Building the evidence base for school-based child sexual abuse prevention programs in China: Findings from a mixed-methods study

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Thesis Abstract

Background

Child sexual abuse (CSA) is a major public health concern and childhood exposure to sexual abuse is associated with a range of adverse physical, psychological, and behavioral consequences. In response, a range of strategies have been developed to prevent CSA. School-based CSA prevention programs are one such approach that has been developed and widely implemented across different countries, to teach children skills and knowledge aimed at enabling them to identify, respond to, and report CSA. Previous systematic reviews and meta-analyses have suggested that these programs are effective in improving participants' knowledge of CSA and self-protective skills. To date, however, there has been little systematic examination with regard to the intervention components and underpinning mechanisms of school-based CSA prevention programs. As such, we do not currently know which intervention components in these programs appear to be linked to the most significant improvements in participants' knowledge of CSA and self-protection skills. Identifying predictors for greater program effectiveness and integrating them into interventions is particularly important when delivering such interventions in lower- and middle-income countries (LMICs) facing economic hardship, severe resource restrictions, and service gaps.

China, which is home to the world's second largest child population and an upper-middle income country with complex development needs, is no exception in this regard. Over the past decade, studies have been conducted to estimate the prevalence of CSA and evaluate the effectiveness of school-based CSA prevention programs in China. However, the development of a primary CSA prevention approach is still in its infancy and there is a paucity of evidence on the development of context-specific school-based CSA programs for Chinese children.

As such, this DPhil thesis aims to fill the evidence gap and contribute to building the evidence base for school-based CSA prevention programs in China. Specifically, this DPhil thesis utilizes an explanatory sequential mixed methods study design and consists of three stand-alone papers. The quantitative strand of the thesis comprises a systematic review and meta-analysis (DPhil Paper I) synthesizing the key intervention components and assessing the predictors of greater program effectiveness in existing school-based CSA prevention programs. The qualitative strand

of the thesis (DPhil Paper II) comprises a qualitative study exploring stakeholders' perspectives about these programs and CSA research in China, and a realist review (DPhil Paper III) to unpack how, for whom, and in what context(s) school-based CSA prevention programs work.

Methods and Results

DPhil Paper I – Methods

Building on the most comprehensive systematic review of this topic, a further systematic review and meta-analysis was conducted to examine the effectiveness of school-based CSA prevention programs. Systematic searches in both English-language databases from September 2014 to October 2020 and Chinese-language databases from inception to October 2020 were conducted. Intervention component analysis was utilized to identify intervention components in existing school-based CSA prevention programs. Meta-regression was performed to identify which of the components were associated with better outcomes.

Results: A total of 31 studies were included with a total sample size of 9,049 participants. Results from meta-analysis suggested that school-based CSA prevention programs are effective in increasing participants' CSA knowledge as assessed via questionnaires (g = 0.72, 95% CI [0.52-0.93]) and vignette-based measures (g = 0.55, 95% CI [0.35-0.74]). Results from meta-regression revealed that programs with more than three sessions are more effective than programs with fewer sessions. Programs also appear to be more effective with children who are eight years and older than with younger children.

DPhil Paper II – Methods

DPhil Paper II builds on findings from DPhil Paper I and aims to enrich our understanding about stakeholders' views with regard to school-based CSA prevention programs, and CSA research in China. Semi-structured interviews were conducted with 21 participants in Beijing and a county under Lanzhou City, China. Two authors systematically co-coded the interview transcripts and a thematic analysis was used for the data analysis.

Results: The findings indicated that while CSA prevention programs are on the whole regarded positively by key stakeholders in China, a number of important concerns were raised. Participants also identified factors that have both fostered the implementation of CSA research

and prevented researchers from effectively conducting such research. The findings suggested a number of ways in which future school-based CSA prevention programs could be strengthened and adapted to a Chinese context.

DPhil Paper III – Methods

Existing efforts to understand school-based CSA prevention programs in a global and Chinese context mainly focus on the effectiveness of these programs in increasing participants' CSA knowledge and skills regarding self-protection. No attempt has been made to date, to explore how and in what contexts these programs work. As such, building on the findings from DPhil Papers I and II, a realist review was conducted to explore how, for whom, and in what contexts school-based CSA prevention programs work. An iterative search of English-language and Chinese-language databases was conducted, supplemented with citation tracking to locate relevant literature.

Results: A total of 62 studies were included, from which data were extracted and thematic content analysis were conducted to synthesize data. Five Context-Strategy-Mechanism-Outcome configurations (CSMOs) that contributed to the success of school-based CSA prevention programs were identified, including: tailoring programs to participants' cognitive developmental levels, repeated exposure of key concepts and skills, utilization of interactive delivery methods and positive feedback, delivery of positive information, and application of the "train-the-trainer" model.

Conclusion

This DPhil thesis provided context-specific evidence regarding school-based CSA prevention programs in China. Findings from both the quantitative and qualitative strands of the DPhil thesis contributed to the development of a comprehensive picture of evidence with regard to school-based CSA prevention programs. Implications for research include integrating factors that contribute to better program effectiveness into the development of school-based CSA prevention programs, improving the reporting of future studies, and strengthening the context-specific evidence base in the field of CSA prevention in China. Implications for practice and policy include engaging the wider community and parents in the CSA prevention process and reducing existing barriers to CSA research implementation and collaboration.

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Publications arising from this DPhil thesis

The following manuscripts arise from this DPhil thesis:

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Manuscripts under review:

Lu, M., Barlow, J., Meinck, F., Walsh, K., & Wu, Y. (under review) School-based child sexual abuse interventions: What works for whom? A systematic review and meta-analysis with meta-regression

Lu. M., Barlow J., Meinck, F., Neelakantan, L. (under review) Unpacking school-based child sexual abuse prevention programs: a realist review

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ABBREVIATIONS

BST	Behavioral Skills Training
CKAQ	Children's Knowledge of Abuse Questionnaire
CSA	Child Sexual Abuse
CSMO	Context-Strategy-Mechanism-Outcome
HIC	High Income Country
IBT	Information-Based Training
ICA	Intervention Component Analysis
LMIC	Lower- and Middle- Income Country
NGO	Non-governmental Organization
PSQ	Personal Safety Questionnaire
RCT	Randomized Controlled Trials
TIDieR	Template for Intervention Description and Replication

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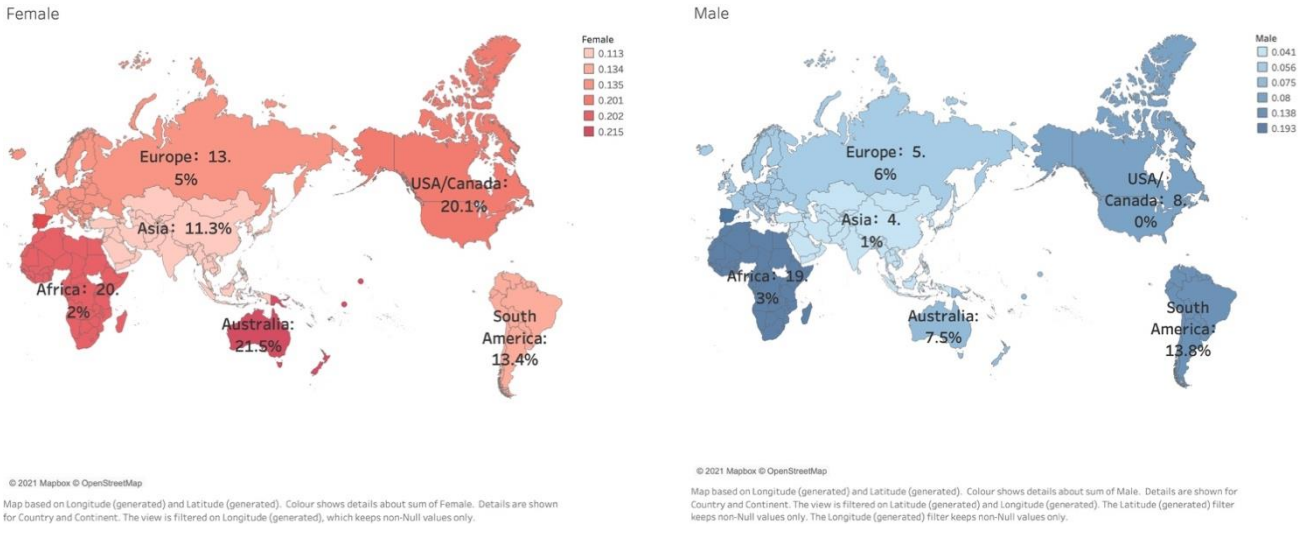
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Chapter 1. Introduction

1.1 Background

Systematic reviews of country-wide surveys reveal that child sexual abuse (CSA) is a global public health concern (e.g., Stoltenborgh et al., 2011; Pereda et al., 2009). The highest prevalence rates have been reported for girls in Australia (21.5%) and boys in Africa (19.3%). The lowest rates were found for both boys (4.1%) and girls (11.3%) in Asia (Stoltenborgh et al., 2011). Figure 1 illustrates the prevalence rates of lifetime CSA within and across regions. CSA is now widely recognized to be linked to adverse physical, behavioral, and psychological outcomes for children (Radford, Allnock, & Hynes, 2015). With the onset of the COVID-19 pandemic, the social context in which children live has been drastically reshaped and there is an increased risk for CSA and other forms of child maltreatment and neglect (Poddar & Mukherjee, 2020; Samboma, 2020; Tener et al., 2020).

Figure 1. Prevalence Rates of Lifetime CSA Within and Across Regions (Stoltenborgh et al., 2011)



School-based sexual abuse prevention programs focus on children and adolescents as the targeted prevention population (Walsh et al., 2015). As a primary prevention approach, they are

the most widely used strategy to prevent CSA by providing students with knowledge to prevent potential sexually abusive situations and strategies to stop sexual approaches by offenders (Walsh et al., 2015; Davis & Gidycz, 2000; Rispens, Aleman, & Goudena, 1997). One of the earliest school-based CSA prevention programs was developed by women's rape prevention organizations in the U.S. in the 1970s and shortly thereafter, structured CSA prevention programs targeting children began to be developed and implemented across the U.S. (Walsh et al., 2015; Wurtele & Kenny, 2012; Berrick & Gilbert, 1991). As a result, by the mid-1990s, it was reported that two-thirds of 10- to 16-year olds in the U.S. had participated in these CSA prevention programs (Finkelhor & Dziuba-Leatherman, 1995c).

Some school-based CSA prevention programs have been evaluated primarily in high income countries (HICs) and the evaluations have shown some promising outcomes in terms of improving children's self-protection skills (Walsh et al., 2015), promoting CSA disclosure (Finkelhor, 2007), and reducing self-blame if they experience victimization later in life (Finkelhor & Berliner, 1995). Evidence from lower- and middle- income countries (LMICs), however, is rather scarce. As an upper-middle income country with complex development needs (World Bank, 2018) and home to the world's second largest child population (UNICEF, 2018), China experiences a significant burden of CSA. China has the world's second largest child population (aged 0-17 years), with an estimated number of 274 million children in 2013, representing 20% of China's total population and 14% of the world's children (UNICEF, 2018). Global data shows that an estimated 50 million children are child refugees, 936,000 are asylum-seeking children and 17 million children have been forcibly displaced inside their own countries (Marcus et al., 2020). Similarly, there are also several groups of particularly vulnerable children in China (Chui & Jordan, 2018), including 35.8 million migrant children, 69.7 million children who have been left behind by their migrant worker parents (UNICEF, 2018), 720,000 orphans

(Ministry of Civil Affairs [MCA], 2012), and an estimated 20,000 trafficked children per year (Patience, 2015). These specific groups of children are exposed to additional risks such as maltreatment, neglect, and abuse (Chui & Jordan, 2018).

The development of primary CSA prevention programs is still in its infancy in China. Most CSA prevention programs are located within sex education curricula, and programs focused specially on CSA prevention have frequently been driven by passionate individual workers or organizations (UNFPA, 2018). Moreover, there has been little guidance either in terms of how to develop an evidence-based CSA intervention or to do this work effectively at a national level. Therefore, there is an urgent need to address CSA issues and develop an evidence-based CSA intervention suitable for the Chinese cultural context.

To address this gap and inform the development of school-based CSA prevention programs in China, this DPhil thesis aims to systematically identify and synthesize existing evidence on CSA research, explore stakeholders' views regarding school-based CSA prevention programs, and unpack the underlying pathways by which these programs lead to intended outcomes.

1.2 Specific aims and key research questions

The overall aim of the DPhil thesis is to contribute to the evidence base for CSA research and provide guidance for the development of school-based CSA prevention programs in China through the following objectives:

- To systematically identify intervention components in school-based CSA prevention programs and explore predictors for greater program effectiveness;
- To explore stakeholders' perspectives regarding school-based CSA prevention programs and CSA research in China;

- To identify and explore how, for whom, and in what contexts school-based CSA prevention programs work.

The research questions of the DPhil thesis are as follows:

DPhil Paper I: What are the key intervention components in school-based CSA prevention programs and which component(s) predict(s) greater program effectiveness?

- What is the aggregated program effect of school-based CSA prevention programs?
- What are the key intervention components (i.e., structural components and content components) in school-based CSA prevention programs?
- Which intervention component(s) appear to best explain the differences in outcomes as measured by the primary outcomes that have been assessed?

DPhil Paper II: What does the qualitative evidence tell us about school-based CSA prevention programs and CSA research in China?

- What are stakeholders' views regarding existing school-based CSA prevention programs and the key components in CSA intervention programs identified in the systematic review (DPhil Paper I)?
- What are stakeholders' views regarding CSA research in China?

DPhil Paper III: What are the pathways through which school-based CSA prevention programs achieve their intended outcomes?

- What are the contexts, intervention strategies, and mechanisms that lead to the success of school-based CSA prevention programs?

- To what extent are the findings from Chinese-language databases with regard to the implementation of school-based CSA prevention programs in China consistent with those from the English-language databases?

1.3 Structure of the DPhil thesis

This DPhil thesis is organized into seven chapters, including three stand-alone papers (Chapter 4 to 6) as required by the DPhil-by-publication track at DSPI. Overall, this DPhil study utilized an explanatory sequential mixed-methods study design. To ensure transparency of the reporting of this mixed-methods study, the DPhil thesis is structured following the Good Reporting of a Mixed Methods Study (GRAMMS) framework (O'Cathain, Murphy, & Nicholl, 2008). The framework includes the following set of guidelines (O'Cathain, Murphy, & Nicholl, 2008, p.97):

1) Describe the justification for using a mixed methods approach to the research question (Chapter 3. Methodology);
2) Describe the design in terms of the purpose, priority and sequence of methods (Chapter 3. Methodology);
3) Describe each method in terms of sampling, data collection and analysis (Chapter 3, 4, 5, 6: DPhil Papers I, II, III);
4) Describe where integration has occurred, how it has occurred and who has participated in it (Chapter 7. Discussion);
5) Describe any limitations of one method associated with the presence of the other method (Chapter 7. Discussion);
6) Describe any insights gained from mixing or integrating methods (Chapter 7. Discussion).

Chapter 1 presents the research background of the DPhil thesis. It provides the context for the thesis by introducing the global prevalence and impact of CSA and school-based CSA prevention approaches. It then involves a brief review of the existing evidence on CSA and the development of school-based CSA prevention approaches in China. Then, research aims and research questions are discussed, in addition to the theoretical framework - Bronfenbrenner's bio-ecological model (1977) that guides the DPhil thesis.

Chapter 2 provides a succinct overview of the existing literature on the definition, impact, prevalence, and risk and protective factors for CSA in a global and a Chinese context. Furthermore, this chapter describes the prevention mechanisms across the spectrum of CSA prevention. **Chapter 3** corresponds to the first three guidelines in the GRAMMS framework. It describes the methodological choice for the DPhil thesis and provides an overview of the methods for each subsequent chapter, which are reported in more detail in Chapters 4-6.

Chapters 4, 5, and 6 present the findings from the research addressing the key research questions of the DPhil thesis. Details of sampling, data collection, and data analysis are reported in each chapter where appropriate. **Chapter 4** presents findings from DPhil Paper I, a systematic review and meta-analysis that aims to identify existing intervention components in school-based CSA prevention programs and their contribution to improving the participants' self-protective skills and CSA knowledge. **Chapter 5** (DPhil Paper II) reports stakeholders' perspectives about school-based CSA prevention programs and CSA research in China based on the conduct of semi-structured interviews with a wide range of stakeholders. Finally, **Chapter 6** (DPhil Paper III) examines the underpinning mechanisms of school-based CSA prevention programs using a realist review.

Chapter 7 reflects the final two guidelines in the GRAMMS framework. It begins by synthesizing and integrating the major findings from each stand-alone paper, thereby providing

insights regarding the benefits gained from integrating methods. It then provides a discussion of the strengths and limitations of the DPhil thesis. Implications for research, practice, and policy are also addressed. Further information on review protocols, ethical approvals, R scripts, interview guide, and other supplement files are provided in the Appendix.

1.4 Theoretical framework for understanding CSA

This section presents the theoretical framework - Bronfenbrenner's bio-ecological system model, upon which the subsequent chapters of the DPhil thesis are based.

Bronfenbrenner (1977) suggested that environmental structures, and the processes taking place within and between them, must be viewed as interdependent and must be analyzed as systems. This model comprises a nested model of four levels that can influence an individual:

The *microsystem* is "*the complex of relations between the developing person and environment in an immediate setting containing that person (e.g., home, school, workplace, etc.)*" (Bronfenbrenner, 1977, p.514). The *mesosystem* describes how the different parts of the developing person's microsystem work together at a particular point in his or her life. The *mesosystem* can be understood as a system of multiple microsystems (Bronfenbrenner, 1977). The *exosystem* includes the other people and places that do not themselves contain the developing person but still have an important impact on the individual. The *macrosystem* refers to the prevailing culture and economic conditions of the society. Micro-, meso-, and exo-systems are the concrete manifestations of the macrosystem (Brofenbrenner, 1977). Last but not least, Bronfenbrenner (1992) identified the *chronosystem* as an addendum to the original bio-ecological model to reflect changes in patterns of environmental events and sociohistorical conditions.

Table 1. Bronfenbrenner's Bio-ecological Model (adapted from Bronfenbrenner, 1992)

System Level	Description
Microsystem	Immediate environment
Mesosystem	Connections
Exosystem	Indirect environment
Macrosystem	Attitude and ideologies of the culture
Chronosystem	Environmental changes that occur over the life course

A bio-ecological approach to understanding CSA acknowledges that human activities occur within a broader context, and requires an examination of the interactions between human beings and the contexts in which they are situated (Wurtele & Kenny, 2012). Further, this approach suggests that in order to fully understand how CSA influences the individual within society, risk and protective factors need to be identified at the individual, familial, community, and societal levels (Pittenger, Huit, & Hansen, 2016). As such, the bio-ecological model provides a comprehensive and valuable framework with which to evaluate child maltreatment interventions as it focuses on the multidimensional interactions amongst individuals, community, and their environment (Richard, Gauvin, Ducharme, Leblanc, & Trudel, 2012; McLaren & Hawe, 2005). Specifically, as a result of the multiple risk and protective factors that might contribute to or prevent CSA, this model suggests that efforts aimed at CSA prevention should be distributed across individuals, community members, organizations, social norms, and the life course (Kenny & Wurtele, 2012).

