Comparing factors related to School-bullying and Cyber-bullying

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Abstract

Purpose: To present a comparative summary of literature of the risk and preventative factors related to school bullying (SB) and cyber-bullying (CB), while identifying research gaps.

Background: Literature on bullying appears to disagree whether CB should be considered as a different form of bullying or as a subtype of SB. Researchers, in an attempt to understand bullying, examined in depth numerous risk and preventive factors.

Methods: Based solely on previous research papers, fourteen risk and preventative factors related to SB and likewise to CB, were selected on the basis that are most commonly indicated as strong factors in preceding works; each factor was searched for in relation to SB and CB separately, allowing a comparison of how each factor relates to SB and likewise to CB.

Conclusions: Findings present a comparative picture of the factors related to SB and CB and provide a direction in the area of factors for fellow researchers wishing to develop anti-bullying strategies in the future. As expected the present study found that some factors are similarly related to SB as to CB, and others differentiate. Details of findings, limitations and implications are further discussed.

Key words: School-bullying, Cyber-bullying, Bullying, Risk Factors, Preventive Factors.
Introduction


Huang and Chou (2010) reported that SB differs from CB, while others (Juvonen & Gross, 2008) disagreed. Apart from the difficulty to control CB (Slonje, Smith & Frisen, 2013) the use of social media and the use of electronic devices differentiate CB from SB. Particularly, one single CB act can reach the far ends of the earth in a matter of minutes (David-Ferdon & Hertz, 2007; Lenhart, Madden, Macgill, & Smith, 2007; MacDonald & Roberts-Pittman, 2010; Mark & Ratliffe, 2011; Frisen, Hasselblad & Holmqvist, 2012; Bauman & Baldasare, 2015; Harrison, 2015; Kokkinos, Baltzidis & Xynogala, 2016), while the perpetrators are often protected from the anonymity offered in cyberspace (Kraft & Wang, 2009; Jose, Kljakovic, Scheib & Notter, 2012; Bauman & Newman, 2013; Boulton, Hardcastle, Down, Fowles & Simmonds, 2014; Cross, Lester & Barnes, 2015).

Factors for the present review were selected on account of their potential to directly or indirectly be manipulated and incorporated in anti-bullying strategies. The selected factors...
were: parent connectedness, style of parenting and monitoring, sibling support, family teasing about appearance, friendship quality, empathy, self-esteem, aggression, anger, impulsivity, self-control, guilt, morality, and coping skills.

To be included in the review articles had to meet the following criteria: 1. The study was published and peer reviewed. 2. The study was written in English or translated in English. Abstracts of the peer-reviewed articles were inspected to ensure that the works met the inclusion criteria. In total this study identified 172 works that incused information about the factors examined in this review. The present paper will present a review of the literature on school bullying and cyber bullying; it will then offer a comparative discussion before considering the implications of current research findings for strategies to reduce bullying.

**School Bullying**

Research into school bullying (Roland, 2002) has identified the following categories: (a) physically harming a person or indirect forms of victimisation, including making fun of, excluding, and/or spreading rumours about a person; (b) victimisation that occurs repeatedly over time; and (c) unequal strength between victims and perpetrators (Craig, 1998; Carbone-Lopez, Esbensen & Brick, 2010). Prevalence rates differ amongst studies (Cankaya & Tan, 2011; Cambell, Spears, Slee, Kift & Butler, 2011); and vary from 12.1% for bullying behaviour (Scheithauer, Hayer & Petermann, 2006) to 43% of similar bullying tactics (Raskauskas, 2009; 2010), and up to 46.6% for victimisation (Fleming & Jacobsen, 2009).

**Family and social networks**

Family support is a protective factor for victimisation from bullying (Duong & Bradshaw, 2014); parent and children connectedness, communication, and parental involvement in children’s lives, have been extensively studied in relation to bullying.
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(Matsunaga, 2009; Loukas & Pasch, 2013; Morin, Bradshaw & Berg, 2015). However, parents are rarely involved in anti-bullying strategies (Cross & Barnes, 2014), which can pose a risk for parental unawareness (Mann, Kristjansson, Sigfusdottir & Smith, 2015). Parents’ perspectives on SB differentiates from children’s perspective (Holt, Kaufman Kantor & Finkelhor, 2009), in such a way that often parents are not aware of their children’s involvement in either perpetration or victimisation.

