developed 3-item CV scale.	Bullying was consequential for both externalizing and internalizing forms of deviance while these relationships were in some instances moderated by sex.
Patchin and Hinduja (2010)	2000 middle schools students (grades 6–8)	CB self-assessment questionnaire (as described by Patchin & Hinduja, 2010)	Students experiencing strain were more likely to participate in both SB and CB.
Pornari and Wood (2010)	339 adolescents (12–13 years)	Peer Aggression/Victimization Questionnaire, adapted from the Direct and Indirect Aggression Scale (Björkqvist et al., 1992- in Pornari & Wood, 2010)	SB demanded a higher level of rationalization or justification and was facilitated by expectations of positive outcomes.
Raskauskas (2010)	1530 students (11–18 years)	Newly constructed 16-item text CB/V scale.	Victims of text-bullying were likely to be involved in SB. Students experiencing both SB and text-bullying reported more depressive symptoms.
Twyman, Saylor, Taylor, & Comeaux (2010)	52 students (11–17 years) involved in SB and CB were compared to 52 matched controls	Student Observation of School Bullying (Saylor, Smyth, & Twyman, 2008- in Twyman et al., 2010).	Most cyber bully/victims were also traditional bully/victims.
Vieno et al. (2010)	2667 middle and secondary school students (13–15 years)	The revised Olweus Bully/Victim Questionnaire (Olweus, 1996)	All forms of bullying were associated with smoking and drinking.
Wang et al. (2010)	7313 students (grades 6–10)	Health Behavior in School-Aged Children 2005 Survey (Roberts et al., 2009).	Cyber victims reported higher depression than bullies or bully-victims.
Grading et al. (2009)	761 adolescents (M = 15.6 years)	Newly developed 2-item CB/V scale.	More students than expected were uninvolved, school bully-victims, and combined bully-victims (SB and CB). The latter had higher risks for poor adjustment (high scores in reactive and instrumental aggression, depressive, and somatic symptoms).
Ortega, Elípe, Mora-Merchán, Calmaestra, and Vega (2009)	1671 adolescents (12–17 years)	DAPHNE Questionnaire, Spanish translation (Genta et al., 2009).	CB was less prevalent than SB. Cyber-victims reported not being bothered by the experience more frequently.
Riebel et al. (2009)	1987 students (6–19 years)	Newly developed scale, following the CB taxonomy of Willard (2006- in Riebel et al., 2009).	A significant overlap between cyber/school bullies and cyber/school victims. A common factor structure was found to underlay physical, verbal and CB in terms of coping strategies.
Steffgen and König (2009)	2070 students (12–24 years, grades 7–13)	A short-modified German version of the cyber bullying questionnaire (Smith, Mahdavi, Carvalho, & Tippett, 2006).	School bullies tended to be cyber bullies, and school victims tended to become cyber victims. Both school and cyber bullies showed a lack of empathy for others' victimization.
Wang et al. (2009)	7182 students (grades 6–10)	The revised Olweus Bully/Victim Questionnaire (Olweus, 1996- in Wang et al., 2009), with the addition of two CB items.	CB/V was less frequent than SB/V. High parental support was associated with less involvement across all forms and classifications of bullying.

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Raskauskas and Stoltz (2007)	84 adolescents (13–18 years)	Internet Experiences Questionnaire (Raskauskas & Stoltz, 2007).	Having more friends was associated with more bullying and less victimization for all forms except for CB. Students' roles in SB predicted the same role in CB. Being a victim of CB was related to being a bully at SB, but school victims were not found to be cyber-bullies.
Ybarra et al. (2007)	1588 youths (10–15 years)	Youth-reported Internet harassment (Wolak, Mitchel, Finkelhor, 2006- in Ybarra et al., 2007).	64% of youth who were harassed online did not report being bullied at school. Youth harassed online were significantly more likely to report detentions, skipping school and carrying a weapon to school.

^a CB = cyber-bullying, CV = cyber-victimization, SB = school bullying, SV = school victimization.

^b ICT = Information and Communication Technologies.

