Universal School-Based Programs Targeting Prevention of Child Maltreatment
An Effective Intervention? A Systematic Literature Review

Petra Svaljek

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Supervisor
Lilly Augustine

Examinator
Mats Granlund

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ABSTRACT

Author: Petra Svaljek

School-Based Programs Targeting Prevention of Child Maltreatment
An Effective Intervention?

Background: Child maltreatment is a widespread global issue with detrimental and long-lasting physical, psychological and societal consequences. Therefore, it is essential to develop effective programs to protect children from any form of violence. School-based programs show potential in preventing child maltreatment, but the existing research is limited and primarily focuses on prevention of sexual abuse.

Aim: The aim of the current paper is to systematically review universal school programs targeting prevention of child maltreatment.

Methods: Based on the inclusion and exclusion criteria, six articles were included. The review has examined individual components of the programs. Additionally, the review has investigated the effect program had on children’s maltreatment-related knowledge, and application of protective behaviors.

Results: The six included studies evaluated the effect of four programs targeting prevention of child maltreatment. Following the participation in the programs, children exhibited knowledge gains on topics related to maltreatment, and protective skills and behaviors. The effect sizes ranged from small to large. The results of follow-up assessment, and assessment of the application of protective skills were limited and showed mixed results.

Conclusion: School-based programs aiming at prevention of child maltreatment are limited. However, the few studies examining the effects depict promising results that such programs can be an effective intervention for prevention of child maltreatment. For further improvement of effectiveness of such programs it is essential to closely examine the individual components and techniques that contribute to successful prevention of abuse and neglect.

Keywords: School-based programs · Child maltreatment · Child abuse · Child neglect · Prevention · Intervention · Systematic review
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1 Introduction

According to the Article 19 of the United Nations Convention on the Rights of the Child (1989), State Parties are obliged to implement measures that include legal, administrative, social and educational actions that protect children from all types of violence, including physical and psychological abuse, and neglect. However, violence against children is still a widespread global issue, with maltreatment affecting approximately 1 billion of children worldwide (World Health Organization, 2022). Child maltreatment takes many forms, such as emotional, physical, and sexual abuse, as well as emotional and physical neglect. Moreover, research has continuously documented that all five forms of maltreatment have profound and long-lasting consequences on the affected victims (Liu et al., 2017; Molendijk et al., 2017; Russotti et al., 2021). Thus, it is of imperative importance to develop and implement programs that effectively target prevention of child maltreatment. As stated by the previously mentioned Article 19, educational actions are a potential preventive method, and as such school could be a fitting setting for preventative education and program delivery. According to the U.N, such programs must strengthen and empower children by expanding their competencies, and their knowledge on their safety and rights (U.N, 1989). Additionally, preventative programs must effectively tackle potential risk factors children may encounter and promote self-protection, normalize disclosure process, and strengthen peer and personnel relationships (U.N, 1989). Previous research has shown promising effect the school-based prevention programs had on children’s maltreatment-related knowledge, self-protection behaviors and skills, and disclosure procedures (Gubbles et al., 2021; Topping and Barron 2009; Walsh et al. 2018). However, the fore-mentioned studies have also depicted mixed results regarding the effectiveness of school-based prevention programs (Blakey et al., 2019). Additionally, majority of research has focused on evaluation of programs targeting only child sexual abuse (Topping and Barron 2009; Walsh et al. 2018). Thus, there is a lack of research and definitive answers regarding the overall effectiveness of such programs, and factors facilitating or hindering their overall success. Therefore, the current study aims to explore the effect of school-based programs targeting prevention of multiple types of maltreatment by conducting a systematic review. Additionally, the study aims to identify and describe the individual characteristics of the implemented programs.
2 Theoretical Background

2.1 What is Childhood Maltreatment?

Childhood maltreatment is considered a major global health and safety issue, resulting both short- and long-term detrimental and enduring consequences for the affected victims (Gubbels et al., 2021). Childhood maltreatment, as defined by The Centers for Disease Control and Prevention (CDC), is any act committed by a parent or a caregiver that results in actual or potential harm to a child under the age of 18 (Leeb et al., 2008). Thus, childhood maltreatment includes emotional, physical, and sexual abuse and emotional and physical neglect.

2.1.1 Scope of the Problem

According to the 2022 World Health Organization (WHO) report, approximately 1 billion children worldwide between the ages of 2 to 17 have experienced at least one form of maltreatment (WHO, 2022). Furthermore, according to the data from the National Child Abuse and Neglect Data System (NCANDS), 76 per cent of maltreated children have experienced neglect, 16 per cent of physical abuse, 10 per cent of sexual abuse, and 3.6 per cent of other types of maltreatment in the year 2021 (U.S. Department of Health & Human Services, 2021). Retrospectively, 1 in 5 women and 1 in 13 men report being sexually abused in childhood (WHO, 2022). Additionally, majority of victims of maltreatment experience multiple forms of maltreatment across their childhood, from multiple different perpetrators (McElearney et al., 2018). Tragically, approximately 40 000 children yearly, under 18 years, have died due to the experienced abuse and/or neglect (WHO, 2022). However, it is crucial to note that the prevalence figures grossly underestimate the true magnitude of the problem since a large percentage of child maltreatment cases are undetected and unreported (Jordan & Steelman, 2015). The high prevalence of child maltreatment is even more concerning when the short-term and long-term consequences are considered.
2.1.2 Consequences of maltreatment

A plethora of previous research has continuously documented a wide range of both short- and long-term detrimental consequences childhood maltreatment poses on multiple domains of an individual’s functioning. Firstly, according to a global meta-analysis conducted by Gardner and colleagues (2019), individuals subjected to at least one form of maltreatment in childhood were approximately twice as likely to struggle with some form of a depressive disorder and 1.68 times more likely to develop an anxiety disorder. Moreover, exposure to childhood maltreatment has been associated with a heightened risk for the development of an eating disorder, substance abuse, and personality disorders, as well as increased odds of a suicide attempt (Liu et al., 2017; Molendijk et al., 2017; Russotti et al., 2021). Secondly, according to Latham et al. (2021), victims of childhood maltreatment are also significantly more likely to experience subsequent lowered life satisfaction, sleep problems, loneliness, adolescent parenthood, and engage in criminal behavior. Thirdly, physiologically, individuals with a history of maltreatment are more prone to struggle with obesity, migraines, chronic pain, cardiovascular diseases, and diabetes (Nemeroff, 2016). Finally, according to the intergenerational transmission of violence theory, also known as the “cycle of violence,” child maltreatment victims are more likely to become perpetrators or victims of violence in adulthood (Widom, 1989). Given the high prevalence of childhood maltreatment, as well as the profound and detrimental consequences maltreatment poses on the children’s well-being and functioning, it is imperative to develop, identify and implement effective preventative interventions.

