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A review of cyberbullying and suggestions for online psychological therapy

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ABSTRACT

Investigations of cyberbullying are beginning to emerge in the scientific literature because of their implications for child and adolescent development. In particular, cyberbullying victimisation has been associated with similar negative consequences to traditional or face-to-face bullying such as lower academic achievement, anxiety, and sometimes even suicide. Research has also started to emerge investigating the impact of such incidences on the life of adults. The literature in this area has been steadily growing over the last decade and this review highlights the current situation in terms of relevant features and the psychological impact on victims. The selection process consisted of a comprehensive search that was conducted in January 2015 in the following databases: PsychInfo, ERIC, Web of Science and Medline. A total of 19 papers were included. We conclude with suggestions for online psychological treatment for victims and bullies as a means of coping with the distress caused from cyberbullying experiences.

The Internet has provided us with infinite more possibilities than ever before. Information, education, games, and social interactions can be easily accessed at any time or place by simply going online. These possibilities are generally considered advantageous for most people today, allowing them to access knowledge at a much faster rate than previous generations. However, despite the wide breath of opportunities the Internet has to offer, there has been concern about the potential for abuse (Slonje et al., 2013). Recently, new means to harass others has emerged in tandem with the widespread availability of online socialising and researchers across the globe are concerned about the psychological impact on Internet users.

In a similar manner to traditional bullying (or face-to-face bullying including physical, verbal and relational bullying), cyberbullying is believed to have negative consequences for the psychological, social and physical health of both the bullies and victims involved (Bauman et al., 2013; Tokunaga, 2010). In general, ambiguous laws and rapid developments in information and communication technology (ICT) devices have let this social risk go largely unnoticed for an extensive period of time (Hinduja and Patchin, 2011; Stewart and Fritsch, 2011). The word 'cyberbullying' did not even exist a decade ago (Notar et al., 2013) and only recently have studies began to investigate its impact and recognise it as a significant social problem. Despite the youth of this research, area some literature reviews have emerged that describe the phenomenon in terms of its definition, effects, and intervention strategies (Cassidy et al., 2013; Kiriakidis and Kavoura, 2010; von Marées and Petermann, 2012). For example, one recent meta-analysis conducted by Kowalski et al. (2014) used the general aggression model (GAM) as a framework to consider the problematic behaviour and found that normative beliefs regarding aggression and moral disengagement were associated with cyberbullying perpetration.

The current article presents an up-to-date review of the available literature on cyberbullying, in terms of relevant features and the psychological impact on victims of all age groups. In addition, we will discuss the existing interventions and prevention strategies currently available and purpose online access to psychological treatment as a potentially efficient way to coping with the associated distress. There are relatively few studies in this area and even less that have proposed interventions which deal specifically with the alleviation of psychological symptoms for many individuals, regardless of age.

1. What is cyberbullying?

Olweus (1991, 1993) described bullying behaviour as occurring when a student is repeatedly exposed to negative actions by another person(s), creating an imbalance in power between the perpetrator and victim. However, this definition is limited to school samples and traditional bullying behaviours such as physical threats (punching, kicking and hitting), verbal (e.g., name calling) and/or psychological relational bullying (e.g., peer exclusion). More recently, Tokunaga (2010)

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proposed the following definition of cyberbullying "*any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others*" (p. 278).

Despite the recent emergence of investigations of cyberbullying, cross-national comparisons are still lacking, as is a consensus on its definition (Tokunaga, 2010; Kiriakidis & Kavoura, 2010). A range of other terms has been used to describe the phenomenon including: cyberharassment, cybervictimisation, online harassment and electronic bullying (Beran et al., 2012; Brown et al., 2014; Fenaughty and Harré, 2013; Ybarra, 2004; Ybarra et al., 2007; Ybarra and Mitchell, 2004), while others have labelled these as types or forms in which to bully (Notar et al., 2013). In addition, some studies consider a cyberbullying incident as any action that happens once and does not consider the repetitive aspect that is essential to the definition (Grigg, 2010). Furthermore, although an individual might only engage in one act of cyberbullying, this could be repeatedly viewed online and raises the question of whether or not this should be considered repetitive bullying (Slonje et al., 2013).