Understanding the characteristics of bullying participants is important in order to prevent and combat the phenomenon. The literature on school bullying shows that bullies most likely exhibit aggressive and impulsive behavior, hostile tendencies, as well as disregard for the feelings of others (Olweus, 1993; Smokowski & Kopasz, 2005). However, if cyber-bullying/victimization differs significantly from school bullying/victimization, then it should be expected that at least some cyber-bullying/victimization participants may have different individual characteristics, as a result of the information and communication technologies features. While some victims of school bullying are able to overcome their victimization through the Internet, some others may find, through information and communication technologies, fertile ground for counterattacks, which further perpetuates the vicious cycle of bullying-victimization (Kochenderfer & Ladd, 1997).

Results of this review indicate that although the number of studies investigating cyber-bullying/victimization participation is rising, consensus cannot still be reached regarding its similarities with school bullying/victimization. This is mainly due to the inconsistency in the methodology of the various studies, and secondly due to the multiple factors that differentiate cyber-bullying/victimization actions (i.e., anonymity and distance from the bully that can cause lack of distress, diversity of aggressive acts). Further research is required to identify sub-groups of students participating exclusively in cyber-bullying/victimization or with a different role than in school bullying/victimization, in order to investigate the factors that are related to the differentiated participation.

Several aspects could be taken into consideration in an effort to establish valid comparisons between the different forms of bullying; regarding the assessment of both phenomena, the available or newly created instruments could also include the measurement of all the criteria of bullying, in order to establish which are met in each incident (Mishna et al., 2010; Shariff, 2005; Strom & Strom, 2005). Students should be provided with examples and/or definitions of the assessed behavior in order to avoid rating non-aggressive behaviors (i.e., Internet teasing) (e.g., Wolak et al., 2007). Follow-up interviews among the students indicated as bullying participants could further advance researchers' understanding regarding the severity of cyber-bullying incidents, their compliance with the established bullying criteria and finally their relationship with school bullying (e.g., Wolak et al., 2007). Longitudinal studies could provide further insight regarding the relationship of the two phenomena and understanding regarding their initial manifestation (whether offline or online behavior precedes).

Nevertheless, the investigation of the concomitance of various forms of bullying raises theoretical issues as well, which should be initially examined for the empirical problems to be resolved. First of all, a definition of cyber-bullying which specifies the criteria according to which an incident will be included within the spectrum of the phenomenon should be established (e.g., Wolak et al., 2007). For example, for the concurrent participation to be efficiently examined, the minimum frequency of involvement in each phenomenon should be canonized on a theoretical level. Should repetition be a prerequisite

for cyber-bullying involvement, or should involvement in each phenomenon be decided based on different frequency? Since Internet teasing has not the same significance as serious aggressive behaviors (e.g., repeated offline social exclusion, threats regarding the life of the victim or physical assault), a classification should be first determined which contrasts the various types of school and cyber-bullying (Ortega et al., 2012).

Furthermore, should the two phenomena be regarded as separate behaviors or be considered as unified with scaling severity? For example, students who participate in both cyber and school bullying with similar behaviors should be regarded as participating in two distinct phenomena or in one, implemented with different means? In the case of students who participate with different roles or with different offline and online behaviors, separating the two phenomena may be of use. Theoretical approaches which view bullying behavior as integrated might be more useful for the examination of student involvement. For example, a two-dimensional continuum of bullying could be constructed which includes all relevant behaviors ranging from minor to major severity on one axis, and from distant/anonymous to physical/face-to-face bullying on the second axis. Since several offline anonymous behaviors (i.e., posting material on bulletin boards, spreading malicious comments without the victim's knowledge) have the same results as online anonymous behavior, the behavior itself may be more significant than the employed mean. Similarly, face to face threats or insults may have the same effect as online instant messaging among two users with disclosed identities.

