EFFECTIVENESS OF SCHOOL-BASED PREVENTION PROGRAMS ON PEER BULLYING: A SYSTEMATIC REVIEW

Review article

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Abstract

In this study, empirical studies evaluating the effectiveness of school-based prevention programs on peer bullying were systematically reviewed. The keywords identified within the scope of the research were searched in 5 databases (PubMed, PsycInfo, PsycNET, ScienceDirect, and Google Scholar). Furthermore, 19 studies that met the exclusion and inclusion criteria were included in the study. The results revealed that prevention programs effectively reduced bullying and victimization among students at different levels. Moreover, helping behaviors and empathy skills of the students who witnessed the bullying increased.*Keywords:* Covid-19 pandemic, music education, professional music education, distance learning

1. Introduction

Schools are one of the places where people communicate and interact with each other. However, interactions established by the child in school are not always positive, and some experiences negatively affect the child. One of these negative experiences is peer bullying (Ayas & Pişkin, 2015). Bullying, a common form of violence, is an old phenomenon. Many adults today may have experienced bullying in the past, perhaps by being exposed to it (victim) or by being included in the process as a bystander (Olweus, 2005).

The first studies on bullying were conducted by Olweus (1993), and his definition is the most widely used definition of bullying in the literature. Olweus (1993) offered a general definition of bullying, which includes repeated exposure to negative behavior of one or more students over time. Moreover, he defined it as an attempt to cause harm or discomfort to another through a negative action, word, physical contact, gesture, or exclusion from a group.

Pişkin (2002, p.536) defined bullying as "a type of aggression that results in one or more students intentionally and continuously harassing students who are weaker than them, where the victim is unable to protect himself/herself." Ayas and Pişkin (2015) stated that bullying can be divided into 5 categories and classified them as physical bullying, verbal bullying, exclusion, spreading rumors, and damaging things. Besag (1989) mentioned certain personality traits and disadvantaged groups that are triggers for bullying behavior. He listed the characteristics of this group, which he called "passive victims," as shy, anxious, insecure, or different (psychologically) from their peers. He stated that disadvantaged groups can be diversified such as skin color difference, wearing glasses, being obese, stuttering, special educational needs, being disabled, or having a pathological problem such as diabetes that requires daily medication. La Fontaine (1991) supported this definition and stated that any characteristic that makes one child different from another can be a "triggering feature" for bullying.

Olweus (2005) mentioned the common characteristics that bullies and victims may have and suggested that victims generally feel more anxious and insecure than other students and that they are usually cautious, sensitive, and quiet. She testified that when they are attacked by other students, they usually react by crying and retreating. She stated that bullies exhibit similar characteristics in that they feel a strong need to dominate and subdue other students, are impulsive, get angry easily, show little empathy toward the victims, challenge adults, including parents and teachers, and engage in illegal activities.

A study conducted with 331 secondary school students in England reported that 40% of the students were bullied (Mynard et al. 2000). Seals and Young (2003) conducted a study with 454 students between the ages of 12 and 17 years in the United States. The authors concluded that 24% of children were involved in bullying. Juvonen, Graham and Schuster (2003) conducted a study with 1985 Latino students and reported that 22% of the students were bullies, victims, or bully-victims.

Studies examining the incidence of peer bullying in Turkey have increased in the recent years. Kartal and Bilgin (2009) conducted a study with 688 students in the 4th and 8th grades. The authors concluded that 41.3% of the participants had been subjected to bullying at least once a week in the last month. In another study conducted with 340 students from the second level of primary education, 26% of the participants were classified as victims, 3% as bullies, and 60.8% as bully-victims (Siyez & Kaya, 2011). Tural-Hesapçıoğlu and Yeşilova (2015) conducted a study with 1432 students and revealed that 24% of the students were exposed to bullying and 29% of them exhibited bullying behavior.

