

A Systematic Review on Cyberbullying Interventions and Preventions

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Abstract

This study provides the results of the systematic review of the effectiveness of programs/software developed to intervene and prevent in cyberbullying. In the study, the studies published before June 2020, where the effects of programs/software developed for the intervention and prevention in cyberbullying were examined systematically. Of the approximately 2400 studies accessed through online databases, 28 studies that met the criteria of this study were systematically examined. The findings of the study revealed that there were 24 different programs/software from nine different countries for the purpose of intervening and preventing in cyberbullying and that the studies examined had different session frequency, duration, and theoretical background. It was observed that the researchers systematically adopt technological and non-technological strategies in the intervention and prevention of cyberbullying while some programs/software use both strategies together. It is determined that while some of the programs/software in the studies examined are intended to prevent cyberbullying, others are intended to interfere in cyberbullying, and some other programs/software are intended to do both. Consequently, this systematic review fills an important gap in the cyberbullying literature and points out that programs/software can be effective in intervening and/or preventing cyberbullying. However, it is thought that it will be useful to examine which components are effective and to what extent they are effective in intervening and/or preventing cyberbullying in future studies.

Keywords: Cyberbullying, Cyberbullying victimization, Intervention, Prevention, Systematic review.

Introduction

Information and communication technologies (ICT) have become an integral part of today's life due to its positive contributions to many areas of our lives. The importance of ICTs has increased more than ever, especially during the COVID-19 pandemic. Within the scope of the measures taken both to protect against the deadly danger of the virus and to prevent its spread, most schools have been closed and education has been tried to continue in online environments. This negative impact of COVID-19 has led to an estimated 1.5 billion students worldwide, continuing their education and social relationships online (Deccan Herald, 2020). In the Digital 2020 Report, which covers the pandemic process as well, it is stated that the number of Internet users and social media users around the world has increased by more than 300 million in the past few months (We Are Social, 2020). It is an indisputable fact that children who are directed to online environments to continue education and maintain social distance constitute an important part of this increase. The fact that education is provided through online environments will encourage learners to use these environments more intensively, apart from educational activities such as playing online games, performing various social media accounts, and discovering new online content. This increased use of online environments can lead to various dependencies arising from the use of online media and applications (Internet, gaming, social media, etc.) and various adversities arising from the use of ICT such as cyberbullying, cybercrime and so on (Stevenson, 2020).

Definition of Cyberbullying

Cyberbullying, considered a new form of bullying, is defined (although it is difficult to make an accurate and consistent definition due to factors such as anonymity, uncertainty about the persistence of data, and bystanders; Marczak & Coyne, 2015) as harassing a person or group, who are not able to defend themselves easily, in a psychological context, intentionally, aggressively and repeatedly by using electronic information and communication tools such as social media sites, blogs, e-mails, text messages, mobile phones, etc. (Kowalski, et al., 2014; Lucas-Molina, et al., 2016; Patchin & Hinduja, 2012; Smith et al., 2008). Peter and Petermann (2018) examined the definitions of cyberbullying contained in cyberbullying studies published since 2010. Based on their findings, they defined cyberbullying as the repeated and deliberate use of ICT to intentionally harm, harass, and hurt and/or embarrass an individual. When the literature is examined, it is found that cyberbullying is used to describe negative actions performed in many different ways. Willard (2004) lists these negative actions as flaming, harassment, cyberstalking, denigration (put-downs), masquerade, outing and trickery, exclusion, impersonation and sexting. Cyberbullying, which is performed in many different ways and has various dimensions, has been recognized as a concept (a) to inflict harm (b) with a repetitive nature, and (c) with a net power imbalance between the bully and the victim in favor of the bully (Gladden, et al., 2014).