Wienke Totura, MacKinnon-Lewis, Gesten, Gadd, Divine… and Kamboukos (2009; 2008) advised that parents play an influential role. As supported by research by Atik and Guneri (2013), which indicated associations between low parental strictness/supervision and the likelihood of being a victim; and equally between low parental acceptance/ involvement, strictness/supervision, and the likelihood of being a bully/victim. Parental communication, involvement and monitoring are considered aspects of parenting style (Van der Watt, 2014). Broadly, literature shows that parenting styles that include support, affection and communication reduce SB perpetration and victimisation (Aslan, 2011; Rajendran, Kruszewski & Halperin, 2016). Whereas disciplinary behaviors that include psychological control (Gómez-Ortiz, Del Rey, Casas & Ortega-Ruiz, 2014) and parental psychological aggression, pose as risk factors for victimisation (Gómez-Ortiz, Romera & Ortega-Ruiz, 2016).

There has been very little research on the role of sibling support for victims of bullying (Bourke & Burgman, 2010). Regardless, Bowes et al (2010) reported that family factors, such as maternal warmth and sibling warmth, are associated with children’s resilience to bullying victimisation. Hadfield, Edwards and Mauthner (2006) reported that younger students feel that having a sibling at school is a source of support when victimised; whereas, older students believe that their younger siblings cause them difficulties at school. Elder siblings long for sibling separateness during school hours, while younger siblings
expect their older siblings to provide protection.

Sibling violence is unfortunately the least examined form of family violence (Krienert and Walsh, 2011). Hoetger, Hazen and Brank (2015) found that sibling teasing can be more common than peer bullying; with rates up to 78% for sibling victimisation and up to 85% perpetration (Skinner & Kowalski, 2013). Likewise, Tucker, Finkelhor, Turner and Shattuck (2014) reported that 15% of their sample had been victimised by both a sibling and peer; sibling victimisation was more common in childhood than adolescence and also predicted peer victimisation.Sibling aggression is a strong factor for involvement in peer bullying (Rose, Simpson & Ellis, 2016). Victimisation by a sibling significantly increases the odds of peer victimisation, and the perpetrators of sibling aggression are more likely to be both peer bullies and bully-victims (Tippett & Wolke, 2015).

Research has indicated an association between friendship quality and SB. In general, results show that friendship quality moderates children’s behavior with a tendency for externalising problems in the form of bullying, but protects them from peer victimisation (see Bollmer et al., 2005; Woods, Done & Kalsi, 2009; Kendrick, Jutengren & Stattin, 2012). Moreover, Jantzer, Hoover and Narloch (2006) indicated an association between higher levels of perceived bullying with lower levels of friendship satisfaction and vice versa. While, Mishna, Wiener and Pepler (2008) warned that when it comes to investigating friendship in relation to SB, researchers should also include SB victimisation by friends.

Individual characteristics

The relationship between empathy and bullying has been extensively studied (Smith, 2006; Singer & Lamm, 2009; Espelage, Green & Polanin, 2012; Einolf, 2012; Mitsopoulou & Giovazolias, 2015). Empathy includes: a) cognitive, which refers to the ability to identify and understand other peoples’ emotions. And b) affective, which refers to the feelings people
might experience in response to others’ emotions (Jolliffe & Farrington, 2006). In general, findings appear congruent (Muñoz, Qualter & Padgett, 2011; Ciucci & Baroncelli, 2014), and report that low empathy is associated with bullying behaviour, particularly for males (Jolliffe & Farrington, 2006). Specifically, Stavrinides et al (2010) reported that there is a negative relationship between a child’s ability to empathise, and their ability to bullying others. In terms of sex differences, the affective aspect of empathy is associated with bullying for males but not for females (Jollliffe, & Farrington, 2011; Topcu & Erdur-Baker, 2012).

Age can be a factor. Khanjani, Mosanezhad Jeddi, Hekmati, Khalilzade, … and Ashrafian (2015) found that affective empathy increases with age. A common finding amongst the studies was that victimisation is negatively associated with cognitive empathy, but not with affective empathy (Noorden, Haselager, Cillessen & Bukowski, 2015). Finally, Garandeau, Vartio, Poskiparta and Salmivalli (2016) found that making bullies feel empathy for the victim and condemning their behavior encourages desistance, but blaming the bully is ineffective and can lead to the opposite outcome.

Self-esteem as a factor for SB has been comprehensively studied (Rigby & Cox, 1996; Brito & Oliveira, 2013), but findings vary (Tsaousis, 2016). Self-esteem can be viewed as both an antecedent and a consequence of victimisation (McMahon, Reulbach, Keeley, Perry & Arensman, 2010; Drennan, Brown & Sullivan Mort, 2011). Some studies (Salmivalli, Kaukiainen, Kaistaniemi & Lagerspetz, 1999) found a stronger association for boys than girls. Others (Karatzias, Power & Swanson, 2002) found that bullies exhibit higher levels of peer self-esteem than victims, but in general categories exhibit significantly lower global self-esteem than non-involved in bullying children (O’Moore & Kirkham, 2001; Marini, Dane & Bosacki, 2006; Atik & Güneri, 2013). Literature also presents mediators in this association, such as physical appearance, body dissatisfaction (Fox & Farrow, 2009), sex
differences (Pollastri, Cardemil & O’Donnell, 2010) and high narcissism (Finaly, Fanti & Henrich, 2015).