Humprey (2008) mentioned that bullying has long-lasting effects on victims and that these effects last until the victim's adult life. Children who are victims of chronic bullying may experience short-term problems such as physical and psychological distress, difficulty concentrating, and school phobia (Bernstein & Watson, 1997). In addition, they may experience long-term problems such as inability to succeed and maintain success, problems in interpersonal relationships, higher levels of depression, and a more negative self-concept than non-bullied peers (Olweus, 1993). Bullied children are left with a legacy of increased stress, anxiety, illness, depression, and suicidal thoughts that can interfere with self-development, learning, and effective socialization; have poor mental health than others; and experience psychological problems as adults more than others (Rigby, 2003). Lereya et al. (2015) conducted a study with 5446 children and indicated a continuous increase in the risk of anxiety, depression, and young adult mental health problems such as self-harm or suicide in children who are bullied by their peers, with or without a history of adult maltreatment.
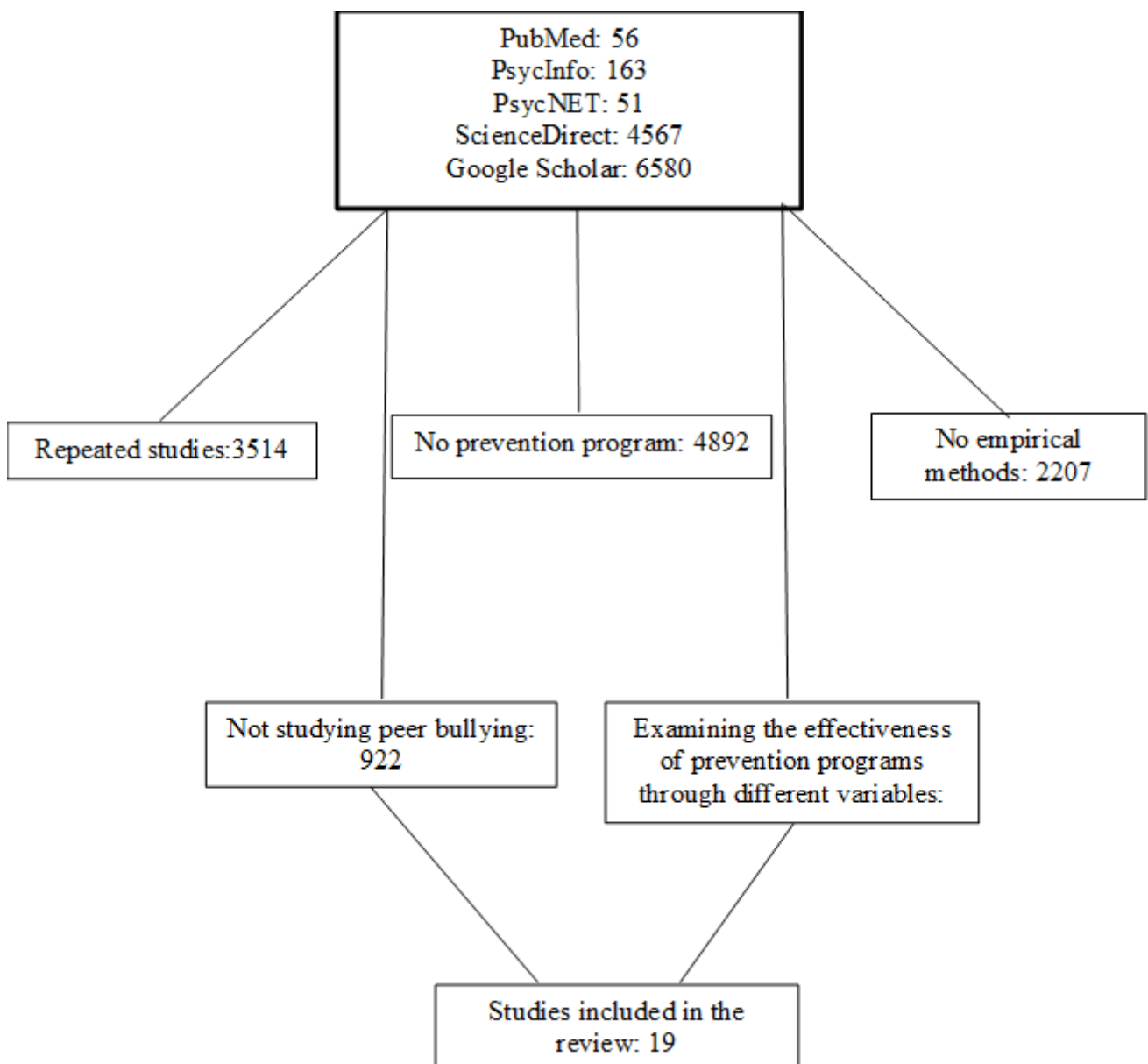
Children who exhibit bullying behavior as well as the victims of bullying become vulnerable to numerous problems in the future (Crothers & Levinson, 2004). Idsoe et al. (2012) revealed that young people who identified themselves as bullies and victims exhibited a more clinical picture than those who were only victims. Notably, children who witness bullying as well as individuals who practice bullying and are exposed to this behavior are also badly affected by the situation (Baldry, 2004). Children who witness bullying are badly affected by what they see, feel anger and helplessness, and have nightmares and worry that they may become victims (Eliot, 2002). Children who face bullying problems as bystanders are stuck in a social dilemma. On the one hand, they realize that bullying is wrong and want to do something to stop it. On the other hand, they try to ensure their status and safety in the peer group (Salmivalli, 2010).

Schools should be a place where all students feel valued, respected, and supported (Cornell & Bradshaw, 2015). Therefore, efforts should be made to improve the school environment so that students can feel free and safe. In this sense, the first large-scale study was developed by Dan Olweus (1983) as the Olweus Bullying Prevention Program (OBPP) after three adolescent boys in Norway committed suicide as a possible result of persistent bullying they experienced by their peers. OBPP was first implemented in what is known as the First Bergen Project Against Bullying, which involved approximately 2,500 Norwegian school children between 1983 and 1985 (Limber, 2011). The empirical evaluation results revealed significant decreases in students' self-reports of bully-victim problems. The 1983–1984 evaluation indicated a 62% decrease in being bullied and a 33% decrease in bullying other students after 8 months of intervention. The results of the 1983–1985 evaluation (after 20 months of intervention) indicated a 64% decrease in the rate of being bullied and a 52.6% decrease in the rate of bullying others (Olweus, 1991, 1997).

In the recent years, various school-based anti-bullying programs targeting different peer group levels have been developed and evaluated (Wójcik, & Hełka, 2019). School-based prevention programs include components (individual students, parents, classes, schools) and methods that target different levels of impact (Menesini & Salmivalli, 2017). Ttofi and Farrington (2011) investigated the effectiveness of school-based programs on bullying. The authors observed that the intensity and duration of the programs were effective on the success of the programs. In a study evaluating the effectiveness of bullying prevention programs in terms of the importance of peer support, discipline methods, and age differences, it was revealed that peer support and discipline methods were associated with the effect size of bullying prevention programs after controlling for all other program components and implementation characteristics (Ttofi & Farrington, 2012). In sum, the effects of school programs in preventing bullying vary in terms of their fidelity, whether parents are involved, the role of teachers, peer support, and the intensity of the programs (Menesini & Salmivalli, 2017). This study aimed to systematically review empirical research evaluating the effectiveness of school-based prevention programs on peer bullying. This study is expected to contribute to the literature since there are few studies on the subject in our country.

2. Method

In this study, English articles published in PubMed, PsycInfo, PsycNET, ScienceDirect, and Google Scholar databases were reviewed to evaluate the effectiveness of school-based prevention programs on peer bullying. The keywords "peer bullying," "intervention programs," "anti-bullying programs," "peer bullying and intervention programs," and "anti-bullying intervention programs" were used in combinations. As a result of the search, 11,419 articles were accessed from 5 databases. Among the articles to be reviewed, those that did not address the effectiveness of a school-based prevention program, did not match the age range, did not address peer bullying, did not contain experimental methods, examined the prevention program through different variables, and included programs aimed to prevent bullying as well as non-school-based studies were excluded from the review. Accordingly, 19 articles were included in the review. Figure 1 depicts the selection process used in the study.