The bio-ecological framework, however, is not without its limitations. For example, while the framework makes it easier to understand how we, as a society, have an impact on

individuals' lives by the way we interact, researchers have pointed out that an individual should be seen for their specific conditions and the individuals' power to influence their success should be emphasized (Paquette & Ryan, 2009). In his later writings, Bronfenbrenner (1989) criticized himself for overlooking the person's involvement in his or her own development and for focusing too much on context. In addition, Bronfenbrenner's bio-ecological theory fails to consider resilience as an important factor for human development (Christensen, 2016). As such, it lacks an understanding of how a person raised in a disadvantaged environment survives and succeeds. In the context of CSA prevention, this perspective often leads to the assumption that those who do not have strong and favorable bio-ecological systems can fail to protect themselves from CSA.

Next, the bio-ecological model conceptualizes the different levels as being nested within one another, which obscures the relationships between different levels. As a result, the specific connections between systems are not addressed (Neal & Neal, 2013). That said, despite its focus on social interactions, implementation of the model has not typically centered around patterns of social interactions (Neal & Neal, 2013). When looking at CSA prevention, for example, the focus is the intersection of multiple systems and requires collaborative efforts at different levels, which is not well addressed by the bio-ecological model.

While no bio-ecological framework can be comprehensive because it is impossible to identify all factors that may influence a child's vulnerability to CSA, Bronfenbrenner's bio-ecological system theory nevertheless remains the most widely adopted theoretical framework for studying child development in different bio-ecological contexts (Neal & Neal, 2013). Using the lens of the bio-ecological model, I attempted to identify risk and protective factors for CSA in a global and Chinese context. This is discussed in more detail in Chapter 2.

Two alternative theoretical models were considered but were not used for the DPhil thesis. The first model was the spectrum of prevention proposed by Cohen and Swift (1999). The spectrum identifies six inter-related levels of intervention: 1) strengthening individual knowledge and skills, 2) promoting community education, 3) educating providers, 4) fostering coalition and networks, 5) changing organizational practices, and 6) influencing policy and legislation. This paradigm involves a systems approach to preventative practice. At its foundation, the spectrum of prevention is a comprehensive framework for developing violence and injury prevention interventions that encourages an integrated approach among practitioners, policymakers and society as a whole. Further, Cohen and Swift (1999) argue that when these interventions are combined, the spectrum functions as a transformational force for individual, community, and societal health. However, they also point out that although the framework has been used to address health issues in communities globally, it has not been fully evaluated (Cohen & Swift, 1999). As a result, the credibility and utility of the framework remain unclear. In addition, the framework primarily focuses on injury and disease prevention, which is not suitable for addressing CSA prevention issues.

The second theoretical framework under consideration was the public health model proposed by Kaufman et al. (2002). This framework posits that the prevention of sexual violence in general should be regarded as a societal problem (Kaufman et al., 2002). As such, changing underlying social norms and attitudes toward CSA is essential to increasing national support for preventive programs and reducing the factors that incline individuals to commit CSA offenses (Kaufman et al., 2002). As CSA is a complex and multifaceted issue, the focus of CSA prevention should be the factors involved across the different contextual levels, and therefore, this theoretical model was not selected for the DPhil thesis.

Chapter 2. Literature Review

This chapter provides an overview of the existing literature on CSA in the global and Chinese contexts. It examines the different definitions of CSA currently in use across the global and Chinese contexts and identifies the limitation of each. It also discusses the prevalence and impact of CSA in these two different contexts, in addition to providing a summary of associated risk and protective factors for CSA at different system levels. It summarizes some of the most recent evidence regarding risk and protective factors for CSA during the COVID-19 pandemic. Finally, this chapter ends with a review of CSA prevention approaches across the spectrum of CSA prevention in global and Chinese contexts.

2.1 Definition of CSA

CSA exists across societal and cultural contexts (Finkelhor & Dziuba-Leatherman, 1995). Although CSA has become a global issue, CSA definitions vary across different cultures and professional disciplines. In order to conceptualize and contribute to a robust understanding of CSA, Mathews and Collin-Vezina (2017) grouped the key areas of CSA definitions under three domains: 1) the construct of CSA, which has three components: the child's age, the relationship with the person inflicting the abuse, and the element of sexual gratification; 2) the acts that constitute CSA; and 3) the nature of consent. Understanding the constructs of CSA also provides insights into the factors that inhibit CSA disclosure. In fact, most CSA cases are undisclosed and unrecognized (Murray et al., 2014). Several reasons that might explain this. First, children might feel responsible for their abuse (Murray et al., 2014; Collin-Vezina et al., 2015). Second, children may be concerned that their disclosure will not be believed, or that it will have a detrimental impact on their own or their families' wellbeing (Murray et al., 2014). Third, research suggests that the power dynamics between the child and the perpetrator is the main factor that inhibits CSA disclosure. A previous meta-analysis has suggested that up to one-third

of CSA is perpetrated by family members (Seto et al., 2015). Alaggia et al. (2019) identified and analyzed 33 studies since 2000 to identify the current state of CSA disclosure research. Their findings indicated that because of the power imbalances and dependency needs, children are less likely to disclose CSA experiences in childhood or adolescence when the perpetrator is someone within the family. Likewise, Paine and Hansen (2002) conducted a comprehensive review of the clinical and research literature on CSA. Findings from their review suggested that the CSA victim-perpetrator relationship is not only frequently a known one, but also is an emotionally intimate and significant one. Regardless of the victim-perpetrator relationship, the perpetrator is often in a position of power and control over the child, and/or is responsible for his or her care (Paine & Hansen, 2002). Further to this, children cannot give informed consent to sexual activities because they cannot completely comprehend or foresee the consequences of adult-child sexual interaction (Beniuk & Rimer, 2006). Fourth, Alaggia et al. (2019) also suggest that being a male was found to contribute to late or no CSA disclosure. They found that male victims are more likely to blame themselves because of gender stereotypes around masculinity. Last but not least, it is evident that children with disabilities are likely to encounter additional barriers to disclosure. Lemaigre et al. (2017) conducted a systematic review to identify facilitators and barriers to CSA disclosure. They found that children with disabilities are not only at a higher risk of experiencing child abuse than their typically developing peers but also are more likely to fail or delay reporting the abuse (Lemaigre et al., 2017; Jones et al., 2012).

The following section will discuss and critique some of the different CSA definitions using the three domains proposed by Mathews and Collin-Vezina (2017).

2.1.1 Definition of CSA in a Global Context

The WHO Consultation on Child Abuse Prevention states as follows:

"Child sexual abuse is the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person. This may include but is not limited to: the inducement or coercion of a child to engage in any unlawful sexual activity; the exploitative use of a child in prostitution or other unlawful sexual practices; the exploitative use of children in pornographic performance and materials" (World Health Organization, 2006, p.62).

Specific references to perpetrators' behaviors and victims' lack of consent are built into this definition. Moreover, this definition also highlights the use of consent in cases of acts with peers as a means to differentiate consensual from non-consensual sexual activities. However, the child's age is not stipulated and there is no clear description of contact and non-contact acts in this definition.

The Committee on the Rights of the Child (2011) further expands the meaning of "sexual abuse" for the purpose of interpreting and applying Article 19 (the right to freedom from violence), states that "*sexual abuse and exploitation includes: (a) the inducement or coercion of a child to engage in any unlawful or psychologically harmful sexual activity; (b) the use of children in commercial sexual exploitation; (c) the use of children in audio or visual images of child sexual abuse; (d) child prostitution, sexual slavery, sexual exploitation in travel and tourism, trafficking (within and between countries) and sale of children for sexual purposes and forced marriage"* (Committee on the Rights of the Child, 2011, p10). This definition does not include a detailed list of acts that constitute CSA and it does not address the fact that sexual

abuse can be inflicted by a child of the same age or by a younger child. In addition, the child's age is not stipulated in this definition.

A definition of CSA is also provided by the Council of Europe Convention: *"engaging in sexual activities with a child who, according to the relevant provisions of national law, has not reached the legal age for sexual activities (this does not apply to consensual sexual activities between minors) and engaging in sexual activities with a child where use is made of coercion, force or threats; or abuse is made of a recognized position of trust, authority or influence over the child, including within the family; or abuse is made of a particularly vulnerable situation of the child, notably because of a mental or physical disability of a situation of dependence"* (Council of Europe Convention, 2007, p.7). This definition covers the acts that constitute CSA, and also specifies that the acts are "unwanted" and excludes developmentally normal play and consensual peer-peer acts. However, similar to the definitions provided by WHO and the Committee on the Rights of the Child, the child's age is again not specified.

In the UK, the English Government defined CSA as: "*forcing or enticing a child or young person to take part in sexual activities, not necessarily involving a high level of violence, whether or not the child is aware of what is happening. The activities may involve physical contact, including assault by penetration (for example, rape or oral sex) or non-penetrative acts such as masturbation, kissing, rubbing and touching outside of clothing. They may also include non-contact activities, such as involving children in looking at, or in the production of, sexual images, watching sexual activities, encouraging children to behave in sexually inappropriate ways, or grooming a child in preparation for abuse (including via the internet)*" (HM Government, 2015). Acts constitutive of CSA are included in this definition. Similar to definitions proposed by major international bodies, however, the child's age in the UK definition is not explicitly defined and the nature of consent is not clearly described.

In general, there is a lack of agreement with regard to these definitions, which vary in terms of the construct of CSA (e.g., the variance in the use of the child's age, the relationship between the child and the abuser, and the element of sexual gratification), the acts that constitute CSA (e.g., the acts that constitute CSA vary in detail), and the nature of consent (e.g., the absence or presence of consent in the definition) (Mathews & Collin-Vezina, 2017).

There is no doubt that an adequate definition of CSA is required for measuring, preventing, identifying, and responding to CSA (Mathews & Collin-Vezina, 2017); there is also a need to develop a definition that can be used universally, although this can be difficult because of the different cultural contexts in which it has to be applied. Nonetheless, it is necessary to consider the working definition of CSA adopted in this DPhil thesis. Overall, this DPhil thesis adopted the broader and more inclusive definition of CSA developed by WHO. In addition, it also covers child sexual violence in which children are sexually abused or exploited via online interactions. These are discussed both in the context of COVID-19 in the following sections of the chapter and in DPhil Paper II.

2.1.2 Definition of CSA in China

In China, maltreatment falls under the Chinese legal category of "domestic violence" (Liao et al., 2011). The revised Marriage Law of the People's Republic of China (2001) describes maltreatment as encompassing the following signs and acts: "*emotionally or physically discriminating, torturing, devastating family members by means of scolding, hitting, threatening, starving, or freezing, intentionally or unintentionally*" (Article 43). In this definition, no clear distinctions are made between maltreatment of children and maltreatment of women or the elderly because it considers children, women, and the elderly to be equally vulnerable.

In the ninth amendment of the Criminal Law, the previous offense in Article 237 of "*indecent assault and insult against a woman, and indecent assault against a child*" has been expanded to "*indecent assault against others, insult against a woman, and indecent assault against a child*". It should be noted that this offense only covered women and children younger than 14 years of age previously. This revision considered indecent assault against boys aged 14-18 years as a crime, which added a needed layer of protection for older boys aged 14-18 years (Su, 2015). In addition, the Protection of Minors of the People's Republic of China bans child maltreatment against minors in families and inappropriate discipline against students in schools. However, the Law does not include a detailed definition of child maltreatment nor does it specify a penalty for individuals who maltreat children (Liao et al., 2011).

The National Working Committee on Children and Women under State Council defines CSA as "*violations of children's will and force to be involved in sexual activities. This may be a criminal act that is stipulated by the criminal law, or an act that is not stipulated in the criminal law but violates children's sexual rights and endangers their physical and mental health*" (National Working Committee on Children and Women under State Council, 2014). Similar to the WHO definition, the child's age range is not stipulated and there is also no clear description of contact and non-contact acts in this definition.

In summary, similar to the CSA definitions used by major international bodies and the UK government, there is an absence of consensus regarding definitions of CSA used by Chinese authorities. For example, the construct of CSA is ambiguous in many definitions (e.g., the age of the child is not clear, the relational power position of the abuser is not stated explicitly), the acts constituting CSA vary in nature (e.g., these definitions do not include specific acts that constitute CSA), and the nature of consent is not defined or explicitly stated.

2.2 Prevalence of CSA

2.2.1 Prevalence of CSA in a global context

Barth and colleagues (2013) summarized the prevalence of CSA worldwide using the most recent data which consists of 55 studies reported in 65 articles from 2002 onwards. Using four predefined types of sexual abuse (i.e., non-contact abuse, contact abuse, forced intercourse, and mixed sexual abuse), the results showed that prevalence estimates ranged from 8 to 31% for girls and 3 to 17% for boys. They found the highest prevalence estimates of CSA for non-contact abuse (17% for males, 31% for females, CI n.a). These results are broadly consistent with earlier findings. For example, an earlier meta-analysis (Pereda et al., 2009a) that included 65 studies covering 22 countries with a total sample size of 101,022 participants found that the mean prevalence of CSA in males was 7.9% (6.0-10.3, 95% CI) while the figure for women was 19.7% (16.7-23.0, 95% CI). In addition, the highest prevalence rates were found in Africa (34.4%; 21.1-50.7, 95% CI), whereas the lowest were reported in Europe (9.2%; 6.8-12.3, 95% CI). Further to this, Stoltenborgh et al. (2011) extended Pereda et al.'s (2009a) meta-analysis by including 217 publications with 331 independent samples with a total of 9,911,748 participants. They estimated that the overall prevalence of CSA was 11.8% (10.0-13.8, 95% CI) (Stoltenborgh et al., 2011). In this meta-analysis, CSA estimates based on studies conducted in Asia were among the lowest combining all types of CSA for both boys (4.1%) and girls (11.3%), and the highest rates were found for girls in Australia (21.5%) and for boys in Africa (19.3%).

In the UK, to date, the National Society for the Prevention of Cruelty to Children (NSPCC), investigated children's experiences of maltreatment by asking over 2,000 children about their past experiences of maltreatment (Radford et al., 2011). In terms of CSA, they adopted the definition by the English Government and the results showed that 4.8% of children

and adolescents aged 11- to 17-year-olds (7.0% of girls and 2.6% of boys) had experienced contact sexual abuse at some point in their lives.

In summary, these studies provided an overview of the regional and global distribution of CSA, which reveals the widespread nature and the severity of the issue.

2.2.2 Prevalence of CSA in China

Although research about CSA has been conducted worldwide, research on this issue is still rare in China. There have nevertheless been three meta-analyses on the prevalence/incidence rate of CSA in China (Ma, 2018; Peng et al., 2013; Ji, Finkelhor, & Dunne, 2013).

The most recent meta-analysis (Ma, 2018) included 36 studies, which investigated the prevalence of CSA in China with a total of 131,734 participants (non-clinic samples) under the age of 18 years old from mainland China, Hong Kong, and Taiwan published from January 1980 to April 2016. The results suggested a prevalence of CSA among Chinese men of 9.1% (7.4%-11.2%, 95% CI) and for women 8.9% (7.4%-10.6%, 95% CI). Compared with previous meta-analyses on the global prevalence of CSA, the prevalence of CSA among Chinese men was greater than the global prevalence of CSA among men generally (7.6%, 6.6-8.8, 95% CI), whereas the prevalence of CSA among Chinese women was lower than the global prevalence of CSA among women (18.0%, 16.4-19.7, 95% CI) (Stoltenborgh et al., 2011). Several reasons might explain the higher prevalence of CSA among Chinese men. First, it might be attributable to the broad definitions of non-contact sexual abuse (e.g., exposure to pornography, being told dirty stories, and verbal sexual harassment) used in the included studies (Ma, 2018). In addition, the broad definitions of non-contact CSA might account for most CSA incidents among men as opposed to women, who are subjected to more contact sexual abuse (Ma, 2018). Further to this, research has revealed that females are more likely to underreport CSA in China due to the

sensitive nature of sexual abuse in Chinese culture (Chan et al., 2013; Ma, 2018). Finally, due to the great emphasis put on women's virginity in Chinese culture, research also found that Chinese girls are subjected to more strict parental supervision, which might protect them from experiencing CSA (Ma, 2018; Zhao, 2003).

Ji et al. (2013) conducted a meta-analysis of 27 studies published in Chinese involving a total of 75,409 participants from China, Hong Kong, and Taiwan. They found that the composite estimates of CSA prevalence rates for females were 15.3% (12.6-18.0, 95% CI) for total CSA (including contact and non-contact CSA), 9.5% (7.5-11.5, 95% CI) for contact CSA, and 1% (0.7-1.3, 95% CI) for penetrative CSA. For males the equivalent estimates were 13.8% (11.0-16.5, 95% CI) for total CSA, 8.0% (6.5-9.6, 95% CI) for contact CSA and 0.9% (0.3-1.5, 95% CI) for penetrative CSA (Ji, Finkelhor, & Dunne, 2013). Findings from the subgroup analysis indicated a lower rate of total CSA reported by females in studies conducted in urban areas and non-mainland provinces, and in surveys with multiple sites, face-to-face interviews and probability sampling methods and when not using a multi-question questionnaire which was used primarily in studies conducted in the mainland. The total CSA reported by male participants was lower in studies conducted in non-mainland provinces and face-to-face interviews.

Peng et al. (2013) included 15 articles published from January 2000 to May 2013 with a total sample size of 16,682 participants from mainland China. The combined incidence rate for CSA was 18.20% (13.74%-22.66%, 95% CI). For contact CSA, girls had a higher incidence rate (11.22%, 9.90-12.54, 95% CI) than boys (8.25%, 5.93-10.58, 95% CI). This study failed to explore possible factors that might affect the estimated incidence rate of CSA in China.

In summary, this section has presented the current evidence with regard to CSA prevalence research in China, which builds a foundation for a deeper understanding of the

magnitude of the problem in a Chinese context. Undoubtedly, these findings call for the need for carrying out evidence-based investigations to address CSA issues in China.