Aggression is a strong factor in bullying (Catanzaro, 2011; Ireland & Archer, 2004; Homel, 2013; Thornton, Frick, Crapanzano & Terranova, 2013), with boys engaging more in physical aggression and girls in verbal aggression (Craig, 1998). Some studies (Roland & Idsøe, 2001) examined aggression in terms of proactive and reactive aggression, and how these aspects present an impact on SB. The findings informed that both proactive and reactive aggressiveness are related to SB perpetration, with proactive aggression showing a stronger association. However, older individuals exhibit more proactive aggression in terms of SB perpetration; while for victimisation this association is weak. In addition, Lee (2009) found that aggressive boys are likely to be rejected by peers, whereas aggressive girls are both rejected and accepted by peers (Lansu, Cillessen & Bukowski, 2013).

Although anger and aggression are often studied together (Gresham, Melvin & Gullone, 2016), nonetheless these two factors are different aspects. Anger refers to the emotion one experiences (Kashdan, Goodman, Mallard & DeWall, 2015), while aggression refers to the act (Wilkowski & Robinson, 2008; 2007). Nonetheless, like aggression, anger also is a strong predictor for perpetration (Hein, Koka & Hagger, 2015; Tanrikulu & Campbell, 2015); explicitly, the higher the anger level, the higher the likelihood of perpetration (Bosworth, Espelage & Simon, 1999). Smits and Kuppens (2005) incorporated anger as a trait and concluded that without the right coping skills, anger results in aggression (Ramírez & Andreu, 2006).

There is a direct positive link between bullying and anger (Sigfusdottir, Gudjonsson and Sigurdsson, 2010); for both perpetration and victimisation (Rieffe, Camodeca, Pouw, Lange, & Stockmann, 2012). Turner and White (2015) revealed that the highest levels of reactive aggression are observed to occur for men who are high on anger rumination, thus
more perpetration; while the lowest levels of reactive aggression are found for women low on anger rumination. Likewise, Malik and Mehta (2016) reported that male bullies experience more anger than girls, thus suggesting a strong association between anger and SB for boys.

Impulsivity in association to SB has been examined in depth (Fanti & Kimonis, 2012; Erreygers, Pabian, Vandebosch & Baillien, 2016; Chen & Chng, 2016), and the general notion is that impulsivity is a strong factor for SB perpetration (Espelage, Bosworth & Simon, 2001; Oluyinka, 2008; Holland et al, 2009) with high impulsivity being related to all forms of bullying for both genders (Jolliffe & Farrington, 2011). Lack of self control equals impulsivity (Archer & Southall, 2009). Low levels of self control in youth are also associated with the perpetration of physical and psychological bullying (Moon and Alarid, 2015).

Although other research (Chui & Chan, 2013; Chui & Chan, 2015; 2014) has indicated a negative association between perpetration and self-control, there was no association between victimisation with self-control.

Moral emotions and particularly guilt and shame have also been examined as factors associated with SB (Ttofi & Farrington, 2008; Mazzone, Camodeca & Salmivalli; 2016a; Mazzone, Camodeca & Salmivalli, 2016b). Specifically, guilt involves a sense of tension, remorse and regret over a hurtful act; while shame, is an acutely painful emotion that is typically accompanied by a sense of worthlessness and powerlessness (Menesini, Sanchez, Fonzi, Ortega, Costabile & Lo Feudo, 2003). Some research (Ahmed & Braithwaite, 2004) has found that bullies are less likely to acknowledge shame and more likely to displace it, and are also less likely to experience guilt. Whereas others (Menesini and Camodeca, 2008) have concluded that bullies do not do not experience guilt or shame in moral situations because they do not sympathise with the victim or feel responsible for the harm caused.

Although guilt is a positive and adaptive emotion, in the sense that it motivates pro-social behavior towards the victim, it can cause people to neglect the well-being of others in
their social surroundings; in repairing one relationship they may damage another (Hooge, Nelissen, Breugelmans & Zeelenberg, 2011). Such findings leave researchers indecisive whether they should enhance guilt and shame in terms of SB intervention strategies. For example, Ahmed and Braithwaite (2012) informed that shame management is supposed to be part of the healing process, which is a goal in restorative justice. Similarly, Olthof (2012) informed that guilt is positively related to pro-social behavior, while less guilt is associated with increased age and it found that only in the presence of adults is shame is negatively related to antisocial behavior and positively to outsider behavior.