2.2 School-Based Child Maltreatment Prevention Programs

Universal interventions aimed at preventing child maltreatment play a pivotal role in safeguarding the well-being and future of countless children. According to the WHO (2004), universal interventions refer to interventions target the general public or the whole population group that has not been identified on the basis of an elevated risk. On the other hand, targeted interventions focus on individuals or groups that present with an elevated risk factor (biological, psychological, and societal) that could be detrimental to their development, and functioning (WHO, 2004).
By identifying and addressing risk factors, providing education and support to the at-risk families, and implementing early intervention strategies, both universal and targeted interventions have the potential of breaking the cycle of maltreatment and creating a safe environment for children to develop in. Prevention strategies most commonly include public and media awareness campaigns, education of parents and school professionals, as well as education of children (Tutty et al., 2019).

Apart from home, children spend majority of their time in schools. Thus, schools, being a significant setting, should be considered to play a vital role in prevention, identification, and reporting instances of child maltreatment, and raising awareness on the widespread issue. Thus far, universal school-based programs targeting prevention of alcohol and substance use, adolescent pregnancy, and bullying have exhibited promising results by effectively lowering rates of the fore-mentioned issues (Durlak et al., 2014; Evans et al., 2014). Furthermore, schools ought to be considered an ideal environment for implementation of the majority of interventions as they provide access to a large population of children and school professionals. Moreover, as the universal school-based programs are delivered to all students, at-risk children and adolescents avoid stigmatization they could potentially experience when participating in targeted programs for individuals and families at-risk. In their systematic review, Gronholm and Michelson (2018), found that students who participate in targeted interventions face stigma, through labelling and exclusion which has detrimental effect on help-seeking. Furthermore, according to Weegar and Romano (2019), school employees report suspected maltreatment more frequently than any other professional or non-professional group. In addition, most school-based programs are delivered by teachers or other school staff who are often labeled by children as “trusted adults” (Gubbels et al., 2021). This could provide children with additional comfort to disclose the experienced abuse and/or neglect. Equally, it could provide teachers with platform to start a conversation with students they have additional concern for.

Around the 1980s, research focused on the development of universal child centered school-based programs targeting prevention of sexual abuse (Brassard & Fiorvanti, 2014). Soon after, programs targeting the prevention of other forms of child maltreatment also became the research focus (Brassard & Fiorvanti, 2014). According to Gubbels et al. (2021), the general aim of school-based child maltreatment programs is to increase children’s knowledge about abuse and neglect as well as to teach children adequate protective skills that reduce the risk of maltreatment from occurring or continuing.
Protective skills refer to strategies a child can use to protect themselves from maltreatment or that would reduce the risk of maltreatment from occurring in the first place such as saying no, recognizing and avoiding unsafe situations and asking for help. Additionally, school-based prevention programs focus on both primary and secondary child maltreatment prevention (Thompson et al., 2022). Primary prevention refers to prevention of the onset of any form of child maltreatment. In contrast, secondary prevention refers to measures that cease maltreatment through timely identification and adequate reporting (U.S. Department of Health & Human Services, 2023). Moreover, the core concepts of most child-focused programs include (Nickerson et al., 2019):

a) teaching children to recognize signs of abuse/neglect and potential abusers,

b) teaching children how to say “No,”

c) teaching children how to avoid or remove themselves from potentially harmful situations,

d) encouraging and educating children to report previous or ongoing maltreatment to trusted authority figures

e) teaching children it is not their fault.

While universal school-based child maltreatment prevention programs offer a wide range of positive factors, the lack of evidence-based programs accessible to schools has been consistently emphasized in the previous literature (Gubbels et al., 2021; Wolfersteig et al., 2022). More specifically, majority of prevention programs focus solely on prevention of childhood sexual abuse (Davis & Gidycz, 2000; Topping and Barron, 2009; Walsh et al., 2015; 2018). Consequently, most of the previous research focused only on evaluation of school-based child sexual abuse programs. For example, Topping and Barron (2009) conducted a meta-analysis, evaluating the effectiveness of 22 school-based child sexual abuse programs. While they reported a medium effect size for half of the included programs, Topping and Barron (2009) have also highlighted methodological flaws (e.g., lack of control groups, valid and reliable measurement tools) majority of the included studies presented with. More recently, Walsh et al. (2015; 2018) conducted a systematic review and a meta-analysis to examine the effectiveness of 15 school-based programs preventing child sexual abuse. The study reported significant effect programs had on children’s sexual abuse-related knowledge ($d = .61$) and protective skills and behaviours ($d = .96$; Walsh et al., 2018). Additionally, Walsh et al. (2018) also found children who participated in sexual-abuse prevention programs were significantly more likely to disclose experienced sexual abuse compared to children who did not participate in such programs.
However, the authors also identified wide range of methodological limitations such as variations in individual program characteristics and outcome variables, reliability and validity of measures, and lack of blind evaluators (Walsh et al., 2015; 2018). Such methodological limitations could have impacted the effect sizes and overall results.

3 The Aim of the Study

Considering a large research gap of evidence-based school programs targeting prevention of multiple forms of child maltreatment, the current study aims to identify and review studies examining the efficacy of such programs. More specifically, the current study will systematically review the effect of universal school-based programs targeting the prevention of multiple forms of child maltreatment among school-aged children. Additionally, the study will aim to review individual components of the implemented programs based on the following question:

1. Which universal programs have a significant effect on children’s maltreatment-related knowledge?
2. Which universal programs have a significant effect on children’s protective behaviors and/or skills?
3. What are the individual characteristics of the implemented universal school-based programs?

4 Methods

4.1 Systematic Review

A systematic review will be conducted to answer the above-mentioned research questions and achieve the study's aim. A systemic review is a literature review that systematically and transparently synthesizes and appraises the findings of studies on a predefined topic or research question (Jesson et al., 2011). The predefined SPICE framework will guide the review: setting, population, intervention, comparison, and evaluation (Table 1).
Table 1. 
*Research Questions and Aim Presented through SPICE*

<table>
<thead>
<tr>
<th>Setting</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Students (preschool to high school)</td>
</tr>
<tr>
<td>Intervention</td>
<td>Universal preventative and educational programs against child maltreatment</td>
</tr>
<tr>
<td>Comparison</td>
<td>No comparison</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Effect of universal school-based prevention programs on children’s maltreatment-related knowledge and protective behaviors</td>
</tr>
</tbody>
</table>

4.2 Search Process

The search for relevant articles was conducted throughout February 2023. The search was conducted using the following databases: ERIC, PubMed, PsycINFO, and Web of Science. Those databases were chosen because they include literature in the field of psychology, education, medicine, and social sciences. Firstly, the forementioned databases were test-searched using the following terms: “maltreatment,” “abuse,” “neglect,” “prevention,” “child,” “school,” “program,” and “intervention.” The test search was conducted to accumulate and expand relevant terminology by screening seemingly relevant articles. The search strings also contained Boolean operators (OR, AND, and NOT) that were appropriately used on all the databases. MeSH terms were utilized during the search on PubMed because they produced additional relevant articles. Detailed presentations of the search process and strings are displayed in Appendix A.