Prevalence of Cyberbullying

Although there are numerous studies in different countries, in some cases inter-country, to determine the prevalence of cyberbullying and cyber victimization, different factors such as how cyberbullying are defined, the time scale used to determine when cyberbullying occurred (for example, last month, last three months, lifetime), the uncertainty of the persistence of data, the demographic characteristics of the sample studied (for example, age, gender, race, education level), and the diversity of measurement tools make it difficult to put forth the prevalence. In one of the most up-to-date literature studies accessed, Herrera-López, et al., 2018, revealed that cyberbullying in Latin America

ranged from 2.5% to 42.5% and that this prevalence was very close to those in Europe and the Americas. In another literature research conducted in South Korea, it is found that 34% of the students involved in the study are victims of either cyberbully or cyberbullying (Lee & Shin, 2017). In the study, where they evaluated 159 prevalence studies, Brochado, Soares and Fraga (2016) determined that the rate of cyberbullying and cyber victimization experienced in the previous year ranged from 1.5% to 72.0%. In another study conducted by Athanasiou et al. (2018) examining cyberbullying in 7 European countries (M=21.9), it was determined that cyberbullying is the highest in Romania (37.3%) and the lowest in Spain (13.3%). On the other hand, in another study conducted with the participation of young people from 42 different countries and aimed to reveal the prevalence of cyberbullying, it was revealed that the proportion of 11 year old participants who stated that they had been bullied at least once in the past year via a message was 10%. In contrast, this proportion in 13-15 year old participants was 11% (Inchley et al., 2016).

Outcomes of Cyberbullying

In the researches conducted about cyberbullying, it has been revealed that both cyberbullying and being a victim of cyberbullying have various negative consequences, both behavioral and health-related. The negative results experienced by victims of cyberbullying include a high level of anxiety, abdominal pain, depression, loneliness, lower self-esteem, hyperactivity (e.g., Betts, 2016; Giumetti & Kowalski, 2016; Kowalski et al., 2014; Menesini & Salmivalli, 2017), poor academic performance (Busch et al., 2014; Lacey, Cornell, & Konold, 2017), increased suicidal ideation (van Geel, et al., 2014). Various programs/software are needed to prevent cyberbullying and cyberbullying victimization that adversely affects individuals both behaviorally and in terms of health.

Cyberbullying Intervention and Prevention

In literature researches, various intervention and prevention methods and strategies such as empathy training (Ang, 2015; Ang & Goh, 2010), training of educators (Cassidy, et al., 2012), digital

applications (Lowry, et al, 2017), awareness programs (Ashktorab & Vitak, 2016; Berne, et al., 2019; Roberto, et al., 2017; Villarejo-Carballido, et al., 2019), and the strategies to cope with technical problems (Riebel, et al., 2009) have been discussed so that individuals can stay away from the threat of cyberbullying considering the global prevalence and negative effects of cyberbullying. Although the researchers note that the mentioned activities affect cyberbullying, they state that randomized trial studies and pre-test/post-test comparative studies are needed to generalize the results (Pearce, et al., 2011).

Although effective intervention and prevention programs carried out for this purpose have been found in various countries, it is often stated that there is a need for up-to-date studies where these programs/software are compiled (Gaffney, et al., 2018; Hutson, et al., 2018; Marín-Cortés, et al., 2019; Tanrikulu, 2018). Therefore, the purpose of the current systematic review is to evaluate the effectiveness of cyberbullying intervention and prevention programs/software to fill this gap in the literature.

Method

The systematic review method is used in this study. The systematic review is a method that aims to identify all relevant empirical studies within the scope of a predetermined research question, to analyze these studies and interpret the findings thereof, to summarize them, to discuss the possible causes of the contradictory findings, if any, and to reveal the limitations of the studies (Littell, et al., 2008). This study is methodologically constructed on five key strategies, which include, respectively, identifying the key question of the study, identifying relevant studies, evaluating the nature of the studies, summarizing the findings, and interpreting them, put forward by Khan, et al., (2003) for the review studies.