Moral disengagement is associated with SB perpetration (Hymel & Bonanno, 2014; Sims-Schouten, 2015); however, guilt and shame are not the only emotions that constitute our moral values (see Horton, 2011; Price, 2012; Menesini, Nocentini & Camodeca, 2013; Pozzoli, Gini & Vieno, 2012; Thompson, 2013). Obermann (2011) revealed that both self-reported and peer-nominated bullying associate to moral disengagement and that both pure bullies and bully-victims display higher moral disengagement than non-involved in bullying children; whereas, Perren and Gutzwiller-Helfenfinger (2012) indicated that a lack of moral values and a lack of remorse predicts both SB and CB. Others (Caravita, Gini & Pozzoli, 2012) showed that acceptance of moral transgression and moral disengagement is associated to SB among early adolescents only, with moral disengagement in childhood relating to defending among girls. Moreover, it is possible that popular children bully others and perceive their actions as a reward leading to high-perceived popular status (Kollerová, Janošová & Říčan, 2015). Similarly, Thornberg and Jungert (2014) who added the effect of gender and age, suggested that compared to girls, boys express significantly higher levels of moral justification, euphemistic labeling, diffusion of responsibility, distorting consequences, and victim attribution; with younger children and girls being more likely to defend victims.
Coping skills

For this factor, the general notion in literature is that that emotionally oriented coping strategies create higher risk for victimisation, and problem-solving strategies protect them (Baldry & Farrington, 2005; Konishi & Hymel, 2009; 2008). Victims use mostly problem-focused coping strategies, with boys using externalising strategies with greater frequency than girls, and girls seeking social support more often than boys (Hunter & Boyle, 2004; Tenenbaum, Varjas, Meyers & Parris, 2011; Garnett, Masyn, Austin, Williams & Viswanath, 2015; Ramirez, 2013). Polan, Sieving and McMorris (2013) informed that of social-emotional skills indicators, interpersonal skills and stress management skills demonstrate significant bivariate relationships with each of the bullying and violence outcomes; whereas, greater interpersonal skills and greater stress management skills are significantly associated with lower odds of violence involvement. The latter finding presenting greater stress management skills as a protective factor for involvement in violence is of great importance. Goldsmid and Howie (2014) suggested that distress predicts higher levels of victimisation. In terms of perpetration only, Trémolière and Djeriouat (2016) revealed that a sadistic personality trait predicts minimisation of the importance of causal mechanisms to harmful consequences in moral judgment.

Cyber Bullying

CB emerged with the evolution of technology and children’s access to cyberspace (DePaolis, & Williford, 2015) and has equally severe consequences as SB (Agatston, et al., 2007). CB definition has taken many forms (Cesaroni, Downing & Alvi, 2012); the most common classification presents CB as purposefully and repetitive harming others through electronic devices (Rigby, 2002; Hinduja & Patchin, 2008; Pepler, Jiang, Craig & Connolly, 2008; Turan, Polat, Karapirli, Uysal & Turan, 2011; Mura, Topcu, Erdur-Baker &
Prevalence rates vary (Rivers & Noret, 2010; Mishna, Cook, Gadalla, Daciuk & Solomon, 2010; Rigby & Smith, 2011; Chang, Lee, Chiu, Hsi, Huang & Pan, 2013; Messias, Kindrick & Castro, 2014; Hemphill, Kotevski & Heerde, 2015) with some studies (Modecki, et al., 2014) reporting rates up to 31.5% for cyber perpetration and up to 56.2% for cyber victimisation.

Family and social networks

In terms of the association between parent-child connectedness, communication and parents’ involvement in children’s lives and CB, research is still ongoing (Cross et al., 2015). Nonetheless, studies indicate that parental monitoring (Low & Espelage, 2013; Spies Shapiro & Margolin, 2014) can potentially affect CB levels. Particularly, Khurana, Bleakley, Jordan and Romer (2015) informed that parental monitoring through communication and efforts to regulate specific forms of Internet use were associated with reduced rates of CB. Likewise, Fousiani, Dimitropoulou, Michaelides and Van Petegem (2016) revealed that parental psychological control directly predicts CB, and parental autonomy support is associated with lower levels of CB. However, parental monitoring does not necessarily prevent CB perpetration (Floros, Siomos, Fisoun, Dafouli & Geroukalis, 2013).