4.3 Search and Selection Process

4.3.1 Inclusion and Exclusion Criteria

For studies to be included in the current systematic review, they had to meet predefined inclusion and exclusion criteria (*Table 2.*). The formation of the criteria was guided by the aim and the research questions, as well as the fore-mentioned SPICE framework. Firstly, the review has only included studies that examined the programs delivered in schools to school-aged children. Studies where the program was delivered in any other settings (e.g., online) or, only to school professionals and/or parents were excluded. Secondly, studies were included in the review if the programs educated and discussed at least one type of child maltreatment.
However, when the program focused solely on the prevention of sexual abuse, the studies were excluded. Such studies were excluded, since majority of intervention studies as well as literature reviews evaluating the effectiveness of school-based child maltreatment prevention programs mainly focus on prevention of exclusively sexual abuse, while very little is known about the effect of programs focusing on other forms of maltreatment and/or multiple forms of maltreatment (Diaz et al., 2020; Gubbels et al., 2021). The review also only included studies which evaluated universal programs. Universal programs were defined as programs that do not require children to meet any specific criteria to participate in the program. Thirdly, the studies had to report the effect the prevention program had on at least one measured domain (e.g., children’s maltreatment-related knowledge, self-protection skills). Furthermore, studies had to contain an intervention and control condition, thus including only experimental and quasi-experimental studies. Finally, studies had to be peer-reviewed, published before 2013 and written in English.

4.3.2 Title and Abstract Screening

Articles accumulated through the search on ERIC, PsycINFO, PubMed and Web of Science were imported to Rayyan. Rayyan is a web-tool intended to help with the process of screening and selecting studies when conducting systematic reviews (Ouzzani et al., 2016). Altogether, 961 articles were imported into Rayyan. Prior to title screening, 107 articles were removed because they were identified as duplicates. Additionally, 227 articles were removed because they were published before the year 2013. Thus, 627 articles were left for title screening and abstract screening. 498 articles were excluded based on their title, which presented with an irrelevant topic. Following, abstracts of 129 articles were screened. Guided by the inclusion and exclusion criteria, 91 articles were excluded.

4.3.1 Full-text Screening

The title and abstract screening resulted in 37 potentially fitting articles. Based on the inclusion and exclusion criteria, articles were excluded based on the following reasoning: a) Targeted program (n = 8); b) Program delivered outside of school (n = 5); c) Not an experimental or quasi-experimental study (n = 7); and d) Program only focuses prevention of sexual abuse (n = 11). A flow chart of the complete search procedure is presented in Figure 1 (Page et al., 2021).
## Table 2.
*Inclusion and Exclusion Criteria for the Study Selection*

<table>
<thead>
<tr>
<th></th>
<th><strong>Inclusion Criteria</strong></th>
<th><strong>Exclusion Criteria</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setting</strong></td>
<td>Programs delivered/thought in schools</td>
<td>Programs delivered in any setting other than the school (e.g., online, youth centers)</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Students (Preschool to high school)</td>
<td>Retrospective reports from the adult perspective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Studies that do not include children's measurements, but only parental or teacher</td>
</tr>
<tr>
<td></td>
<td></td>
<td>measurements</td>
</tr>
<tr>
<td><strong>Intervention</strong></td>
<td>Programs focused on discussing/educating children on at least</td>
<td>Interventions delivered only parents and/or teachers</td>
</tr>
<tr>
<td></td>
<td>one type of child maltreatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Universal school programs</td>
<td>Targeted programs (e.g., at-risk children, low SES)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Programs targeting prevention of only sexual abuse</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Evaluation of the effect of the employed programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identification and description of different components of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>intervention</td>
<td></td>
</tr>
<tr>
<td><strong>The Study Design</strong></td>
<td>Experimental studies</td>
<td>Systematic reviews</td>
</tr>
<tr>
<td></td>
<td>Quasi-experimental studies</td>
<td>Meta-analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Qualitative studies</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Studies in English</td>
<td>Studies published in or before the year 2013</td>
</tr>
<tr>
<td></td>
<td>Peer-reviewed articles</td>
<td></td>
</tr>
</tbody>
</table>
4.4 Quality Assessment

To assess the quality of the six articles that met the inclusion criteria, a critical appraisal tool from Joanna Briggs Institute was used (JBI; Tufanaru et al., 2020). More specifically, the JBI checklist for randomized-controlled trials was used (Tufanaru et al., 2020). The checklist contains 9 items answered “Yes (2 points),” “No (0 points),” “Unclear (1 point),” or “Not Applicable.” If the item was answered with “Not Applicable”, the item was not included in the calculation of the final quality score. The overall quality score was expressed through a percentage (0-50% = low quality; 50-80% = moderate quality; 80-100% = high quality).

Three studies were deemed to possess high quality (1, 5, 6), while other three studies were evaluated as moderate using the JBI scale (2, 3, 4). Detailed results of the quality assessment are presented in Appendix B.

4.5 Data Extraction and Analysis

To concisely organize the relevant data present in the selected studies, the data was extracted using the Excel extraction protocol. The extraction protocol comprised of: 1) article information (authors, title of the article, year of publication, journal, aim of the study, research questions); 2) methodological information (study design, sampling process, attrition, data analysis, ethical considerations, measurements); 3) setting (country, private/public school, educational level (e.g. preschool)); 4) participants (number of participants, age, grade, gender distribution, group characteristic); 5) intervention (name of the program, type of maltreatment, number of sessions and their length, instructor, formal training of the instructor, groups, materials, purpose of the program, format of delivery, individual components of the program); 6) outcome (outcome variables, frequency of the outcome measures, results (textual and numerical), conclusions, implications, limitations and biases).