By the methodology adopted, the key question of this systematic review study is: What pieces of evidence are there regarding the effectiveness of programs/software to intervene and prevent cyberbullying and cyber victimization? The second and third strategies determined by Khan et al. (2003) are employed in the search strategy and inclusion/

exclusion criteria sections under the method section of the study. However, the fourth strategy of the relevant methodology was examined in the findings section, while the fifth strategy was presented in the result and discussion section of the study.

Search Strategy

Systematic literature scans covering peer-reviewed articles published from May 2020 to July 2020, providing empirical evidence for assessing the effectiveness of cyberbullying intervention and prevention programs/software were conducted. The review carried out within the research scope covers the year 2000 to July 2020. It includes various online databases such as Web of Science (SCI-EXPANDED, SSCI, A&HCI, ESCI indexes), Scopus, PsychINFO, Pubmed /Medline, ERIC and ProQuest.

Keywords used for systematic review: ‘cyberbullying; cyber bullying; online bullying; internet bullying; cyber victim; cyber victimization; bully*; victim*; cyber victimization; cyber aggression; electronic bullying;’ + ‘response; prevention; intervention; protective factors; evaluation; effective*; program*’.

In the research carried out regarding the literature, some systematic research studies on cyberbullying were also found (e.g., Gaffney et al., 2018; Zych, et al, 2015). In this context, by reviewing the publications covered by the relevant researches in line with the inclusion and exclusion criteria of this study, the appropriate researches are included in this study.

Inclusion / Exclusion Criteria

To be included in the current systematic review, the studies need to be: (a) successful in intervention and prevention in cyberbullying and cyber victimization; (b) able to identify the evaluation of an intervention or prevention programs/software carried out on participants between 4 and 30 years of age; (c) an article including at least a semi-experimental study method (with a control group); (d) an article measuring cyberbullying and cyber victimization behaviors by using quantitative and qualitative measurement tools; (e) an article published after 2000; (f) an article written in English, and (g) an article published in full text.

Consequently, the researches that provide the conditions for experimentation and control but do not measure the change in cyberbullying and cyber victimization was excluded from the scope. Similarly, the researches covering various crime prevention activities or clinical trials and the researches about cyberbullying and cyber victimization in environments outside the educational institution were excluded from the scope of the study.

In light of these criteria, it was decided to include 28 types of research in the systematic review. Whether the 28 types of research selected by the writer complied with the review criteria of this study was also assessed by two different academics, who are experts in cyberbullying researches. With the approval of field expert academicians, it was decided to carry out the systematic analysis of these 28 studies. The screening process performed according to the research criteria, is presented in Figure 1.

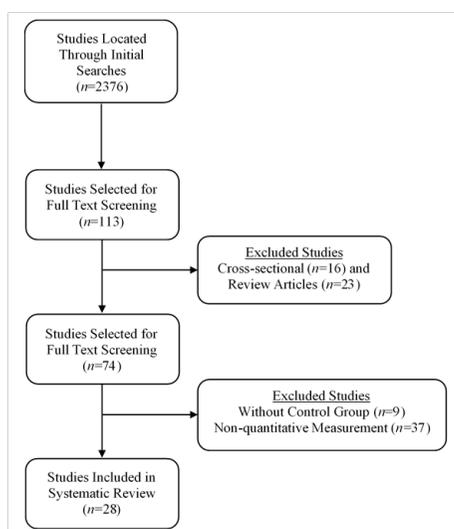


Figure 1: Flow chart of the Research Screening Process

Results

Table 1 contains 28 studies examining 24 different programs/software falling in the research criteria, which were carried out within the scope of cyberbullying and cyber victimization and