There is little research on the relationship between parenting style and CB. Authoritative Internet parenting style is the most common, followed by permissive, authoritarian, laissez-faire Internet parenting style, and finally a mixed Internet parenting style, which combines both authoritative and permissive style (Valcke, Bonte, De Wever & Rots, 2010). Kokkinos, Antoniadou, Asdre and Voulgaridou (2016) found the following order of popularity: democratic, indulgent, neglectful, and last authoritative parenting style. This study also showed that children of democratic parents have significant higher scores in safe Internet use, and are thus more protected from CB. Non-democratic parenting aspects
including psychological control tend to predict CB; while on the contrary, parental autonomy support decreases the likelihood of CB (Fousian et al., 2016). Lastly, Leung and Lee (2012) showed a significant and negative bivariate relationship between strictness and internet addiction; meaning that the stricter the parenting and the more involved the style, the lower the likelihood of the adolescent’s Internet addiction, and therefore more protection from CB.

Parenting styles change with children’s age (Özgür, 2016) towards the laissez-faire approach. Additionally, children today have unlimited access to new technological advances, thus in a way the use of technology comes naturally. On the other hand, parents can struggle to keep up with the latest technological devices, which essentially make it more difficult to understand risk and so protect their children from CB (Cassidy, Brown & Jackson, 2012). In contrast to SB, there are insufficient studies on the relationship between siblings and CB; Possibly because the phenomenon is extremely low (Tanrikulu & Campbell, 2015). In general, Knopf (2015) found family connectedness, support and warmth were protective factors.

Literature on CB in relation to friendship quality, connectedness and communication, is limited (Nilan, Burgess, Hobbs, Threadgold & Alexander, 2015). Regardless, one study indirectly investigated this association, and reported a statistically significant association between CB victimisation and internalising problems (Aoyama, Saxon & Fearon, 2011). It also concluded that although peer support moderates victimisation and perpetration behavior in terms of SB, no such association is proven for CB.

**Individual characteristics**

As with SB, the association between empathy and CB appeared is well recorded; Ang and Goh (2010) reported that both boys and girls with low affective empathy and low cognitive empathy score higher on CB than those with high cognitive empathy. Others
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(Topcu & Erdur-Baker, 2012) found that the combined effect of affective and cognitive empathy mediates the gender differences in CB. Some articles (Brewer & Kerslake, 2015; Del Rey, Lazuras, Casas, Barkoukis, Ortega-Ruiz, & Tsorbatzoudis, 2016) reported that low empathy is a significant individual predictor of CB perpetration. However, studies found that empathy was not a strong predictor for either CB perpetration or victimisation (Athanasiades, Baldry, Kamariotis, Kostouli and Psalti, 2016). Barlińska, Szuster and Winiewski (2013) found that empathy diminishes the likelihood of negative bystander behavior, and individuals with high affective empathy provide more support to CB victims (Machackova & Pfetsch, 2016). Finally, some anti-CB strategies that use empathy as a tool for CB reduction report promising results (Schultze- Krumbholz, Schultze, Zagorscak, Wölfer & Scheithauer, 2016; 2015).

Research on the association between CB and self-esteem revealed that both victims and perpetrators of CB have significantly lower self-esteem than those who have little or no experience with CB (Patchin & Hinduja, 2010; Cénat, Hébert, Blais, Lavoie, Guerrier & Derivois, 2014). However, other studies (Robson & Witenberg, 2013) found no association between self-esteem and CB. Brewer and Kerslake (2015) showed that the combination of loneliness, empathy and self-esteem predicted CB victimisation and perpetration; and indicated that self-esteem is also a significant individual predictor of CB victimisation and perpetration.

A number of studies have examined the relationship between aggression and involvement in CB has been examined (for example see Casas, Del Rey & Ortega-Ruiz, 2013; İçellioğlu & Özden, 2014; Rafferty & Vander Ven, 2014; Runions & Bak 2015). Research (Ang et al., 2011; Burton, Florell & Wygant, 2013) reported a significant and positive association between normative beliefs about aggression and CB. Whereas Pyżalski (2012) reported that 39% of adolescents electronically attack young people they meet in
school or in the place where they live, but not their close friends; 16.9% would be a former romantic partner; 15.9% would attack groups of people; boys attacking more frequently groups or ideas; finally, girls attack more often young people they know offline (but not close friends) and former romantic partners. When distinguishing between proactive and reactive aggression in relation to CB, Ang et al. (2014), informed that proactive aggression is positively associated to CB, while reactive aggression and CB have no significant association.

When compared with SB there has been relatively less research on the association between anger and CB. Lonigro, Schneider, Laghi, Baiocco, Pallini and Brunner (2015) found that the outward, explosive expression of anger appears to be common among cyber-bullies. Whereas, Aricak and Ozbay (2016) informed that individual difficulties to identify feelings (alexithymia) such as anger, could explain the increase in CB victimisation and perpetration. A study by Ak et al., 2015 indicated that the inability to appropriately express anger could increase the potential for cyber-victims to subsequently bully others as a form of revenge. There are gender differences; males who direct their anger inward are more likely to become cyber-bullies than females, and males who are victimised online are more likely to express their anger outward.