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                        │      PubMed: 56         │
                        │      PsycInfo: 163      │
                        │      PsycNET: 51        │
                        │   ScienceDirect: 4567   │
                        │   Google Scholar: 6580  │
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| Repeated studies:3514 | No prevention program: 4892 | No empirical methods: 2207 |

| Not studying peer bullying: 922 | Examining the effectiveness of prevention programs through different variables: |

Studies included in the review: 19

Figure 1: Selection process of studies

Study	Sample	Application Groups	Interventions Implemented	Monitoring Period	Measurements and Measurement Tools	Results
Frey et al. (2005)	3-6. Class Students (n = 1126)	Experimental Group (n = 549) Control Group (n=577)	The Steps to Respect Program	4 months	Pre-Test Post-Test 1- The Walker-McConnell Scale of Social Competence and School Adjustment, Elementary Version 2- The student Experience Survey: What School Is Like for Me	With this evaluation, it was determined that the effects of the program were positive in terms of observed bullying behavior, social interaction, and attitudes toward bullying.
Jenson and Dieterich (2007)	4. Class Students (n = 1126)	Experimental Group (n = 670) Control Group (n=456)	The Youth Matters Program	24 months	Data wave 1 Data wave 2 Data wave 3 Data wave 4 The Bully Victim Scale From The Revised Olweus Bully/Victim Questionnaire	The results revealed that self-reported bullying victimization among students in YM schools decreased compared with students in control group schools. In the YM condition, bully victimization was significantly lower than that in the control group.
Fonagy, et al. (2009)	3-5 Class Students (n=2712)	Experimental Group (n = 1859) Control Group (n=675)	School Psychiatric Consultation (SPC) (n=1035) Creating a Peaceful School Learning Environment (CAPSLE) (n=824) Treatment-As-Usual (TAU) (n=675)	36 months	Pre-Test Post-Test 1- The Peer Experiences Questionnaire	In CAPSLE schools, compared with TAU schools, peer-reported victimization attenuated the developmental trend of increased aggression, self-reported aggression, self-reported aggression, and aggressive outlook and resulted in a reduction in the percentage of victimized children in the CAPSLE group compared with the SPC and TAU conditions.

Sapouna, et al. (2010)	Primary School Students (n=1129)	Experimental Group (n = 529) Control Group (n=600)	The FearNot! Program	12 months	Pre-Test Post-Test 1- A Dichotomous Measure of Class Socioeconomic Status (SES) 2- Two Questions Adapted From Olweus (1993)	The first follow-up evaluation of the intervention indicated that it significantly increased the likelihood of victims escaping victimization.
Kärnä, et al. (2011)	1-9 Class Students (8-16) (n=297.737)	Experimental Group (n = 156.634) Control Group (n=141.103)	The KiVa Antibullying Program	9 months	Pre-Test Post-Test 1- The Revised Olweus Bully/Victim Questionnaire	The study revealed that both victimization and bullying prevalence rates decreased. However, it was concluded that the KiVa Program can effectively reduce bullying among peers.
Waasdorp, et al. (2012)	37 Primary School Students	Experimental Group Schools (n = 21) Control Group Schools (n=16)	Schoolwide Positive Behavioral Interventions and Support (SWPBIS)	48 months	1. Fall and Spring Semester Measurement 2.Spring Semester Measurement 3.Spring Semester Measurement 4. Spring Semester Measurement 5.Spring Semester Measurement Teacher Observation of Classroom Adaptation – Checklist (TOCA-C)	Analyses revealed that children in schools implementing SWPBIS had lower rates of teacher-reported bullying and peer rejection than those in the control group.
Kärnä, et al. (2013)	1-3. Class Students (n = 6927) Students from 7th-9th grades (n = 16503)	Experimental Group 1-3. Tier Schools (n = 38) Students from Tier Schools (n = 38)	The KiVa Antibullying Program	9 months	Pre-Test Medium Test Post-Test 1- The Revised Olweus' Bully/Victim Questionnaire - The Participant Role Questionnaire	The results revealed that KiVa effectively reduced bullying and victimization in 1st-grade to 3rd-grade students. It has been reported to have significant positive effects on four out of five peer-reported outcomes in 8th and 9th grades.

		Control Group 1-3. Tier Schools (n = 36) Students from Tier Schools (n = 35)				
Nese, et al. (2014)	6th – 8th grade. students (n = 1710)	3 Experimental Group Schools (n = 1710)	Schoolwide Positive Behavioral Interventions and Support (SWPBIS) Expect Respect Program	6 months	Pre-Test Post-Test School Climate Survey	The study data revealed a functional relation between the intervention and the reduction of student aggression.
Saarento, et al. (2015)	Targeted Sample (n=622) Sample Reached (n=461)	Experimental Group Control Group	The KiVa Antibullying Program	12 months	Pre-Test Medium Test Post-Test 1- The Revised Olweus Bully∕Victim Questionnaire 2- The Participant Role Questionnaire 3- The Provictim Scale 4- Four Self-Report Items (Kärnä et al. 2011b) 5- Perception of Teacher's Attitudes Toward Bullying (General Question)	The results revealed that KiVa was successful in combating bullying and victimization by influencing students' attitudes toward bullying, bystander behavior in bullying situations, and teacher's perceptions of bullying attitudes.
Palladino, et al. (2016)	Experiment 1 (n = 622) Experiment 2 (n = 461) Average Age: 14.91	Experiment 1 Experimental Group Schools (n = 451) Control Group Schools (n=171) Experiment 2	The NoTrap! Program	Experiment 1: 12 Month Experiment 2: 12 Month	6-Month Follow-up Pre-Test Medium Test Post-Test 1- The Florence Bullying-Victimization Scales 2- The Florence	Experiment 1: It is observed that victimization, bullying, cyberbullying, and cyberbullying variables were stable for the control group but significantly decreased for the experimental group. Experiment 2: The moderating effect of gender was examined, and