2.3 Factors that impact the prevalence of CSA

The lack of consensus on the definition makes it difficult to compare outcomes across studies because a person may be considered to experience CSA in one study but not in another (Lange et al., 2020). For example, Stoltenborgh et al. (2011) found that studies using a narrower definition (e.g., including contact CSA only) reported the lowest combined prevalence. Pereda et al.'s meta-analysis (2009a) coded the definition of CSA as: 1) broad CSA, which includes non-contact sexual abuse; 2) narrow CSA, which only includes contact sexual abuse. However, contrary to findings of previous meta-analyses, the results from this meta-analysis suggested that the definition of CSA used by a study does not influence the different prevalence rates reported. The authors point out that the fact that the broad definition of CSA includes behaviors of the narrow definition of CSA may account for this result. In addition, no significant differences in prevalence rates were found according to the cut-off age used to define childhood. This finding, according to the authors, could be explained by the fact that CSA generally occurs during pre-pubertal years (8-12 years old; Coleman & Coleman, 2002), and as such, they argue that CSA would have already occurred regardless of the cut-off age used in the study (12 years old). It should be emphasized, however, that CSA victimization can happen at any age (Finkelhor, 1994). Previous studies point out that there is a lower CSA prevalence rate among children under six and seven years old (Finkelhor & Baron, 1986). Finkelhor and Baron (1986) argue that children in this age group lack a cognitive framework to interpret their CSA experiences. Therefore, they tend to forget about early CSA incidents and the lower rates for younger children may simply indicate a higher loss of memory of these experiences (Finkelhor & Baron, 1986).

As is the case with global CSA prevalence, the inconsistent results regarding the prevalence of CSA in China may be partially attributable to the differences between CSA definitions. For example, Ma (2018) suggests that the prevalence of CSA was significantly higher when measuring both non-contact and contact CSA than those measuring contact CSA alone.

Furthermore, evidence shows that sampling procedures and data collection methods can influence the estimated prevalence of CSA (Ma, 2018; Stoltenborgh et al., 2011; Goldman & Padayachi, 2000). For example, lower CSA prevalence rates are found in convenience samples such as college student samples compared to random samples representing the wider community (Stoltenborgh et al., 2011; Goldman & Padayachi, 2000). Moreover, studies using interviews indicate higher CSA prevalence rates than those using questionnaires (e.g., Stoltenborgh et al., 2011; Pereda, Guilera, Forns, & Gomez-Benito, 2009a; Wyatt & Peters, 1986). In terms of evidence from China, findings from Ma's (2018) meta-analysis revealed that in comparison with national samples, the prevalence rate for CSA was higher in local samples. The reason was not explored in the meta-analysis. The author also found that the year of data collection contributed to the variation of the estimated prevalence of CSA in China – the prevalence rate reported from studies published after 2000 was significantly higher than that identified in studies published between 1990 to 1999. Ma (2018) suggested that this might be due to the growing attention on CSA in recent years. Last but not least, the prevalence rate of CSA was found to be significantly higher in studies using questionnaires than those using face-to-face interviews (Ma, 2018). Previous research pointed out that self-administered questionnaires cause respondents less embarrassment and yield higher respondent rates than face-to-face interviews in some societies (Tang, 2002, Pereda et al., 2009). In summary, these procedural and methodological factors

might all contribute to the variation in CSA prevalence rates (e.g., Stoltenborgh et al., 2011; Goldman & Padayachi, 2000; Wyatt & Peters, 1986).

2.3 Impact of CSA

2.3.1 Impact of CSA in a global context

It is suggested that being a victim and survivor of CSA is linked to an increased risk of adverse consequences across a variety of aspects of CSA victims' and survivors' lives (Fisher et al., 2017). For example, Maniglio (2009) synthesized the findings of 14 systematic reviews published between January 1966 and December 2008 that had investigated medical, neurobiological, psychological, behavioral, sexual, and other health outcomes following CSA victimization. The findings revealed that the magnitude of the relation between CSA and health problems ranged from small to medium. Irish et al. (2009), who systematically reviewed 31 studies investigating the long-term physical health consequences of CSA found that CSA was associated with small to moderate group differences on almost all health outcomes assessed. Despite being published a decade ago, Maniglio (2009) and Irish et al.'s reviews (2009) are the only two systematic reviews that have systematically examined the health-related consequences of CSA and provided a comprehensive understanding of the magnitude of the issue. Findings from recent studies also confirm the impact of CSA on health-related outcomes (e.g., Fisher et al., 2017; Kamiya et al., 2016). To better understand the detailed health-related impacts of CSA in a global context, the following sections will provide an overview of the findings from Maniglio (2009) and Irish et al.'s (2009) reviews[1]. It also provides evidence from the UK where data is available.

[1] Maniglio's (2009) review did not provide aggregated results of the findings from each included review. As a result, this section will report findings from the included reviews.

2.3.1.1 Psychological and Sexual Consequences of CSA

One included meta-analytic review (Neumann et al., 1996) in Maniglio's (2009) review that included 38 studies with a total number of 11,162 female participants found a significant relationship between CSA and psychological distress (e.g., anger, anxiety, depression) as well as dysfunction (e.g., revictimization, self-mutilation, sexual problems, substance abuse, suicidality) in adult women in their meta-analysis (d =.32 to d =.67). Moreover, another included review (Jumper, 1995) that synthesized results from 20 studies with a total of 6,878 adult participants found that CSA was significantly associated with depression (r =.22), self-esteem impairment (r =.17), and other psychological problems (r =.27). In addition, a substantial effect of CSA on depression (d = .44) and suicide (d = .44) was found in one included meta-analysis involving 25,367 participants (Paolucci, Genuis, & Violato, 2001).

In terms of the sexual consequences of CSA, one meta-analysis (Arriola, Louden, Doldren, & Fortenberry, 2005) that included 46 studies with a total of 33,849 female adult participants found that CSA was significantly associated with later engagement in unprotected sexual activities (r =.50), sex with multiple partners (r =.13), and sex trading (i.e., sex for money, drugs, or shelter) (r =.12).

2.3.1.2 Medical Consequences

Two included reviews identified two major medical consequences of CSA. To evaluate factors predisposing women to chronic and recurrent pelvic pain, Latthe and colleagues (Latthe et al., 2006) included 122 studies with 5,567 patients in their meta-analysis. The results indicated that CSA was significantly associated with chronic non-cyclical pelvic pain (OR=1.51, 1.16–1.97, 99% CI). Sharpe and Faye (2006) systematically reviewed 34 studies examining the relationship between non-epileptic seizures and CSA and found that the odds of having a history

of CSA were almost three times greater in the presence of non-epileptic seizures (OR=2.940, 2.291–3.772, 95% CI).

In addition, Irish et al. (2009) systematically reviewed 31 studies comparing individuals with and without a history of CSA on six health outcomes: general health, gastrointestinal (GI) health, gynecologic or reproductive health, pain, cardiopulmonary symptoms, and obesity. The results suggested that CSA victimization was associated with small to moderate group differences on almost all health outcomes assessed (d =.15 to d =.75). Furthermore, odds ratios indicated that individuals with a history of CSA are 1.35 to 2.12 times more likely to experience adverse health outcomes than individuals from comparison groups.

2.3.1.3 Economic Costs of CSA

It is estimated that the global costs related to physical, psychological, and sexual violence against children will increase between 3% and 8% of the global gross domestic product (GDP) (Pereznieto, Montes, Routier, & Langston, 2014). In HICs, such as the UK, the total annual cost of CSA was £3.2 billion (Saied-Tessier, 2014), which included "*criminal justice system costs (£149 million), services for children (£124 million), child depression (£1.6 million), child suicide and self-harm (£1.9 million), adult mental and physical health care (£178 million), and loss of productivity (£2.7 million)*" (Saied-Tessier, 2014, p.1485). In Canada, the preliminary estimate of the cost of CSA suggested that it exceeded $3.6 billion annually (Hankivsky & Draker, 2003). In the U.S., Letourneau and colleagues (2018) evaluated 20 new cases of fatal and 40,387 cases of nonfatal CSA that occurred in 2015 and found that the lifetime economic burden of CSA was approximately $9.3 billion: including childhood health care costs, adulthood health care costs, child welfare costs, etc.

There is limited evidence about the costs of physical, psychological, sexual violence against children in LMICs (Pereznieto et al., 2014). In 2015, Fang et al. (2015) estimated the economic cost of child maltreatment in the East Asia and Pacific (EAP) region. Results indicated that the estimated economic value of Disability-Adjusted Life Years (DALYs) lost to child maltreatment in the EAP region totaled $151 billion, accounting for 1.88% of the region's GDP. The estimated economic value of DALYs lost from CSA is $18,378.3 million in the EAP region (Fang et al., 2015).

2.3.2 Impact of CSA in China

2.3.2.1 Psychological and behavioral consequences of CSA in China

Very few studies have examined the relationship between CSA and adverse health outcomes in China. For example, the Optimus Study (2013) used both household- and school-based surveys to collect information about child victimization in mainland China and Hong Kong. For the school-based survey, a total of 18,341 children aged 15 to 17 years old were recruited from 150 schools in mainland China and Hong Kong. For the household survey, the parents of 8,945 children under 18 years of age were included in the study. The results showed that post-traumatic stress disorder (PTSD) was associated with greater odds of lifetime CSA (OR=1.85, 1.73-1.98, 95% CI) and preceding-year CSA (OR=1.81, 1.68-1.94, 95% CI). Depression was more likely to be reported by individuals who had experienced lifetime CSA (OR=1.05,1.04-1.05, 95% CI) and preceding-year CSA (OR=1.05, 1.04-1.05, 95% CI).

This finding is consistent with Chen et al.'s (2004) study exploring the prevalence of CSA and its possible impact on health and well-being among Chinese senior high school students. This study, which involved a cross-sectional survey among senior high school students in four provinces in China found based on 2,300 completed surveys, that depression was

significantly higher among both females (OR=2.38, 1.52-3.71, 95% CI for non-contact CSA; OR=1.67, 1.08-2.58, 95% CI for contact CSA) and males (OR=2.28, 1.36-3.83, 95% CI for non-contact CSA; OR=2.55, 1.48-4.37, 95% CI for contact CSA) who reported any CSA victimization compared with those who did not.

In terms of the behavioral consequences of CSA in China, Lin and colleagues (2011) investigated the prevalence of CSA and its association with health risk behaviors with a sample of 683 rural children and adolescents (eight to 18 years of age) in China. The multivariate logistic regression analyses revealed that CSA experience was significantly associated with cigarette smoking (aOR=2.14), binge drinking (aOR=2.68), suicidal ideation (aOR=1.69), and suicidal attempt (aOR=2.69) after controlling for several demographic and psychological factors.

2.3.2.2 Sexual and medical consequences of CSA in China

In a national stratified probability sample of 1,519 women and 1,475 men, Luo and colleagues (2008) found that compared to men who reported CSA victimization, women with a history of CSA were more likely to report sexual and medical health problems. For example, they were 1.94 times (p <0.05) more likely to experience genito-urinary symptoms, 3 times (p <0.01) more likely to have ever had a sexually transmitted infection, and 2.23 times (p <0.05) more likely to report sexual dysfunctions.

2.3.2.3 Economic Impact of CSA in China

CSA is also associated with significant economic losses in China. For example, a systematic review of 68 studies of child maltreatment in China found that 8.7% of children under 18 years of age have experienced sexual abuse (Fang et al., 2015). The DALYs lost because of CSA has estimated values equivalent to 0.39% of China's GDP in 2010 (Fang et al., 2015).

2.4 Risk and protective factors for CSA

Resilience has been operationalized as a person's ability to handle stress and to adapt positively to significant risk or adversities (Luthar & Cicchetti, 2000). It is a two-dimensional construct that entails exposure to *adversity* and the development of *positive adjustment* outcomes (Luthar & Cicchetti, 2000). *Adversity*, often known as *risk*, typically refers to a variety of negative life events that are statistically linked to adjustment difficulties (Luthar & Cicchetti, 2000). *Positive adaptation* has been defined as the attainment of relevant developmental tasks, or competence in critical domains such as school (Yule et al., 2019; Luthar & Cicchetti, 2000). One of the primary goals in resilience research is to identify vulnerability (risk) and protective factors that can be used to mitigate the negative effects of adversities (Luthar & Cicchetti, 2000). These factors are manifested in different levels, including individual, family, and community, etc.

The resilience paradigm guides researchers to empirical knowledge about the importance of certain vulnerability and protective processes in the context of specific adversities (Luthar & Cicchetti, 2000). In the context of CSA, examining protective and risk factors for CSA can provide insight into how to promote resilience and overcome vulnerability. In addition, understanding risk and protective factors is critical for developing effective CSA prevention programs.

The following section describes the risk and protective factors for CSA at different levels in a global and Chinese context. It also provides evidence from the UK where data is available. In addition, it presents an overview of the characteristics of CSA offenders.

2.4.1 Risk and protective factors for CSA in a global context

A broad range of risk and protective factors for CSA have been examined in the literature (e.g., Cerna-Turoff et al., 2021; Assink et al., 2019; Lyles, Cohen, & Brown, 2009; Finkelhor et

al., 1997; Boney-McCoy & Finkelhor, 1995). When viewed through the lens of a bio-ecological framework, risk factors and protective factors associated with CSA can occur at the *microsystem*, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem* levels. Table 2 presents risk and protective factors for CSA in a global context. At the *microsystem* level (e.g., child and family characteristics), Cerna-Turoff et al. (2021) conducted a systematic review and meta-regression to identify factors associated with violence against children in LMICs. Of the 94 eligible studies quantitatively synthesized using robust variance estimation, they found that being a girl was associated with increased sexual victimization. Furthermore, Assink et al. (2019) conducted a meta-analysis to investigate risk factors for CSA. The authors found that risk factors for CSA at the *microsystem* level included prior CSA victimization of the child and/or siblings (r =.36), prior victimization of the child other than child abuse (r =.34), prior or concurrent child abuse in the child's home environment (r =.267), and parental history of child abuse victimization (r =.265). Parent and family factors that were identified as being protective for children included secure attachment, positive family environment, family expectations of pro-social behaviors, appropriate parental supervision, and high parental education levels (Family Support Network, 2002).

Research on risk and protective factors has also been carried out in the UK. For example, Brown et al. (2016) conducted a rapid evidence assessment to establish the evidence base regarding risk and protective indicators for CSA. At the *microsystem* level, they found that being disabled and being in residential care are two major risk factors for CSA victimization. They also identified several potential risk factors at the *mesosystem* level (e.g., association with gangs), *macrosystem* level (e.g., poverty). However, the authors noted that the evidence for these factors is currently weak. In addition, Brown et al. (2016) also found that indicators of decreased risk of

CSA victimization (i.e., protective factors) have not been systematically explored in the literature.

Table 2. Risk and Protective Factors for CSA in a Global Context

Level	Risk Factors	Protective Factors
Microsystem	Being a girl; prior victimization of the child and/or its family members; being disabled and being in residential care	Secure attachment with children; positive family environment; family expectations of pro-social behaviors; appropriate parental supervision; high parental education
Mesosystem	Higher percentage of poverty; lower property values	Healthy community environment that promotes information and resources about CSA prevention
Exosystem	Economically disadvantaged; receiving fewer resources of support; being socially isolated	Middle to high socio-economic status; access to health care and social services; consistent parental employment; adequate housing; supportive adults outside the family who serve as role models
Macrosystem	Poverty; cultural tendency to blame the child victim; belief system that fosters CSA victimization	Culture that is clearly oppose the use of children for sexual gratification; comprehensive child protection policies; media campaigns to enhance public awareness of CSA; cultural emphasis on gender equality; inclusion of CSA education in different fields
Chronosystem	Knowledge improvement over time; positive changes in culture of CSA over time	Difficulties in understanding CSA in many cultures over time

In terms of risk factors for CSA at the *mesosystem* level, Black et al. (2001) reviewed existing literature on risk factors for CSA and found that communities with a higher percentage of poverty and lower property values were significantly associated with CSA victimization. For

example, it is found that some CSA perpetrators would travel to abuse children in places where there is a higher level of poverty and a lack of capacity and/or skills to prevent and investigate CSA cases (Global Threat Assessment, 2019). In terms of protective factors, Lyles and colleagues (2009) critically reviewed existing environmental factors and norms perpetrating CSA and found that, at the *mesosystem* level, community environment that promotes information and resources about CSA prevention contributes to the prevention of CSA (Lyles, Cohen, & Brown, 2009).

In terms of risk factors at the *exosystem* level, Grauerholz (2000) applied an ecological model to understanding sexual revictimization and found that, being economically disadvantaged, receiving fewer resources of support, and being socially isolated are associated with CSA victimization. It should be acknowledged, however, that the child welfare system might be biased toward identifying CSA cases in lower SES communities (Finkelhor & Barron, 1986). Protective factors within the *exosystem* level were found to include middle to high socio-economic status (SES), access to health care and social services, stable parental employment, adequate housing, and supportive adults outside the family who serve as role models (Family Support Network, 2002).

Within the *macrosystem*, risk factors for CSA have been found to include poverty, cultural tendency to blame the child victim, and belief systems that foster CSA victimization (e.g., rigid gender roles, social acceptance of violence, narrow definition of child maltreatment) (Grauerholz, 2000). In terms of protective factors at the *macrosystem* level, Wurtele and Kenny (2011) reviewed existing evidence on normative and non-normative sexual behavior and knowledge among children 12 years and unpacked what is known about contextual influences on children's sexual behaviors. They found that at the *macrosystem* level, protective factors for CSA include culture that is strongly opposed to the use of children for sexual gratification,

comprehensive child protection policies and legislation, media campaigns to raise public awareness of CSA, cultural emphasis on gender equality, and the integration of CSA prevention education in different fields (Wurtele & Kenny, 2011).

Within the *chronosystem* level, findings from Martinello's (2020) systematic review suggests that time can have an impact on interactions between systems. Therefore, it is important to examine the impact of time on CSA, as children's cultures change as they grow and develop (Martinello, 2020). For example, one of the protective factors for CSA in this dimension is children's increasing knowledge and skills in response to CSA as they grow over time, which provides additional opportunities for a child to resist and report CSA incidents. Another example is that as time passes and cultures become more committed to children and their rights, the goal of protecting and supporting children becomes increasingly achievable (Martinello, 2020). In terms of risk factors, research suggests that despite the progress of time, understanding CSA remains a challenge in many cultures (e.g., not aware of CSA offenses, sensitivity attached to CSA, scared of cultural implications of CSA disclosure), which continues to influence the high prevalence of CSA (Shafe & Hutchinson, 2014).

4.2 Risk and Protective Factors for CSA in China

There is a paucity of studies that have examined risk and protective factors for CSA in China (e.g., Chui & Jordan, 2018; Yan et al., 2018; the Optimus Study, 2013; Liao et al., 2011). Among the available studies, similar to the evidence from the UK, attention has always been given to risk factors, with protective factors remaining largely unexplored. This section integrates existing evidence on the risk and protective factors (where applicable) for CSA in China and provides an overview of this evidence at different system levels. Table 3 presents the risk factors for CSA in a Chinese context.