The six included studies were read thoroughly to achieve detailed data extraction. Using the information from the extracted data, the studies have undergone thorough analysis. The aim of the data analysis was to answer the research questions of the systematic review clearly and concisely.
Records identified through database search: (n = 961)  
- ERIC: (n = 264)  
- PsycINFO: (n = 277)  
- PubMed: (n = 127)  
- Web of Science: (n = 293)

Records removed before screening:  
Duplicate records removed: (n = 107)  
Records published before the year 2013: (n = 228)

Articles excluded based on title or abstract: (n = 589)  
- Excluded based on title: (n = 498)  
- Excluded based on abstract: (n = 91)

Articles excluded (n = 31)  
- Targeted program (n = 8)  
- Program delivered outside of school (n = 5)  
- Not an experimental or quasi-experimental study (n = 7)  
- Program only focuses prevention of sexual abuse (n = 11)

Studies included in the systematic review (n = 6)
5 Results

Following a thorough full-text screening as well as the quality assessment using the JBI checklist, six articles in total were included in the systematic review based on the predefined inclusion and exclusion criteria (Dale et al., 2016; Diaz et al., 2021; Moreno-Manso et al., 2014; Thompson et al., 2022; Wolfersteig et al., 2022; White et al., 2018). All the articles have been peer-reviewed and published between the years of 2014 to 2022. The six articles assess effectiveness of school-based programs targeting education and prevention of child maltreatment among school-aged children through cluster randomized-controlled trials (RCTs). To allow for an easier reading flow of the current paper, the articles were assigned identifying numbers. Identification numbers and the titles of the articles are presented in Table 3.

Table 3. Identification and Overview of Included Articles

<table>
<thead>
<tr>
<th>Identification Number</th>
<th>Reference</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dale et al., 2016</td>
<td>Empowering and protecting children by enhancing knowledge, skills and well-being: A randomized trial of Learn to BE SAFE with Emmy™</td>
</tr>
<tr>
<td>2.</td>
<td>Diaz et al., 2021</td>
<td>Assessing the Effects of Childhelp's Speak Up be Safe Child Abuse Prevention Curriculum for High School Students</td>
</tr>
<tr>
<td>3.</td>
<td>Moreno-Manso et al., 2014</td>
<td>Application of a child abuse prevention programme in an educational context</td>
</tr>
<tr>
<td>4.</td>
<td>Thompson et al., 2022</td>
<td>Evaluation of a School-Based Child Physical and Sexual Abuse Prevention Program &quot;Empowering Elementary and Middle School Youth to Speak Up and Be Safe: Advancing Prevention of Child Maltreatment with a Universal School-Based Curriculum&quot;</td>
</tr>
<tr>
<td>5.</td>
<td>Wolfersteig et al., 2022</td>
<td>Promoting young children’s interpersonal safety knowledge, intentions, confidence, and protective behavior skills: Outcomes of a randomized controlled trial</td>
</tr>
<tr>
<td>6.</td>
<td>White et al., 2018</td>
<td></td>
</tr>
</tbody>
</table>
5.1 Study Characteristics

Three studies were conducted in the United States (the U.S; 2, 4, 5), two in Australia (1, 6), and one in Spain (3). All the six studies conducted cluster RCTs (1, 2, 3, 4, 5,6). To collect data, the studies have used self-reports (1, 2, 3, 5, 6) and vignette-based tools (1, 4, 6). However, all the studies utilized exclusively child-reports. Five studies implemented the program in elementary schools (1, 3, 4, 5, 6), while study 2 implemented the program in high schools. The age of elementary students ranged from 5 to 13 years, and 15 to 16 among high school students. Five studies have randomly assigned schools to either an intervention group or control group (2, 3,4, 5, 6). On the other hand, study 1 conducted randomization by classrooms. Four studies have implemented the programs in public schools (2, 3, 5, 6), while two studies did not specify whether the schools were public and/or private (1, 4). The sample sizes ranged from 245 children (1) to 2797 children (5). List of measurement tools used in the studies is displayed Appendix C.

All the schools reported no significant difference in age, gender, and outcome variables at the baseline measurement points. Five studies have collected data at three time points: pre-test, post-test and a 6-months follow-up. The pre-test was conducted prior to the implementation of the program, while the post-test was conducted immediately after the end of the program. However, it is important to note, only three studies have conducted a data analysis using data from all the three time points (1, 3, 6). Study 2 used data from the pre- and post-test, while study 5 used data from the pre-test and the follow-up. Both studies reported excluding certain data sets because of the data collection complications that occurred due to the COVID-19 pandemic. On the other hand, study 4 only conducted a pre- and post-test. Furthermore, all the studies have reported obtaining both the parental and school consent for students’ as well as school’s participation in the intervention and the following research.
5.2 Child-Centred School-Based Child Maltreatment Prevention Programs

5.2.1 Types of Programs

The six included studies present in total four different school-based programs. The programs are: Learn to BE SAFE with Emmy™ (1, 6), Speak Up Be Safe (SUBS) (2, 5), Play It Safe! (4); and a story-based program (3). The method of delivery included: modelling (1, 6), skills practice (1, 6), role-playing (1, 4, 6), storytelling (3), discussions (1, 2, 5, 6), presentations (2, 5), scripts and videos (4). All the programs were preventative programs, aiming at both the primary and secondary prevention of certain forms of child maltreatment. All the programs were implemented on the school grounds. The number of sessions varied from one session (4) to 12 sessions (3). The length of each session was minimum 30 minutes (5) to maximum 2-hours (1). The material was delivered by either a trained facilitator (1,4,6), teacher (2,3,5), and social worker (2, 5). All the individuals delivering the programs have undergone some form of program training and education regarding the program’s plan and content. The types of maltreatment targeted were emotional (1,2,3,5,6); physical (1,2,3,4,5,6) and sexual abuse (1,2,3,4,5,6); and neglect (2,3,5). Detailed presentation of the program and can be found in Table 4.

5.2.2 Effects of the Program

To assess the effect the program had on children’s knowledge regarding different aspects of child maltreatment and children’s protective behaviors and skills, Cohen’s d and partial eta squared ($\eta^2$) were interpreted. Two studies have calculated the effect size using Cohen’s d (1,2), while two studies have reported the effect size using the $\eta^2$ (1, 5). However, three studies have not reported the effect sizes (3,4,6). Thus, Cohen’s d was calculated using the relevant reported statistical data. Interpretation of the effect size was conducted according to Cohen (1988), with effect sizes of $d = 0.20$ considered small, $d = 0.50$ medium, and $d = 0.80$ large. When interpreting $\eta^2$, the following rule of thumb was used: $\eta^2 = .01$ is considered small effect size; $\eta^2 = .06$ medium effect size; and $\eta^2 = 0.14$ large effect size.
1) **Effect of the Program on Children’s Knowledge**

Six studies investigated the effectiveness the implemented program had on children’s maltreatment-related knowledge of protective/safety behaviors and resistance strategies (1, 2, 3, 4, 5, 6). Additionally, two studies also measured the effect the program had on factual maltreatment-related knowledge (e.g., signs of maltreatment, consequences of maltreatment; 2, 3). For overview of the measured outcome variables and measurement tools, refer to Table 5.