		Experimental Group Schools (n = 234) Control Group Schools (n=227)			Cyberbullying/ Cybervictimization Scales	a decrease in bullying and cyberbullying was observed over time (pre and post-test) in the experimental group. (This result is similar for boys and girls). However, the status of variables remained stable in the control group.
Nocentini and Menesini, (2016)	4th – 6th Grade Class Students (n = 2042) (Average age 4th grade: 8.85 6th grade: 10.93)	Experimental Group (n = 1039) Control Group (n=1003)	The KiVa Antibullying Program	6 Month	Pre-Test Post-Test 1- The Florence Bullying-Victimization Scales 2- The Questionnaire on Attitudes Toward Bullying 3- A Seven-Item Scale Originally Developed for the Finnish Students	It has been revealed that the KiVa Program in the 4th grade reduces bullying, victimization, and pro-bullying attitudes as well as increases pro-victim attitudes and empathy toward the victim. Furthermore, it was determined that bullying, victimization, and pro-bullying attitudes decreased in the 6th grade.
Limber, et al. (2018)	3rd -11th Grade Class Students Study 1 (n=70.998) Study2 (n=31.675)	Experimental Group (n = 102.673)	The Olweus Bullying Prevention Program	36 Month	Pre-Test Post-Test The Olweus Bullying Questionnaire	In the study, significant decreases were found in two main dimensions: exposure to bullying and bullying of other students.
Gusmões, et al. (2018)	7th – 8th grade. students (n = 6658)	Experimental Group (n = 3340) Control Group (n=3318)	The Tamojunto Prevention Program	21 Month	Pre-Test 9-Month Follow-up 21-Month Follow-up 1- The European Union Drug Abuse Prevention Questionnaire 2- The questionnaire of the World Health Organization 3- The Pesquisa Nacional de Saúde do Escolar questionnaire	It has been reported that students in the intervention group were subjected to bullying 30% less than students in the control group 9 months after the intervention. In the 21st month, it was revealed that this effect was not maintained.

					4- The Associação Brasileira de Empresas de Pesquisa scale	
Ferrer-Cascales, et al. (2019)	Targeted sample (n = 2389) Students who fill out the questionnaires correctly (n = 2057) Average age (13.8)	Experimental Group (n = 987) Control Group (n=1070)	The TEI Program	7 Month	Pre-Test Post-Test 1- The Illinois Bully Scale 2- E-Victimization Scale (E-VS) 3- E-Bullying Scale (E-BS) 4- The Spanish Version of The School Climate Questionnaire	The results obtained indicated a significant decrease in bullying behavior, peer bullying, fighting, cyber bullying, and cybercrime in the experimental group after the intervention application. Similarly, only this group indicated a significant improvement in school climate factors.
Palladino, et al. (2019)	9th grade. students (n = 622)	Experimental Group (n = 451) Control Group (n=171)	The NoTrap! Program	12 Month	Pre-Test Medium Test Post-Test - The Florence Bullying/Victimization Scales 2- The Florence CyberBullying–cyberVictimization Scales (FCBVSs) 3- The Youth Self-Report (YSR	In the study, the intervention effectively reduced the level of victimization in the experimental group compared with that in the control group.

Kelly, et al. (2020)	26 Secondary School Students (n = 2190)	Experimental Group (n = 1087) Control Group (n=1103)	The Climate and Preventure (CAP) Study	36 Month	6-Month Follow-up 12-Month Follow-up 24-Month Follow-up 36-Month Follow-up 1- The Substance Use Risk Profile Scale (SURPS) 2- The Revised Olweus Bully/Victim Scale 3- The Strengths and Difficulties Questionnaire (SDQ) 4- The Brief Symptom Inventory	Among the victims in the intervention schools, victimization scores were 19% lower, emotional symptom scores were 23% lower, and suicidal ideation scores were 12% lower compared with the victims in the control schools.
Tiiri, et al. (2020)	7th -9th grade. students 2008, (n = 2061) 2014, (n = 1936)	Experimental Group (n = 3997)	The KiVa Antibullying Program	72 Month	2008 Measurement 2014 Measurement The Strengths and Difficulties Questionnaire (SDQ)	It has been observed that there was a decrease of about 30% in traditional victimization. Additionally, adolescents reported feeling more secure at school and increased attempts by teachers, other adults, and peers to stop bullying at school.
Peng, et al. (2022)	7th Grade Class Students (n = 319)	Experimental Group (n = 178) Control Group (n = 141)	The Knowledge-Attitude Practice (KAP)	4 Month	Pre-Test Post-Test 1- The Multidimensional Peer Victimization Scale (MPVS)	The results indicated that the awareness of bullying of male and female students in the intervention group increased.
Garandeau, et al. (2022)	3rd – 5th Class Students	Experimental Group (n = 9562) Control Group (n =7629)	The KiVa Antibullying Program	9 Month	Pre-Test Post-Test 1- The Participant Role Questionnaire	The results indicated that the empathy levels of the students in the intervention group increased. This positive effect might decrease bullying behavior.

Table 1: Distribution of studies by sample, application groups, intervention, follow-up time, measurements, and results.

3. Findings

In this review study, 19 studies that met the criteria were evaluated. All the studies reviewed were conducted abroad. Of these, 7 studies were conducted in the USA (Fonagy et al., 2009; Waasdorp et al., 2012; Kärnä et al., 2013; Jenson & Dieterich, 2007; Nese et al., 2014; Frey et al., 2005; Limber et al., 2018), 4 in Finland (Garandeau et al., 2022; Saarento et al., 2015; Kärnä et al., 2011; Tiiri et al., 2020), 3 in Italy (Palladino et al., 2016; Nocentini & Menesini, 2016; Palladino et al., 2019), 1 in Australia (Kelly et al., 2020), 1 in Spain (Ferrer-Cascales et al., 2019), 1 in China (Peng et al., 2022), 1 in Brazil (Gusmões et al., 2018), 1 in the UK and 1 in Germany (Sapouna et al., 2010). The findings obtained from the articles are summarized in Table 1 under 6 headings: sample, treatment groups, intervention, follow-up period, measurements, and results.