intervention and prevention. The findings revealed that most of the researches were Spain (n=9), Italy (n=4), U.S.A (n=4), Germany (n=3), China (n=2), and Austria (n=2), respectively. It is determined that the other countries examined in the research with one study are Australia, Finland, Taiwan and Turkey. The articles were published between 2012 and 2019, it is determined that the sample ranged from 10 to 29 years of age and the number of participants from 61 to 18.412. When the most widely used program/software in the researches included in the study is considered, it reveals to be ConRed (n=3), Media Heroes (n=3), NoTrap! (n=3) and ViSC (n=2), respectively. As presented in Table 1, the effectiveness of the program/software in the context of prevention is evaluated in 20 researches, while the effectiveness of the program/software in the context of intervention is evaluated in 5 researches. On the other hand, in 3 researches, the effectiveness of the program/software in both prevention and intervention context is evaluated. In 8 researches aiming to intervene and/or prevent cyberbullying and/or cyber victimization examined within the scope of the study, it is observed that programs/software adopted non-technological strategies (e.g. Ferrer-Cascales et al., 2019) while in 8 studies, it is determined that technological strategies (e.g., Internet, social network applications, educational videos, etc.) are adopted (e.g., Leung et al., 2019). On the other hand, in 12 studies (e.g., Palladino et al., 2016), both technological and non-technological strategies are used together. All studies except 2 of them are determined to be effective in intervention/prevention of cyberbullying. It is established that the program/software evaluated in 11 studies examined within the scope of the research is effective in the context of intervening/preventing both cyberbullying and cyberbullying victimization. On the other hand, only two researches are effective in the context of intervention/prevention of cyberbullying victimization (e.g. Menesini et al., 2012-Study 2; Palladino et al., 2012). Detailed information on the research findings is presented in Table 1.

Table 1: Summary of 28 Studies Included in the Systematic Review

Project Overview					Methodological Information			Outcomes	
Author(s)	Country / Project	Duration	Theory	Type	Participants	Research Design	Assessment Tool(s)	CB	CB Vict.
Akbulut (2014)	Turkey / No specific name	Not specified	Not specified	Technological / prevention	120 (age M=21.51; 77 males) students participated to the study. Pretested control group (n=30), pretested CBV group (n=32), un-pretested control group (n=28), and un-retested CBV group (n=30).	Solomon four-group experimental	Cyberbullying Scale (Akbulut, Sahin, and Eristi, 2010)	+	
Chaux, Velásquez, Schultze-Krumbholz, and Scheithauer (2016)	Germany / Media Heroes	Long version: 15x45-min sessions Short version: 4x90-min sessions (one-day-version)	Theory of planned behavior	Technological and non-technological / prevention	12 classes participated as the prolonged intervention group, 7 classes participated as the short intervention group and 16 classes participated as the control group (age M=13.36; 51.8% females; 11–19 years old 1075 students)	Pretest-posttest quasi-experimental	European Cyberbullying Intervention Project Questionnaire (ECIPQ; Del Rey et al., 2015)	+	
Cross et al., (2016)	Australia / Cyber Friendly Schools	6 hr (in a 3-month period)	Systemic socio-ecological approach	Technological / prevention	9 classes participated as the intervention group and 16 classes participated as the control group (8th to 9th grade, 3382 students)	Longitudinal pretest-posttest control group randomized trial.	Forms of Bullying Scale (FBS- P& FBS-V; Shaw, Dooley, Cross, Zubrick, & Waters, 2013).		+
Del Rey, Casas, and Ortega (2016)	Spain / ConRed	8 training sessions (in a 3-month period)	Theory of normative social behavior	Non-technological / prevention	595 participants as intervention group and 298 participants as control group (54.9% females; 11-19 years old students)	Pretest-posttest quasi-experimental	European Cyberbullying Intervention Project Questionnaire (ECIPQ; Del Rey et al., 2015)	+	+
Del Rey, Casas, and Ortega (2012)	Spain / ConRed	8 training sessions (in a 3-month period)	Theory of normative social behavior	Non-technological / prevention	595 participants as intervention group and 298 participants as control group (54.9% females; 11-19 years old students)	Pretest-posttest quasi-experimental	European Cyberbullying Questionnaire (Del Rey, Casas & Ortega, 2011)	+	+