Despite its various identifications, the emergence of cyberbullying has been mainly attributed to rapid developments in ICT and the extensive penetration of internet devices by teenagers and school aged children (Cassidy et al., 2013). This increased usage of ICT as a means of communication through phones, tablets and laptops, has created a situation where there is a "digital divide" (Pearce et al., 2011) between younger generations and their elders. Means, methods and 'locations' (e.g., social networking site) of bullying incidents are considered new to an older generation and often parents are unaware of the dangers of technology for their children (Dehue et al., 2008). There are a growing number of social networking sites such as Facebook and Twitter, as well as chatrooms and email. Furthermore, new apps for mobile phones are emerging at an increasing rate that some adults may not be aware of. For example, *snapchat* is a photo messaging application that allows people to send each other text messages or videos that are automatically deleted after viewing. However, this is not always the case and it is possible to save the picture/video and use it again to subsequently harass someone.

One of the main distinguishing factors of cyberbullying is the anonymity of the crime, which can be executed in front of a large audience and at the same time, allow the perpetrator to remain unidentified (Sticca and Perren, 2013; von Marées and Petermann, 2012). This is a crucial element of cyberbullying, which can be detrimental to the victim, and encourage a sense of inhibition for the bully, as there is a greater likelihood that they will evade punishment (Snakenborg et al., 2011). This was described by Ybarra and Mitchell (2004) in the following quote: "*the anonymity associated with online interactions may strip away many aspects of socially accepted roles*, *leading the Internet to act as a potential equalizer for aggressive acts*." (p. 332). Interestingly, research has indicated that in many cases the victims are actually aware of whom the bully is (Juvonen and Gross, 2008). Indeed, one study by Mishna et al. (2009) revealed that students believed that the internet created possibilities for anyone to be a bully and that students who are too timid to bully in "real life" might use the Internet as a medium to bully.

Another distinguishing factor is the large space in which a cyber bully has to offend. There are no limits, boundaries or even time constraints, so the victim can be targeted at any time or place, including their own home and/or bedroom (Grigg, 2010; Sticca and Perren, 2013). This also means that the cyber bully has more witnesses which could result in the continuous spreading of the bullying incident with the potential to reach audiences all over the world in a short timeframe (Snakenborg et al., 2011). Another important element is the fact that the cyber bully does not instantly see her victim and the effect her actions have on them. As such, the intention of the bully is sometimes difficult to decipher, as is the extent to which they actually meant to cause harm (Campbell et al., 2013).

2. Cyberbullying in children and adolescence

There is little consensus on the lifetime prevalence of cyberbullying worldwide with the literature suggesting a figure between 2 and 35% (Diamanduros et al., 2008; Kowalski et al., 2014; Låftman et al., 2013). This percentage varies greatly between countries. For example, the figure for high school students in Canada was 10% (Cappadocia et al., 2013) and was much lower to those in China (34.84%; Zhou et al., 2013). In Sweden, the prevalence rate has been reported to be one of the lowest worldwide at approximately 5% (Låftman et al., 2013). Some researchers have suggested that differences in these figures could be attributed to underreporting (Pettalia et al., 2013), while others have noted the variance when different mediums of cyberbullying are considered. For example, when investigating Facebook only, Kwan and Skoric (2013) found that more than half of a sample of secondary school students in Singapore experienced at least one incidence of cyberbullying in the previous year. In terms of devices, the most commonly used means of harassment was with a cell phone (Beran et al., 2012). Furthermore, other moderators of prevalence rates have been noted in the literature. For example, Kowalski et al. (2014) discussed the importance of the definition and tools used for measurement when discussing prevalence rates. Olweus (2012) stated that prevalence rates are sometimes confounded when investigated in an isolated context without considerations for traditional bullying.