References

- Aoyama, I. (2010). *Cyberbullying: What are the psychological profiles of bullies, victims and bully-victims?* (Unpublished doctoral Thesis) Texas, USA: Baylor University.
- Aricak, T., Siyahhan, S., Uzunhasanoglu, A., Saribeyoglu, S., Ciplak, S., Yilmaz, N., & Memmedov, C. (2008). Cyberbullying among Turkish adolescents. *Cyberpsychology & Behavior*, 11, 253–261.
- Arizona Department of Education (2009). The Youth Risk Behavior Survey (YRBS). Retrieved from <http://www.azed.gov/prevention-programs/resources/data/yrebs/>
- Bauman, S. (2010). Cyberbullying in a rural intermediate school: An exploratory study. *Journal of Early Adolescence*, 30, 803–833.
- Bauman, S. (2013). Cyberbullying: What does research tell us? *Theory Into Practice*, 52, 249–256.
- Bauman, S., & Newman, M. L. (2013). Testing assumptions about cyberbullying: Perceived distress associated with acts of conventional and cyberbullying. *Psychology of Violence*, 3, 27–38.
- Bauman, S., & Pero, H. (2010). Bullying and cyberbullying among deaf students and their hearing peers: An exploratory study. *Journal of Deaf Studies and Deaf Education*, 16, 236–253.
- Bauman, S., Toomey, R., & Walker, J. (2013). Associations among bullying, cyberbullying, and suicide in high school students. *Journal of Adolescence*, 36, 341–350.
- Beckman, L., Hagquist, C., & Hellström, L. (2012). Does the association with psychosomatic health problems differ between cyberbullying and traditional bullying? *Emotional and Behaviour Difficulties*, 17, 421–434.
- Beckman, L., Hagquist, C., & Hellström, L. (2013). Discrepant gender patterns for cyberbullying and traditional bullying—An analysis of Swedish adolescent data. *Computers in Human Behavior*, 29, 1896–1903.
- Belsey, B. (2005). Cyberbullying: An emerging threat to the “always on” generation. Retrieved from http://www.cyberbullying.ca/pdf/feature_dec2005.pdf
- Beran, T., & Li, Q. (2005). Cyber-harassment: A study of a new method for an old behavior. *Journal of Educational Computing Research*, 32, 265–277.