Del Rey, Mora-Merchán, Casas, Ortega-Ruiz, and Elipse (2018)	Spain / Asegúrate	8 sessions	The theory of normative social behavior	Technological /intervention	292 participants as intervention group and 187 participants as control group (age M=13.83; 54.9% females; 12-18 years old students)	Pretest-posttest quasi-experimental	European Cyberbullying Intervention Project Questionnaire (ECIPQ; Del Rey et al., 2015)	+	
Doane, Kelley, and Pearson (2016)	U.S.A. / No specific name	Approximately 10 min	Theory of reasoned action	Technological/prevention and intervention	190 participants as intervention group and 180 participants as control group (18-23 years old students)	Pretest-posttest and follow-up control group experimental	Cyberbullying Experiences Survey (CES; Doane et al., 2013)	+	
Espelage, Low, van Ryzin, and Polanin (2015)	U.S.A. / Second Step	1x50-min or 2x25-min sessions (weekly or semiweekly)	Risk and protective factor theory	Technological and non-technological/intervention	1.941 participants as intervention group and 1.710 participants as control group (age M=11.00; 52.0% male students)	Pretest-posttest control group experimental	4-item scale (based Ybarra, Espelage, and Mitchell, 2007).	+	
Ferrer-Cascales et al., (2019)	Spain / TEI	14 sessions (Approximately 40hr)	Ecological systems	Technological and non-technological/intervention	987 participants as intervention group and 1.070 participants as control group (11-16 years old students)	Pretest-posttest quasi-experimental	E-Victimization Scale (E-VS) & E-Bullying Scale (E-BS) (Lam & Li, 2003)	+	+
Garaigorobil and Martínez-Valderrey (2018)	Spain / Cyberprogram 2.0 & Cooperative Cybereduca 2.0	20x1h sessions	Not specified	Technological and non-technological/prevention	93 participants as intervention group and 83 participants as control group (13-15 years old students)	Pretest-posttest quasi-experimental	Screening of Peer Harassment (Garaigordobil, 2013)	+	
Garaigordobil and Martínez-Valderrey (2016)	Spain / Cyberprogram 2.0	19x1h sessions	Not specified	Non-technological/prevention	93 participants as intervention group and 83 participants as control group (age M= 13.08; 50.4% males; 13-15 years old students)	Pretest-posttest quasi-experimental	Screening of Peer Harassment Scale (Garaigordobil, 2013)	+	+
Gradinger, Yanagida, Strohmeier and Spiel (2016)	Austria / ViSC	More than 1 year	Not specified	Non-technological/prevention	1.377 participants as intervention group and 665 participants as control group (age M=11.7; 47.6% girls; 5th-7th grade students)	Pretest, posttest and follow-up randomized control group	Cyberbullying and cyberbullying victimization scales (based on Smith et al., 2008).	+	+

Gradinger, Yanagida, Strohmeier and Speil (2015)	Austria / ViSC	More than 1 year	Not specified	Non-technological/prevention	1.377 participants as intervention group and 665 participants as control group (age M=11.7; 47.6% females; 5th-7th grade students)	Pretest, posttest and follow-up randomized control group	Cyberbullying and cyberbullying victimization scales (based on Smith et al., 2008).	+	+
Lee, Zi-Pei, Svanström and Dalal (2013)	Taiwan / No specific name	8x45-min lessons	Social constructivism, scaffolding and collaborative learning	Technological/prevention	30 participants as intervention group and 31 participants as control group (7th grade students)	Pretest-posttest and follow-up quasi-experimental	Cyber bullying prevention knowledge test	+	
Leung, Fung, and Farver (2017)	China / No Specific Name	45-min	Not specified	Technological and non-technological/intervention	137 students participated in the study (104 females, 33 males; aged 18-29 years old; age M = 20.0)	Pretest, posttest and follow-up control group experimental	Cyberbullying Awareness Scale (Brewer, 2011) and Attitudes Toward Cyberbullying Questionnaire (PACQ; Barlett & Gentile 2012)	+	
Leung, Wong, and Farver (2019)	China / No specific name	2x15-min online classes (for 3 weeks)	Constructivist learning	Technological/prevention	78 participants as intervention group and 66 participants as control group (118 female students; age M = 21.05)	Pretest-posttest control group experimental	Awareness of cyberbullying, Intentions to help cyberbullied victims, Perceived behavioral control about helping cyberbullied victims, Self-efficacy to combat cyberbullying, Likelihood in behavioral intervention in cyberbullying scales		