Internet use has also been found to be positively related to cyberbullying experiences such that the more teenagers are online, the most interaction with cyberbullying incidences (Kwan and Skoric, 2013; Ybarra, 2004; Ybarra and Mitchell, 2004). However, this has not been consistently demonstrated in the literature, for example, Kwan and Skoric (2013) found only a small relationship between Facebook use and Facebook victimisation and none for Facebook bullying. Cyberbullying can also occur through various methods regardless of the device used. Such methods include: cyber stalking, flaming, defamation, trolling, impersonation, and exclusion (Slonje et al., 2013). In South Korea, cyberbullying in online game contexts was found to be common, while Huang and Chou (2010) found that MSN was the technology where Taiwanese teenagers were most likely to experience and/or witness cyberbullying. In another study by Wong et al. (2014) teenage victims in Hong Kong most frequently reported having pictures or videos of them or a relative uploaded online without their permission. The same authors found that the least common method of victimisation was the posting of personal information about the victim online.

Furthermore, the roles of age and gender have been extensively researched in the literature (Kiriakidis and Kavoura, 2010). For example, there is evidence to suggest that victimisation during adolescence continues into early adulthood (Beran et al., 2012). In addition, some studies have reported a gender divide for cyberbullying behaviour. For example, Wong et al. (2014) found that more males than females engaged in some form of cyberbullying behaviour in a sample of adolescents from Hong Kong. However, contrasting findings have been reported where Canadian girls were found to be more actively involved in cyberbullying (Pettalia et al., 2013). Other studies have reported similar rates for both genders, but have concluded that girls were more likely to report being cyber victims (Cappadocia et al., 2013; Låftman et al., 2013; Sourander et al., 2010). In general research suggests that individuals who engage in traditional bullying also engage in cyberbullying (Dehue et al., 2008; Hinduja and Patchin, 2011; Kwan and Skoric, 2013).

3. The psychological impact

We approached the literature review by searching the terms "cyberbullying, cyber victimisation, cyber harassment, online harassment, online bullying and online victimisation". Subsequently, we also used these terms with the 'AND' search tool with other relevant psychological terms (e.g., depression, anxiety) and behavioural measures (e.g., school achievement and truancy) in the following electronic databases:

PsychInfo, ERIC, Web of Science and Medline. In addition, we manually searched the reference sections of relevant papers. The review was conducted in the month of January 2015 and only papers written in English were included. A total of 19 papers were included and no exclusion criteria were followed.

Investigations of the impact of cyberbullying for bullies, victims and bully/victims have emerged over the last decade and there is a clear and comprehensive set of studies outlining the long-term negative effects for children and young people (see Table 1 for an overview). Indeed, the psychological and emotional consequences of cyberbullying represent the largest problem for the victim (Dredge et al., 2014; Jang et al., 2014). Exposure to such incidences has been linked to depressive symptomology, suicidal ideation, low self-esteem, anxiety and loneliness (Bauman et al., 2013; Bonanno and Hymel, 2013; Cénat et al., 2014; Gámez-Guadix et al., 2013; Patchin and Hinduja, 2010; ŞAhİN, 2012; Schneider et al., 2012; Stapinski et al., 2014; Ybarra, 2004). One study of Australian youths aged 10–25 years found that 3% of the sample had suicidal thoughts after a cyberbullying incident and 2% of the same sample engaged in self-harming behaviour (Price and Dalgleish, 2010). Other studies have linked suicide to a direct consequence of cyberbullying incidences (Bauman et al., 2013). However, many researchers have considered the complexity of suicidal behaviour and Kowalski and Limber (2013), noted that involvement in bullying actually contributes to approximately 4–7% of the variance in suicidality.