Impulsivity also appears associated with CB (Fanti, Demetriou & Hawa, 2012), particularly for males. For example, Workman (2012) suggested that impulsive behaviour is associated with cyber-smearing as a result of limited self-control, and vengefulness. However, impulsivity can often be a temporary characteristic of people when engaging for the first time in cyberspace; particularly, young individuals could behave in a careless and impulsive way when they access cyberspace for the first time (Korenis & Billick, 2014).

Internet users need self-control to avoid cyber addiction (Catanzaro, 2011). Studies on CB (Vazsonyi, Machackova, Sevcikova, Smahel & Cerna, 2012) have demonstrated indirect
effects of low self-control behaviour; such as for perpetration low self-control shows a moderate effect on offline bullying perpetration, which is linked to CB perpetration, but for victimisation the effect appears weaker. Likewise, Marcum, Higgins, Freiburger and Ricketts (2014) concluded that both males and females with lower levels of self-control are more likely to participate in CB by posting hurtful messages or pictures to Facebook, implying that low self-control is a significant predictor for CB perpetration (Li, Holt, Bossler & May, 2016; You & Lim, 2016).

Moral disengagement and CB perpetration are associated (Perren & Gutzwiller-Helfenfinger, 2012; Sticca, Ruggieri, Alsaker & Perren, 2013). Studies (Menesini et al. 2013; Wang, Lei, Liu and Hu, 2016) have revealed that adolescents with a high moral disengagement report significantly higher scores of CB than those with low moral disengagement. Robson and Witenberg (2013) concluded that moral disengagement and the specific practices of diffusion of responsibility and attribution of blame predict CB. Finally, it was advised (Talwar, Gomez-Garibello & Shariff, 2014; Harrison, 2015) that research on CB and morality or moral values, must be further explored, especially, the aspect of how morals impact upon children’s perceptions of CB. In regard to proportioning blame (Weber, Ziegele & Schnauber, 2013) showed that people frequently attribute more responsibility for a CB incident to the victim when the victim is overly extravert, rather than blaming the bully.

**Coping skills**

The association between CB and coping strategies, is much less researched in comparison to SB. Only one article was identified, and findings suggest that CB victims commonly use reactive coping, preventive coping, and thinking that there is no way to prevent CB (Parris, Varjas, Meyers & Cutts, 2012; 2011). In terms of reactive techniques, the
latter study reported four coping strategies: avoidance, acceptance, justification, and seeking social support.

Relevance of the literature for bullying strategies

Researchers are focused on risk and preventive factors for both victimisation and perpetration of SB and CB. In terms of factors, literature indicates that generic background factors, environmental, and personality play a role in both SB and CB (Connolly & Beaver, 2014). However, influential factors regarding SB and CB can be divided into two groups: First, risk factors that cannot be purposively manipulated for anti-bullying strategies, such as: age (Sourander Helstelä, Helenius & Piha, 2000); gender (Newman, Woodcock & Dunham, 2006); race/ethnicity (Fox & Stallworth, 2005); country of origin (Eslea & Mukhtar, 2000); religion (Dupper, Forrest-Bank & Lowry-Carusillo, 2015; 2014); sexual orientation (Russell, Day, Ioverno & Toomey, 2016); disabilities (Vickers, 2009); mental health (Gruber & Fineran, 2008); and physical health (Kowalski & Limber, 2013). Second, factors that were concentrated on for the current review, which can be purposively manipulated for anti-bullying strategies use, such as: parent connectedness, style of parenting and monitoring, sibling support, family teasing about appearance, friendship quality, empathy, self-esteem, aggression, anger, impulsivity, self-control, guilt, morality, and coping skills/strategies.

Family and friends

Parent connectedness and communication can act as both a protective and risk factors for SB and CB. For SB parental overprotectiveness is a risk factor for victimisation, and lack of parental warmth is a risk factor for perpetration (Wienke et al., 2009; 2008). Parents who closely monitor their child’s online activity reduce the opportunity for victimisation (Spies et
However, psychological control can lead to an increase in children engaging in CB victimisation (Fousiani et al., 2016). In general, if parents maintain a supportive close relationship based on communication and healthy monitoring, then the likelihood of engagement in both SB and CB decreases.

This relationship is linked to the parenting style (Van der Watt, 2014). A supportive parenting style reduces victimisation and perpetration for SB (Aslan, 2011; Rajendran, Kruszewski & Halperin, 2016). Similarly, democratic parenting styles have significantly higher scores for safe Internet use, which protect from CB (Kokkinos et al., 2016). Psychological control and punitive parenting are risk factors for victimisation for both SB and CB (Gómez-Ortiz et al., 2014; Fousiani et al., 2016; Gómez-Ortiz et al., 2016). However, in the case of CB parental style and control decreases as a child ages, thus increasing risk (Özgür, 2016).