Menesini, Nocentini, and Palladino (2012) - Study 1	Italy / NoTrap!	8 hours	Not specified	Technological and non-technological/prevention	126 participants in experimental group 1 (awareness) and experimental group 2 (peer educators), 47 participants in the control group (age M=16.29; 9th-13th grade students)	Longitudinal pretest-posttest control group experimental	Bullying and victimization scales (Menesini, Calussi, and Nocentini 2012)	+	
Menesini, Nocentini, and Palladino (2012) - Study 2	Italy / NoTrap!	8 hours	Not specified	Technological and non-technological/prevention	231 participants as intervention group and 144 participants as control group (age M=16.29; 9th-13th grade students)	Longitudinal pretest-posttest control group experimental	Bullying and victimization scales (Menesini, et al, 2012)		+
Ortega-Barón, Buelga, Ayllón, Martínez-Ferrer, and Cava (2019)	Spain / Prev@cib	Ten sessions (in 9 month period)	Empowerment theory	Technological and non-technological/prevention and intervention	424 participants as intervention group and 236 participants as control group (age M=13.58; 53.2% girls; 12-17 years old students)	Pretest-posttest quasi-experimental	Victimization through the Cell Phone and Internet (CYBVIC; adapted from Buelga, Ortega-Barón, & Torralba, 2016).	+	+
Ortega-Ruiz, Del Rey, and Casas (2012)	Spain / ConRed	8 training sessions (in 3 month period)	Theory of normative social behavior	Non-technological/prevention	595 participants as intervention group and 298 participants as control group (54.9% females; 11-19 years old students)	Pretest-posttest quasi-experimental	European Cyberbullying Intervention Project Questionnaire (ECIPQ; Brighi et al., 2012)	+	+
Palladino, Nocentini, and Menesini (2016) Trail 1 – 2011/2012	Italy / NoTrap! (3rd edition)	1 day training	Ecological system theory	Technological and non-technological/prevention	451 participants as intervention group and 171 participants as control group (age M=14.91; 60.29% males; 9th grade students)	Pretest-posttest quasi-experimental	Florence Cyberbullying/ Cybervictimization Scales (Palladino, Nocentini, & Menesini, 2015)	+	+
Palladino et al. (2016) Trail 2 – 2012/2013	Italy / NoTrap! (3rd edition)	1 day training	Ecological system theory	Technological and non-technological/prevention	234 participants as intervention group and 227 participants as control group (52.0% males; 9th grade students)	Pretest-posttest and follow-up quasi-experimental	Florence Cyberbullying/ Cybervictimization Scales (Palladino et al., 2015)	+	