Cyberbullying can also have physical effects on victims such as weight loss or gain, substance abuse, headache, abdominal pain and sleeping problems (Gámez-Guadix et al., 2013; Jang et al., 2014). In addition, increased school difficulties have also been reported such as school aggression, truancy, lower academic achievement and not feeling safe in school (Cassidy et al., 2013; Mishna et al., 2012). Some researchers have even reported that youths who were harassed online show more signs of school aggression and were more likely to carry a gun to school (Mishna et al., 2012; Ybarra et al., 2007). The type, nature of materials, and even extent to which the victimisation was planned also influence the psychological impact it has on the victim. Some researchers have found that incidences involving pictures or video clips were considered worse by the victims (Menesini et al., 2011). In particular, Menesini et al. (2011) found that the posting of embarrassing pictures was the worst form of cyberbullying for Italian adolescents.

The experience of being a cyber bully has also been linked to poor psychological functioning and external difficulties (Wong et al., 2014). For example, Fletcher et al. (2014) found that cyber bullies had more psychological difficulties and poorer quality of life despite having none such difficulties with peer or social interactions. Bauman et al. (2013) found that cyberbullying perpetration was directly related to a suicide attempt in males only. This link between being a cyber bully and suicide has been made elsewhere in the literature for both males and females (Hinduja and Patchin, 2010). The researchers suggested that these results demonstrate a lack of understanding for the bullies in their own behaviour such that they possibly engaged in one act of online bullying that quickly escalated and became a bigger problem than they anticipated. In addition, school climate is believed to be an important risk factor where a poor sense of belonging to the school has been linked to cyberbullying (Wong et al., 2014). The worst psychological impact has been related to being a bully/victim. These individuals engage in online bullying and at the same time are cyber victims. Similar to traditional bully/victims, there is a consensus in the literature that the psychological impact is heightened for this subgroup (Gámez-Guadix et al., 2013; Kowalski et al., 2012; Wolke and Samara, 2004).

4. Cyberbullying in adults

Similar to traditional bullying, cyberbullying is also prevalent in adult populations (Balakrishnan, 2015). One study found that individuals who were victims of cyberbullying in high school were significantly likely to be victims in college (Zalaquett and Chatters, 2014). Recent studies have focused on demonstrating prevalence rates in college students and early adulthood (Crosslin and Golman, 2014; Francisco et al., 2015; Gibb and Devereux, 2014; MacDonald and Roberts-Pittman, 2010; Privitera and Campbell, 2009; Schenk and Fremouw, 2012). Consequently, research investigating the psychological impact cyberbullying has on college samples is underdeveloped compared to younger generations. However, one study did find increased depressive symptomology and rumination after cybervictimisation experiences in a sample of 565 American undergraduate students (Feinstein et al., 2014). In other undergraduate samples cyberbullying was associated with lower self-esteem (Na et al., 2015) and feelings of anger and stress (Zalaquett and Chatters, 2014). Furthermore, Schenk et al. (2013) found that college students who cyberbullied others scored higher on a range of psychological measures including: depression, paranoia, phobic anxiety and psychoticism, when compared to individuals who did not (see Table 1 for an overview).

There is a paucity of research in other adult populations and only a handful of studies exist on workplace cyberbullying (Privitera and Campbell, 2009). Balakrishnan (2015) investigated adults in Malaysia aged between 17 and 30 years and found that 39.7% of the sample had been cyberbullied in the previous six months. The results also found that social networking sites (e.g., Facebook) were the primary tool for cyberbullying. Another study found that bullying through electronic

Table 1
Overview of studies investigating psychological impacts of cyberbullying for victims, bullies and victim/bullies.