3.1. Methodological Characteristics of the Studies

Participants in the studies were primary, middle, and high school students. The age range of the participants in the studies varied between 7 and 18 years, and the majority were middle school students. The sample sizes of the studies ranged from a minimum of 319 students (Peng et al., 2022) to a maximum of 297,737 students (Kärnä et al., 2011).

3.2. Measurement Tools Used in the Studies

Questionnaires, scales, and structured observation forms were used to assess the effectiveness of the interventions implemented in the evaluated studies. In 3 of the studies, structured observation forms were used in addition to questionnaires and scales (Nese et al., 2014; Fonagy et al., 2009; Frey et al., 2005).

In most studies, participants' perceptions of bullying and victimization were measured with the Olweus Bully/Victim Questionnaire. The Florence Bullying-Victimization Scales, The Florence Cyberbullying/ Cybervictimization Scales, The Participant Role Questionnaire, The Original 20-Item Provictim Scale, The Seven-Item Empathy Scale, The Self-Efficacy for Defending Scale, The Multidimensionel Peer Victimization Scale (MPVS), The Finnish National Board of Education Items, The Illinois Bully Scale, E-Victimization Scale (E-VS), E-Bullying Scale (E-BS), The Spanish Version of The School Climate Questionnaire. The Revised Olweus Bully ⁄ Victim Questionnaire, The Provictim Scale, Four Self-Report Items, Perception of Teacher's Attitudes Toward Bullying (General Question), Teacher Observation of Classroom Adaptation – Checklist (TOCA-C), The Questionnaire on Attitudes Toward Bullying, A Seven-Item Scale Originally Developed for the Finnish Students, A Dichotomous Measure of Class Socioeconomic Status (SES), Two Questions Adapted From Olweus, School Climate Survey (a 9-item), The Walker-McConnell Scale of Social Competence and School Adjustment, Elementary Version, The student Experience Survey: What School Is Like for Me, The Substance Use Risk Profile Scale (SURPS), The Strengths and Difficulties Questionnaire (SDQ), The Brief Symptom Inventory, The European Union Drug Abuse Prevention Questionnaire, The questionnaire of the World Health Organization, The Pesquisa Nacional de Saúde do Escolar questionnaire, The Peer Experiences Questionnaire, The Participant Role Questionnaire, The Associação Brasileira de Empresas de Pesquisa scale, The Adolescent Peer Relations Instrument (APRI), A 44- Item Version of Rosman and Kohn Social Competence, SCT Constructs Items, The Youth Self-Report (YSR) used in such scales.

3.3. Experiment Designs

Pre-, mid-, and post-tests were applied in 3 of the studies (Kärnä et al., 2013; Saarento et al., 2015; Palladino et al., 2019) examined. In a study (Palladino et al., 2016) a 6-month follow-up test was applied in addition to the pre-, mid- and post-tests. Pre-tests and post-tests were applied in 10 studies (Garandeau et al., 2022; Peng et al., 2022; Ferrer-Cascales et al.,2019; Nocentini & Menesini, 2016; Sapouna et al., 2010; Fonagy et al., 2009; Nese et al.,2014; Kärnä, 2011; Frey et al., 2005; Limbe et al., 2018). A study (Gusmões et al.,2018) included 9-month and 21-month follow-ups after the pre-test. In addition to fall and spring measurements, 2nd, 3rd, 4th, and 5th, a study (Waasdorp et al., 2012) in which spring measurements were applied was included in the review study. Kelly et al. (2020) conducted a study in which 6-, 12-, 24-, and 36-month follow-ups were measured. Tiiri et al. (2020) conducted two different measurements in 2008 and 2014 in their study.

There was no control group in 2 of the studies (Nese et al.,2014; Limber et al., 2018) included in the review. Cross-sectional design was used in 1 of the studies (Tiiri et al., 2020). In 3 of the studies (Nese et al., 2014; Fonagy et al., 2009; Frey et al., 2005) a mixed model (experimental + qualitative) was implemented; in the other studies, only an experimental model was used.

3.4. Scope of the Implemented Interventions

In most reviewed studies (n = 6), the KiVa Anti-Bullying Program was implemented. Other programs included NoTrap!, Olweus Bullying Prevention, Creating a Peaceful School Learning Environment (CAPSLE), TEI, FearNot, Youth Matters, Tamajunto, Step to Respect, CAP (The Climate and Preventure Study), KAP (The Knowledge-AttitudePractice), SWPBIS (Schoolwide Positive Behavioral Interventions and Support).

One of the interventions, "NoTrap!" is an online and school-based universal intervention program developed to prevent and combat cyberbullying and adopts a peer-led approach (Zambuto et al., 2020). The first stage of the program, which comprises two stages, is conducted by research psychologists, and the second stage is carried out by peer educators who have undergone a certain training. These peer educators take on a variety of responsibilities in classrooms and online environments. These responsibilities are to increase awareness and support students in the virtual environment as well as to exhibit a collaborative attitude by performing activities within the program in the classroom environment (Palladino et al., 2016).

Inspired by the word "kiva" meaning someone who is nice and kind to others, the KiVa Anti-Bullying Program is an evidence-based program developed in Finland. The program is widely implemented from grades 1 to 9 (children aged 7–15). It has three important goals such as preventing bullying, effectively combating acute bullying cases, and minimizing the negative effects of bullying. Based on the theoretical perspective that bullying is a group phenomenon, this approach, which has been transformed into practical tools in the program, emphasizes the fact that the peer group is a part of the bullying problem and the solution (Herkama & Salmivalli, 2018).