At the *microsystem* level, the Optimus Study (2013) identified a number of risk factors for CSA in China. For example, it found that individual characteristics such as being male, older age, having one or more siblings, and fathers' unemployment were associated with CSA victimization. Further, children who were victims of peer or sibling abuse faced the greatest odds of CSA (OR=5.29 for lifetime risk and OR=4.32 for preceding-year risk). Last but not least, children who witnessed or indirectly experienced CSA victimization were strongly associated with greater lifetime (OR=4.56) and preceding-year (OR=4.29) risk of CSA. The Optimus Study, however, did not examine protective factors for CSA in China.

Table 3. Risk Factors for CSA in China

Level	**Risk Factors**
Microsystem	Being a male; older age; having one or more siblings; fathers' unemployment status; children who were victims of peer or sibling abuse; children who witness or directly experienced CSA
Mesosystem	Bullying victims in school
Exosystem	Parents' work-related stress; rural-to-urban labor migration
Macrosystem	Social norms (e.g., saving face), low level of public awareness regarding child abuse; inadequate legal protection for CSA victims
Chronosystem	Changes in family structure over time

In terms of the *mesosystem*, Yan and colleagues conducted a cross-sectional study in six middle schools in China to investigate the association of bullying victimization with CSA among left-behind children in China (Yan et al., 2018). Findings revealed that risk factors for CSA included lack of parental care and supervision, bullying victimization in school; and in the *exosystem*, a systematic review by Liao et al. (2011) found that parents' work-related stress,

rural-to-urban labor migration were associated with CSA victimization (Liao et al., 2011). With regards to risk factors for CSA in the *macrosystem*, Chui and Jordan (2018) reviewed the development of child protection policies and models in contemporary China, and identified social norms (e.g., saving face), low level of public awareness regarding child abuse, and insufficient legal protections for the victims as risk factors for CSA in China (Chui & Jordan, 2018). Last but not least, findings from Liao et al.'s (2011) review identified changes in family structures over time (e.g., divorce and remarriage) as a risk factor for negative child outcomes, including child maltreatment.

2.4.3 Risk and Protective Factors for CSA in the Context of COVID-19

COVID-19 has had a significant impact on children's lives and has quickly changed children's bio-ecological systems at different levels (Pereda & Díaz-Faes, 2020). The disruptions to families, schools, and the broader community caused by government restrictions to prevent the spread of the infectious disease have had consequences on children's safety (The Alliance for Child Protection in Humanitarian Action, 2020b). In this section, I discuss some of the risk and protective factors (positive coping mechanisms) for CSA in the current COVID-19 pandemic identified by newly published research. It should be noted that some of the risk and protective factors are classified under the broad umbrella term "child maltreatment" or "family violence" due to the lack of existing evidence specifically targeted at CSA. Finally, given that the evidence regarding risk and protective factors for CSA in China is still evolving, and the global evidence has implications for both the global and Chinese context, I will primarily draw evidence from the global literature and discuss evidence from the Chinese literature where applicable. Tables 4 and 5 present risk and protective factors in the global and Chinese context, respectively.

Table 4. Risk Factors for CSA in the Context of COVID-19

Levels	Global Context	Chinese Context
Microsystem	Reduced family protection; social isolation; parental perceived stress	School closures; stay-at-home orders; family disputes
Mesosystem	School closures; online learning	Inadequate social support
Exosystem	Economic consequences and challenges	Economic depression, financial distress; increased unemployment rates
Macrosystem	Accusation of children; neglect of children's need and protection	Social norms (e.g., saving face); low level of public awareness regarding child abuse; inadequate legal protection

At the *microsystem level*, it has been suggested that there is an increased risk of sexual exploitation and abuse of children due to reduced family protection of children and increased obstacles to reporting CSA incidences or seeking support (The Alliance for Child Protection in Humanitarian Action, 2020b). In addition, quarantine orders and social isolation are also believed to have increased the risk for CSA for children living with CSA abusers (Tener et al., 2020). Similarly, a survey with 183 participants who have a child under the age of 18 in the Rocky Mountain region of the U.S. explored the impact of COVID-19 in relation to parental perceived stress and child abuse potential. They found that anxiety and depression were associated with both higher parent-perceived stress and child abuse potential (Brown et al., 2020).

Evidence from China is consistent with the global literature. For instance, Zhang (2020) explored two issues related to the impact of the COVID-19 pandemic on family violence in China; namely, whether the pandemic has had a negative impact on family violence, and if so, what its specific impacts upon family violence have been. Using previously published evidence

and statistical reports from various sources, Zhang (2020) concluded that with school closures and quarantine orders in place, children are constantly with their parents, which may exacerbate family disputes and make children more vulnerable to physical, sexual, and emotional violence (Zhang, 2020).

Table 5. Protective Factors for CSA in the Context of COVID-19

Levels	**Global Context**	**Chinese Context**
Microsystem	Positive family relationships due to increased family time	Unexplored
Mesosystem	Remote learning conducted by schools and communities; adapting existing referral pathways for CSA incidences	Interdisciplinary remote networking framework for community social workers
Exosystem	Public awareness raising by government and policy makers	Same as the global evidence
Macrosystem	Multi-sectoral collaboration to prioritize children and caregivers' needs and protect children's safety and well-being	Unexplored

In terms of protective factors at the *microsystem* level, findings from a study conducted with a sample of 627 married persons online during COVID-19 suggested that 20% of participants reported a positive change in relationships with children when spending more time together because of lockdown (Chin et al., 2020), which could be viewed as a potential protective factor for CSA. Protective factors in China at the *microsystem* level remain unexplored.

At the *mesosystem* level, school closures and reduced access to sexual education and services can lead to increased risky behaviors. Furthermore, children's learning experiences have been reshaped by the introduction of online learning, which may increase the likelihood that

children come into contact with online perpetrators (The Alliance for Child Protection in Humanitarian Action, 2020a). In addition, increased online activities may also expose children to age-inappropriate and harmful content, and involve children in risky behaviors such as sharing of sexualized content (The Alliance for Child Protection in Humanitarian Action, 2020a). In line with global evidence, Chinese media reports have identified inadequate social support as a potential risk factor contributing to the increase in family violence (including sexual violence against children) in China (e.g., Cao & Feng, 2020; Li, 2020).

In terms of protective factors at the *mesosystem*, in order to protect children and mitigate potential risks for CSA caused by these disruptions, schools and communities can act as active protective agents by undertaking remote, age and gender appropriate awareness training and adapting existing referral procedures for CSA disclosures (The Alliance for Child Protection in Humanitarian Action, 2020b). In terms of protective factors at the *mesosystem* level in China, Yu et al. (2020) introduced an interdisciplinary remote networking framework that both provided a guideline for community social workers' involvement, and also supported individuals and families in need during the COVID-19 pandemic. This framework is consistent with strategies used in the global context and has the potential for CSA prevention and provision of support services to children in need.

At the *exosystem* level, the economic consequences and challenges posed by COVID-19 are considered to be risk factors for child maltreatment. Specifically, Pereda and Díaz-Faes (2020) conducted a narrative review to describe the risk factors for violence against children in the time of COVID-19, and their findings revealed that lost income, cumulative material adversity, and housing hardships were the main predictors of child maltreatment (Conrad-Hiebner & Byram, 2020, cited in Pereda & Díaz-Faes, 2020). Likewise, a recent study that investigated factors associated with child maltreatment during the COVID-19 pandemic using a

community sample of 342 parents found that job loss during the COVID-19 pandemic was a significant risk factor for child maltreatment (Lawson, Piel & Simon, 2020). With regard to risk factors for CSA in the Chinese context, Zhang (2020) indicated that economic depression, financial instability, and increased unemployment rates resulting from the lockdown appeared to have increased the risk of violence against children.

With regard to the protective factors at the *exosystem* level, evidence from both the global and Chinese literature suggests that government and policymakers should raise public awareness of the increased risk of violence against vulnerable populations (e.g., Zhang, 2020; Usher et al., 2020). In response, WHO highlighted the need for people to "stay in touch", and for better reporting of concerns about abuse; also, for humanitarian response organizations to include services for women and children who are subjected to violence (WHO, 2020).

Lastly, at the *macrosystem* level, it is suggested that attitudes towards children and their rights constitute a key risk factor for violence against children in the COVID-19 pandemic (Pereda & Díaz-Faes, 2020). The fact that many countries accused children of being vectors of transmission for the virus may have led to them being victimized; moreover, the treatment of the crisis has been heavily adult-centered, which has neglected children's needs and their protection (Pereda & Díaz-Faes, 2020).

As such, it is suggested that collaboration between multiple sectors is an essential protective factor in order to prioritize children and caregivers' needs and protect children's safety and well-being (The Alliance for Child Protection in Humanitarian Action, 2020b). Particularly, these collaboration efforts and interventions should include clear procedures to prevent or reduce family separation and other forms of child protection risks and strategies reducing stigma and social exclusion that may result from the disease (The Alliance for Child Protection in Humanitarian Action, 2020b). Despite the lack of evidence concerning the risk and protective

factors for CSA in China, factors discussed in the previous sections, namely social norms (e.g., saving face), low level of public awareness regarding child abuse, and inadequate legal protections for the victims (Chui & Jordan, 2018) may all be relevant factors within a Chinese context during the COVID-19 pandemic.

2.5 What we know about CSA perpetrators

As discussed in the previous section, up to one-third of CSA perpetrators are family members (i.e., intrafamilial CSA; Seto et al., 2015). In terms of offenders in extrafamilial CSA cases, Devries et al. (2018) conducted a systematic review to estimate the age-specific and sex-specific prevalence by perpetrator type for different forms of violence against children aged 0-19 years old (i.e., physical, emotional, sexual violence). Their results showed that intimate partners are the most prevalent perpetrators of sexual violence against girls aged 15-19 years old. Specifically, roughly 2% of all girls aged 15 reported past-year sexual violence from intimate and dating partners, but this percentage rises with age, with about 5% to 7% of females aged 18 and 19 reporting past-year sexual victimization. The results also showed, however, that little data on other perpetrators of sexual violence against children is collected globally (Devries et al., 2018).

Research has also discovered features in male CSA victims that indicate the presence of a cycle of abuse. For example, Plummer and Cossins (2018) undertook a systematic literature review of studies on both CSA victims and offenders. According to their findings, four key factors increase the likelihood of male CSA victims becoming CSA perpetrators: 1) CSA occurs when they are 12 years or older; 2) subject to frequent CSA; 3) subject to serious CSA; or 4) have been abused by someone with whom they have a dependence connection, such as a father figure (Plummer & Cossins, 2018). The author found no evidence for the existence of a cycle of abuse for female CSA victims.

The most optimal goal of CSA prevention is to stop potential offenders from sexually abusing children in the first place (Smallbone et al., 2013). As a result, understanding the characteristics of CSA perpetrators can help in developing preventative strategies targeted at this particular population. The following section discusses the different CSA prevention approaches, including preventative methods that target those who are at higher risk of committing CSA offenses.

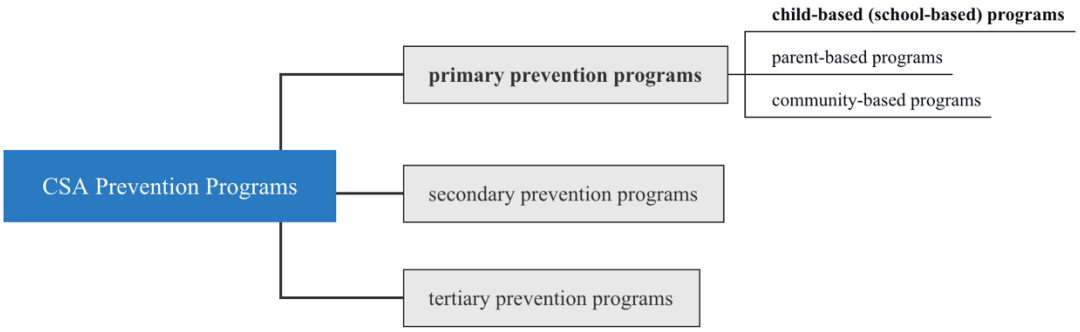
2.6 Review of CSA prevention approaches

In contrast to child physical abuse or neglect where prevention programs focus on educating caregivers and modifying their behaviors, the primary goal of CSA prevention has been, largely although not exclusively, to provide children with the necessary knowledge and skills to respond to or protect themselves from sexual abusers (Wurtele & Kenny, 2011). In response to this primary goal, three types of CSA prevention approaches have been developed (Topping & Barron, 2009). Figure 2 provides an overview of the different CSA prevention approaches across the spectrum of prevention.

Primary CSA prevention targets the whole population before CSA occurs (Topping & Barron, 2009). It also involves altering environmental or ecological factors that encourage or support CSA (Wurtele & Kenny, 2011). Secondary CSA prevention is directed at populations with a higher risk for abuse and potential perpetrators (Topping & Barron, 2009). For example, the German *Prevention Project Dunkelfeld* provides assessment and intervention for males who self-identify as sexual violence offenders and/or pedophiles. Similarly, the *Help Wanted* project in the U.S. provides a web-based prevention program for adolescents who are sexually attracted to children (McCartan, Merdian, Perkins, & Kettleborough, 2018).

Lastly, tertiary CSA prevention focuses on individuals who have already been abused as well as those who have abused to reduce the long-term impact on the child and the abuser (Topping & Barron, 2009). For instance, *Letting the Future In* is an individual-based therapeutic intervention designed by the National Society for the Prevention of Cruelty to Children (NSPCC) in the UK for individuals aged 4-18 years old who have experienced CSA victimization. The program contains a written guide with some manualized components. The core elements of the program include a range of strategies including cognitive-behavioral therapy (CBT) and creative therapies (The Lucy Faithfull Foundation, 2014). Another example of a tertiary intervention that targets CSA offenders is the *Community Sex Offender Groupwork Program* in the UK. The target population of the intervention is male adult sex offenders who are aged 21 years and over. The program utilizes a cognitive-behavioral approach to help offenders restructure their attitudes that lead to CSA and modifies their dysfunctional behaviors by building new skills and resources (The Lucy Faithfull Foundation, 2014).

Figure 2. CSA Prevention Programs



In summary, the ultimate goals of CSA prevention are to prevent sexually abusive behaviors from occurring and to prevent potential victims from being sexually abused in the first place (Smallbone et al., 2008). Thus, prevention efforts target potential CSA victims, as well as CSA offenders. Further to this, the previous section has revealed the complexity of CSA,

indicating the necessity for a comprehensive approach to the prevention of CSA. Given that this DPhil thesis primarily focuses on school-based CSA prevention programs, which is a primary CSA prevention approach, the following section will review only primary CSA prevention efforts directed at three different system levels: the child, parents, and the community.

2.6.1 Primary CSA prevention in a global context

A wide range of theories have been applied to explain primary CSA prevention approaches. Before proceeding to present a review of primary CSA prevention programs, I will briefly discuss two main theories, namely Bandura's social learning theory and Piaget's cognitive development theory that underlie child-focused primary CSA prevention programs. These will be also discussed in DPhil Paper III where school-based CSA prevention programs are unpacked, and the underlying mechanisms are explored.

Social learning theory posits that children observe behaviors of adult models and subsequently adopt those behaviors themselves (Bandura, 1977). Furthermore, Bandura asserts that learning occurs in a social environment through observation and requires cognitive processes; that is, learners internalize and make meaning of what they observe to replicate the behavior (Bandura, 1977). Four conditions are proposed for any form of observational learning: attention, retention, reproduction, and motivation (Bandura, 1977). The first stage is attention, in which learners must pay attention to the behavior. Second, learners must internalize and retain what they have observed. During the reproduction stage, learners need to replicate the behavior by transferring the information received from the attention and retention process into action. Finally, learners must be motivated to imitate the behavior that they have observed (Horsburgh & Ippolito, 2018). Primary child-focused CSA prevention programs incorporate a wide range of strategies to facilitate observational learning in different stages, including modeling, rehearsal, roleplaying (e.g., Davis & Gidycz, 2000; Rispens et al., 1997). Further to this, research has

suggested that programs utilizing active participation of children are more effective than programs that use passive teaching methods such as lectures or watching videos (e.g., Topping & Barron, 2009; Wurtele & Kenny, 2012). This is further discussed in the following section and DPhil Paper III.

In terms of cognitive development theory, Piaget described four stages of cognitive development: 1) sensorimotor stage, also known as infancy stage. During this stage, knowledge is learned through physical interactions or experiences; 2) pre-operational stage (toddler and early childhood). In this stage, children learn new knowledge and skills through symbols; 3) concrete operational stage, including elementary and early adolescence, is marked by logical and organized thinking; 4) formal operational stage, the final stage of the cognitive development process, involving the ability to think about abstract concepts (Huitt & Hummel, 2003). Piaget's cognitive development theory has influenced a wide range of educational applications and practices (Frey, 2018). These include, for example, the use of developmentally appropriate strategies. Similarly, when designing school-based CSA prevention programs, it is critical to examine cognitive development theory and ensure that these programs are tailored to a particular age group of children.

2.6.1.1 Child-focused primary CSA prevention programs

Although different organizations have been providing primary CSA prevention training, Finkelhor (2009) suggests that CSA prevention programs have been most successfully delivered in *school settings*. Most school-based personal safety training programs share common goals, including: *"(a) helping children recognize unsafe situations or potential abusers; (b) teaching children to verbally refuse inappropriate requests by saying no; (c) encouraging children to physically resist by removing themselves from the potential perpetrator; (d) encouraging children to report previous or ongoing abuse to a trusted authority figure; (e) helping children*

understand that the secret of inappropriate touching is never the child's fault - it's always the abuser's responsibility" (Wurtele & Kenny, 2012, p 533).

While the exact format of personal safety programs varies, most of them are implemented using a Behavioral Safety Training (BST) model (Wurtele et al., 1986). BST is based on the concepts of social learning and focuses on the development of skills through instruction, modeling, rehearsal, and feedback (Wurtele et al., 1986). There are three main modalities of program delivery: the first method involves standard classroom instruction and discussion; the second method involves behavioral practice, which typically includes roleplays and behavioral rehearsals of safety skills; the third method of delivery involves video training, which includes a video presentation of program content and the use of video in modeling exercises (MacIntyre & Carr, 2000).