- Berger, K. S. (2007). Update on bullying at school: Science forgotten? *Developmental Review, 27*, 90–126.
- Berne, S., Frisen, A., Schultze-Krumbholz, A., Scheithauer, H., Naruskov, K., Luik, P., ... Zukauskienė, R. (2013). Cyberbullying assessment instrument: A systematic review. *Aggression and Violent Behavior, 18*, 320–334.
- Björkqvist, K., Lagerspetz, M. J., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior, 18*, 117–127.
- Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalizing difficulties: Above and beyond the impact of traditional forms of bullying. *Journal of Youth and Adolescence, 42*, 685–697.
- Brighi, A., Guarinia, A., Melottia, G., Gallib, S., & Genta, M. L. (2012). Predictors of victimization across direct bullying, indirect bullying and cyberbullying. *Emotional and Behavioural Difficulties, 17*, 375–388.
- Brown, K., Jackson, M., & Cassidy, W. (2006). Cyber-bullying: Developing policy to direct responses that are equitable and effective in addressing this special form of bullying. *Canadian Journal of Educational Administration and Policy, 57*, 1–35.
- Burton, K. A., Florell, D., & Wygant, D. B. (2013). The role of peer attachment and normative beliefs about aggression on traditional bullying and cyberbullying. *Psychology in the Schools, 50*, 103–115.
- Calvete, E., Orue, I., Estévez, A., Villardón, L., & Padilla, P. (2010). Cyberbullying in adolescents: Modalities and aggressors' profile. *Computers in Human Behavior, 26*, 1128–1135.
- Campbell, M. A., Slee, P. T., Spears, B., Butler, D., & Kift, S. (2013). Do cyberbullies suffer too? Cyberbullies' perceptions of the harm they cause to others and to their own mental health. *School Psychology International, 34*, 613–629.
- Casas, J. A., Del Rey, R., & Ortega-Ruiz, R. (2013). Bullying and cyberbullying: Convergent and divergent predictor variables. *Computers in Human Behavior, 29*, 580–587.
- Chang, F. C., Lee, C. M., Chiu, C. H., Hsin, W. Y., Huang, T. F., & Pan, Y. C. (2013). Relationships among cyberbullying, school bullying, and mental health in Taiwanese adolescents. *Journal of School Health, 83*, 454–462.
- Cooper, C. (2004). Cyber-bullies stalking online playground. Retrieved from <http://www.azcentral.com/families/articles/0421cyberbullies21-ON.html>Dehue
- Dehue, F., Bolman, C., Völlink, T., & Pouwelse, M. (2012). Cyberbullying and traditional bullying in relation with adolescents' perception of parenting. *Journal of CyberTherapy & Rehabilitation, 5*, 25–34.
- Dehue, F., Bolmon, C., & Völlink, T. (2008). Cyberbullying: Youngsters' experiences and parental perception. *Cyber Psychology & Behavior, 11*, 217–223.
- Del Rey, R., Elipe, P., & Ortega-Ruiz, R. (2012). Bullying and cyberbullying: Overlapping and predictive value of the co-occurrence. *Psicothema, 24*, 608–613.
- Dempsey, A. G., Haden, S. C., Goldma, J., Sivinsk, J., & Wiens, B. A. (2011). Relational and overt victimization in middle and high schools: Associations with self-reported suicidality. *Journal of School Violence, 10*, 374–392.
- Dooley, J. J., Pyszalski, J., & Cross, D. (2009). Cyberbullying versus face-to-face bullying: A theoretical and conceptual review. *Journal of Psychology, 217*, 182–188.
- Englander, E., & Muldowney, A. M. (2007). Just turn the darn thing off: Understanding cyberbullying. Retrieved from http://vc.bridgew.edu/cgi/viewcontent.cgi?article=1011&context=marc_pubs
- Erentaitė, R., Bergman, L. R., & Žukauskienė, R. (2012). Cross-contextual stability of bullying victimization: A person-oriented analysis of cyber and traditional bullying experiences among adolescents. *Scandinavian Journal of Psychology, 53*, 181–190.
- Fauman, M. A. (2008). Cyber-bullying: Bullying in the digital age. *The American Journal of Psychiatry, 165*, 780–781.
- Fegenbush, B. S., & Olivier, D. F. (2009, March). Cyberbullying: A literature review. Paper presented at the Annual Meeting of the Louisiana Education Research Association, Lafayette, USA.