Perhaps surprisingly, the literature on the role of sibling support and bullying is scarce. Studies that do exist suggest that siblings can also act as a protective factor for both SB and CB. Younger children seeking and expecting support from their older siblings when victimised at school; whereas older siblings see the same relationship as a responsibility charged with by parents and in many cases as an unwanted burden (Hadfield et al., 2006). Results appeared similar for both SB and CB, implying that sibling support and family support in general functions as a preventive factor for both forms of bullying (Knopf, 2015). Siblings are not always the source of support, but the source of victimisation as well (Skinner & Kowalski, 2013); however, limited attention has been paid to this field (Krienert & Walsh, 2011). On the contrary, CB and sibling teasing/bullying appears unrelated (Tanrikulu & Campbell, 2015). As a conclusion, it is apparent that future research must pay more attention to sibling bullying, both for SB and CB.

Friendship quality, communication and connectedness have a relationship to SB
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perpetration and victimisation and can be a protective factor (Bollmer et al., 2005; Kendrick et al., 2012; Woods et al., 2009). Although limited, studies did not find that this was the case for CB (Aoyama et al., 2011; Nilan et al., 2015).

**Individual factors**

Empathy is amongst the most well studied factors in relation to SB. It appears that results are more consistent for SB, than CB. Both SB and CB show an association with low empathy, but the affective component appears more associated with SB (Stavrinides et al., 2010). The results indicate that individuals with both components of low empathy engage in more CB; however, they remain inconclusive (Ang & Goh, 2010; Brewer and Kerslake, 2015; Athanasiades et al., 2016). A possible explanation could be the fact that it would require encountering the victim face to face or witnessing the consequences of victimisation in order to understand the victim’s emotions, which is possible at school, but not as feasible in cyberspace. In general low empathy appears associated with perpetration and particularly for males (Jolliffe, & Farrington, 2011; Topcu & Erdur-Baker, 2012).

Like empathy, literature on self-esteem as a factor for SB is extensive (Rigby & Cox, 1996; Brito & Oliveira, 2013) and diverse (Tsaousis, 2016), presenting self-esteem both as a factor and a consequence of SB (McMahon et al., 2010; Drennan et al., 2011). Again, this association appears stronger for boys than girls (Salmivalli et al., 1999), with bullies exhibiting higher self-esteem than victims (Karatzias et al., 2002). However, both bullies and victims exhibiting lower self-esteem than unengaged individuals in SB (Atik & Güneri, 2013), and girls only in the pure bully and bully/victim groups exhibiting significant increases in self-esteem over time (Pollastri et al., 2010). Literature shows that both SB and CB have an impact on both victims’ and perpetrators’ self-esteem, but self-esteem as a factor is clearly influential for SB while for CB findings are more incongruent.
Aggression is also one of the main risk factors for SB perpetration (Thornton et al., 2013). Particularly, reporting physical aggression for boys, and verbal aggression for girls (Craig, 1998). Those who examined aggression in terms of proactive and reactive aggression reported that both proactive and reactive aggressiveness are related to SB perpetration, with proactive having the lead in this association (Roland & Idsoe, 2001). Only proactive aggression seemed associated to CB (Ang et al., 2014). Therefore, the conclusion is that there are similarities between SB and CB in terms of aggression, particularly regarding proactive aggression. If an individual is determined to initiate events that exhibit aggressive behaviour, then inevitably he/she will be involved in SB or CB, depending where the proactive aggressive behaviour is taking place.

Anger is also a strong predictor of perpetration of SB and CB (Tanrikulu & Campbell, 2015), and as a predecessor of aggression (Ramírez & Andreu, 2006). Specifically, for males the higher the anger levels the higher the likelihood of perpetration (Bosworth et al., 1999), and victimisation (Rieffe et al., 2012). There are fewer studies on anger and CB; nonetheless, CB victimisation is positively associated with anger when expressed, and particularly for males associated with CB perpetration when internalised (Ak et al., 2015). Explosive expression of anger (Lonigro et al., 2015) and alexithymia of anger (Aricak & Ozbay, 2016) are commonly found in CB bullies.

Another common finding in the literature is the relationship between impulsivity and SB perpetration (Oluyinka, 2008) and victimisation (Jolliffe & Farrington, 2011) and CB (Fanti et al., 2012), particularly for males. Explanations differ, some authors (Workman, 2012) suggest that impulsivity is a result of low self-control, and others found it to be a temporary characteristic for the-first-time Internet users and those seeking revenge (Korenis & Billick, 2014). Low self-control is also associated to SB perpetration (Moon & Alarid, 2015), and in a limited sample of children with ADHD victimisation (Unnever & Cornell,
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Low self-control can have both indirect (Vazsonyi et al., 2012) and direct (Marcum et al., 2014; You & Lim, 2016) effects on CB.