Evidence has shown that school-based BST programs are successful in delivering sexual abuse concepts and self-protection skills to children (e.g., Walsh et al., 2015; Davis, 2000; Rispens et al., 1997). In their meta-analysis of 18 school-based CSA prevention program studies, Walsh et al. (2015) reported a medium effect size of 0.61 (0.45-0.78, 91% CI) for the mean improvement in knowledge scores in the intervention compared to control groups. This is consistent with the results of earlier reviews. For example, Davis (2000) included 27 studies in a meta-analysis and found that the overall weighted mean effect size (*d*) derived from 27 controlled-group studies was 1.07. Furthermore, Rispens et al. (1997) conducted a meta-analysis involving 16 effectiveness studies of CSA prevention programs and found that all studies yielded positive post-treatment gains (d =0.71) although effect sizes varied widely (from d =0.14 to d =1.85). Furthermore, although follow-up effects were somewhat lower than post-intervention effect sizes, they still represent a relatively large retention effect of 0.62 indicating that CSA prevention programs are successful in teaching children sexual abuse concepts and self-

protection skills. Finally, Berrick's (1992) meta-analysis evaluated 13 studies and found a mean effect size of 0.90, indicating that knowledge levels of children increased by close to 1 SD following participation in a CSA prevention program.

In addition, although findings from existing evidence have suggested that children of all ages can benefit from these programs, some researchers pointed out that they are most effective with children from six to 13 years old (e.g., Kenny et al., 2008) and some argued that schools should implement programs starting with the youngest elementary school grades (Finkelhor & Dziuba-Leatherman, 1995). For evaluation studies of programs targeting older children (e.g., secondary school students), the evidence points to promising results with some exceptions. For example, Ko and Cosden (2011) conducted a quasi-experimental follow-up study with high school students in California who either reported receiving or not receiving at least one CSA prevention program. They found that older children were able to understand more abstract concepts compared to younger children (Ko & Cosden, 2001). Further to this, Barron and Topping (2013) conducted a pretest-posttest waitlist control design study to evaluate the effectiveness of a CSA prevention programs (*Tweenees*) with 205 students from 6th grade and 7th/8th grade in the UK. Findings revealed that older children made small skills and knowledge gains due to a program ceiling effect (Barron & Topping, 2013). Further to this, the majority of the programs targeting older children focused largely on peer sexual victimization or dating violence (Casey & Lindhorst, 2009). An example of an intervention that targets older children and adolescents is the IMPower program designed for teenage girls in Kenya. The program aims to empower girls to avoid risky situations, advocate for themselves, and defend themselves against potential attacks (Baiocchi, et al., 2017). An evaluation of the program showed a significantly reduced rate of sexual assault among adolescent girls and a significant increase in generalized self-efficacy score (Baiocchi, et al., 2017). However, the authors also stressed that

out-of-school populations may be at a higher risk of experiencing sexual violence than in-school students (Baiocchi et al., 2017).

Despite that school-based CSA prevention programs have been found to be effective in helping children learn about body safety and to develop self-protection skills, some criticisms are worth noting. For example, in order to protect themselves from being sexually abused, a child must be able to recognize inappropriate touches. Researchers contend that it is difficult for younger children to recognize inappropriate touches due to their cognitive-developmental level (Reed-Perricone, 2003). Researchers have also argued that even if children recognize inappropriate touches, they often fail to challenge the authority of the potential offender because of the asymmetrical power dynamics between the child and the potential perpetrator (Rudolph et al., 2018; Smallbone et al., 2008). Other criticisms directly challenge the theoretical basis of personal safety programs. For example, it is argued that these programs are based on a resistance model of prevention and assume that children can be taught to identify inappropriate touches. However, grooming strategies by offenders are often subtle and incremental. As a result, the intentions of the sexual perpetrator may not always be recognizable (Smallbone et al., 2008). Moreover, school-based CSA prevention programs also place the responsibility in the hands of the children thereby implicitly suggesting that the child is to blame if they fail to protect themselves (Trudell & Whatley, 1988). Nonetheless, school systems are considered as the obvious choice for teaching children about knowledge of CSA and self-protection skills, given that their primary function is to educate and their ability to reach large numbers of diverse children in a relatively low-cost way (Kenny & Wurtele, 2009). This could be of great importance for future preventative efforts to protect children.

2.6.1.2 Parent-based primary CSA prevention programs

A home is an important place for teaching children how to take care of themselves, and parents' participation in the prevention of CSA has many advantages that have not so far been recognized (Hunt & Walsh, 2011; Wurtele, 2009). The main goals of parent-focused CSA prevention programs are to teach parents how to: 1) educate children about CSA prevention; 2) protect children from CSA; 3) recognize signs that CSA is occurring and take actions to stop it; and 4) strengthen positive family dynamics (National Sexual Violence Resource Center, 2011). Some parent-focused primary CSA prevention programs have been shown to raise parents' awareness of CSA and encourage positive communication about CSA (National Sexual Violence Resource Center, 2011). One example of a parent-focused CSA prevention program is *Parenting Safe Children*, a three-hour educational workshop for parents and caretakers facilitated by a CSA prevention expert in the U.S. The workshop covers topics such as definitions of CSA, the prevalence of CSA, characteristics of CSA victims, and actions parents can take to reduce the occurrence of CSA (Wurtele, Moreno, & Kenny, 2008). One evaluation study which involved 47 parents of young children (mean age=4.6 years) suggested that the workshop improved parents' CSA-related knowledge and participants reported increased communication with their children about CSA following the workshop (Wurtele, Moreno, & Kenny, 2008). In addition, another role that parents or caregivers can play in the CSA prevention process is to support their child's involvement in a school-based CSA prevention program. Parents who have concerns about these programs may opt their children out of the program (Wurtele & Kenny, 2011). Thus, parents who allow their children to participate in school-based programs are indirectly supporting CSA prevention efforts (Wurtele & Kenny, 2011).

However, there are a number of barriers to empowering parents to support CSA prevention. First, parents may believe that their children are too young and/or well supervised to be sexually abused. Furthermore, they may also fear frightening their children unnecessarily with

sexual abuse warnings (Reed-Perricone, 2003). Second, it is suggested that home-based educational approaches would be challenging to implement in families experiencing abuse and/or dysfunction (Wurtele & Kenny, 2011). Some efforts have been made to address high-risk families' needs in CSA prevention. For example, the child abuse and exploitation service centers developed by the Barnardo's offer support for the wider family and enhance high-risk families' capacities across the UK (Barnardo's, 2021). The National Society for the Prevention of Cruelty to Children (NSPCC) designed a full range of strategies, including home-based support programs, to support children and families at higher risk of CSA and other forms of abuse (NSPCC, 2021). Evidence also shows that including CSA prevention content in existing family-based services such as home visits and integrating the content in the context of positive parenting may help to improve uptake and reduce stigma (Mendelson & Letourneau, 2015). Finally, researchers also claim that some parent-focused programs fail to recognize the fact that perpetrators may be someone the child knows and/or live in the household as the child. In fact, previous research has suggested that up to one-third of CSA is perpetrated by family members (Seto et al., 2015).

2.6.1.3 Community-based primary CSA prevention programs

In addition to child- and parent-focused primary CSA prevention approaches, community CSA prevention strategies have also been developed and implemented. For example, *Stop it Now!* in the UK and Ireland is a community-based media campaign that aims to increase public awareness and knowledge about CSA (*Stop it Now!*, 2018). In addition, it also provides training to professionals who work with children and educate them to recognize harmful behaviors as well as offer resources to prevent CSA (*Stop it Now!*, 2018). Furthermore, the introduction of confidential telephone helplines supporting adults concerned about their own or others' behaviors has been one of the most significant developments in community-based CSA

prevention initiatives (Finkelhor, 2009). The *Stop it Now!* Helpline seeks to support adults in protecting children from CSA. The Helpline is available to anyone who is concerned about CSA and offers anonymous, confidential advice and support (*Stop it Now!*, 2018). Key components of the Helpline include conversations and resources to encourage individuals to identify and respond to CSA situations, supporting services to families dealing with the impacts of CSA and to those seeking help with their own thoughts and behaviors (Grant et al., 2019). An evaluation of the Helpline included 47 participants in an interview or focus group and surveyed 112 participants who had used the *Stop it Now*! helpline and other resources and services (Brown et al., 2014). Findings suggested that participants felt "*more in control, less isolated and better able to cope with a difficult situation*" after seeking support from the Helpline (Brown et al., 2014, p. 49). Further to this, participants also described that the Helpline had enabled them to begin discussing their sexual thoughts and behaviors for the first time (Brown et al., 2014). However, it should be noted that participants who use the Helpline service may have previously been empowered before contacting the Helpline. That said, there may be many individuals who are less empowered but would similarly benefit from the Helpline, who are overlooked (empowerment theory is discussed in detail in Chapter 6). In addition, there has been limited research on the best way to organize the information and support services associated with the helplines (Smallbone et al., 2008). In fact, according to follow-up studies, while some perpetrators do contact the helplines, it remains unclear whether the helplines have prevented CSA (Finkelhor, 2009). In conclusion, there is little research on community-based primary CSA prevention, and the effectiveness of community-focused CSA prevention programs remains unexplored (Smallbone et al., 2008).

The remainder of this chapter proceeds as follows: It first presents an overview of CSA prevention policies and the current situation of CSA prevention in China. The following sections discuss primary CSA prevention approaches at school, parent, and community levels.

2.6.2 CSA Prevention in China

Since the reform era in the late 1970s and the signing of the UN Convention on the Rights of the Child in 1990, the Chinese government has been complying with the mission of the Convention, carrying out its obligations through concrete acts (UNICEF, 2014). In 1992, the Chinese Government adopted its first National Program of Action (NPA) for Children for the period 1992-2000 and it included the global goals set at the 1990 Word Summit for Children. Following this, the second NPA was launched in May 2001 for the period 2001-2000, and the third was implemented in July 2011 for the period 2011-2020 (UNICEF, 2014). In addition, the National People's Congress passed the Law on the Protection of Minors in 1991, which was revised in 2006. The revised Law explicitly states that "*all minors shall have the right to survival, development, protection and participation in line with the core principles of the Convention on the Rights of the Child*" (UNICEF, 2014, p.108).

To date, however, there is no single designated child welfare agency that handles (suspected) child maltreatment cases in China (Chui & Jordan, 2018). In order to improve the collaboration among governmental agencies, the Ministry of Civil Affairs (MCA) has set up experimental child protection stations in Jiangsu, Henan, and Sichuan provinces since 2013. This pilot scheme aims to establish intervention mechanisms for discovering, reporting, and responding to minors who were neglected, abused, or abandoned (MCA, 2014). There are six main components to the scheme: 1) set up community protection network for minors; 2) strengthen family supervision system; 3) protect injured minors and establish mechanisms for the detection, reporting, and response of injured minors; 4) improve the support for minors in

poverty; 5) improve social protection mechanism for minors; 6) develop and implement protective policies for minors (MCA, 2014). In 2014, the MCA increased the Minors' Social Protection Pilots from 20 to 98 districts and improved the first batch of the pilots (MCA, 2014). In this experimental child protection model, a number of governmental departments including the MCA, Ministry of Public Security, Ministry of Education, Ministry of Health, and Ministry of Justice, as well as quasi-governmental organizations such as All China Women's Federation, and professionals such as social workers were involved to handle local child abuse issues (Chui & Jordan, 2018; Shang, 2015).

Moreover, in response to the increasing awareness of CSA issues in China, several governmental departments jointly issued the "Opinions" on CSA prevention in September 2013. It requires that education departments at all levels should develop appropriate school-based CSA prevention programs to educate children, teachers, as well as parents about knowledge of CSA and self-protection skills (Zhang, Chen, & Liu, 2015).

2.6.2.1 School-based primary CSA prevention programs in China

In practice, the development of primary CSA prevention education, however, is still in its infancy in China. Most CSA prevention education programs are located within sex education curriculums such as *Treasuring Life* (for 1st -6th graders), *Way of Growth* (for adolescents), and *It's All One* (for high school students) (UNFPA, 2018). Further to this, it is reported that there are very few specialized sexual education teachers in China's schools. As a result, schools normally assign teachers of other subjects to deliver the curriculum and teachers tend to avoid sensitive topics such as CSA due to their limited knowledge and capacity regarding these topics (UNFPA, 2018).

School-based CSA prevention programs have frequently been driven by passionate individual workers or organizations. Stand-alone programs would allow schools to keep track of the program implementation process and evaluate the effectiveness of these programs (UNFPA, 2018). In reality, however, implementing stand-alone CSA prevention programs in the school system requires strong leadership and communication skills and these are unlikely to be effective on their own. Furthermore, trainers face many challenges when delivering these programs (Lu et al., 2020). This is discussed in more detail in DPhil Paper II.

Furthermore, there has been little guidance either in terms of how to develop an evidence-based intervention or to do this work effectively at a national level. Most program evaluations have been limited in terms of their conception and implementation, and therefore limited in their usefulness to build a best practice knowledge base in the field. For example, only two randomized controlled trials (RCTs) (Lee & Tang, 1998; Jin et al., 2017) that had been conducted in China were identified in the most recent systematic review examining the effectiveness of school-based CSA prevention programs (see DPhil Paper I). The first RCT evaluated the effectiveness of the *Behavioral Skills Training Program* (Wurtele, 1990) with a total number of 77 female students aged 11-15 enrolled in special schools for children with mental illness (Lee & Tang; 1998). The authors conducted a follow-up assessment two months after the study and the results suggested that self-protection skills and knowledge of CSA were increased and maintained among participants in the intervention group. No further follow-ups were conducted. Participants also exhibited less fear and negative emotions after participating in the program. In terms of limitations of the study, Lee and Tang (1998) suggested that the generalizability of the study was questionable as the study only included participants with mental illness. In addition, it remains unknown whether participants could transfer knowledge and skills into real-life CSA situations.

In a recent RCT study, Jin et al. (2017) evaluated the effectiveness of a CSA prevention program with 484 school-age children from one primary school in Beijing, China. The program was developed based on previous studies and the Body Safety Training Program. Findings suggested that Chinese school-age children can benefit from CSA prevention programs with increased knowledge of CSA and skills of personal safety. In addition, researchers compared the knowledge gains between children who were taught by teachers and their parents. The results revealed that participants in the teacher education group demonstrated the highest level of CSA prevention knowledge and skills. However, the generalizability of the study findings is compromised due to the small sample size and the lack of representativeness of the sample. Furthermore, the negative effect and long-term knowledge retention of the program were not examined in the study. Last but not least, although the evidence suggests that there is a higher prevalence of CSA for boys than girls in China, prevention efforts particularly addressing boys as potential CSA victims, remain scarce.

2.6.2.2 Parent-based primary CSA prevention in China

In line with evidence from the global literature, evaluation studies conducted in China have found that parental educational practice with respect to CSA prevention could help enhance children's self-protection knowledge and skills (Jin et al., 2017). To date, however, no parent-based primary CSA approaches that are specifically tailored to the needs of Chinese parents have been developed. In one qualitative study, to explore how and why Chinese parents perceive CSA in the way they do, Xie and colleagues (2016) conducted semi-structured interviews with 26 parents of preschool or primary school-aged children in Beijing. Findings from the study highlighted that given the lack of government leadership in the CSA prevention field in China, parent-involved CSA prevention programs should be a key aspect of CSA prevention education initiatives. Following this, the authors proposed a number of approaches to the development of

parent-focused CSA prevention in China. Particularly, at the primary prevention level, the authors highlighted that key content should include what behaviors constitute CSA, the risk factors for CSA and how to talk about sex-related issues and CSA prevention with children in the Chinese cultural context (Xie, et al., 2016). These findings provided important insights regarding the development of the parent-focused primary CSA prevention approach in a Chinese context.

2.6.2.3 Community-based primary CSA prevention in China

To date, there have been no systematic efforts to address CSA prevention using a community-based approach in China. Existing community-based child protection approaches include the Barefoot Social Workers program, which was introduced to the Chinese child welfare system in 2010 and has become an important community-based approach to child welfare at the grassroots level. The responsibilities of barefoot social workers include identifying children in need, raising community awareness on child welfare and protection, providing training on parenting skills, psychosocial support games and developing local supportive policies (UNICEF, 2018). However, the effectiveness of the Barefoot Social Workers program remains unclear and the outcomes of the program have not been associated with CSA prevention directly.

In summary, it is evident that despite the government's efforts to develop CSA prevention policies and improve collaboration among different government agencies, there is limited evidence of the development and evaluation of evidence-based primary CSA prevention approaches at different levels. These findings underscore the necessity of establishing the evidence base of primary CSA prevention in China. In the next chapter, I will present the methodological frameworks upon which subsequent chapters of the DPhil thesis are based.

Chapter 3. Methodology

This chapter provides an overview of the methodological frameworks upon which subsequent chapters of the DPhil thesis are based. It starts with a discussion of the mixed-methods research design, which describes the overarching research process used for the DPhil thesis, then presents the underpinning rationale and description of the methods used for each of the following studies: the systematic review and meta-analysis (DPhil Paper I), the qualitative study (DPhil Paper II), the realist review (DPhil Paper III).

3.1 Overview of mixed-methods study design

Mixed-methods (MM) is defined as "*an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks*" (Tashakkori, & Johnson, & Teddlie, 2020, p.4). There is a broad consensus that pragmatism, an epistemological stance, is the rationale for an MM approach (Biesta, 2010). As a philosophical underpinning for MM research, pragmatism is not committed to any one system of philosophy or ontological stance with regard to reality, and stresses the importance of focusing attention on the research problem in social science research (Creswell & Creswell, 2018; Creswell & Clark, 2017; Tashakkori & Teddlie, 1998). At the same time, pragmatism highlights the value of multiple perspectives, and as such opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis (Creswell & Creswell, 2018). Therefore, by employing an MM research design, researchers are able to liberally select various approaches for collecting and analyzing data and obtaining additional insights beyond the information provided by either the quantitative or qualitative data alone (Creswell & Creswell, 2018).

Over the years, researchers have used different approaches for designing mixed-methods studies, among which a typology-based approach has been the most discussed. As a result, a wide range of classifications of types of MM designs have been identified (Creswell & Clark, 2018). A typology-based approach is recommended for novice MM researchers because it provides researchers with a range of options to consider that are well defined, facilitates a solid approach for addressing the research problem, and helps the researcher anticipate and resolve challenging issues (Creswell & Clark, 2018). Four considerations are commonly used when developing different typologies of MM designs: 1) the purpose for mixing methods, 2) the relative timing of the qualitative and quantitative strands, 3) the relative priority of different strands, and 4) the level of interaction that occurs between strands (Creswell & Clark, 2018). Following these key considerations, Creswell and Clark (2017) proposed three core designs of MM research, namely: 1) explanatory sequential design, 2) exploratory sequential design, and 3) convergent design.