- Genta, M. L., Brighi, A., & Guarini, A. (2009). European project on bullying and cyberbullying granted by Daphne II Programme. *Journal of Psychology, 217*–233.
- Genta, M. L., Smith, P. K., Ortega, R., Brighi, A., Guarini, A., Thompson, F., & Calmaestra, J. (2012). Comparative aspects of cyberbullying in Italy, England and Spain: findings from a DAPHNE Project. In Q. Li, D. Cross, & P. K. Smith (Eds.), *Cyberbullying in the global playground: research from international perspectives* (pp. 15–31). Chichester: John Wiley and Sons.
- Gradinger, P., Strohmeier, D., & Spiel, C. (2009). Traditional bullying and cyberbullying identification of risk groups for adjustment problems. *Journal of Psychology, 217*, 205–213.
- Gradinger, P., Strohmeier, D., & Spiel, Ch. (2010). Definition and Measurement of Cyberbullying. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 4* (Retrieved from <http://cyberpsychology.eu/view.php?cisloclanku=2010112301&article=1>).
- Hay, C., Meldrum, R. C., & Mann, K. (2010). Traditional bullying, cyber bullying, and deviance: A general strain theory approach. *Journal of Contemporary Criminal Justice, 26*, 130–147.
- Hemphill, S. A., Kotevski, A., Tollit, M., Smith, R., Herrenkohl, T. I., Toumbourou, J. W., & Catalano, R. F. (2012). Longitudinal predictors of cyber and traditional bullying perpetration in Australian secondary school students. *Journal of Adolescent Health, 51*, 59–65.
- Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior, 29*, 129–156.
- Hoff, D. L., & Mitchell, S. N. (2009). Cyberbullying: Causes, effects, and remedies. *Journal of Educational Administration, 47*, 652–665.
- Holfeld, B., & Grabe, M. (2012). Middle school students' perceptions of and responses to cyberbullying. *Journal of Educational Computing Research, 46*, 395–413.
- Joinson, A. N. (1998). Causes and implications of disinhibited behavior on the Net. In Gackenbach (Ed.), *Psychology of the Internet* (pp. 43–60). New York: Academic Press.
- Jones, S. E., Manstead, A. S. R., & Livingstone, A. G. (2011). Ganging up or sticking together? Group processes and children's responses to text-message bullying. *British Journal of Psychology, 102*, 71–96.
- Katzer, C., Fetschenhauer, D., & Belschak, F. (2009). Cyberbullying in chatrooms – who are the victims? *Journal of Media Psychology, 21*, 25–36.
- Kiriakidis, S. P., & Kavoura, A. (2010). Cyberbullying: A review of the literature on harassment through the Internet and other electronic means. *Family & Community Health, 33*, 82–93.
- Kochenderfer, B. J., & Ladd, G. W. (1997). Victimized children's responses to peers' aggression: Behaviors associated with reduced versus continued victimization. *Development and Psychopathology, 9*, 59–73.
- Kokkinos, C. M., Antoniadou, N., Dalara, E., Koufougazou, A., & Papatziki, A. (2013). Cyber-bullying, personality traits and coping strategies in pre-adolescent students. *International Journal of Cyber Behavior, Psychology and Learning, 3*, 55–69.
- Koo, H. (2007). A time line of the evolution of school bullying in differing social contexts. *Asia Pacific Education Review by Education Research Institute, 8*, 107–116.
- Kowalski, R. M., & Limber, S. (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health, 53*, 13–20.
- Kowalski, R. M., Limber, S. P., & Agatston, P. W. (2008). *Cyber bullying: Bullying in the digital age*. Blackwell Publishing.
- Kumazaki, A., Suzuki, K., Katsura, R., Sakamoto, A., & Kashibuchi, M. (2011). The effects of netiquette and ICT skills on school-bullying and cyber-bullying: The two-wave panel study of Japanese elementary, secondary, and high school students. *Social and Behavioral Sciences, 29*, 735–741.
- Law, D. M., Shapka, J. D., Hymel, S., Olson, B. F., & Waterhouse, T. (2012). The changing face of bullying: An empirical comparison between traditional and Internet bullying and victimization. *Journal of Computers and Human Behavior, 28*, 226–232.
- Lester, L. J., Cross, D. S., & Shaw, T. (2012). Problem behaviors, traditional bullying and cyberbullying among adolescents: Longitudinal analyses. *Emotional and Behavioral Difficulties, 17*, 435–447.