The primary goals of the OBPP were to reduce bullying problems among students, prevent the development of new bullying problems, and provide better peer relationships at school. OBPP was developed in 1983 with a national campaign against bullying in schools by the Norwegian Ministry of Education after three adolescent boys in Norway committed suicide, possibly as a result of violent peer bullying. This program is based on four basic principles.

Adults at school should show warm and positive attention to students, set strict limits on unacceptable behavior, demonstrate consistent, non-physical, and hostile behavior that does not lead to negative consequences when rules are broken, and act as authority and positive role models (Olweus, 1993; Olweus & Limber, 2010).

The "TEI" Program is a school-based peer education intervention designed for secondary school students to prevent school violence and cyberbullying. The main objective of this program is to improve school environment and promote a positive school cohesion through the development of adequate problem-solving strategies and the integration of a culture of zero tolerance to violence. The intervention comprises six phases. The first stage includes disseminating the intervention throughout the school community and raising awareness as well as informing and disseminating the principles of the program among all members of the school community (teachers, families, and students). The second phase is based on TEI staff developing a 30-hour initial intensive training for teachers. The third phase includes student trainer training, which focuses on positive social behaviors, empathy, and problem-solving strategies. The fourth stage involves the creation of tutor-student pairs, where a tutor with high interpersonal skills is matched with vulnerable young students, depending on their vulnerability or risk of harassment. The fifth phase is based on the implementation of three types of interventions developed specifically for tutor-student pairs. The final phase is the closing, a joint activity aimed at delivering a diploma accrediting participation to all those involved in the program (Ferrer-Cascales et al., 2019).

Developed to help victims of bullying recover from victimization and reduce bullying behavior in general, "FearNot!" Program (Fun with Empathic Agents to achieve Novel Outcomes in Teaching) focuses on improving the problem-solving skills of current or potential victims of bullying by encouraging students to construct and evaluate a wide variety of responses to bullying in a safe environment that provides privacy (Sapouna et al., 2010).

Another program implemented was "Youth Matters," emerged with an approach that promotes positive relationships between students and adults at school and supports safe and healthy norms. This program uses a special curriculum developed for the prevention of bullying. This curriculum comprises a series of teaching modules that address topics and skills important for students and school communities. Modules that address systemic issues related to bullying include the development of classroom or school-wide projects that demonstrate the negative consequences of bullying and aggression on students (Jenson & Dieterich, 2007).

The program developed by the European Union for the Prevention of Drug Abuse, known as "Tamojunto," focuses on gaining skills to strengthen interpersonal relationships such as communication and social skills and increasing cognitive-behavioral ability (Kreeft et al, 2009). This program, which mainly serves to prevent drug use, was used by Gusmões et al. (2018) to assess its effects on the prevention of bullying and physical violence.

The "Step to Respect" Program aims to reduce school bullying with basic objectives such as increasing teachers' awareness and responsiveness to bullying in school, encouraging social responsibility, and teaching social-emotional skills to resist bullying and establish healthy relationships. The realization of these goals also increases the skills of children associated with general social competence (for example, joining a group, conflict resolution) (Frey et al., 2005).

The Climate and Preventure (CAP) was developed as a short, group-based intervention program among adolescents for individuals with personality types with risk factors for drug

use, emotional and behavioral problems (Conrod, 2016). Motivational interviewing includes two 90-minute group sessions based on cognitive and behavioral therapy. The first session includes targeting a specific personality type, followed by psychoeducation on problematic behaviors common to that personality type. The second session includes information about healthy behavior modules and exercises necessary for their implementation. The program targets suicidal tendencies and internalization and externalization problems among victims and bullies (Kelly et al., 2020).

The KAP (The Knowledge-Attitude Practice) model, developed as a behavioral intervention theory, is based on the basic principle that increased knowledge will lead to changes in attitudes and ultimately behavior (Sambo et al., 2014). It includes a process that includes the definition of bullying, its possible harmful consequences, and information on how to prevent bullying (Peng et al., 2022).

Another prevention program, CAPSLE, is an intervention system that aims to change the school environment. The model, which opposes a simple power dynamic-oriented climate and violence, aims to reduce children's experiences of aggression and victimization (Fonagy et al., 2009).

Finally, SWPBIS (School-wide Positive Behavioral Interventions and Support), has taken its place in the literature as an extra-curricular, universal prevention model that makes use of behavioral, social learning, and organizational principles. It aims to change the school environment by establishing procedures (e.g., behavioral reinforcement) that promote positive changes in teacher and student behavior (Sugai & Horner, 2006).

4. Results

In a study conducted by Palladino et al. (2016) in Italy with two independent studies, the sample of which comprised 1083 high school students, the experimental and control group model was used and the NoTrap! intervention program was applied to the experimental group. In Experiment 1 (control group, n = 171; experimental group, n = 451), the data of victimization, bullying, cybercrime, and cyberbullying variables obtained from pre-test, mid-test, and post-tests were stable for the control group. It was determined that it decreased significantly for the experimental group, and this decrease continued in the follow-up after 6 months. In Experiment 2, where the moderating effect of gender was examined (control group, n = 227; experimental group, n = 234), it was reported that there was a decrease in bullying and cyberbullying in the experimental group over time (pre- and post-test); however, it was reported that this decrease remained stable at 6 months follow-up and the results were similar for boys and girls. For the control group, the status of the variables remained stable. In the study of the same group of researchers with 622 students from the same level, the NoTrap! intervention program was applied to the experimental group. In addition to the study conducted in 2016 to improve their understanding of the effectiveness of the program, this study, in which they assessed the effects of symptoms on internalization, observed that the NoTrap! Program effectively reduced the level of suffering (i.e., internalizing symptoms) in the experimental group. However, a general stability was reported in the control group (Palladino et al., 2019).