*Study 1* examined whether children’s knowledge of protective skills increased following students’ participation in "Learn to BE SAFE with Emmy™" program. The study found the intervention group to achieve a significantly greater increase in knowledge of protective behaviors compared to the control group ($F (1, 243) = 21.53, p < .0001$). The mean difference was considered medium to large ($\eta^2 = .08$). The intervention group exhibited significant increase of knowledge with a large effect size ($t (130) = -9.32, p < .001$; $d = .82$). Similarly, during a six-month follow-up, there was a significant mean difference in knowledge between the pre- and follow-up measurement point ($M_{Diff} = -1.92, SEM = .21, p < .0001$). Time produced a significant and large effect ($F (2,260) = 60.69, p < .0001$, $\eta^2 = .32$).

*Study 2* found child maltreatment-related knowledge has significantly increased in the intervention group following their participation in the program ($t (392) = -3.47, p = .001$). However, the effect of intervention is considered small ($d = .18$). On the other hand, the control group did not exhibit significant increase in child-maltreatment related knowledge ($t (439) = -.20, p = .845, d = 0.01$). Similarly, an increase was exhibited in children’s knowledge of protective strategies and behaviors following their participation in the program, with a medium effect ($t (364) = -8.04, p = .000), d = 0.42$). Again, the control group did not show significant change ($t (398) = -1.28, p = .203, d = .06$).

*Study 3* found significant difference between the intervention and control group following the program implementation ($t = 12.33, p < .0001$). The effect size is considered medium to large ($d = .69$), indicating a substantial difference between the groups. Significant difference between the two groups remained during the 6-months follow-up ($t = 13.85, d = .77$). Thus, children in the intervention group scored significantly higher compared to peers in the control group ($M_I = 2.25, SD_I = .44$; $M_C = 0.4, SD_C = 0.5$) Furthermore, there was a significant difference between the groups regarding their knowledge of resistance strategies ($t = 14.32, p < .0001$).
The effect size indicates a large difference between the groups \((d = 0.8)\). The significant, large difference remained during the 6-months follow-up \((t = 14.32, p < .0001, d = 0.8)\).

*Study 4* revealed a significant improvement in children's knowledge of recognition, resistance, and reporting of child maltreatment across three age groups (third, fourth, and fifth grade) at a one-month post-test. The effect of program ranged from small to medium \((d = 0.57\) for third grade; \(d = 0.51\) fourth grade; \(d = 0.24\) for fifth grade).

*Study 5* examined children’s knowledge of safety among three age groups: kindergarten, grade 1 and grade 2. After controlling for the pre-test safety knowledge scores, there was a significant increase in the safety knowledge scores in the intervention group compared to the students in the control group during the follow-up assessment (kindergarten: \(F(1, 237) = 5.985, p = 0.015, \eta^2_p = 0.025\); grade 1: \(F(1, 252) = 14.959, p = 0.000, \eta^2_p = 0.056\); grade 2: \(F(1, 326) = 7.761, p = 0.006, \eta^2_p = 0.023\)). Similarly, students in grades 3 to 6 who participated in the SUBS program demonstrated a significant increase in their scores on the safety rules compared to the students in the control group during the follow-up assessment: grade 3: \(F(1, 203) = 13.183, p = 0.000\); grade 4: \(F(1, 390) = 28.512, p = 0.000\); grade 5: \(F(1, 418) = 32.090, p = 0.000\); and grade 6: \(F(1, 340) = 36.699, p = 0.000\). The effect size ranged from small to medium \((\eta^2_p = 0.06\) to \(\eta^2_p = 0.09\)). However, no significant difference was found between the intervention and control group among students in grade 7 and 8 during the follow-up assessment (grade 7: \(F(1, 231) = 0.430, p = 0.513\), and grade 8: \(F(1, 239) = 2.340, p = 0.127\)).

*Study 6* found children’s knowledge of protective skills has increased from pre- to post-test \((F(1, 292) = 142.64, p < .001)\). However, the increase was significantly greater among children who participated in the program compared to the control group \((F(1, 212) = 42.54, p < .001, d = 0.54)\). Similarly, children's knowledge of protective behaviors has also increased from the pre-test to the follow-up assessment \((F(1, 194) = 160.99, p < .001)\).

Furthermore, there was a significant difference in the magnitude of improvement between conditions \((F(1, 157) = 12.26, p < .001, d = .29)\). Specifically, children who participated in the program exhibited a greater improvement in protective behaviors knowledge from the pre-test to the follow-up assessment compared to children in the control group. Additionally, children’s knowledge of protective skills has also significantly increased from post-test to follow-up assessment \((F(1,134) = 6.65, p = .011, d = .21)\). Though, there was no significant difference between the intervention and control group.
<table>
<thead>
<tr>
<th>Outcome Variables</th>
<th>Measurement Tools</th>
<th>Description</th>
<th>N of Items</th>
<th>Scoring</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maltreatment-Related Knowledge</strong></td>
<td>Maltreatment-Related Knowledge Questionnaire (Diaz et al., 2021)</td>
<td>Statements about maltreatment (e.g. signs of abuse; “Emotional abuse is also called verbal or psychological abuse.”)</td>
<td>16 questions</td>
<td>6-point Likert scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Protective Behaviors Questionnaire (ProBeQ; Dale et al., 2016)</td>
<td>Measuring the 6 different protective behaviors: Emotion Recognition, Early Warning Signs, Private and Public Body Parts, Personal Space Safe and Unsafe Secrets and Identification of Safe Adults</td>
<td>12 questions</td>
<td>2 = Correct</td>
<td>1, 6</td>
</tr>
<tr>
<td></td>
<td>RESIST Strategies ((Diaz et al., 2021)</td>
<td>Knowledge of resistance strategies: Run, Escape, Scream, Ignore, Stay Away, and Tell</td>
<td>6 questions</td>
<td>2 = Correct</td>
<td>2, 5</td>
</tr>
<tr>
<td></td>
<td>Play it Safe Questionnaire! (Wolfersteig et al., 2022)</td>
<td>Vignettes describing different abuse scenarios measuring knowledge of recognition, resistance, and reporting of child physical and sexual abuse</td>
<td>5 vignettes</td>
<td>2 = Correct</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Speak Up Be Safe Safety Rules (Thompson et al., 2020)</td>
<td>Knowledge of safety rules: (1) It’s my Body!; (2) Ask an adult if I am safe; (3) I have choices; (4) Tell someone, and (5) It’s never my fault!</td>
<td>5 questions</td>
<td>2 = Correct</td>
<td>5</td>
</tr>
<tr>
<td><strong>Knowledge of Protective Skills</strong></td>
<td>The Application of Protective Behaviors Test (APBT; Dale et al., 2016)</td>
<td>Pictures of unsafe situations with a description of the scenarios</td>
<td>4 pictures</td>
<td>1 = not at all to 4 = a lot utilization of the safe behaviors (Higher scores = safer responses)</td>
<td>1, 6</td>
</tr>
<tr>
<td><strong>Application of Protective Skills/Resistance Strategies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2) Effect of the Program on Children’s Protective Behavior

Two of the included studies examined the effect the program had on children’s application of protective behaviors (1, 6).