- Li, Q. (2005, April). Cyber-bullying in schools: Nature and extent of adolescents' experience. Paper presented at the annual American Educational Research Association conference, Canada: Montreal.
- Liebrand, J., IJzendoorn, H., & Lieshout, C. F. M. (1991). *Klasgenoten Relatie Vragenlijst*. Nijmegen: Vakgroep Ontwikkelingspsychologie, Katholieke Universiteit.
- Litwiller, B. J., & Brausch, A. M. (2013). Cyber bullying and physical bullying in adolescent suicide: The role of violent behavior and substance use. *Journal of Youth and Adolescence, 42*, 675–684.
- Low, S., & Espelage, D. (2013). Differentiating cyber bullying perpetration from non-physical bullying: Commonalities across race, individual, and family predictors. *Psychology of Violence, 3*, 39–52.
- Mark, L., & Ratliffe, K. T. (2011). Cyber worlds: New playgrounds for bullying. *Computers in the Schools, 28*, 92–116.
- McLoughlin, C., Meyrick, R., & Burgess, J. (2009). Bullies in cyberspace: How rural and regional Australian youth perceive the problem of cyberbullying and its impact. In T. Lyons, J. Choi, & G. Mc Phan (Eds.), *International symposium for innovation in rural education improving equity in rural education symposium proceedings* (pp. 178–186). Armidale, NSW, Australia: University of New England.
- Menesini, E., Nocentini, A., & Calussi, P. (2011). The measurement of cyberbullying: Dimensional structure and relative item severity and discrimination. *Cyberpsychology, Behavior and Social Networking, 14*, 267–274.
- Mishna, F., Cook, C., Gadalla, T., Daciuk, J., & Solomon, S. (2010). Cyber bullying behaviors among middle and high school students. *American Journal of Orthopsychiatry, 80*, 362–374.
- Mishna, F., Khoury-Kassabri, M., Gadalla, T., & Daciuk, J. (2012). Risk factors for involvement in cyber bullying: Victims, bullies and bully-victims. *Children and Youth Services Review, 34*, 63–70.
- Notar, C. E., Padgett, S., & Roden, J. (2013). Cyberbullying: A review of the literature. *Universal Journal of Educational Research, 1*, 1–9.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Cambridge: Blackwell.
- Olweus, D. (2012). Cyberbullying: An overrated phenomenon? *The European Journal of Developmental Psychology, 9*, 520–538.
- Olweus, D. (1996). *The revised Olweus Bully/Victim Questionnaire for Students*. Bergen, Norway: University of Bergen.
- Ono, J., & Saito, F. (2008). Educational psychological review about understanding and Coping with Cyber Bullying. *Senri Kinran University Bulletin, 5*, 35–47 (in Japanese).
- Ortega, R., Elipe, P., Mora-Merchán, J. A., Calmaestra, J., & Vega, E. (2009). The emotional impact on victims of traditional bullying and cyberbullying. *Journal of Psychology, 217*, 197–204.
- Ortega, R., Elipe, P., Mora-Merchán, J. A., Genta, M. L., Brighi, A., Guarini, A., ... Tippett, N. (2012). The emotional impact of bullying and cyberbullying on victims: A European cross-national study. *Aggressive Behavior, 38*, 342–356.
- Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary look at cyber-bullying. *Youth Violence and Juvenile Justice, 4*, 148–169.
- Patchin, J. W., & Hinduja, S. (2010). Cyberbullying and self-esteem. *Journal of School Health, 80*, 614–621.
- Piazza, J., & Bering, J. M. (2009). Evolutionary cyber-psychology: Applying an evolutionary framework to Internet behavior. *Computers in Human Behavior, 25*, 1258–1269.
- Pornari, C. D., & Wood, J. (2010). Peer and cyber aggression in secondary school students: The role of moral disengagement, hostile attribution bias, and outcome expectancies. *Aggressive Behavior, 36*, 81–94.
- Postmes, T., & Spears (1998). De-individuation and antinormative behavior: A meta-analysis. *Psychological Bulletin, 123*, 238–259.
- Raskauskas, J. (2010). Multiple peer victimization among elementary school students: Relations with social-emotional problems. *Social Psychology of Education, 13*, 523–539.