Palladino, Nocentini, and Menesini (2012) - Study 2	Italy / NoTrap! (2nd edition)	1 day training	Not specified	Technological and non-technological/prevention	231 participants as intervention group and 144 participants as control group (20.3% males; 9th-13th grade students)	Longitudinal pretest-posttest control group experimental	Bullying and victimization scales (Menesini et al., 2012)		+	
Roberto et al. (2014)	U.S.A. / No specific name	45-min	Not specified	Technological/prevention	11 class participated as intervention group and 11 class participated as control group (age M=12.58; 53.0% females; 6th to 8th grade 425 students)	Posttest-only control group experimental	RBD Sale (adapted from Witte, Cameron, McKeon, & Berkowitz, 1996)		+	
Savage, Deiss Jr., Roberto, and Aboujaoude (2017)	U.S.A. / No specific name	Not specified	Social cognitive theory	Technological/prevention	375 participants as intervention group and 359 participants as control group (age M=20.63; 55.3% female students)	Posttest-only control group experimental	Single dichotomous (yes/no) item.		+	
Schoeps, Villanueva, Prado-Gascó and Montoya-Castilla (2018)	Spain / PREDEMA	11x50-min sessions (in 3 month period)	Theory of dialogical learning	Non-technological/intervention	72 participants as intervention group and 76 participants as control group (12-15 years old students; age M=12.63; 84 girls)	Pretest, posttest and follow-up control group quasi-experimental	CYB-VIC Scale (Buelga et al., 2012) and CYB-AG Scale (Buelga and Pons, 2012).		+	
Schultze-Krumbholz, Schultze, Zagorscak, Wölfer, and Scheithauer (2016)	Germany / Media Heroes	Long version: 10x90 min sessions. Short version: 4x90-min sessions (one-day-version)	Theory of planned behavior	Technological and non-technological/prevention	136 participants as short intervention group, 232 participants as prolonged intervention group and 354 participants as control group (11-17 years old students; age M=13.36; 51.8% females)	Longitudinal pretest-posttest control group experimental	ECIPQ (Brighi et al., 2012)		+	
Sorrentino, Baldry, and Farrington (2018)	Italy / Tabby Improved Prevention and Intervention (TIPIP)	8 sessions (more than 20hr)	Ecological system theory	Technological and non-technological/prevention and intervention	%40.8 of 622 participants as intervention group and %59.2 of 622 participants as control group (age M=12.14; 54.1% females; 10-17 years old students)	Pretest, posttest and follow-up randomized control group	Tabby Improved Checklist		+	+

Williford et al. (2013)	Finland / KiVa	Elementary: 2x 1hr lessons for 10 months. Middle School: 4 times during the school year	Not specified	Non-technological/prevention	9.914 participants as intervention group and 8.498 participants as control group (4th to 9th grade students)	Longitudinal pretest-posttest randomized controlled trial	Modified version of the OBVQ (Olweus, 1996)	+	+
Wölfer et al. (2014)	Germany / Media Heroes	Long version: 10x90-min sessions. Short version: 4x90-min sessions (one-day-version)	Theory of planned behavior	Technological and non-technological/prevention	194 students participated the prolonged version of the program, 104 participated the short version (18%), 295 students participated the control group (50%) (age M=13.36; 53.0% female; 7th to 10th grade).	Longitudinal pretest-posttest control group experimental	Self-constructed questionnaire (adapted from Brighi et al. 2012)	+	

*CB: Cyber bullying; CB Vict.: Cyber bullying victimization

Discussion and Conclusion

Despite an exponentially increasing number of studies in recent years, the studies on cyberbullying are relatively new. Although several intervention and prevention programs/software have been accessed through this study, such studies need to be repeated to illustrate the situation more clearly. The fact that technology has increased its momentum in all areas could lead to increased cyberbullying behaviors and cyberbullying victimizations. Therefore, this study, by systematically examining cyberbullying and cyber victimization intervention and prevention programs/software, using the findings revealed, it gives light to researchers, policymakers, and educators working in this field in the context of cyberbullying intervention and prevention.