Study 1 examined the effect "Learn to BE SAFE with Emmy™" program had on children’s utilization of protective behaviors in hypothetical unsafe situations through a picture-based assessment tool. Children in both the intervention and control group exhibited a significant increase in choosing a safe response during the post-test \( (F(1, 242) = 9.9, p = .002) \). However, the effect of time was small to medium \( (\eta^2_{p} = 0.04) \). Additionally, there was no significant difference between the scores of the two groups \( (F(1,242) = 0.26, p = .611, \eta^2_{p} = .001) \).

Study 6 found children’s intentions to report and seek help, their confidence in doing so, and their ability to identify safe situations showed significant improvement from pre- to post-test. This was evident in the statistical results, with \( F(1, 245) = 22.33, p < .001, d = .39 \), for intentions to disclose and seek help; \( F(1, 428) = 93.16, p < .001, d = .80 \) for confidence in doing so, and \( F(1, 197) = 20.52, p < .001, d = .38 \) for the ability to identify safe situations. However, there was no significant difference in these changes between the children who participated in the program and those on the waitlist \( (F = .06, p = .81) \). Similarly, significant increase was reported for all three outcomes from pre- to follow-up \( (F(1, 151.59) = 27.55, p < .001, d = .44); F(1, 339) = 177.90, p < .001, d = 1.1; and F(1, 171) = 15.04, p < .001, d = .32 \) respectively). However, no significant difference in the increase was reported between the two groups.
6 Discussion

This systematic review aimed to investigate the effect universal child-centered school-based child maltreatment prevention programs have on children’s maltreatment-related knowledge and, the self-protection skills and behaviors. Additionally, the current paper aimed to identify and describe individual characteristics of each program.

Based on the predefined inclusion and exclusion criteria, six papers were included in the final review. The six included studies evaluated universal programs targeting prevention of certain forms of child maltreatment. More specifically, all the studies examined the effect the implemented programs had on at least one domain of maltreatment-related knowledge. Additionally, two studies measured children’s utilization of protective skills and behaviors following the participation in the program. Overall, majority of the programs produced a significant, positive effect on children’s knowledge including maltreatment-related knowledge and knowledge of protective skills and behaviors. On the other hand, no significant changes were found in children’s application of the protective skills/resistance strategies. Additionally, the programs and studies depicted wide variation amongst each other. However, it is important to highlight, because of the design of the current study, it was not possible to scientifically conclude to effect individual features have on the outcome of the programs.

6.1 Reflection on Results of the Study

6.1.1 Individual Characteristics of the Programs

Child maltreatment is a global health and safety issue, affecting daily lives of children worldwide. Thus, it is of imperative identify and implement interventions that successfully tackle the prevention of all forms of child maltreatment. As previously suggested, universal child-centered school-based maltreatment prevention programs could be an effective intervention.

The current study identified four universal school-based child maltreatment preventative programs (Table 4). Majority of programs included the same key concepts such as safe/unsafe touches, saying no, good and bad secrets, the importance of disclosure, signs of abuse/neglect and safety skills and behaviors. The programs aimed to prevent child maltreatment through modelling, skills practice, role-playing, storytelling, discussions, and presentations. Additionally, for younger children, toys and coloring books were also utilized.
Therefore, majority of the programs applied active learning, while only one program relayed exclusively on presentations and verbal discussion (Study 5). According to Davis and Gidycz (2000), programs that encourage children to actively participate and learn through games and role-play are shown to be more effective compared to programs that solely use passive learning (e.g., presentation). Furthermore, Scholes et al. (2014), found that incorporation of games into educational programs has a positive impact on children’s learning by increasing their motivation, confidence, efforts, and involvement in activities. While Study 5 did find a significant change in children’s safety knowledge, the effect size was small to medium for all the age groups. Additionally, certain age groups did not show significant changes in knowledge following their participation in the program. Thus, it is important to consider the moderating effect the format of delivery had on children’s learning process and knowledge retention.

The age range of programs varied from 5 to 16 years, with majority of the programs being implemented in elementary schools. According to Gubbles et al. (2021), younger children exhibit greater gains following their participation in the program compared to older children. A similar pattern of results was obtained in Study 2 and Study 5. More specifically, Diaz et al. (2021) implemented the SUBS program among high schoolers (ages 15 to 16). While the study did find significant and positive changes in participants child maltreatment-related knowledge and knowledge of protective skills, the effect the program produced was small to medium. On the other hand, Wolfersteig et al. (2022) implemented the same SUBS program among elementary and middle school students and found medium to large effects of the program on participant’s safety knowledge and rules. A definitive conclusion cannot be drawn without appropriate statistical analysis, however the discrepancy of the effect sizes of the program could be caused by the children’s age, and thus should be further examined in future studies. Such findings could highlight the importance of applying prevention programs as early as possible. However, according to a study conducted by Rispens et al. (1997), the variance between the age groups disappeared during the follow-up measurement, indicating that younger children may not retain the acquired information as effectively as older children.

The programs were implemented in Australia, the U.S, and Spain. All the three countries are considered high-income countries. Thus, it is highly questionable what effect the programs would produce in low- and middle-income countries. Parenting practices and beliefs are highly impacted by the country and culture the child is being brought in. As such, cultural variability highly impacts what is seen as child maltreatment, as well as the occurrence and frequency of maltreatment (Nadan et al., 2015).
For example, Lansford and colleagues (2015) reported wide variation in use and beliefs of corporal punishment in childrearing. To illustrate, in Albania 4% of parents believed that corporal punishment was necessary when raising a child, while in Syria, this belief was held by a much higher percentage of parents, specifically 93% (Lansford et al., 2015). Moreover, rates of severe corporal punishment varied widely, with 1% of Ukrainian parents reported their child being subjected to severe corporal punishment in the past month. In contrast, in Mongolia and Yemen, 40%, reported that their children had experienced harsh forms of corporal punishment (Lansford, 2015). Thus, it is not only crucial to ensure the content of the programs is age-appropriate, and delivered by professionals who can address children's questions and concerns effectively, but culturally sensitive and adjusted to the laws and circumstance of the individual countries.