- Raskauskas, J., & Stoltz, A. D. (2007). Involvement in traditional and electronic bullying among adolescents. *Developmental Psychology, 43*, 564–575.
- Riebel, J., Jäger, R. S., & Fischer, U. (2009). Cyberbullying in Germany – an exploration of prevalence, overlapping with real life bullying and coping strategies. *Psychology Science Quarterly, 51*, 298–314.
- Roberts, L. (2008). Cyber-victimisation in Australia: Extent, impact on individuals and responses. *Tasmanian Institute of Law Enforcement Studies, 6*, 1–12.
- Roberts, R., Freeman, J., Samdal, O., Schnohr, C., Looze, M., Gabhainn, S., & Iannotti, R. (2009). The Health Behaviour in School-aged Children (HBSC) study: Methodological developments and current tensions. *International Journal of Public Health, 54*, 140–150.
- Sahin, M. (2012). The relationship between the cyberbullying/cybervictimization and loneliness among adolescents. *Children and Youth Services Review, 34*, 834–837.
- Saylor, C. F., Smyth, W. D., & Twyman, K. A. (2008, August). Student Observation of School Bullying (SOSB): Brief screen for bullying exposure. Paper presented at the American Psychological Association Meeting, Boston, Massachusetts.
- Schneider, S. K., O'Donnell, L., Stueve, A., & Coulter, R. W. S. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health, 102*, 171–177.
- Schultze-Krumbholz, A., Göbel, K., Scheithauer, H., Brighi, A., Guarini, A., Tzorbatzoudis, H., ... Smith, P. K. (2014). A comparison of classification approaches for cyberbullying and traditional bullying using data from six European countries. *Journal of School Violence* <http://dx.doi.org/10.1080/15388220.2014.961067>.
- Seepersad, S. (2004). Coping with loneliness: Adolescent online and offline behavior. *Cyberpsychology & Behavior, 7*, 35–39.
- Shariff, S. (2005). Cyber-dilemmas in the new millennium: School obligations to provide student safety in a virtual school environment. *Journal of Education, 40*, 467–487.
- Slonje, R., & Smith, P. K. (2008). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology, 49*, 147–154.
- Smith, P. K., Mahdavi, J., Carvalho, M., & Tippett, N. (2006). An investigation into cyberbullying, its forms, awareness and impact, and the relationship between age and gender in cyberbullying. Retrieved from <http://www.antibullyingalliance.org.uk/pdf/CyberbullyingreportFINAL230106.pdf>
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry, 49*, 376–385.
- Smokowski, P. R., & Kopasz, K. H. (2005). Bullying in school: An overview of types, effects, family characteristics, and intervention strategies. *Children and Schools, 27*, 101–110.
- Sontag, L. M., Clemons, K. H., Graber, J. A., & Lyndon, S. T. (2011). Traditional and cyber aggressors and victims: A comparison of psychosocial characteristics. *Youth Adolescence, 40*, 392–404.
- Steffgen, G., & König, A. (2009). Cyber bullying: The role of traditional bullying and empathy. In B. Sapeo, L. Haddon, E. Mante-Meijer, L. Fortunati, T. Turk, & E. Loos (Eds.), *The good, the bad and the challenging. Conference Proceedings, Vol. II*. (pp. 1041–1047). Brussels: Cost office.
- Sticca, F., & Perren, S. (2013). Is cyberbullying worse than traditional bullying? Examining the differential roles of medium, publicity, and anonymity for the perceived severity of bullying. *Journal of Youth and Adolescence, 42*, 739–750.
- Strom, P. S., & Strom, R. D. (2005). Cyberbullying by adolescents: A preliminary assessment. *The Educational Forum, 70*, 21–36.
- Suler, J. (2004). The online disinhibition effect. *Cyberpsychology & Behavior, 7*, 321–326.
- Suzuki, K., Asaga, R., Sourander, A., Hoven, C. W., & Mandell, D. (2012). Cyberbullying and adolescent mental health. *International Journal of Adolescent Medicine and Health, 24*, 27–35.
- Tapper, K., & Boulton, M. J. (2004). Sex differences in levels of physical, verbal, and indirect aggression amongst primary school children and their associations with beliefs about aggression. *Aggressive Behavior, 30*, 123–145.
- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior, 26*, 277–287.
- Twyman, K., Saylor, C., Taylor, L. A., & Comeaux, C. (2010). Comparing children and adolescents engaged in cyberbullying to matched peers. *Cyberpsychology, Behavior and Social Networking, 13*, 195–199.
- Vandebosch, H., & Van Cleemput, K. (2008). Defining cyberbullying: A qualitative research into the perceptions of youngsters. *Cyberpsychology & Behavior, 11*, 499–503.
- Vandebosch, H., & Van Cleemput, K. (2009). Cyberbullying among youngsters: Profiles of bullies and victims. *New Media Society, 11*, 1349–1371.
- Varjas, K., Talley, J., Meyers, J., Parris, L., & Cutts, H. (2010). High school students' perceptions of motivations for cyberbullying: An exploratory study. *Western Journal of Emergency Medicine, 11*, 269–273.
- Vieno, A., Gini, G., & Santinello, M. (2010). Different forms of bullying and their association to smoking and drinking behavior in Italian adolescents. *Journal of School Health, 81*, 393–399.
- Wachs, S. (2012). Moral disengagement and emotional and social difficulties in bullying and cyberbullying: Differences by participant role. *Emotional and Behavioural Difficulties, 17*, 347–360.
- Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 4*, 368–375.
- Wang, J., Nansel, T., & Iannotti, R. (2010). Cyber and traditional bullying: Differential association with depression. *Journal of Adolescent Health, 48*, 415–417.
- Willard, N. E. (2006). *Cyberbullying and Cyberthreats: Responding to the Challenge of Online Social Cruelty, Threats and Distress*. Oregon: Center for Safe and Responsible Internet Use; Eugene.
- Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Does online harassment constitute bullying? An exploration of online harassment by known peers & online-only contacts. Special Issue of the *Journal of Adolescent Health, 41*, 51–58.
- Wong-Lo, M., & Bullock, L. M. (2011). Digital aggression: Cyberworld meets school bullies. *Preventing School Failure, 55*, 64–70.
- Yang, S. J., Stewart, R., Kim, J. M., Kim, S. W., Shin, I. S., Dewey, M. E., ... Yoon, J. S. (2013). Differences in predictors of traditional and cyber-bullying: A 2-year longitudinal study in Korean school children. *European Child & Adolescent Psychiatry, 22*, 309–318.
- Yao, M. Z., & Flanagan, A. J. (2006). A self-awareness approach to computer-mediated communication. *Computers in Human Behavior, 22*, 519–544.
- Ybarra, M. L., & Mitchell, K. J. (2004). Youth engaging in online harassment: Associations with caregiver-child relationships, Internet use, and personal characteristics. *Journal of Adolescence, 27*, 319–336.
- Ybarra, M., Diener-West, M., & Leaf, P. J. (2007). Examining the overlap in Internet harassment and school bullying: Implications for school intervention. *Journal of Adolescent Health, 41*, 42–50.
- Ybarra, M., Espelage, D. L., & Mitchell, K. (2007). The Co-Occurrence of Internet Harassment and Unwanted Sexual Solicitation Victimization and Perpetration: Associations with Psychosocial Indicators. *Journal of Adolescent Health, 41*, 31–41.