Study	Age	N	Country	Status	Impact
Bauman et al. (2013)	Grades 9–12	1491	United States	Bully	Suicide in males only
Bonanno and Hymel (2013)	14.2 (mean years)	399	Canada	Bully and victim	Depressive symptomology & depression
Cénat et al. (2014)	15.4 (mean years)	8194	Canada	Victim	Self esteem and psychological distress
Feinstein et al. (2014)	18–42 (years)	565	United States	Victim	Depressive symptomology and rumination
Fletcher et al. (2014)	12–13 (years)	1144	UK	Bully	Poor quality of life and psychological difficulties
Gámez-Guadix et al. (2013)	15.2 (mean years)	845	Spain	Victim	Depressive symptoms
Kowalski and Limber (2013)	Grades 6–12	931	United States	Bully/victim	Psychological health and academic achievement
Mishna et al. (2012)	13.85 (mean years)	2186	Canada	Victim and bully	School aggression and feeling unsafe at school
Na et al. (2015)	18–25 (years)	121	United States	Victim	Self esteem
Patchin and Hinduja (2010)	10–16 (years)	1963	United States	Bully and victim	Self esteem
Hinduja and Patchin (2010)	10–16 (years)	1963	United States	Bully and victim	Suicidal thoughts and more likely to commit suicide
Price and Dalgleish (2010)	5–25 (years)	548	Australia	Victim	Self confidence, self esteem, anger and sadness
ŞAhİN (2012)	Not available	389	Turkey	Victim	Loneliness
Schenk et al. (2013)	18–24 (years)	799	United States	Bullies	Increased depression, paranoia, phobic anxiety and psychoticism
Schneider et al. (2012)	Grades 9–12	20,406	United States	Victim	Depressive symptomology, suicide ideation, self-injury and suicide attempt
Wong et al. (2014)	12–15 (years)	1917	Hong Kong	Bully	Low self efficacy, low empathy level and poor psychological well-being
Ybarra (2004)	10–17 (years)	1501	United States	Victim	Depressive symptomology
Ybarra et al. (2007)	10–15 (years)	1515	United States	Victim	Truancy and carrying a weapon to school
Zalaquett and Chatters (2014)	21–59 (years)	613	United States	Victim	Anger and stress

means (particularly email and phone) existed in a randomly selected sample of members of the Australian Manufacturing Workers' Union (AMWU), but the prevalence rate was much less than traditional workplace bullying (10.7% compared to 34% for the latter; Askew et al., 2012).

5. Who is responsible?

When considering children and young people, schools play an important role in preventing cyberbullying, despite situations where bullying does not happen on school grounds or during the school day (Paul et al., 2012). As such, in some countries, schools are legally required to take action when aware of such an event (Hinduja and Patchin, 2011). For example, the Education and Inspections Act (2006) in England permits schools to implement consequences for cyberbullying occurring outside of school grounds but affecting life in school (Paul et al., 2012). The situation is different in the US, and the legislation varies from state to state. However, many of these legislations include directives to schools to adopt anti-bullying policies and to make explicit provisions for cyberbullying in terms of prevention and intervention (U.S. Department of Education, 2011).

Anti-bullying policies are the most commonly used preventative method for traditional bullying in the UK (Smith et al., 2012) and most educators and researchers have advocated for their inclusion in schools (Diamanduros et al., 2008; Smith et al., 2008). However, it has been reported that schools can be slow to create these policies. In particular, Smith et al. (2012) found that cyberbullying was inadequately mentioned in school policies within the UK with only a 23% increase from 2002 to 2008 (from 8.5% to 32%).

Aside from the role of the school, some researchers have argued that the community, including the police, need to take a more active role in cyberbullying prevention (Vandebosch et al., 2012). In terms of legislation, the situation is ever changing and there are few examples of specific cyberbullying laws internationally. Normally such offences fall under national criminal or cybercrime laws. For example, in Qatar, the Cybercrime Prevention Law (2014) accounts for abuse through technological means.