A mixed-methods (MM) study design, which combines quantitative and qualitative strands of inquiry, was applied to the research process of the DPhil thesis. The rationale for using the MM research design was threefold. First, the research questions of the DPhil thesis could not be answered by either quantitative or qualitative methods alone. For example, I was not only interested in which intervention components in school-based CSA prevention programs work, but also the underlying mechanism of these programs. Second, by using both quantitative and qualitative methods throughout the study, findings from one strand can be used to inform the development of the subsequent strand, thereby increasing the validity of the study findings (Clark & Ivankova, 2015). In particular, results from the quantitative strand of the DPhil thesis built a solid foundation for the development of the interview questions of the qualitative interview as well as the realist review (see the next section for more details). Third, by

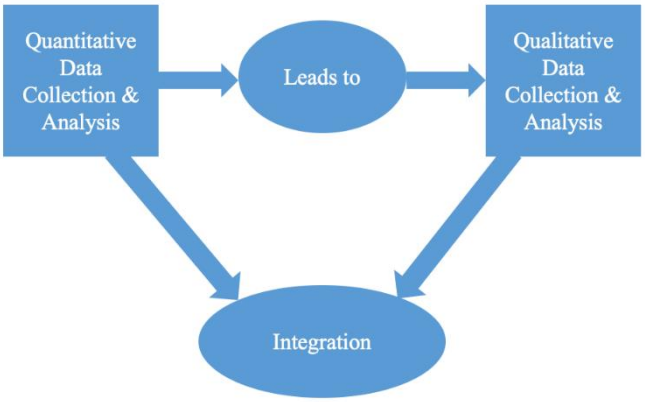
corroborating results from both quantitative and qualitative approaches, it was possible to develop a holistic understanding of the research phenomenon (i.e., CSA prevention programs and CSA research), thereby providing more refined conclusions and recommendations (Clark & Ivankova, 2015).

Upon examining the nature of each MM design, an explanatory sequential MM design (quantitative followed by qualitative) is deemed suitable for the present DPhil study. The next section describes the characteristics of the explanatory sequential design and its implications for the present DPhil study.

3.2 Explanatory sequential mixed methods design

The explanatory sequential MM design refers to two distinct interactive phases. It starts with quantitative data collection and analysis, followed by qualitative data collection and analysis in order to explain or expand on the results that emerged in the quantitative phase (see Figure 3) (Creswell & Clark, 2018). In addition, an important feature of MM design is the integration of quantitative and qualitative results. In an explanatory sequential design, integration of results occurs between the quantitative data analysis in the first phase of the research and the qualitative data collection in the second phase (Creswell & Clark, 2018). Upon completing quantitative data analysis, researchers produce results, some of which need further explanation. Therefore, a qualitative inquiry is undertaken to address areas that need to be further explored. Once the qualitative phase is complete, researchers integrate the two sets of connected results and enhance the understanding of the quantitative findings (Creswell & Clark, 2018).

Figure 3. Explanatory Sequential Mixed Methods Design



3.3 Explanatory sequential mixed methods (MM) design in this DPhil thesis

An explanatory sequential MM design was selected for this DPhil thesis because it would allow for a more in-depth understanding of the findings from the quantitative phase (Creswell & Creswell, 2018). The quantitative strand – the systematic review and meta-analysis (DPhil Paper I), is prioritized to synthesize intervention components in existing school-based CSA prevention programs and predictors for greater program effectiveness. The first integration of results of the current DPhil study involved connecting the results from the initial quantitative strand (DPhil Paper I) to inform the development of the qualitative strand of the DPhil study, namely the qualitative study (DPhil Paper II) and the realist review (DPhil Paper III). Taken together, the two sets of connected results were repeatedly integrated to provide a nuanced picture of the existing evidence on school-based CSA prevention programs in a global context, and more specifically, in a Chinese context. Creswell and Plano Clark (2011) suggested providing a visual model of the study procedures to present the data collection sequence, the priority of each method, and the integration point where two approaches connect. The process of the research design is illustrated in Table 6.

Table 6. Explanatory Sequential Mixed Methods Design for the DPhil Thesis

Stage	Procedure	Product
Quantitative data collection	Database and grey literature searches	Included studies
Quantitative data analysis	Data synthesis; meta-analysis	Intervention components; predictors for program effectiveness
Development of qualitative phase	Development of interview questions; development of realist review protocol	Interview questions; realist review protocol
Qualitative data collection	In-depth interviews; literature searches	Text data; included documents
Qualitataive data analysis	Coding and thematic analysis; development of Context-Strategy-Mechanism-Outcome configurations and program theory	Codes and themes; CSMO configurations; refined program theory
Integration	Interpretation and explanation of the quantitative and qualitative results	Discussion; conclusions; implications

In the following section, I will outline the research methods used in the quantitative stand (DPhil Paper I) and qualitative strand (DPhil Papers II & III).

3.4 Overview of methods

3.4.1 Quantitative strand: methods for the systematic review and meta-analysis (DPhil Paper I)

The quantitative strand of the DPhil study consisted of a systematic review and meta-analysis (DPhil Paper I) which aimed to 1) synthesize intervention components in existing school-based CSA prevention programs, 2) systematically examine the overall program effectiveness, and 3) identify predictors associated with improved outcomes for children who participated in the programs. This systematic review was built on the most recent and

comprehensive review of this topic (Walsh et al., 2015) and updated their search by identifying studies published between September 2014 and October 2020. It also extended Walsh et al.'s (2015) work by widening the inclusion criteria to capture studies from some of the world's most populous regions by searching for both English-language and Chinese-language papers.

3.4.1.1 Data source and inclusion criteria

In total, twenty-three databases were searched, including eighteen English-language databases: Applied Social Sciences Index and Abstracts, British Education Index, Campbell Collaboration Library, Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Library, CINAHL, ClinicalTrials.gov, DARE, ERIC, EMBASE, Global Health, ICTRP: apps.who.int/trialsearch/, Medline, ProQuest Dissertation, PsycINFO, Social Sciences Citation Index, Social Services Abstracts (ProQuest), and Sociological Abstract. Five Chinese-language databases were searched: CNKI Academic Journals Full-text Database, China Doctoral Dissertations Full-text Database, China Masters' Theses Full-text Database, Taiwan Electronic Periodical Services, and Wanfang Database. Reference lists of all included studies and previous systematic reviews were hand-searched for eligible studies not identified in database searches. Search strategies are listed in Appendix 2.

In terms of inclusion criteria, this review included only studies that had utilized the most rigorous evaluation designs, randomized controlled trials (RCTs), cluster-RCTs, or quasi-RCTs in which participants were allocated to an intervention or control group using explicit methods such as using day of the week, alphabetical order, or other sequential allocation such as by class or school (Walsh et al., 2015). An RCT is a type of study in which participants are randomly allocated to one or two more clinical interventions (Akobeng, 2005). The RCT is viewed as the most scientifically rigorous method of hypothesis testing available (Last, Harris, Thuriaux, & Spasoff, 2001). Also, it is regarded as the gold standard trial for evaluating the effectiveness of

interventions and for establishing causal conclusions (Cartwright, 2010). Cluster RCTs are also known as group-randomized trials where groups of individuals are randomized to different interventions (Higgins & Green, 2019). We excluded studies that utilized non RCT study designs such as pre-test and post-test studies without control groups, quasi-experimental studies without random assignment.

Furthermore, consistent with Walsh et al.'s inclusion criteria, the review included only studies of school-based CSA prevention programs that focused on improving participants' knowledge of CSA, CSA prevention concepts, or self-protective skills. In addition, given that school-based CSA prevention programs mainly target students aged five to 18 years old, this systematic review only included studies were undertaken only with students aged five to 18 years old, who were enrolled in primary or secondary schools. We did not consider evaluation studies of other types of violence interventions, including dating violence, gendered violence, or sexual violence in partner relationships.

3.4.1.2 Risk of bias assessment

Evidence shows that flaws in the design, conduct, analysis and reporting of randomized controlled trials can lead to biased findings (Higgins et al., 2011). In particular, RCTs using inadequate methods to generate randomization sequences, not concealing allocation, lack of blinding and excluding patients from analyses can either overestimate or underestimate the effectiveness of an intervention (Dechartres et al., 2017). As such, in order to evaluate the overall strength of the evidence, it is necessary to conduct a risk of bias assessment. Consistent with Walsh et al.'s review (2015), the quality of included studies was assessed using the Cochrane Risk of Bias Tool (v1.0; Higgins et al., 2011). The Cochrane risk of bias tool (RoB 1.0) is one of the most comprehensive approaches to assessing the potential for bias in RCTs included in systematic reviews or meta-analyses (Higgins et al., 2011). It provides greater transparency than

previous tools in that it includes details of trial conduct, on which judgments of risk of bias are based, allowing reviewers to evaluate their judgments (Higgins et al., 2011). The tool includes six domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, and selective reporting. Each domain was assigned a judgment of "low", "unclear" or "high" risk of bias.

3.4.1.3 Data extraction

In line with the three study aims, the following data were extracted from included studies. First, characteristics of the included studies including authors, study design, country, intervention outcome measures, and participant age were extracted. Moreover, intervention outcome data for participants' knowledge of CSA and/or CSA prevention concepts, as measured via questionnaires or vignettes were extracted. Finally, the review adopted the Template for Intervention Description and Replication (TIDieR) checklist (Hoffmann et al., 2014) for data extraction. The TIDieR checklist is an extension of the CONSORT 2010 statement (item 5) and the SPIRIT 2013 statement (item 11) (Hoffmann et al., 2014). It was developed to improve the completeness of reporting and the replicability of interventions. The checklist consists of 12 items: brief name, why, what (materials), what (procedure), who provided, how, where, when and how much, tailoring, modifications, how well (planned), how well (actual) (Hoffmann et al., 2014). Following the checklist, structural intervention components in school-based CSA prevention programs were extracted. Further to this, content components were identified through inductive thematic analysis. For content components, the themes or concepts addressed in the programs were identified and inductively coded (Sutcliffe et al., 2015) and then summarized and categorized these components into ten dimensions.

3.4.1.4 Data analysis

First, to calculate the overall effect size for the primary outcome of interest – CSA knowledge gains, a random effect model was applied for the purpose of the meta-analysis. It was selected due to the anticipated variability in the true effect as a result of differences in interventions, teaching methods and sample characteristics between studies (DerSimonian & Laird, 2015). A random effect model is useful for providing an overall effect estimate and characterizing the heterogeneity of effects across studies (DerSimonian & Laird, 2015). Standardized effect sizes for all outcomes of interest were calculated. Conventionally, Cohen's *d* is a common format to calculate the standardized mean difference in single trials, however, this measure has shown to have a slight bias in small studies, for which it overestimates the effect (Hedges, 1981). Hedge's *g* uses a different formula and therefore controls for this bias. As such, Hedges' *g* was calculated using RStudio for between-group effects for all continuous outcome measures in this study.

The amount of residual heterogeneity and ratio of true to total variance I^2 was calculated using the `metafor` package in RStudio. The I^2 is interpreted as the proportion of the observed variability in a set of effect sizes that reflects real differences among true effects (Borenstein, Cooper, Hedges, & Valentine, 2009). A value of 0% indicates no observed heterogeneity, and I^2 values of 25%, 50%, and 75% are considered as indicating low, moderate, and high heterogeneity, respectively (Higgins, Thompson, Deeks, & Altman, 2003).

Second, intervention components in existing school-based CSA prevention programs were systematically identified and synthesized. Structural components were deductively coded, categorized, and described using the TIDieR checklist items (see Appendix 5). Content components were inductively coded, categorized, and described from the narrative text of the included studies. Finally, meta-regression was conducted to explore sources of heterogeneity

among studies by testing whether effect size estimates varied significantly by intervention structural and content components. Meta-regression is a more sophisticated method than sub-group analysis for exploring heterogeneity because it allows for the evaluation of one or more covariates simultaneously (Baker et al., 2009). To further examine whether combinations of intervention components and study characteristics contributed to program effectiveness, multiple meta-regression was performed to explore the association between effect sizes and intervention content components as well as study characteristics (Harrer, Cuijpers, Furukawa, & Ebert, 2019).

Where appropriate, sensitivity analyses were performed to examine if outliers were associated with the magnitude and significance of effect sizes. Outliers were defined as studies in which confidence intervals did not overlap with confidence intervals of the pooled effect (Harrer, et al., 2019). All quantitative data analyses were conducted using `metafor`, `meta`, and `demetar` packages in RStudio. R scripts can be found in Appendix 4.

The systematic review was registered with PROSPERO (ID: CRD42019140564) (See Appendix 1). The systematic review is the first stand-alone paper of the DPhil thesis and can be found in Chapter 4.

3.4.2 Qualitative strand: methods for the qualitative study (DPhil Paper II)

The qualitative strand of the DPhil study comprised two studies – the qualitative study (DPhil Paper II) and the realist review (DPhil Paper III).

The aim of the qualitative study was to integrate the findings with those from the quantitative strand (DPhil Paper I) and enrich our understanding regarding stakeholders' views about existing school-based CSA prevention programs and intervention components in these programs, and their general attitudes regarding CSA research in China. A series of in-depth interviews were conducted to answer these research questions.

Qualitative interviews are defined as "*attempts to understand the world from the subjects' point of view, to unfold the meaning of people's experiences, to uncover their lived world prior to scientific explanations*" (Kvale, 1996, p.1; cited in DeJonckheere & Vaughn, 2019). By asking a series of questions to the interviewee, the interviewer collects subjective information about a particular research topic or experiences (DeJonckheere & Vaughn, 2019). Interviews are different from surveys in that they can provide additional insights on research questions in-depth and explore how and why people shape their ideas in the way they do, in addition to how and why they make connections between ideas, values, events, opinions, or behaviors (Hochschild, 2009).

Overall, qualitative interviews are categorized into three formats based on the degree of structuring, namely structured, semi-structured, and unstructured interviews. Structured interviews consist of a list of pre-determined questions and follow-up questions, and allow interviewers to ask the same questions in the same way (Mathers, Fox, & Hunn, 1998). Responses in a structured interview are also pre-determined and a limited range of options are provided (Mathers et al., 1998). Given that the qualitative study aims to deepen our understanding of stakeholders' perspectives on CSA research and CSA prevention programs, structured interviews are not appropriate in addressing the research questions proposed in the qualitative study. On the other end of the spectrum, unstructured interviews contain little structure and neither questions nor responses are pre-determined. In an unstructured interview, researchers do not have any pre-defined theoretical frameworks or questions about the social phenomena under investigation (Mathers et al., 1998). Interview questions are developed based on participants' responses. Therefore, an unstructured interview format was not selected in this qualitative study. The proposed qualitative study (DPhil Paper II) was informed by findings from the systematic review (DPhil Paper I). An interview guide was developed to extend our

understanding regarding the overarching research questions of the DPhil thesis. By addressing the key questions, sufficient integration was achieved, and the value of this mixed-methods DPhil thesis was enhanced.

In addition to interviews, focus groups were not selected for the qualitative study for two reasons. First, although it is argued that focus groups can be used to facilitate discussion of sensitive topics (Perecman & Curran, 2006), ensuring anonymity and confidentiality is the key challenge of using this data collection method, especially given that snowball sampling was used in this study and most participants knew each other. Second, it was practically challenging to schedule a time for the focus group to meet due to participants' different roles and time schedules.

Among different types of interviews, semi-structured in-depth interviews are the most widely used interview format for qualitative research (Crabtree & DiCicco-Bloom, 2006). The overall purpose of semi-structured interviews is to collect information from key informants who have personal experiences, attitudes, perceptions and beliefs related to the research topic (DeJonckheere & Vaughn, 2019). Further to this, semi-structured in-depth interviews allow researchers to collect new, exploratory data related to a research topic, triangulate other data sources or validate the accuracy of the findings (Lincoln & Guba, 1985). Semi-structured in-depth interviews are suitable for explaining results from the quantitative strand of the DPhil study, and shedding light on stakeholders' perspectives on school-based CSA prevention programs and CSA research in China. Finally, when considering the qualitative study within the mixed methods DPhil thesis, by developing an interview guide involving overarching research questions proposed in the DPhil thesis, a semi-structured interview method can strengthen the rigor and facilitate the integration of findings from both quantitative and qualitative strands in the final synthesis stage.

The following sections provide an overview of the methods, study setting, and ethical considerations of the qualitative study (DPhil Paper II).

3.4.2.1 Study setting

The study recruited participants from two locations: Haidian District, Beijing and an elementary school in a county under Lanzhou city, Gansu Province, China (see Figure 4).

Figure 4. Geographic Areas of China (study settings circled; UNICEF, 2018)



There are more than 17 universities/research institutions in Haidian District (Beijing Municipal Education Commission, 2017), which provide a rich resource for recruiting stakeholders who have the expertise or practice experiences in child protection and CSA prevention. In addition, it has been suggested that although significant progress has been made to ensure education equity, the uneven education development within China continues to pose a huge challenge for China's education development (UNICEF, 2018). For example, Figure 5 indicates that while the net enrolment rate of primary school in China is high, provinces in the west lag behind the more developed provinces in eastern China. Further to this, it is estimated that eastern provinces tend to spend more on education than western provinces. Specifically,

Gansu Province had one of the lowest expenditures on education among all the provinces in 2017 (National Bureau of Statistics, 2018). As such, one elementary school under a county Lanzhou City, Gansu Province was selected as the second study setting for the qualitative study, in an attempt to obtain a wide range of perspectives on the research questions from both the urban and rural areas.

Figure 5. Net Enrolment Rate in Primary Education by Province (UNICEF, 2018)



3.4.2.2 Sampling and recruitment

Purposive sampling is a type of non-probability sampling and it aims to produce a sample that can be logically assumed to be representative of the population (Lavrakas, 2008). Purposive sampling is generally considered most appropriate for the selection of small samples often from a limited geographic area or from certain individuals with characteristics of interest in the study (Turner, 2020; Lavrakas, 2008). Therefore, a purposive sampling technique was used to recruit study participants in both study locations for the present qualitative study (DPhil Paper II) in order to capture information that is particularly relevant to the research questions.

In addition to purposive sampling, a snowball sampling approach was also applied to the participant recruitment process. Snowball sampling is another type of non-probability sampling strategy where researchers recruit study participants who possess some characteristics of research of interest through referrals from existing study participants (Biernacki & Waldorf, 1981). It is suggested that snowball sampling is particularly useful when the focus of the study is a sensitive topic or study populations are difficult for researchers to access (Sharma, 2017; Biernacki & Waldorf, 1981). Given the sensitive nature of the research topic - child sexual abuse, snowball sampling is considered appropriate for reaching potential participants.

During the purposive sampling stage, the inclusion criteria for participants were as follows: 1) individuals who have regular contact with elementary school students in either a personal or a professional capacity (e.g., parents, caregivers, or educators who have delivered CSA prevention programs); or 2) professionals who work in the child protection field (e.g., social workers, representatives of non-governmental organizations, government officials, or child welfare researchers). Potential participants were initially contacted through an email, which included details about the purpose of the study and requested them to contact me regarding their interest in participating in the study. Following this, a snowball sampling method was applied by asking participants to recommend additional individuals or organizations to take part in this study.

