Cyber and school bullying: Same or different phenomena?

Nafsika Antoniadou, Constantinos M. Kokkinos *

Department of Primary Education, Democritus University of Thrace, Greece

A R T I C L E   I N F O

Article history:
Received 29 October 2014
Received in revised form 24 May 2015
Accepted 23 September 2015
Available online xxxx

Keywords:
Cyber-bullying
School bullying
Similarities
Differences

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.

© 2015 Elsevier Ltd. All rights reserved.

Contents

1. Introduction ......................................................................................................................... 0

1.1. Cyber-bullying/victimization and school bullying/victimization: similar phenomena .......................................................................................................................... 0

1.2. Cyber-bullying/victimization and school bullying/victimization: partially related phenomena .................................................................................................................. 0

1.3. Cyber-bullying/victimization and school bullying/victimization: distinct phenomena .......................................................................................................................... 0

2. Methodological issues ........................................................................................................... 0

3. Conclusions ......................................................................................................................... 0

References ............................................................................................................................... 0

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 harassment, whereas the term bullying 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
increased, since it is assumed to have been stable and evident world-
wide (e.g., Berger, 2007). What varies is the context in which the behav-
ior takes place and its specific manifestation. The forms and types of the
bullying behavior, as well as the used means, largely hinder on the in-
dividual characteristics of the participants (e.g., gender, age, social skills),
as well as various contextual parameters. For example, in terms of indi-
vidual factors, young children tend to employ more direct bullying be-
haviors, 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 bul-
lying behaviors as well.

A recent development that has drastically affected the ways that in-
dividuals 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 disabili-
ty, 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 adven-
ture 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 & Flanagin, 2006). The techno-
logical advancements, as well as more thorough investigations, led
researchers to conclude that the quality and effects of online communi-
cation hinders on the richness of the used mean, the personal character-
istics of the individual user, as well as the norms of the online
community (Postmes & Spears, 1998; Yao & Flanagin, 2006). Although
not all means of computer mediated communication are inherently im-
personal, 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-individuation and aggressive behavior
(Postmes & Spears, 1998; Yao & Flanagin, 2006).

People experiencing de-individuation, frequently do not act as indi-
viduals, but contrary they go along with whatever the group is doing, in-
cluding 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,
Bolman, & Vollink, 2008).

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

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 character-
istics (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, Dalaras, Koufogazou, & Papatzikis, 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, & Santiello, 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; Vandelbosch & 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 Vandelbosch 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), in which fact may be greater compared to school bullying/victimization due to the larger audience provided by information and communication technologies (Vandelbosch & 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, Shakpa, 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, Cadalla, Daciuk, & Solomon, 2010; Shaffir, 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 (Shaffir, 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 (Vandelbosch & 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, Pyszalski, 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 (Vandelbosch & 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, Sourdler, 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., Bright, Guarinia, Melotita, 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 demur from 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 Mildonway (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 (Beren & 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 (Beren & 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, Haggquist, & 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, & Kiff, 2013; Sticca & Perren, 2013). Depressive symptoms and attempts of suicide are also high in the case of cyberbullying/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 cyberbullying 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,
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.

Please cite this article as: Antoniadou, N., & Kokkinos, C.M., Cyber and school bullying: Same or different phenomena?, Aggression and Violent Behavior (2015), http://dx.doi.org/10.1016/j.avb.2015.09.013
Studies examining cyber-bullying/victimization and school bullying/victimization simultaneous involvement (presented in descending chronological order).