For traditional bullying, there have been some successful bullying prevention programmes worldwide such as the Olweus Bullying Prevention Program (OBPP) and the KiVa anti-bullying programme (Salmivalli et al., 2013). Olweus (1991) was the first to create a comprehensive and empirically valid intervention that has been replicated and administered in schools around the world. The OBPP targets peer relationships to decrease existing bullying relationships, prevent new ones and to increase peer social relationships throughout the school (Olweus and Limber, 2010). Parents, teachers, students and the community are encouraged to work together to reduce bullying rates. The programme has been extensively researched over the last decade and has demonstrated reductions in school bullying for different age groups across the globe (e.g., Yaakub et al., 2010; Samara and Smith, 2008). For example, Olweus and Limber (2010) reported a 5% reduction in school bullying in 56 schools (N = 8,299). Furthermore, this study demonstrated that the reduced bullying rates continue over time and as more cohorts in a school participated in the programme (Olweus and Limber, 2010).

The KiVa anti-bullying programme is more recent and was developed in Finland in 2006. The programme is built on previous research that considers bystanders to be an important element in exasperating bullying behaviour and influencing the impact on victims (Salmivalli, 2010) As such, one main objective of the intervention is to target bystanders and to increase their responsibility for intervening and reporting bullying incidences (Garandeau et al., 2014). Several studies have demonstrated favourable results for the programme in terms of reducing the psychological impact of traditional bullying experiences on students (e.g., Williford et al., 2012). For example, Kärnä et al. (2011) reported a reduction in peer and self-reported bullying in a sample of over 4000 Finish students.

In general, bystanders do little when they witness online bullying and for some teenage bystanders, their attitudes are generally one of indifference (Huang and Chou, 2010). The bystander experience for a cyberbullying incident is very unique because their decision on how to react to the incident is not public like with traditional bullying incidents (Wong-Lo and Bullock, 2014). Indeed this ambiguity could lead to digital bystanders engaging in cyber harassment even more than traditional harassment. One study by Barlińska et al. (2013) found that digital bystanders were more likely to actively engage in cyber bullying (by forwarding pictures of a classmate) than offline bullying incidents. As a result, intervention strategies which move this indifference to active responses could help stop the spread of cyberbullying incidences and even create a feeling of taboo around the subject (Huang and Chou, 2010). Although there is a paucity of such interventions available, Dillon and Bushman (2015) did find the first step of the Bystander Intervention Model (BIM; Latané and Darley, 1970) to have a positive impact on the frequency of participants intervening in such incidents. This intervention strategy has been commonly implemented in traditional bullying scenarios by using a five-step process to engage the bystander and move them from awareness of the event to looking for help.

In theory, anti-cyberbullying interventions in schools should cater for the individual needs of the students, in addition to creating awareness of the problem (Jacobs et al., 2014). Some researchers have called for a stronger role for the school psychologist in implementing a cyberbullying prevention plan. This would make these staff members responsible for assessing their students' online behaviours in order to identify potential problems before they happen (Diamanduros et al., 2008). One meta-analysis conducted by Ttofi and Farrington (2011) found that bullying was reduced after specific anti-bullying interventions and it has been argued that these positive results could extend to cyberbullying (Slonje et al., 2013). The school climate and communication between students and staff have been highlighted as important factors in the implementation of such programmes (O'Brennan et al., 2014).

For adults, most educational programmes are not relevant because they mostly used schools to create awareness. To date there have been few awareness campaigns created in universities or working environments aside from the traditional bullying strategies such as conflict resolution and/or consultation with occupational psychologists. Although in one study by Crosslin and Golman (2014), college participants (16.9% of the sample) reported that information about cyberbullying could be administered on campus such as through the counselling office or student organisations. However, these do not attempt to deal with the psychological impact of cyberbullying that can be exacerbated in adulthood because of different consequences such as time off from work, financial loss, and impact on their children. To date there has been little research in this area and even less in the service of finding a solution to the problem.