Furthermore, there was a wide variation in the number, as well as duration of session amongst the programs. Number of sessions spanned from 1 to 12 sessions. In their meta-analysis, Gubbels et al. (2021) found number and duration of sessions to be significant moderators of the overall effect of the school-based programs. More specifically, they found that programs with more sessions produced larger effect on maltreatment-related knowledge (Gubbels et al., 2021). In contrast, both Gubbels et al. (2021), and Davis and Gidycz (2000) found that programs with shorter individual sessions produced significantly larger effect. This could potentially suggest that shorter sessions enable children to maintain their attention throughout the entire session, resulting in greater retention of the presented material (Davis and Gidycz, 2000)

Finally, the programs were delivered by teachers, trained facilitators, social workers or other school personnel. However, it is important to note that all individuals implementing the programs went through some form of program-specific training. As previously mentioned, teachers and other school personnel have daily contact with children, potentially allowing children to feel more comfortable talking and opening about a very sensitive topic such as experienced maltreatment. However, Topping and Barron (2009) have argued that teachers may not possess adequate education and experience on all the subjects included in the child-maltreatment preventative programs. While three out of six studies had a trained professional deliver the program, the effect sizes ranged from small to large between them. Thus, it is not possible to interpret and conclude the effect the instructor could have had on the overall effect of the program.
6.1.2 Effects of the Programs

The included papers have examined knowledge gains of maltreatment related topics and protective skills, as well as the utilization of protective behaviors. According to Fryda and Hulme (2015), knowledge gains are the most frequently investigated outcome, because of the simplicity of assessing improvements in knowledge compared to other outcomes (e.g., utilization of protective behaviors). The six studies have found a significant increase in children's knowledge following their participation in the program. The results could indicate that school-based child-maltreatment prevention programs could potentially be an effective intervention for prevention of child maltreatment. However, two studies (1, 6) examining the effect programs produced on children’s application of learned protective behaviors found no significant effect of the program. This indicated that while children’s factual knowledge did increase, the application of such knowledge was not enhanced by the program. However, research was exceptionally limited and general conclusion cannot be made on findings of only two studies. This limitation could however be used as guidance for the direction of future research.

Changes in children’s knowledge were examined through the interpretation of the mean differences between groups and multiple assessment time points (pre-, post-, and follow-up), as well as through the interpretation of the effect sizes. While all studies did find some significant changes in different domains of children’s knowledge, the effect sizes varied widely amongst the four programs. As depicted in the Results section, the effect sizes varied from small to large. The reason for such variation in effect sizes could be explained not only by the characteristics of the programs, but also by the wide variation in study characteristics such as sample sizes, study designs, and measurement tools. Certain effect sizes and patterns of findings were in line with previous research. Study 5 implemented the program among high schoolers and reported the program to produce a small effect size ($d = .18$). Similarly, Study 5 found no significant changes in older children’s (grade 7 and 8) knowledge following their participation in the program. As previously mentioned, school-based maltreatment prevention program produces larger effect among younger children (Gubbles et al., 2021). This once again stresses the importance of adjusting the contents of programs to ages they are targeting. Moreover, Study 3 reported largest effect sizes ($d = .8; d = .7$). However, Study 3 was reported to have the lowest quality, and was deemed to have many methodological limitations (e.g., lack of reliable and valid measurement tools) which could have artificially inflated the reported effect sizes.
Finally, while the magnitude of the effect size is a valuable statistical measure, it is also important to recognize other aspects must be taken into consideration when interpreting the effect size. More specifically, as fore-mentioned, the benefit of universal school-based programs is the large population of children they are able target in a cost-effective manner. Thus, small/minor changes in large populations (Study 5) may be equally as important as large effect size which was documented in Study 1 which included a far smaller sample size. Thus, it is important to consider effect sizes in conjunction with other factors such as practical significance, sample sizes and methodological quality of the study.

6.2 Limitations

To get a better understanding of the findings of the current study, it is important to acknowledge the limitations of the study. Thus, the following limitations should be considered when interpreting the results of the study. Firstly, the study heterogeneity may pose as a limitation. More specifically, the included studies vary widely in terms of both program characteristics (e.g., age, format of delivery), as well as study design such as sample size, methodology, and measurement tools. Thus, such wide range of variations could hinder the comparison, combination and generalizability of results. Secondly, current systematic review only included studies evaluating programs targeting multiple types of maltreatment, since majority of previous research focused solely on prevention of sexual abuse. However, this could have resulted in exclusion of potentially relevant programs that would provide the systematic review with invaluable findings. Thirdly, only two of the included research papers examined the effect preventative programs on children’s behaviors. Such limited number of studies could negatively affect the generalizability, reliability, and representativeness of the findings. Finally, the methodology of the included studies was considered poor. More specifically, limited information is provided on the method process of the studies and the materials and assessment tools used. This could have led to unreliable findings and less precise effect sizes.

6.3 Implications for Future Research and Clinical Practice

As depicted by the results of the review, research into effectiveness of school-based child-maltreatment prevention program is still fairly limited. More specifically, majority of research focuses of development and examination of programs targeting exclusively sexual abuse. Thus, future research ought to widen their scope and focus on development of evidence-based preventative programs targeting multiple types of child maltreatment.
This is of high relevance, since most victims of childhood maltreatment seldomly experience only a single form of abuse and/or neglect (McElearney et al., 2018). Furthermore, school-based programs targeting prevention of child maltreatment are predominately designed for young children (preschool and elementary schools). While previous studies did find preventative programs to produce larger effect among younger age groups compared to older children, it is still imperative to identify age-appropriate program components, and design programs that would be equally effective among high school children. All the evidence thus far should be used in the development of new and updated school-based preventative programs to achieve the most effective results.

Nevertheless, majority of studies found that implemented programs have produced a significant and positive change in measured outcomes variables (e.g., maltreatment-related knowledge). Hence, preventative programs should be incorporated into the standard and mandatory curriculum at the earliest opportunity. Finally, research into the overall effectiveness of school-based programs targeting prevention of multiple forms of maltreatment should be evaluated through a meta-analysis. The meta-analysis would provide an overall effect of the programs by combining and analyzing multiple independent studies. Furthermore, to make statistically supported conclusions on effectiveness of individual components of the program, future research ought to conduct a thorough moderating analysis.