<table>
<thead>
<tr>
<th>Author(s) (year)</th>
<th>Sample</th>
<th>Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schultze-Krumbholz et al. (2014)</td>
<td>6260 students (M = 14.8 years) from six European countries (Poland, Spain, Italy, United Kingdom, Germany, Greece)</td>
<td>The European Cyber-bullying Intervention Project Questionnaire (ECIPQ; Brighi et al., 2012). Items from the 2009 Arizona Youth Risk Behavior Survey (YRBS; Arizona Department of Education, 2009).</td>
<td>Latent class analysis indicated that different classification roles apply for CB and SB. 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. 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. 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.</td>
</tr>
<tr>
<td>Bauman et al. (2013)</td>
<td>1491 high school students</td>
<td>10-item self-report measure adapted from measures originally developed by Olweus (1993).</td>
<td></td>
</tr>
<tr>
<td>Bonanno and Hymel (2013)</td>
<td>399 adolescents (M = 14.2 years, grades 8-10)</td>
<td>CB/V measure.</td>
<td>A substantial overlap between involvement in SB and CB. The physical, psychological, and academic correlates of the two types of bullying resembled one another. 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. 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.</td>
</tr>
<tr>
<td>Burton et al. (2013)</td>
<td>851 middle-school students (10–16 years, grades 6–8)</td>
<td>Self-report paper-based survey (as described by Campbell et al., 2013).</td>
<td></td>
</tr>
<tr>
<td>Campbell et al. (2013)</td>
<td>3112 students (9–19 years)</td>
<td>ECIPQ, Spanish version (Brighi et al., 2012).</td>
<td></td>
</tr>
<tr>
<td>Casas et al. (2013)</td>
<td>893 secondary school students (M = 13.8 years)</td>
<td></td>
<td>Multiple relations between the predictor variables of SB and CB were identified. Both CB and SB levels or victimization experiences were independently associated with increased depression.</td>
</tr>
<tr>
<td>Chang et al. (2013)</td>
<td>2992 students (grade 10)</td>
<td>12 newly developed items (Chang et al., 2013).</td>
<td></td>
</tr>
<tr>
<td>Kowalski and Limber (2013)</td>
<td>931 students (grades 6–12)</td>
<td>Participants read a definition of CB and completed a series of questions about their experiences with CB (Kowalski &amp; Limber, 2013).</td>
<td></td>
</tr>
<tr>
<td>Litwiler and Brausch (2013)</td>
<td>4693 high school students (M = 16.11 years)</td>
<td>3 newly developed CB items.</td>
<td></td>
</tr>
<tr>
<td>Sticca and Perren (2013)</td>
<td>838 adolescents participated in study 1 (M = 13.7 years) and 881 adolescents in study 2 (M = 14.2 years)</td>
<td>Hypothetical bullying scenarios (ranked regarding their severity) were experimentally manipulated based on the medium, publicity and anonymity.</td>
<td></td>
</tr>
<tr>
<td>Yang et al. (2013)</td>
<td>1344 students (grade 4) and their parents completed questionnaires in 2004. Two years later (grade 6), a follow-up was conducted</td>
<td>4-item CB/V scale.</td>
<td></td>
</tr>
<tr>
<td>Beckman et al. (2012)</td>
<td>3820 students (13–16 years)</td>
<td>CB items adapted from Smith et al. (2008) and the Swedish translation by Slone &amp; Smith (2008).</td>
<td>The association with mental health was not stronger for CB than for SB.</td>
</tr>
<tr>
<td>Brighi et al. (2012)</td>
<td>2326 secondary schools students (11–21 years)</td>
<td>DAPHNE Questionnaire (Genta, et al., 2012- in Brighi et al., 2012), 4- item CB/V measure (Liebrand, Ijsendoorn &amp; Van Lieshout, 1991 - in Dehue et al., 2012)</td>
<td>Both common and unique factors of SB/V and CB/V were identified. Evident similarities between the different forms of bullying and victimization.</td>
</tr>
<tr>
<td>Dehue, Bolman, Vollink, and Pouwelse (2012)</td>
<td>1184 students (10–14 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Del Rey et al. (2012)</td>
<td>274 secondary students (11–18 years)</td>
<td>ECIPQ (Brighi et al., 2012).</td>
<td>Results indicated some overlap between SB and CB. SV predicted SB and CV, while SB predicted SV, CV and CB. 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. 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.</td>
</tr>
<tr>
<td>Erentaitė, Bergman, and Žukauskienė (2012)</td>
<td>1667 high school students (15–19 years)</td>
<td>7-item self report questionnaire assessing cell-phone and Internet bullying (Erentaitė et al., 2012).</td>
<td></td>
</tr>
<tr>
<td>Hemphil et al. (2012)</td>
<td>696 students (12–17 years)</td>
<td>CB was assessed using an item developed by the authors to be similar to the SB question.</td>
<td></td>
</tr>
<tr>
<td>Law et al. (2012)</td>
<td>Study I: 17,551 adolescents (grades 8–12) Study II: 733 adolescents (11–18 years)</td>
<td>The Safe Schools and Social Responsibility Survey for Secondary Students (Law et al., 2012).</td>
<td>Study II: adolescents did not differentiate between roles but made distinctions among the methods used for the aggressive act. CV wasn’t an independent risk factor over and above levels of SV and SB for engagement in problem behaviors.</td>
</tr>
<tr>
<td>Lester, Cross, and Shaw (2012)</td>
<td>1745 students (12 years) and 1616 students (14 years)</td>
<td>2 items from the Youth Internet Survey (Ybarra &amp; Mitchell, 2004- in Lester et al., 2012).</td>
<td></td>
</tr>
</tbody>
</table>