Recruitment stopped when data saturation was reached. Saturation refers to the point at which "additional data do not lead to any new emergent themes" (Urquhart, 2013, p. 194). Saturation has become the most widely used principle and the "gold standard" to determine sample size and evaluate data sufficiency (Guest, Bunce, & Johnson, 2006). When researchers fail to reach data saturation, the validity of the findings may negatively be affected (Kerr et al., 2010). Research also points out, however, that identifying a specific time point at which

saturation is achieved appears to result in a degree of uncertainty or equivocation (Sanders et al., 2018). To address this, Green and Thorogood (2018) suggested that when answering a reasonably specific research question, most qualitative researchers have found that little "new" information will be generated after interviewing and analyzing 20 or so participants. However, Burmeister and Aitken (2012) argued that data saturation is determined by the depth of the data, rather than the quantity of the data. Furthermore, in practice, the "saturation point" is typically determined by the judgment and experience of researchers (Fusch & Ness, 2015).

3.4.2.3 Data collection

Where potential participants responded to say that they were interested in taking part in the study, a phone call was scheduled to discuss their participation further. Where appropriate, I then further arranged a mutually agreed upon date and time to complete the recruitment process and conduct the interview. An interview guide with a list of open-ended questions which addresses the research questions was constructed to facilitate the interviews. The semi-structured interview guide was designed to be conversational and flexible. Interview questions can be found in Appendix 10. This design permits participants to share their opinions and perspectives as they emerge and permits the interviewer to adapt to participants, ask probing questions, and clarify perspectives, pursue unanticipated yet relevant content, and collect a greater depth and range of data.

The key intervention components identified in the systematic review (DPhil Paper I) were translated into Chinese and back-translated into English by a native Mandarin Chinese speaker. Back translation is a process in which the translated material is re-translated into the source language by a translator who has not seen the original text (Tyupa, 2011). Back translation was conducted to avoid any discrepancies between the original text and back-translation, thereby ensuring the trustworthiness of the research and its findings (Chen & Boore, 2009). During the

interview, the key intervention components were presented to the interviewees and the interviewees' perspectives about the components, school-based CSA prevention programs, and CSA research were gathered.

3.4.2.4 Data analysis

An inductive thematic analysis was carried out to analyze the interview transcripts using ATLAS.ti software. Thematic analysis is a method of identifying, analyzing and reporting patterns (themes) within data (Braun & Clarke, 2006). It is argued that thematic analysis is particularly useful for examining the perspectives of a wide range of participants, highlighting similarities and differences, and developing unanticipated insights (Braun & Clarke, 2006; Cassell & Symon, 2004). Before proceeding to the steps of thematic analysis, there are a number of methodological decisions that need to be made.

In thematic analysis, researchers can apply an inductive or deductive approach to capture themes that emerged from the data. Inductive thematic analysis is particularly useful for providing a broader and expansive analysis of the data. A deductive approach, in contrast, allows researchers to explore how theories inform their analysis and how findings could be understood in the structure of a pre-existing theory or framework (Kiger & Varpio, 2020).

The aim of the qualitative study was exploratory, that is, to understand stakeholders' perspectives about CSA prevention programs and CSA research. Further to this, I, as the researcher, do not have any analytic preconceptions regarding these views. As such, a data-driven inductive approach that provides a rich description of the interview data was most suitable for answering the research questions proposed in the study.

Another decision that needs to be made is the level at which themes are identified – at a semantic explicit level or a latent interpretative level (Boyatzis, 1998). When analyzing data using a semantic perspective, themes are identified within the explicit meaning of the data. On

the other hand, a thematic analysis at the latent level examines the underlying ideas of the data and the analysis is not just a description but theorized (Braun & Clarke, 2006). A semantic level of thematic analysis was adopted for data analysis because the qualitative study aimed to capture a more detailed and nuanced account of the stakeholders' perspectives about CSA prevention programs, their experiences in delivering CSA prevention programs (e.g., facilitators and barriers to implementation) as well as CSA research.

The present qualitative study followed the six-step procedure recommended by Braun and Clarke (2006). The details of the procedure are as follows:

In the first step, interview transcripts were reviewed in order to familiarize myself with the data. The transcripts were checked back against the original audio recordings for "accuracy". In the second step, initial codes from the data were produced and grouped into categories according to their similarities. Following this, a draft codebook was developed and can be found in Appendix 11. In the third step, the categories generated from the second step were organized into themes. This step involved combining codes into a broader level of themes that accurately depict the data. A thematic map was developed and codes that did not belong to any themes were grouped under the "miscellaneous" category for future categorization.

In the fourth step, candidate themes were reorganized and regrouped by collapsing two or more themes into one theme or breaking down one theme into two or more themes. At the end of this phase, a new arrangement and a more precise definition of the themes were proposed.

In the fifth step, themes were further defined, refined, and organized into a coherent and internally consistent account. In the sixth step, a set of fully worked-out themes were used in order to conduct the final analysis write-up of the final result section. Quotations were provided to illustrate the final themes. Patton (2002) suggested that the main purpose of using quotations in research is to demonstrate how the findings and interpretations have arisen from the data. In

addition, Heery et al. (2019) has argued that verbatim quotes enhance the confirmability of the research findings and enrich our understanding of the findings. As a result, direct quotes from participants were added to illustrate the final themes and improve understanding of their perspectives.

Other qualitative data analysis approaches were considered but were not suitable for this study. For example, grounded theory, which originates from sociology, aims to elucidate an explanatory theory of social processes (Glaser & Strauss, 1967). Therefore, this method was not selected given that the objectives of this qualitative study were to explore stakeholders' perspectives regarding school-based CSA prevention programs and CSA research, instead of generating a theory to explain the process. Framework analysis is another analytical technique the primary goal of which is to describe and interpret what is happening in a particular context (Ritchie & Spencer, 1994). As such, this approach was not suitable for answering the research questions proposed in this study.

3.4.2.5 Quality assessment: achieving trustworthiness

Trustworthiness of a study refers to the degree of confidence in data, interpretation, and methods used to ensure the quality of a study (Pilot & Beck, 2014; Connelly, 2016). Despite a lack of consensus regarding quality assessment in qualitative research, four overall criteria defined by Lincoln and Guba (1985) have been commonly applied in assessing the quality of qualitative research, namely, credibility, dependability, confirmability, and transferability. This section explains the steps that were taken to achieve the trustworthiness of this qualitative study.

Credibility refers to the confidence that the results of the study are true, credible and believable (Lincoln & Guba, 1986). Credibility was achieved by keeping records of the interview data, field notes, and transcripts to ensure the research process is logical, traceable, and clearly

documented. When writing up the paper, I included direct quotations from data that are brief and targeted to show readers the quality of the coding, theme generation, and subsequent conclusions. As mentioned in the previous section, a second coder was involved during the data analysis process which allowed multiple perspectives on the research questions and reduced inherent bias associated with one researcher. In addition, field notes were taken while conducting the interviews to recognize any personal biases. This also allowed me to discuss my position within the study and how my personal beliefs and past training have influenced the research findings.

Reliability, which is also broadly described as dependability, aims to ensure the findings would be repeatable if the study was conducted within the same cohort of participants, coders and context (Lincoln & Guba, 1986). It is suggested that ensuring a project's codes and codebook are an accurate interpretation of any given text is a crucial component of judging the reliability of research conclusions (Church, Dunn, & Prokopy, 2019). In addition, Church et al. (2019) suggest that an approach to ensure coding reliability is to include two or more coders in the coding process. As such, a second coder also conducted initial coding using the draft codebook and further revised the codebook based on co-authors' feedback and the actual coding experience. All transcripts were double coded to ensure intercoder reliability. Discrepancies between the two coders were resolved by discussion and the coded content and generated themes were reviewed. The confidentiality agreement for the second coder can be found in Appendix 12.

Confirmability refers to the confidence that the findings can be confirmed or corroborated by other researchers (Lincoln & Guba, 1986). Confirmability can be achieved through establishing an audit trail and keeping detailed notes of all the methods and analysis decisions researchers made throughout the study process. Prior to the study, I prepared a detailed draft of the study protocol and discussed with my supervisors regarding all the methodological and

analytical decisions that I made, which prevented biases from only one person's perspective on the research process. In addition, using a mixed-methods research design, findings from the qualitative study were triangulated with other findings in the DPhil thesis, which further reduced the effect of investigator bias.

Finally, transferability refers to the degree to which the findings of the qualitative research can be generalized to other contexts or settings with other respondents (Lincoln & Guba, 1985). To help the readers make the transferability judgment, a rich account of details about the study process and study population were provided, including study settings, inclusion and exclusion criteria for participant recruitment, participant characteristics, and data collection and analysis methods. By providing these details, readers can evaluate the extent to which the conclusions made by the qualitative study are transferable to their study settings, situations, and populations.

3.4.2.6 Ethical considerations

The DPhil study obtained ethics approval from Department of Social Policy and Intervention, University of Oxford (Approval ID: SPIC1a__18_002) and School of Social Policy and Public Policy, Beijing Normal University (Approval ID: SSDPP-HSC2019001). Ethics approval letters can be found in Appendix 7.

3.4.2.7 Informed consent

Participation in the study was voluntary. Participants were provided with a hard copy of the information sheet which included detailed information about the purpose of the study, potential risks and benefits, study procedures, voluntary participation and the right to withdraw, confidentiality and data management, and contact information of the author, and authorizing institution. Written consent for participation was obtained from each participant. The information

sheet of the study can be found in Appendix 9. All the participants were adults and were capable of giving consent to participate in the study.

3.4.2.8 Risk and referrals

This study involved the conduct of interviews regarding the development and delivery of school-based CSA prevention programs. While most of the material focused on the content and delivery of such programs, a small number of questions focused on the identification and reporting of such issues. This may be sensitive for individuals with a history of sexual abuse and discussion of CSA programs may raise difficult thoughts. Support resources and services were provided to the participants, including Beijing 24-hour Crisis Support Hotline and Beijing Psychological Assistance Hotline, but it did not prove to be necessary. Reporting procedures to child protection agencies were put in place at the study planning stage for any disclosures of CSA. No disclosures were made during the study process.

3.4.2.9 Privacy and confidentiality

All the information collected during the interviews was treated as confidential. The interviews were held in a private environment such as the participant's office or an empty classroom. However, participants were also made aware of the boundaries to confidentiality in line with safeguarding policies and procedures, including actions that would be taken in the event of a disclosure of CSA.

3.4.2.10 Data storage

Appropriate practical arrangements were in place to maintain the integrity and security of research data. All data was gathered in an ethical manner, with awareness of the context and taking into consideration the safety of the participants. Completed consent forms were locked in

a filing cabinet and only I had access to it. Backups of digital data were made at regular intervals and backup data were be stored in encrypted electronic storage devices.

The interview data were stored using an encrypted electronic storage device. All stored data were anonymized by allocating each recording an ID number. Furthermore, interviewees' phone numbers, email addresses were also anonymized. Following transcription of the interview data, it was anonymized using the relevant ID number, with the identifying names stored separately in a locked cupboard, in a locked room. All study data will be destroyed in accordance with the University regulations after five years.

In addition, all the data collected in the study was fully anonymized for analysis. Each participant was assigned to an ID so that anonymity is secured. No individual identifying information was reported in publications and presentations. The independence of the research was clear and any conflicts of interest were explicitly stated.

3.4.2.11 Compensation

The study did not provide financial rewards for participation.

3.4.2.12 Fieldwork challenges

3.4.2.12.1 Transportation

Poor transportation infrastructure in the county was the main challenge to conducting the interviews. A *Travel Risk Assessment* form was submitted to the Department of Social Policy and Intervention prior to the fieldwork trip and specific transportation risks were identified. During the fieldwork, only registered bus or taxi service was used and the safety and road worthiness of any hire vehicle was checked prior to traveling to the study site. Further information regarding travel risk assessment can be found in Appendix 8.

3.4.2.12.2 Scheduling interviews with participants

Most of the parent participants were farmers and were in the midst of the harvesting when the study took place (September). Therefore, it was challenging to schedule interviews given their busy schedule. I was aware that I was taking up their time and ensured that I did not interfere with their work. As such, all the initial phone calls were made outside their work hours and adequate information regarding the study was provided.

3.4.2.12.3 Mental health

Conducting research on CSA can result in heightened levels of distress for researchers due to listening to interviewees discuss traumatic events. Any potentially distressing events or experiences that occurred during the interview process were discussed with my supervisors. Upon return to Oxford, I attended one vicarious trauma workshop organized by the Social Science Division.

The qualitative study is the second stand-alone paper of the DPhil thesis and can be found in Chapter 5.

3.4.3 Qualitative strand: Methods for realist review (DPhil Paper III)

3.4.3.1 Overview of the realist research and realist reviews

The second stage of the qualitative strand of the DPhil study comprised a realist review (DPhil Paper III) which aimed to understand and unpack the mechanisms by which school-based CSA prevention programs work, thereby providing an explanation, as opposed to a judgment about how the intervention works (Rycroft-Malone et al., 2012; Pawson et al., 2005). Findings from the realist review, along with those from DPhil Paper I and II, were aimed at helping to build up a comprehensive picture of evidence on school-based CSA prevention programs.

Realist research is underpinned philosophically by *Realism*. *Realism* positions itself between positivism and constructivism. Positivism claims that reality is fixed and can be understood through observation; conversely, constructivism argues that the reality is not fixed, and our knowledge of it is socially constructed, and that this restricts our ability to understand reality (Graham & McAleer, 2018; Wong et al., 2013). *Realism* holds that there is a real world and that our knowledge of the world is processed through human senses, brains, language and culture (Wong et al., 2012). Furthermore, one very distinct school within the field of *Realism* asserts that certain contexts (C) in the social world "trigger" mechanisms (M) to generate outcomes (O). These are also known as the "context-mechanism-outcome" (CMO) configurations. Here, contexts refer to the features of the conditions into which an intervention is introduced and provide the conditions that trigger the mechanisms to produce the desired outcomes (Pawson & Tilley, 1997). Further, the concept of "mechanism" is defined as *"…underlying entities, processes, or (social) structures which operate in particular contexts to generate outcomes of interest*" (Astbury & Leeuw, 2010, p.368). Outcomes, from a realist perspective, comprise the intended (expected) or unintended (unexpected) consequences of programs, resulting from the activation of difference mechanisms in different contexts (Pawson & Tilley, 1997). By implication, realist research highlights the importance of systematically investigating both contexts and mechanisms along with intervention outcomes.

Realist review, also referred to as realist synthesis, is a theory-driven and interpretive type of literature review (Berg & Nanavati, 2016). It is the secondary research equivalent to realist evaluation (Wong et al., 2012). Realist review has emerged as a popular approach to synthesize evidence on interventions and "*provides an explanatory analysis of how and why they work (or don't work) in particular contexts or settings*" (Pawson et al., 2004, p.iv). Realist reviews start with an initial program theory that describes theoretical relationships between

contexts, mechanisms, and outcomes (Kantilal et al., 2020). The initial program theory is then further tested and refined by empirical evidence, after which a final program theory is developed.

The test of the initial program theory involves abductive reasoning (also called retroduction), which is the hallmark of realist reasoning (Eastwood et al., 2014). Abductive reasoning is a process of reinterpretation and recontextualization of individual phenomena within a conceptual framework (Eastwood et al., 2014). Further to this, it posits that causation cannot be achieved using only observable evidence and that events are explained by speculating mechanisms that can produce outcomes (Mukumbang et al., 2018; McEvoy & Richards, 2003). The purpose of abductive reasoning is to uncover the contextual conditions that must exist for a certain causal mechanism to take action and produce the intended outcomes (Fletcher, 2017).

Pawson et al. (2014) argue that interventions are complex and are embedded in multiple social systems. It is through the workings of entire systems of social relationships that any changes in outcomes are realized. Furthermore, they suggest that to understand "what works?" in social interventions is a matter of establishing causal relationships and the hallmark of realist inquiry is its distinctive "generative" understanding of causality (Pawson et al., 2004). That is, the outcomes we observe are generated by causal processes that we cannot see, and which operate (or not) according to contexts in which they occur. Therefore, outcomes vary in different contexts (RAMSES II Project, 2017).

As such, in order to infer a causal outcome (O), one needs to understand the underlying generative mechanism (M) that connects two events (X and Y) and the context (C) in which the relationship occurs (Pawson et al., 2004). Therefore, realist reviews do not generate a summative judgment about complex social interventions, instead, findings from realist reviews provide a plausible explanation or theory, which will be refined or rejected as new evidence emerges (Berg & Nanavati, 2016).

In order to better our understanding of the potential CMO pathways and inform the development of school-based CSA prevention programs, it is important to explore how and in what contexts these programs work. There are currently, no realist reviews of school-based CSA prevention programs. As such, DPhil Paper III aimed to fill this evidence gap by systematically synthesizing existing evidence from a broad range of data, and generating plausible explanations of how, for whom, and under what contexts school-based CSA prevention programs work.

3.4.3.2 Methods

The realist review included three phases and six operational steps. During Phase 1, an initial program theory was developed using an informal scoping search strategy. The initial program theory was subsequently tested against the evidence in Phase 2. In Phase 2, a systematic search of literature and other sources was conducted to locate studies that can be used to test, refine, or refute the initial program theory identified in Phase 1. The final phase of the realist review, Phase 3, involved synthesizing data obtained in Phase 2 and the final program theory was refined and developed. The present realist review was reported according to the RAMESES publications standards for realist reviews (Wong et al., 2013). The realist review was registered with PROSPERO (ID: CRD4202018563) (see Appendix 13).

3.4.3.2.1 Phase 1: Clarification of the scope of the review and development of the initial program theory (Step 1)

The scope of the realist review was to identify details about how, for whom, and in what contexts school-based CSA prevention programs work, based on the information provided in the wider literature. A scoping search was conducted to identify studies that could be used for the development of the initial program theory. DPhil Paper I and an earlier systematic review on this topic by Walsh et al. (2015) served as the foundation for the scoping search. Having identified

studies that were eligible for inclusion, a codebook (see Appendix 14) was developed to guide the initial extraction of data regarding the relevant factors that could potentially contribute to the establishment of the initial program theory.

3.4.3.2.2 Phase 2: Identification of evidence with which to test and refine the initial program theory

3.4.3.2.2.1 Data sources and search strategy (Step 2)

Phase 2 of the realist review focused on testing the initial program theory that developed in Phase 1 by systematically searching the published literature and other sources for confirmatory data. The following search methods were used for the realist review:

English-language and Chinese-language databases were searched for studies published from inception to November 1st, 2020, and were limited to the English language and Chinese language.: EMBASE, Medline, ERIC, EMBASE, the Cochrane Database of Systematic Reviews, PsycINFO, CINAHL, Campbell Database of Systematic Reviews, China Academic Journals Full-text Database and Wanfang Database; forward and backward citation tracking; contacting authors; Grey literature.