Kärnä et al. (2011) conducted a study in Finland with 297,737 students selected from grades 1 to 9, and the experimental group was exposed to a 9-month KiVa Bullying Prevention Program. The results revealed that the effectiveness of the program was statistically significant in primary school (1st to 6th grades); however, at secondary school, effectiveness only reached statistical significance for victimization at the 8th grade. The same group of researchers

measured the effectiveness of the KiVa Bullying Prevention Program in Finland with 23,430 students selected from grades 1 to 3 and 7 to 9. The analyses revealed that after 9 months of implementation, the intervention had beneficial effects on self-reported victimization and bullying (with some differential effects by gender) in the 1st to 3rd grades. Statistically significant positive results were obtained in the variables of victimization, bullying, help, reinforcement, and defense reported by peers in the 7th to 9th grades (Kärnä et al., 2013).

Garandeau et al. (2022) stated that the importance of empathic skills should be considered in bullying-related behaviors and that teaching children to be empathetic will reduce school bullying. Based on this idea, in a study examining the effect of KiVa Bullying Prevention Program on emotional empathy in Finland, it was determined that the program positively impacted emotional empathy after 9 months of implementation. The fact that these effects were independent of individual and contextual factors indicates that regardless of personal differences, a bullying prevention program can successfully generate empathic interest for children who have been victimized.

Another study in which the Kiva Bullying Prevention Program was implemented was conducted in Italy. The survey, involving 2042 students, is one of the first assessments on the effectiveness of the KiVa Anti-Bullying Program outside of Finland, its country of origin. The findings provided evidence of the program's effectiveness in reducing bullying and victimization. The results revealed that in the absence of an anti-bullying intervention (in the control classes), the levels of bullying and victimization would either increase or not change over time (Nocentini & Menesini, 2016).

In a study conducted by Ferrer-Cascales et al. (2019) in Spain with 2057 students, the TEI Program was applied to the experimental group. The results indicated that the values of bullying behavior, peer bullying, and fighting subscales significantly decreased in students who participated in the TEI intervention program. Moreover, the analysis revealed that the TEI Program can effectively improve school climate factors such as satisfaction with school, sense of belonging, cooperation, and positive communication between families and schools.

In the study by Saarento et al. (2015) with 7269 primary school students in Finland, KiVa Bullying Prevention Program was applied to the experimental group for 12 months. The results revealed that the KiVa Anti-Bullying Program was successful in combating bullying and victimization among primary school students by reducing bullying and victimization, influencing students' attitudes toward bullying, bystander behaviors in bullying situations, and perceptions of teachers' attitudes toward bullying.

In a study conducted by Peng et al. (2022), the KAP (The Knowledge-Attitude Practice) Program was applied to the intervention group. The result of the post-test after the 4-month application determined that awareness of bullying increased regardless of gender, the number of social and verbal victimization decreased in boys, and the acceptance of school-based intervention education programs increased in girls.

Wasdorp et al. (2012) conducted one of the studies in which the SWPBIS Program was applied to the experimental group in the USA. This study, comprising 5 measurements and lasting 48 months, covered 12334 students. The results indicated that children in schools implementing SWPBIS had lower rates of teacher-reported bullying and peer rejection than children in control group schools. Another study in which the SWPBIS Program was applied was conducted by Nese et al. (2014). In this study, in addition to the Expect Respect Program,

the SWPBIS Program was administered to the students before the research. In the study, in which there was no control group and the experimental group comprised 1710 students, there were pre-test and post-test measurements. The school-wide implementation of the program includes routines designed to minimize social rewards to students from peers and others when verbal or physical aggression occurs. The study revealed a functional relation between the intervention application and the reduction of student aggression.

In a study conducted by Sapouna et al. (2010), 1129 students from 27 primary schools in England and Germany participated and the FearNot! Program was applied to the experimental group. The first follow-up evaluation found that the program significantly increased the likelihood of victims escaping victimization. In addition, an overall effect in reducing victimization was found for children who experienced a lower victimization rate one week after the intervention than those in the control group. Finally, no negative side effects of the intervention were observed in increasing bullying offenses among students.

In a study conducted by Jenson and Dieterich (2007) in the USA and the sample of comprising 1126 4th-grade students, the Youth Matters Program was applied to the experimental group. In the study in which the measurement was made with 4 data waves, the results revealed that self-reported bully victimization decreased at a higher rate among the students in the FC schools compared with the control group students.

In a study conducted in Australia, four separate follow-up evaluations were conducted and 2190 students participated in the study. In the study in which the CAP Program was applied to the experimental group, the results revealed that victimization scores were 19% lower, emotional symptom scores were 23% lower, and suicidal ideation scores were 12% lower among victims in intervention schools compared with victims in control schools. Compared with high-risk bullies in control group schools, there was a 25% decrease in behavioral symptom scores among high-risk bullies and a 56% decrease in suicidal ideation scores among high-risk female bullies in intervention schools (Kelly et al., 2020).

In a study conducted by Frey et al. (2005) in the USA, the Steps to Respect Program was applied to 549 experimental group students. Using a rigorous experimental design and analytical strategy, this assessment provided evidence of positive program effects in terms of observed bullying behavior, observed social interaction, and attitudes toward bullying. Implementation of the Steps to Respect Program appeared to result in positive changes in observed playground bullying, normative beliefs, and social interaction skills. In particular, both bullying and the attitudes believed to support the practice of bullying decreased in a short period of time compared with that in the control group.

In a study in which the OBPP was implemented, a large student population of 102,673 was included in the study and the control group was not included. In this study, the results were presented in two sections. The first section reported analyses of the possible program effects of being bullied and bullying others for a full sample of students over the course of two years. The second section included more detailed examinations of longer-term impacts (over three years) for the subgroup of 95 schools for which such data were available. The findings indicated significant decreases in two main dimensions: exposure to bullying and bullying behavior toward other students. In addition, in most analyses, the program effects were similar for boys and girls (Limber et al., 2018).