One of the important findings of this study is that the duration of the programs/software carried out in the context of intervening and preventing cyberbullying and cyber victimization differs from each other. Some programs/software last for more than a year (Gradinger et al., 2016; 2015), months (Cross et al., 2016; Ortega-Barón et al., 2019), weeks (Espelage et al., 2015; Leung et al., 2019), or one day (Chaux et al., 2016; Schultze-Krumbholz et al., 2016), while others last for several hours or less (Leung et al., 2017; Roberto et al., 2014). Although there are differences in duration, it is stated that almost all of the intervention and prevention programs/software are effective against cyberbullying. Although there is a need for more similar research results to generalize the finding obtained, it is thought that the important thing in dealing with cyberbullying is to make an effort to find a solution to the problem and to exert effort in this sense. In this context, the main task of policymakers, school administrators, educators, and parents is, without ignoring cyberbullying, to employ a program/software to intervene and prevent this problem.

The cyberbullying intervention and prevention programs/software examined in this study are based on different theoretical foundations. The theories in the researches examined range from Risk and Protective Factor Theory to the Empowerment Theory. They aim to bring a solution to the problem by evaluating it from different dimensions. However, it has been revealed in the study that programs/

software that is not based on any theoretical framework within the scope of intervening and preventing cyberbullying are also effective. In this context, even though they are effective, it is thought that it may be more appropriate for the relevant programs/software to take a theory as a basis, based on the fact that policymakers, school administrators and/or educators are more likely to embrace and adopt the systems that they can better understand its theoretical background (Cross et al., 2016).

In this research study, it is observed that in years where technological facilities are less and technology is used relatively less. Generally, the programs that are integrated into the school curriculum and carried out with classroom activities are used during the school year to intervene and/or prevent cyberbullying (Del Rey et al., 2012; Gradinger et al., 2015; Williford et al., 2013). However, it is observed that more technology-oriented solutions (e.g., social media sites, videos, educational games, presentations, etc.) are an employee to eliminate the problem with increasing technological facilities as we get closer to the present day (Cross et al., 2016; Del Rey et al., 2018; Leung et al., 2019; Savage et al., 2017). Because of Covid-19, it is thought that the increased use of technology during this pandemic, in which all needs, especially learning and teaching, is to be met through technology, will lead to cyberbullying and similar cyber victimizations (Stevenson, 2020). In this context, to prevent cyberbullying and similar adversities based on inappropriate use of technology tools, we need approaches that address the right technologies with appropriate pedagogical principles and cooperation of different disciplines more than ever.

Another finding of the study revealed that many different measuring instruments are used to identify cyberbullying (e.g. ECIPQ-Del Rey et al., 2015; CES-Doane et al., 2013; E-VS & E-BS-Lam & Li, 2003). These tools, which focus on cyberbullying from different perspectives and evaluate the results differently, resulting in the problem of external validity. Therefore, it is obvious that an internationally recognized, valid, and reliable tool is needed to generalize the findings in the context of cyberbullying intervention and/or prevention.

It is observed that cyberbullying intervention and/or prevention programs/software studied independently of the theory they are based on, the sampling method and the research method used, or the chosen measurement tool, appear to be effective in coping with cyberbullying. Based on this finding, it can be said that the intention to address the problem in the intervention and/or prevention of cyberbullying, and any efforts to be made in this context, are important in achieving the result. Even though it is determined that school-based and curriculum-supported programs are effective in the context of cyberbullying intervention and prevention, it is an indisputable fact that we need innovative, creative and functional yet free solutions, supported by various technologies, especially in the online environment due to the pandemic.

The research carried out has some limitations. The first limitation of this examination study is that the researches are limited to the databases determined during the selection process. The second limitation of the study is that only articles written in English and published in full text are included in the study. This kind of study provides a starting point for researchers in uncovering the main consensus on the subject examined and in the context of presenting a growing number of publications to researchers in its entirety. On the other hand, this type of review study often has some limitations in presenting non-inferential descriptive statistics. To overcome the limitations that exist in this context, more holistic studies written in languages other than English are needed to help understand the impact of the problem in the context of different factors and different geographical, social, and cultural environments.

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