6.4 Conclusion

In conclusion, the systematic review has shed light on the significant impact of universal school-based child maltreatment prevention programs. The comprehensive findings the included studies have consistently demonstrated the effectiveness of programs targeting the prevention of child maltreatment within the school setting. More specifically, the results of the studies highlight the significant effect programs have on children’s knowledge of maltreatment-related factors as well as of available protective behaviors and skills. However, the study once again shed light on the wide variation in results as well as general lack of evidence-based preventative programs available to schools. Thus, further research is necessary, and should closely examine individual components and techniques that are most effective when educating children on such a sensitive topic.
Lastly, this study aimed to highlight the detrimental consequences childhood maltreatment. Therefore, detailed screening for presence of any signs of abuse or neglect must continue being priority, as well as efforts to develop interventions that effectively prevent its occurrence in the first place. Thus, interventions that promote education of teachers, other school staff, as well as identifying and helping families and communities at-risk, are fundamental in creating and promoting safety of all children.
<table>
<thead>
<tr>
<th>Study</th>
<th>Program Name</th>
<th>Country</th>
<th>Age/Grade</th>
<th>N of Participants</th>
<th>N of Sessions &amp; Length</th>
<th>Instructor</th>
<th>Types of Targeted Maltreatment</th>
<th>Format of Delivery</th>
<th>Private/Public &amp; Level School</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;Learn to BE SAFE with Emmy™&quot;</td>
<td>Australia</td>
<td>5 – 7 years/Grade 1</td>
<td>I = 131, C = 114</td>
<td>5 sessions (2-hours)</td>
<td>Trained facilitators</td>
<td>Emotional, physical, and sexual abuse; Bullying</td>
<td>Modelling Skills practice Role-playing Discussion</td>
<td>Not specified Elementary school</td>
</tr>
<tr>
<td>2</td>
<td>Speak Up Be Safe (SUBS)</td>
<td>The U.S</td>
<td>15 – 16 years/Grade 9 to 12</td>
<td>I = 416, C = 471</td>
<td>2 sessions (45 min)</td>
<td>Teacher or social worker</td>
<td>Child abuse; Bullying; and Neglect</td>
<td>Presentation &amp; discussion</td>
<td>Public school High School</td>
</tr>
<tr>
<td>3</td>
<td>Not specified</td>
<td>Spain</td>
<td>9 – 10 years/ Grade 3</td>
<td>I = 176, C = 141</td>
<td>12 sessions</td>
<td>Teacher and psychologist</td>
<td>Emotional, physical, and sexual abuse; Emotional and physical neglect</td>
<td>Story telling</td>
<td>Public school Elementary school</td>
</tr>
<tr>
<td>4</td>
<td>Play It Safe!</td>
<td>The U.S</td>
<td>Not specified/ Grades 3 to 5</td>
<td>I = 318, C = 221</td>
<td>1 session (1-hour)</td>
<td>Trained facilitators</td>
<td>Physical and sexual abuse</td>
<td>Scripts &amp; videos Role-playing with dolls &amp; Coloring books</td>
<td>Not specified Elementary school</td>
</tr>
<tr>
<td>5</td>
<td>Speak Up Be Safe (SUBS)</td>
<td>The U.S</td>
<td>5 – 13 years/Kindergarten</td>
<td>I = 1573, C = 1224</td>
<td>2 sessions (30-45 min)</td>
<td>Teacher, Social worker or Counselor</td>
<td>Child abuse; Bullying; and Neglect</td>
<td>Presentation &amp; discussion</td>
<td>Public Elementary school</td>
</tr>
<tr>
<td>6</td>
<td>&quot;Learn to BE SAFE with Emmy™&quot;</td>
<td>Australia</td>
<td>5 – 7 years/Grade 1</td>
<td>I = 375, C = 236</td>
<td>5 sessions (1-hour)</td>
<td>Trained facilitators</td>
<td>Emotional, physical, and sexual abuse; Bullying</td>
<td>Modelling Skills practice Role-playing Discussion</td>
<td>Public Elementary school</td>
</tr>
</tbody>
</table>

*Note: I = Intervention Group; C = Control Group*
7 References


# Appendices

## Appendix A: Detailed Presentation of the Final Searches on the Utilized Databases

<table>
<thead>
<tr>
<th>Database</th>
<th>Date</th>
<th>Search String</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERIC</td>
<td>30.1.2023</td>
<td>title(school) AND (title(abuse) OR title(neglect) OR title(maltreatment)) AND (noft(Child*) OR noft(pupil) OR noft(student) OR noft(adolescent*)) AND (noft(program) OR noft(course) OR noft(intervention) OR noft(educat*) OR noft(lecture) OR noft(lesson)) NOT (title(drug) OR title(substance))</td>
<td>264</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>2.2.2023</td>
<td>(title(school) AND (title(abuse) OR title(neglect) OR title(maltreatment)) AND title(Child*) AND (noft(program) OR noft(course) OR noft(intervention) OR noft(educat*) OR noft(lecture) OR noft(lesson)) NOT (title(drug) OR title(substance) OR title(bully*))</td>
<td>277</td>
</tr>
<tr>
<td>Web of Science</td>
<td>2.2.2023</td>
<td>school AND preschool AND (child* OR pupil OR student OR adolescent*) AND (program OR course OR intervention OR educat* OR lecture OR lesson) AND (abuse OR neglect OR maltreatment OR violence) NOT university NOT collage NOT bully* NOT intimate</td>
<td>293</td>
</tr>
</tbody>
</table>
### Appendix B: Overview of the Quality Assessment

<table>
<thead>
<tr>
<th>Study</th>
<th>Dale et al., 2016</th>
<th>Diaz et al., 2021</th>
<th>Moreno-Manso et al., 2014</th>
<th>Thompson et al., 2022</th>
<th>Wolfsteig et al., 2022</th>
<th>White et al., 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was true randomization used for assignment of participants to treatment groups?</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2. Was allocation to treatment groups concealed?</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3. Were treatment groups similar at the baseline?</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4. Were participants blind to treatment assignment?</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>5. Were those delivering treatment blind to treatment assignment?</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>6. Were outcomes assessors blind to treatment assignment?</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. Were treatment groups treated identically other than the intervention of interest?</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8. Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analyzed?</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9. Were participants analyzed in the groups to which they were randomized?</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10. Were outcomes measured in the same way for treatment groups?</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>11. Were outcomes measured in a reliable way?</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12. Was appropriate statistical analysis used?</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>13. Was the trial design appropriate, and any deviations from the standard RCT design accounted for in the conduct and analysis of the trial?</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

| Quality Score | 100% | 77% | 59% | 77% | 90% | 100% |

*Note: Yes = 2; Unclear = 1; No = 0; Not applicable (NA) = item removed
Quality score: High >70%; Moderate <70% and >50%; Low <50