Furthermore, if an adult victim wishes to pursue action in terms of penalising the bully they must have sufficient time and energy and be prepared for the case to become public (Agate and Ledward, 2013). This stress can add to the psychological burden of the experience especially when the issue of victim blaming is concerned (Gini, 2008). Indeed, many researchers have noted that social support (as opposed to victim-blaming) plays a genuine role in how individuals cope with cyberbullying incidents (Weber et al., 2013). As such, anti-bullying policies and awareness campaigns are naturally limited because the influence of social dynamics (e.g., social support and peer relationships etc.) is not considered in the aftermath of such events.

It is important to make the distinction between preventative measures such as anti-cyberbullying polices, education campaigns and community awareness, and psychological interventions, which should be designed for alleviating the distress associated with an event after it occurs. Indeed, there is a delay in the clinical research community in

recognising cyberbullying experiences as traumatic and life changing for all parties involved. These experiences need to be considered an important risk factor for developing mental health problems and urgent attention is needed to develop and assess more online interventions. At present, anti-cyberbullying programmes are not equipped to provide individualised psychological support to victims as they are normally focused on children and adolescents only and in the form of a whole school approach and/or standard care packages. One suggestion for future research is the investigation of specific psychological interventions online for alleviating the suffering of cyber victims and bullies.

6. Online psychological therapy as an intervention

Despite the positive results for some anti-bullying interventions (e.g., OBPP), there are a limited number of interventions that are specific to cyberbullying, although some educational programmes do exist for young people (for a review see Mishna et al., 2011). Aside from these preventative strategies and those mentioned above for traditional bullying, there are no known interventions for adult populations outside of school settings.

For an intervention to be successful more research is needed to determine the common coping responses of cyber victims and how (if at all) they differ from the experiences of traditional victims. This is particularly important, as research has shown that young victims are unlikely to look to adults for help in such situations (Juvonen and Gross, 2008; Smith and Samara, 2003) and often feel like they will misunderstand and/or will loose access to the Internet as a result (Delara, 2012). Investigations of adult responses and whether they seek support from others are non-existent. Instead, research indicates that both cyber bullies and victims use the Internet as a coping mechanism in which they try to escape or avoid their feelings of distress (Gámez-Guadix et al., 2013). Considering that some Internet users are socially isolated and that they may look to the Internet for help or solutions (Li, 2007; Mesch, 2009), an online intervention would help victims deal with the psychological trauma of being cyberbullied. Cyberspace is the perfect location to offer interventions for individuals struggling with the consequences of a cyberbullying incident.

One such example for children and adolescents, is the web-based intervention *Online Pestkoppenstoppen* (Stop Bullies Online/Stop Online Bullies) which aims to teach victims effective ways of dealing with anxiety and depression associated with cyber victimisation (Jacobs et al., 2014). These authors developed an online programme, which specifically aims to promote wellbeing among cyber victims and to decrease some of the associated internal and external behaviours such as school problems and truancy. The intervention, which is entirely interactive in its design, teaches cyber victims how to "*recognize, dispute and replace irrational thoughts with rational thoughts*" (p. 12). The focus is to teach victims how to cope with their particular problematic psychological content (e.g., negative thoughts about oneself) as well as providing information for prevention. The therapeutic grounding is partly based on the concepts of Relational Emotive Therapy (REBT; Ellis, 1995) which teaches victims how to notice the connection between a thought, feeling and behaviour (Jacobs et al., 2014). While the *Online Pestkoppenstoppen* is a promising approach to the problem, empirical evidence is lacking and at present no randomised control trial (RCT) or effect sizes are available to demonstrate its utility. Therefore, a worthwhile action would be to look at current psychological interventions that have shown evidence for reductions in psychopathology and incorporate their strategies and steps into a similar online programme.