Please cite this article as: Antoniadou, N., & Kokkinos, C.M., Cyber and school bullying: Same or different phenomena?, Aggression and Violent Behavior (2015), http://dx.doi.org/10.1016/j.avb.2015.09.013
<table>
<thead>
<tr>
<th>Reference</th>
<th>Sample Description</th>
<th>Study Design</th>
<th>Measurement</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olweus (2012)</td>
<td>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)</td>
<td>Revised Olweus Bullying Questionnaire (Olweus, 1996–in Olweus, 2012).</td>
<td>CB was a low-prevalence phenomenon, stable over time while most participants had simultaneous involvement in SB.</td>
<td></td>
</tr>
<tr>
<td>Ortega et al. (2012)</td>
<td>5862 students from Italy, Spain and England (M = 14.20 years)</td>
<td>DAPHNE Questionnaire (Genta et al., 2012–in Ortega et al., 2012)</td>
<td>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. 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. 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 CB. Having proficient ICT 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. 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.</td>
<td></td>
</tr>
<tr>
<td>Schneider et al. (2012)</td>
<td>20,406 students (grades 9–12)</td>
<td>CB was measured with one question (as described by Schneider et al., 2012).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wachs (2012)</td>
<td>518 secondary schools students (11–17 years, grades 5–10)</td>
<td>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. 10-item scale based on Ono and Saito (2008–in Kumazaki et al., 2011).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kumazaki, Suzuki, Katsura, Sakamoto, and Kashibuchi (2011)</td>
<td>Two-wave panel study of 884 elementary, 2421 secondary, and 1003 high school students from Japan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sontag, Clemons, Graber, and Lyndon (2011)</td>
<td>300 students (M = 12.89 years)</td>
<td>4-items newly developed CB/V item.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bauman and Pero (2010)</td>
<td>30 deaf and hard of hearing (HOH) students (grades 7–12) and a matched group of 22 hearing students</td>
<td>The modified self-report survey Student Use of Technology (Bauman, 2010).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay et al. (2010)</td>
<td>424 adolescents (10–21 years)</td>
<td>Newly developed 3-item CV scale.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patchin and Hinduja (2010)</td>
<td>2000 middle schools students (grades 6–8)</td>
<td>CB self-assessment questionnaire (as described by Patchin &amp; Hinduja, 2010).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raskauskas (2010)</td>
<td>1530 students (11–18 years)</td>
<td>Newly constructed 16-item text CB/V scale.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twyman, Saylor, Taylor, &amp; Comeaux (2010)</td>
<td>52 students (11–17 years) involved in SB and CB were compared to 52 matched controls</td>
<td>Student Observation of School Bullying (Saylor, Smyth, &amp; Twyman, 2008–in Twyman et al., 2010).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vieno et al. (2010)</td>
<td>2667 middle and secondary school students (13–15 years)</td>
<td>The revised Olweus Bully/Victim Questionnaire (Olweus, 1996)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gradinger et al. (2009)</td>
<td>761 adolescents (M = 15.6 years)</td>
<td>Newly developed 2-item CB/V scale.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ortega, Elpe, Mora-Merchán, Calmaestra, and Vega (2009)</td>
<td>1671 adolescents (12–17 years)</td>
<td>DAPHNE Questionnaire, Spanish translation (Genta et al., 2009).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riebel et al. (2009)</td>
<td>1987 students (6–19 years)</td>
<td>Newly developed scale, following the CB taxonomy of Willard (2006–in Riebel et al., 2009).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steffen &amp; König (2009)</td>
<td>2070 students (12–24 years, grades 7–13)</td>
<td>A short-modified German version of the cyber bullying questionnaire (Smith, Mahdavi, Carvalho, &amp; Tippett, 2006).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wang et al. (2009)</td>
<td>7182 students (grades 6–10)</td>
<td>The revised Olweus Bully/Victim Questionnaire (Olweus, 1996–in Wang et al., 2009), with the addition of two CB items.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued on next page)
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 their initial manifestation (whether online 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/oﬄine 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


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. 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.