Low guilt is associated with SB perpetration (Menesini & Camodeca, 2008), bully-victims are more guilt-prone compared to bullies (Ahmed & Braithwaite, 2012), and guilt increases with age (Olthof, 2012). Perhaps age mediates this relationship and thus we see SB bullying decreasing with age. On the contrary, literature on guilt and CB is scarce, clearly indicating a gap in research; nonetheless, a high level of moral disengagement is significantly associated with CB perpetration (Wang et al., 2016), thus implying that since guilt is among the moral emotions, then low guilt would be associated to CB perpetration. However, it must be acknowledged that guilt comes with witnessing consequences; experiencing guilt because of CB perpetration is not always feasible.

Moral disengagement is associated with both forms of bullying (Sims-Schouten, 2015), but more research is needed for CB. In regard to SB, findings showed that bullies and bully-victims exhibit higher moral disengagement than non-involved in bullying children (Obermann, 2011). In addition, a lack of moral values and remorse predict both SB and CB (Perren & Gutzwiller-Helfenfinger, 2012). Although the need for further research has been identified, moral disengagement and CB perpetration appear to be positively associated (Sticca et al., 2013).

Coping Strategies

Coping strategies, including minimisation, are directly relevant to interventions. However, research has found that although that problem-solving strategies protect young people from bullying, emotionally oriented coping strategies put young students at higher risk for victimization (Baldry & Farrington, 2005). Gender differences have again been found (Garnett et al., 2015), with boys using externalising strategies with greater frequency than girls, and girls seeking social support more often than boys. It should be noted that individual
confounding variables, such as personality type can impact on the effectiveness of coping strategies and associated interventions (Trémolière & Djeriouat, 2016).

Only one article was found on CB (Parris et al., 2012; 2011); which informs that CB victims commonly use reactive coping, preventive coping, and thinking that there is no way to prevent CB, while indicates that these strategies rarely benefit victims. As a conclusion, more research is needed for CB in order to see if the same factor relates similarly to CB as to SB. Nonetheless, the assumption is that minimising a hurtful even as a perpetrator must be much easier in CB events than SB evens, since perpetrators do not have to encounter the consequences of their actions in a real-life environment.

Discussion

As a general comment and noteworthy observation about previous literature and findings, are the contradictions and conflicting results found amongst the studies included in this review. The most logical reason for the conflicting results is probably the definition of bullying. Hellstrom et al (2015) informed that there is differentiation between adolescents’ and researchers’ understanding of the definition of bullying; as a consequence this differentiation in perception often leads to inconsistencies or contradictions in research (Cowan, 2012). Therefore, taking into account the number of examined studies, the differentiation between samples used for each study, the variation of the definition and perception of bullying used in each study; variation of the term bullying (including SB & CB) between researchers and participants; provides a deeper understanding of why results appear contradictory.

Limitations
Some limitations of the present review must be acknowledged, starting with the fact that it would be impossible to include findings from all previous empirical projects in one single paper that describes all dynamic risk factors. It is recommended that fellow researchers use this paper mainly as a direction for focusing in their area of interest related to SB and SB, including the examined factors. This review examines factors that are most commonly mentioned in literature; it is likely that factors not examined in this study, are associated to SB, and likewise to CB in a similar manner. In addition, factors such as age, gender, and in general background factors were not included in this review, simply because such factors cannot be altered or manipulated. In the case that background factors present a strong effect on SB and/or CB, anti-bullying methodologies must flexible to accommodate age range or gender. Although, excluding confounding or static factors from this review presents a limitation, nonetheless, their exclusion serves also as strength for this study because it focuses on factors that researchers can use for interventions.

Methodological information (e.g. sample characteristics, background characteristics, tools and scales used for these studies etc.) of the examined works were excluded from this review. The main aim was to present a general summative aggregative and informative picture of the associated to SB and CB factors, rather than focusing on the methodological details related to each study.

Conclusion

This article provides a direction and a summative picture of research regarding SB, CB, and related factors, while also indicating important gaps in previous research. The review can inform those developing anti-bullying strategies to gain a first understanding of which factors relate to SB and to CB. In addition, by identifying research gaps this study presents the opportunity to fellow researchers to focus on their area of interest that contain
the gap and assist in understanding and dealing with SB and CB. This review can be thought of as a compass for fellow researchers and particularly those new to the field, which provides an aggregative picture of the differences between SB and CB in terms of risk and preventive factors.

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