Psychological therapies have been consistently shown as effective in helping individuals of all ages to deal with distress and in recent years, internet-based psychological treatment is gaining momentum and showing positive affects for a range of clinical populations (e.g., Hedman et al., 2011; Vernmark et al., 2010). Indeed, many common behavioural therapies such as Cognitive Behavioural Therapy (CBT), Interpersonal Psychotherapy (IPT) and Psychodynamic Psychotherapy (PDT) have been moved online where consultation with a therapist takes place via mobile phones and/or email (Andersson et al., 2014; Dagöö et al., 2014; Johansson et al., 2012). For example, Andersson et al. (2014) conducted a meta-analysis of recent literature and found that Internet-based CBT (ICBT) had similar positive affects to face-to-face CBT in clinical populations. Indeed, numerous studies have found ICBT to be cost-effective and to be a real means of promoting access to psychological therapies for the general public (Carlbring and Andersson, 2006; Hedman et al., 2011).

Acceptance and Commitment Therapy (ACT; Hayes et al., 2012) is another psychological therapy that has shown positive results in a range of populations including individuals suffering with depression, anxiety and psychosis (e.g., Arch et al., 2012; Bloy et al., 2011; Hayes et al., 2010). Recent studies have also demonstrated the utility of online ACT applications (e.g., Hesser et al., 2014; Ly et al., 2012). ACT includes a set of behavioural principles whereby the client is encouraged to defuse from their psychological content and to engage in values-oriented behaviours (Hayes et al., 2012). Mindfulness techniques, goals clarification, and acceptance exercises are all integrated together to move the client from avoidance behaviour to values-based actions even in the presence of negative private events.

The design of the ACT package is distinct from other therapies because of the six core processes that lend themselves to being manipulated easily into an online therapy. These include: defusion, acceptance, contact with the present moment, self as context, values and committed action (Hayes et al., 2006). These processes are directly relevant to both cyber bullies and victims. For example, acceptance is a central component that has shown utility in various populations such as reductions in anxiety and higher tolerance of pain (McMullen et al., 2008; Stewart et al., 2002). In addition, self as context exercise have been linked to perspective taking and decreased distress in experimental settings (Foody et al., 2015). In a cyberbullying situation, self as context exercises are necessary for victims to become aware of the impact harassment is having on their psychological content and to then notice the extent to which their internal world is influencing their behaviour. This is essential before an individual can take the necessary steps to stop the bullying. Furthermore, values-based exercise is important for this population when trying to engage bystanders and encourage them to take more responsibility when witnessing a bullying incident online.

An extensive research agenda is needed to investigate an online ACT intervention and determine which processes are effective for intervention and prevention respectively. Again, the distinct feature of ACT is that its design (six psychological processes) lends itself more readily to componential analyses. Each of the six ACT processes has been demonstrated to be effective in terms of distress reduction in both clinical and experimental contexts (Hayes et al., 2012). As such, they could be easily manipulated to create an online intervention and to target specific psychological problems (e.g., negative self-thoughts and/or fear of going online).

Cyberbullying research is relatively new and there is a paucity of investigations of psychological interventions. As such, the suggestions mentioned here need to be investigated thoroughly in future research. For example, one research agenda could compare online therapies (e.g., ICBT and IACT) to see which one has the biggest impact in terms of distress alleviation, in addition to increasing valued behaviour. This latter point is important, because these interventions also have the potential to act as preventative measures for future cyberbullying incidences, by encouraging responsibility in bystanders and reducing victim-blaming. Other factors such as age and gender will need to be considered for future research. For example, educational and/or awareness campaigns might be well suited to younger populations and the therapeutic element may only be necessary in severe cases. Furthermore, the intervention might need to be altered for others to account for specific behavioural issues like truancy or work avoidance.

7. Conclusion

Despite the recent emergence of cyberbullying research, which is certainly growing in recent years, there are still some limitations to the conclusions that can be drawn. Some anti-bullying interventions (including anti-bullying polices) can have a positive impact but the literature is still divided on their utility for cyberbullying. There is a need for more access to individual psychological therapies and not just school or education-based programmes. Investigations of ACT and CBT should be considered a crucial step forward in cyberbullying research. Future research needs to investigate the processes at work in these interventions, in addition to how they compare to each other.

Disclosure statement

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