In the study conducted by Tiiri et al. (2020) in Finland, the effectiveness of the Kiva Bullying Prevention Program was measured with 3997 experimental group students. The study,

which did not have a control group, is notable for being the first study to examine bullying victimization among adolescents at two time points by conducting a cross-sectional survey based on two identical populations. The first key finding was that there was an approximate 30% reduction in traditional victimization. In addition, it was stated that adolescents felt safer at school and that teachers, other adults, and peers reported more attempts to stop bullying at school. The second main finding was that despite the intervention program, the prevalence of cybercrime remained fairly constant between the two time points. The third key finding was that adolescents who were victims of both traditional bullying and cyberbullying reported the highest levels of mental health problems.

In a study conducted by Gusmões et al. (2018) with 6658 students in Brazil, the Tamajunto Program was applied to the experimental group students. According to the results obtained, the students in the intervention group were exposed to bullying 30% less than the students in the control group 9 months after the intervention. The program was found to reduce the likelihood of being bullied, particularly for the girls aged between 13 and 15 years at the 9-month follow-up time point. However, this effect was not sustained in the 21-month follow-up measurement.

Finally, a study conducted by Fonagy et al. (2009) including psychiatric consultation comprised 2712 students. The experimental group of 1859 participants consisted of psychiatric consultation (n = 1035) and CAPSLE Program (n = 824). The control group of 675 participants was accompanied by a treatment program (Treatment-As-Usual (TAU)). Results revealed that CAPSLE schools moderated the developmental tendency of increased peer-reported victimization, aggression, and self-reported aggression compared with TAU schools. In the CAPSLE group, the percentage of victimized children declined compared with the SPC and TAU conditions. In addition, no significant differences were observed over time in the experimental group for self-reported victimization, witnessing bullying, and beliefs in the legitimacy of aggression.

5. Discussion

This study was conducted to review empirical research on the effectiveness of anti-bullying programs on peer bullying. For this purpose, among the 11,419 articles published, 19 studies that met the criteria were included in the review. The result of the analysis indicated that most studies were conducted in the USA. Different measurement tools were used for the results of the implementations in the studies, and among these, structured observation forms were relatively less than the others. For example, in Nese et al.'s (2014) study, the primary dependent measure was determined as the frequency of physical or verbal aggression during 20 minutes of direct observation in the cafeteria during lunch. In addition, during each observation session, observers recorded the recipients of the bullying behaviors and how the eyewitnesses reacted to the bully. In the study by Frey et al. (2005), an observational coding system was designed that focused on bullying problems and processes thought to contribute to them (for example, bystander behaviors, adult intervention, and interpersonal skills). Fonagy et al. (2009) included a system in their study in which observers coded off-task behavior, destructive behavior, and teacher guidance as present or absent for each 32-second interval in three different days for each child.

Among the publications reviewed, the majority of articles were based on pre-test and post-test measurements, but there were also studies measured with follow-up tests and different waves of data. There are studies in which the effect of the intervention program continues in the follow-up measurements made after the pre-test and post-test. The study by Palladino et al.

(2016) is an example of this. Measurements made in this study revealed that the reduction in victimization, bullying, cybercrime, and cyberbullying continued at 6-month follow-up. In the study by Gusmões et al. (2018), the percentage of bullying decreased in the 9-month follow-up measurement, but this decrease did not continue in the 21-month follow-up.

The duration of the intervention programs implemented in the studies varied between 4 and 72 months. In the study by Tiiri et al. (2020), a cross-sectional design was used and follow-up lasted 72 months. In this study, the long-term exposure of the participants to the program, that is, the initiation of bullying prevention programs in childhood, resulted in long-term effects on the success of the intervention. The parameters measured in the studies included bullying behavior, victimization, bully, victim, social competence, aggression, and self-efficacy. The results obtained in a study aiming to evaluate the effectiveness of a bullying prevention program in improving school climate revealed that the program can effectively improve school climate factors such as school satisfaction, sense of belonging, cooperation, and positive communication between family and school (Ferrer-Cascales et al., 2019).

The anti-bullying intervention applied in studies that did not include a control group can be effective (Nese et al., 2014; Limber et al., 2018). The results of a study with a very large sample of 102,673 supported the effectiveness of the OBPP in intervention schools. In most outcomes, program effects were similar for boys and girls. However, the results obtained were weaker and less comprehensive for students who identified themselves as black or Hispanic compared with the majority of white students (Limber et al., 2018).

It is known that being bullied is more than just a series of aggressive interactions or the hurtful bilateral relationship between the bully and the victim, and it brings with it many social consequences that get worse over time. Many children who are not directly involved in bullying behavior do not only reward the bullies but also play a highly discouraging and humiliating role for the victims. With such small actions, a greater number of children than just active bullies can contribute to the harm caused to the victim. Similar to a jigsaw puzzle, the "whole picture" of bullying is only fully revealed when the small pieces are put together. Therefore, although it is often stated that bullying is a "group process," it is thought that interventions against bullying should be adopted within a peer group at a whole-school level rather than for individual bullies and victims. When the studies are evaluated in general, it is seen that with an appropriate intervention program, it is possible to significantly reduce the bully-victim situations at school and the related problem behaviors. Although it is known that there are few studies on the prevention of peer bullying in our country, it is recommended to increase the knowledge about interventions and conduct new studies on holistic prevention programs to prevent this situation.

6. Conclusion

While bullying continues to be an important risk factor for mental and physical disorders, the need for school-based intervention programs has increased with the emergence of the long-term effects of victimization. This study indicates that a wide variety of programs have been developed to reduce peer bullying behavior and victimization rate, and many studies have been conducted for examining their effectiveness. In conclusion, fairly consistent evidence suggests that children's bullying behaviors can be significantly reduced through well-planned interventions. It would be wrong to assume that anti-bullying interventions always produce the expected findings. Thus, additional research is needed to evaluate bullying behaviors and anti-bullying interventions.

Ethics Approval

As the study is a systematic review, no ethics approval was necessary.

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