The initial search terms and search strategy were guided by the initial program theory developed in Phase 1. The search was an iterative process and ceased when there was sufficient evidence to refine the final program theory.

3.4.3.2.2.2 Inclusion criteria

A broad set of inclusion criteria were applied to screen the results of the search:

Population: For quantitative studies, evaluation studies that focused on students aged five to eighteen years, who were enrolled in primary or secondary schools were considered; for other types/formats of studies/documents, no population restrictions were applied to the study as it was

recognized that these studies could involve various stakeholders (e.g., teachers, parents, government officials) who might contribute to answering the review questions.

Intervention: school-based CSA prevention programs that focused on improving knowledge of CSA and CSA prevention concepts, or skill acquisition in self-protective behaviors.

Outcomes of interest: knowledge of CSA or CSA prevention concepts; skill acquisition in self-protective behaviors; decrease of CSA prevalence; disclosure of CSA. During the review process, it was identified that the distal outcome (decrease of CSA incidences/prevalence) would require longitudinal data to examine whether rates of CSA differ overall between children who have and have not received a CSA prevention program (Gibbson & Leitenberg, 2000) and none of the included documents collected such information; as such, only proximal outcomes (CSA knowledge and self-protective skills) were included in the development and refinement of the program theory (see Appendix 19 for the examples of data extraction).

Types/format of documents/studies to be included: realist reviews do not exclude studies solely on the basis of their study design (Wong et al., 2013); therefore, methodological filters were not applied in terms of the types of studies to be included. As such the review could potentially have included primary quantitative and qualitative studies such as RCTs, pre- and post- test studies, content analysis studies, and process evaluation studies, etc. Eligible publication formats included editorials, opinion pieces, commentaries, program manuals, dissertations, and systematic reviews, etc. Furthermore, studies were not excluded based on the country or setting in which the study took place.

3.4.3.2.2.3 Appraisal of studies (Step 3)

In conventional systematic reviews, researchers judge research quality solely based on the use of a hierarchy of evidence with RCT sitting atop, and non-RCTs, pre- and post- test studies, case studies, and opinion pieces underneath (Pawson et al., 2005). Realist reviews, however, argue that a broad range of documents may provide useful information that contribute to a realist review. Therefore, it is illogical to exclude a document or study simply based on its methodological quality (Wong et al., 2013). As such, two criteria were used in the appraisal of the contribution of included studies, 1) *relevance* – whether it can contribute to theory building or/testing; 2) *rigor* – whether the method used to generate that particular piece of data is credible and trustworthy (Wong et al., 2014). It should be noted that, however, both *relevance* and *rigor* are not absolute criteria on which the study should be included or excluded. Realist reviews assert that the individual study is rarely the appropriate unit of analysis (Pawson et al., 2005). Although a study must meet the minimum criteria of *relevance* and *rigor* to be considered for data synthesis, it is suggested that the study as a whole does not get included or excluded on the basis of a single aspect of quality (Pawson et al., 2005).

3.4.3.2.2.4 Data extraction (Step 4)

Data were extracted regarding the descriptions of the program, the context of the study, intervention strategies used in the programs, the underpinning mechanisms of the program, and the outcomes or findings of the study, or explanations as to how, for whom the program worked in particular contexts. Other study characteristics such as authors, year of publication, study design were also included as part of the data extraction process.

3.4.3.2.3 Phase 3: Data synthesis and refinement of the initial program theory (Steps 5 & 6)

While examining included documents, the CMO configuration were expanded to include "intervention strategies" (S) in the initial and refined program theories. This was essential for understanding the context-mechanism interactions resulting from the intervention strategies used in the programs. The process of refinement was ongoing as data extraction progressed, and as a clear picture was generated of how different contexts and intervention strategies appeared to have triggered different mechanisms thereby resulting in different outcomes. Further to this, the relationship between contexts, intervention strategies, mechanisms, and outcomes was not only sought within the same article, but across different sources.

Inductive thematic analysis was applied to identify "themes" attributed to the program contexts, intervention strategies, mechanisms, and outcomes. Thematic analysis is a qualitative data analysis technique, which explores the content of the data and categorizes them into recurrent or common "themes" (Braun & Clarke, 2006; Green & Thorogood, 2018). It is a comparative process in which a wide range of data are compared with each other to classify "themes" that recur or are common in the data set (Braun & Clarke, 2006; Green & Thorogood, 2018). Thematic analysis was conducted until CSMOs that reflected the wide range of data included within documents coded for this realist review. In addition, key concepts that emerged from the data were incorporated into CSMO frameworks through an iterative and open process. Taken together, a conceptual framework was developed to illustrate the final program theory of school-based CSA prevention programs.

The realist review is the third stand-alone paper of the DPhil thesis and can be found in Chapter 6.

Chapter 4. DPhil Paper I: School-based Child Sexual Abuse Prevention Programs: What Works for Whom? A Systematic Review and Meta-analysis with Meta-regression

This is the first stand-alone paper of the DPhil thesis and is based on secondary data. The study aims to systematically summarize intervention components in existing school-based child sexual abuse (CSA) prevention programs and identify predictors for program effectiveness. This paper is currently under review.

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Statement of Authorship

I confirmed that I completed the majority of the work in this study. I conceptualized the study and review questions for the systematic review, led the full process from review registration to final write-up. I wrote the review protocol, developed and implemented the search strategy, conducted the effect size calculation and drafted the first version of this article. Jane Barlow, Franziska Meinck, and Kerryann Walsh contributed to the write-up and interpretation of findings. Yumeng Wu contributed to data extraction and quality assessment of included studies in order to satisfy the double rating criterion.

Abstract

The purposes of this systematic review and meta-analysis were to systematically summarize intervention components in existing school-based child sexual abuse (CSA) prevention programs and identify predictors for program effectiveness. Building on the most comprehensive systematic review of this topic, we conducted systematic searches in both English-language from September 2014 to October 2020 and Chinese-language from inception to October 2020. Six structural components and ten content components were identified using intervention component analysis. Meta-regressions were performed to identify predictors for program effectiveness. Thirty-one studies were included with a total sample size of 9,049 participants. Results from meta-analyses suggested that interventions are effective in increasing participants' CSA knowledge as assessed via questionnaires (g = 0.72, 95% CI [0.52-0.93]) and vignette-based measures (g = 0.55, 95% CI [0.35-0.74]). Results from meta-regression suggested that interventions with more than three sessions are more effective than interventions with fewer sessions. Interventions appear to be more effective with children who are eight years and older than younger children.

Keywords: child sexual abuse, child sexual abuse prevention, school-based interventions

4.1 Background

Child sexual abuse (CSA) refers to "*the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society*" (WHO, 2006, p.62). CSA is a serious problem for children worldwide. The most recent meta-analysis of 55 studies from 24 countries showed that the prevalence of CSA (defined as non-contact abuse, contact abuse, forced intercourse, and mixed sexual abuse) ranged from 8% to 31% for girls and 3% to 17% for boys (Barth, Bermetz, Heim, Trelle, & Tonia, 2013). CSA is associated with a range of adverse psychological, sexual, and economic consequences. For example, one meta-analysis found a significant relationship (d = .32 to d = .67) between CSA and psychological distress (e.g., anger, anxiety, depression) as well as dysfunction in adult women (e.g., revictimization, self-mutilation, sexual problems, substance abuse, suicidality; Manglio, 2009). Research has also shown that adolescent girls and female college undergraduates who experienced CSA were more likely to report physical and psychological dating violence and aggression later in life (Cyr, McDuff, & Wright, 2006; Banyard et al., 2000). In addition, findings from East Asian and Pacific regions indicate that the economic costs of CSA are substantial, with one study estimating the value of Disability-Adjusted Life Years (DALYs) lost due to CSA at $18,378.3 million which accounts for 0.39% of the Gross Domestic Product (GDP) in China alone (Fang et al., 2015).

School-based universal programs for preventing CSA are variously designed to provide students with skills that can be used to recognize, react, and report abuse (Finkelhor, 2009) and thereby reduce the occurrence and reoccurrence of sexual abuse in children and adolescents (National Institute of Justice, 2012). Most school-based personal safety training programs share common goals, including teaching children about body integrity, body safety, appropriate and

inappropriate touching, gender roles and private body parts (Bronson, 2019). In acknowledgment of the limited power that children have to prevent themselves from experiencing CSA, these programs were developed to *empower* children by enhancing their *knowledge* about CSA and personal safety and developing their *competence* in self-protective behaviors, thereby helping them adopt strategies to avoid potentially unsafe situations and disclose their experiences to protective adults (Kim & Kang, 2017). In general, these interventions can be classified into two categories (Kopp & Miltenberger, 2009): 1) information-based trainings (IBT) in which information is delivered to children by an instructor in class using materials such as videotapes, plays, or activity books; 2) behavioral skills trainings (BST) in which similar information is delivered but is taught using modeling, active rehearsals, and application of self-protection knowledge and skills to problem-based (i.e., "what if…") scenarios. Although BST has demonstrated a greater program effect in improving children's knowledge of CSA and self-protective skills (Wurtele et a., 1986), IBT formats are widely used in CSA prevention programs due to their brevity, and the fact that they do not require active learning by participants (Kopp & Miltenberger, 2009).

Reviews of the literature over almost three decades consistently show that children who have received school-based CSA prevention programs show greater gains in knowledge about CSA prevention concepts than children who have not received such programs (e.g., Walsh, Zwi, Woolfenden, & Shlonsky, 2015; Kenny, Capri, Ryan, & Runyon, 2008; MacMilan, MacMillan, Offord, Griffith, & MacMillan, 1994). Most recently, Walsh et al. (2015) updated a Cochrane Review on this topic (Zwi et al., 2007) that included 15 trials (up to August 2006) by systematically searching 14 databases and grey literature up to September 2014. They identified ten additional studies, resulting in a total number of 24 studies with 5,802 participants in primary (elementary) and secondary (high) schools in Canada, China, Germany, Spain, Taiwan, Turkey,

and the United States. Findings from their meta-analysis suggested that school-based CSA prevention programs were effective in increasing participants' knowledge of CSA and self-protective skills and did so without increasing or decreasing their fear or anxiety (Walsh et al., 2015).

As an upper-middle-income country (i.e., those with a gross national income per capita between $4,046 and $12,535; World Bank 2012) with complex development needs and home to the world's second-largest child population (UNICEF, 2014), China experiences a significant burden in terms of CSA. A meta-analysis on the prevalence of CSA in China suggested estimates of 9.1% for men and 8.9% for women (Ma, 2018). However, to date, the development and evaluation of primary CSA prevention programs is still in its infancy in China.

To develop and deliver effective school-based CSA prevention programs, program developers, practitioners, school systems, and policymakers need to understand what works, for whom, and how intervention effects can be optimized. By identifying and integrating components associated with greater effectiveness, interventions can be strengthened, and resource wastage associated with the implementation of sub-optimal programs can be reduced (Kaminski, Valle, Filene, & Boyle, 2008). This is particularly important when delivering such programs in lower- and middle-income countries (LMICs) facing economic hardship, severe resource restrictions, and service gaps. To date, however, despite a growing body of research on school-based CSA prevention programs, there has been little attempt to systematically identify the content and structural intervention components that may contribute to the effectiveness of these programs.

To address this research gap, this systematic review, for the first time in this field, will use intervention component analysis (ICA; Sutcliffe, Thomas, Stokes, Hinds, & Bangpan, 2015) to systematically identify intervention components in existing school-based CSA prevention

programs and establish which component (s) are associated with improved outcomes for children who participated. To this end, building upon and advancing on the substantial work undertaken by Walsh et al. (2015), the aims of this review are to: 1) map the intervention components of school-based CSA prevention programs that are aimed at improving children's knowledge and behaviors in relation to CSA prevention; and 2) identify which intervention component(s) appear(s) to contribute to the most significant improvements in knowledge and behavior outcomes for participating children.

4.2 Method

To meet the above aims, the following research methods were employed: 1) a systematic review and meta-analysis of overall program effectiveness to include studies from the most recent and comprehensive review of school-based CSA prevention programs (Walsh et al., 2015) and update the review by identifying studies published between September 2014 and October 2020, and widening the inclusion criteria to include studies published in the Chinese-language databases from inception to October 2020; 2) an intervention component analysis to classify and synthesize intervention components in existing school-based CSA prevention programs; and 3) a meta-regression to identify the intervention components contributing to program effectiveness.

For the first time, we adopted intervention component analysis (ICA), a pragmatic approach that is developed to generate a comprehensive picture of what an effective intervention "looks like" (Sutcliffe et al., 2015). ICA is particularly useful for detecting and explaining outcome variations among a group of similar interventions (Sutcliffe et al., 2015). In practice, this approach is appropriate in situations where the theory of change has failed to explain variance in outcomes and there is a lack of detailed description of the intervention. ICA is a two-stage process. During the first stage, researchers seek to systematically identify how interventions differ from one another; the second stage aims to answer which of these differences

in intervention characteristics explain the outcome variances. We employed the first stage of the ICA approach to systematically identify intervention components in school-based CSA prevention programs. Details of the ICA process can be found in the Data Analysis section.

4.2.1 Data sources, inclusion criteria and study identification

New evidence should be added to systematic reviews to ensure the currency, thereby updating systematic reviews is more efficient than developing a new protocol to address the same research question (Garner et al., 2016), and the Cochrane Review policy recommends that systematic reviews should be updated within two years to ensure the up-to-dateness of reviews. This also avoids potential resource wastage or misleading conclusions (Garner, et al., 2016). Elliot et al. (2017) introduced the concept of "living systematic review", which is a novel approach to continually updating the reviews and incorporating new evidence when it becomes available. To this end, given the consistently evolving evidence relating to school-based CSA prevention programs, in order to keep the evidence as up-to-date as possible, we updated and advanced on the substantial work undertaken by Walsh et al. (2015), and replicated the literature search strategy and screening methods used.

Following Walsh et al.'s (2015) inclusion and exclusion criteria, this review included only studies that had utilized the most rigorous evaluation designs, randomized controlled trials (RCTs), cluster-RCTs, or quasi-RCTs in which participants were allocated to an intervention or control group using explicit methods such as using day of the week, alphabetical order, or other sequential allocation such as by class or school (Walsh et al., 2015). The review included only studies of school-based CSA prevention programs that focused on improving knowledge of CSA, CSA prevention concepts, or skill acquisition in self-protective behaviors. Included studies were undertaken only with students aged five to eighteen years who were enrolled in primary or secondary schools.

A clear limitation of Walsh et al.'s (2015) review, was that it included mostly papers published in English for the period up to and including September 2014. The search strategy for the current review attempted to also capture studies from some of the world's most populous regions by searching for both English-language and Chinese-language papers. English-language databases were searched from the period September 2014 to October 2020. Chinese-language databases were searched from inception to October 2020. In all, twenty-three electronic databases were searched to identify studies meeting the pre-defined inclusion criteria. Eighteen English-language databases were searched: Applied Social Sciences Index and Abstracts, British Education Index, Campbell Collaboration Library, Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Library, CINAHL, ClinicalTrials.gov, DARE, ERIC, EMBASE, Global Health, ICTRP: apps.who.int/trialsearch/, Medline, ProQuest Dissertation, PsycINFO, Social Sciences Citation Index, Social Services Abstracts (ProQuest), and Sociological Abstract. Five Chinese-language databases were searched: CNKI Academic Journals Full-text Database, China Doctoral Dissertations Full-text Database, China Masters' Theses Full-text Database, Taiwan Electronic Periodical Services, and Wanfang Database. Reference lists of all included studies and previous systematic reviews were hand-searched for eligible studies not identified in database searches.

To reduce the potential for missed studies, it is recommended that two or more reviewers undertake the screening process (Stoll et al., 2019). As such, the titles and abstracts of records identified in the database searches were screened against inclusion and exclusion criteria by the first author and double-checked by a second reviewer, both of whom are native Mandarin Chinese speakers and fluent in English. Those studies considered to be not relevant were excluded. Disagreements in judgments between the two reviewers were resolved by discussion, aiming for consensus. If consensus could not be reached, consultation was undertaken with a

third reviewer. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009) was used in all stages of the review process. The systematic review protocol was registered with PROSPERO (ID: CRD42019140564).

4.2.2 Data extraction

Data were extracted to align with the three study methods as noted above: 1) meta-analysis to update evidence on overall program effectiveness; 2) intervention component analysis to classify intervention components; and 3) meta-regression to identify intervention components contributing to program effectiveness.

Two reviewers, working independently, extracted all data by coding each paper line-by-line to ensure that all available information was captured. Where more than one publication referred to the same study or dataset, we used the relevant paper with the most comprehensive and clear description of methods and outcome reports from a peer-reviewed journal as the primary reference in accordance with systematic review guidelines (Higgins et al. 2011).

We extracted characteristics of the included studies including authors, study design, country, intervention outcome measures, and participant age. We extracted intervention outcome data for knowledge of CSA and/or CSA prevention concepts. Although measures varied between studies, these two outcomes are typically measured via questionnaires or vignettes. Consistent with Walsh et al.'s (2015) review, we extracted questionnaire and vignette measures as separate knowledge outcomes because these required different methods of administration and measured different domains of children's knowledge: factual knowledge and applied knowledge (Walsh et al., 2015).

We extracted two categories of intervention components: structural components (e.g., mode of delivery; location; provider) and content components (e.g., the information delivered

during sessions). For structural components, we adopted the Template for Intervention Description and Replication (TIDieR) checklist (Hoffmann et al., 2014). The purpose of the TIDieR checklist is to ensure that interventions are described in sufficient detail to enable replication (Hoffmann et al., 2014). The TIDieR checklist is an official extension of the CONSORT (Item 5; Moher et al., 2010) and SPIRIT statements (Item 11; Moher & Chan, 2014). We extracted the following TIDieR checklist intervention characteristics from study reports: why (rationale of the intervention), what (materials used in the intervention), who (intervention providers), how (modes of delivery), where (location of intervention), when and how much (duration, number of sessions), tailoring (the adaptation of the intervention during the study), modification (the modification of the intervention during the study), and how well (fidelity assessment of the intervention during the study). For content components, we identified and inductively coded the themes or concepts addressed in the programs (Sutcliffe et al., 2015). We contacted the study authors if key information was missing from published reports. We entered the extracted data into an Excel spreadsheet and imported this to RStudio (RStudio Team, 2015) as appropriate.

4.2.3 Data analysis

We followed a three-stage data analysis process. To update evidence of overall program effectiveness, the first stage comprised an effectiveness synthesis, which aimed to identify statistically significant differences in the outcomes reported in the study results and to understand the differences between interventions in terms of the effectiveness of the component parts (Sutcliffe et al., 2015).

To calculate the overall effect size for the primary outcome of interest – CSA knowledge gains – a random effect model was used for the purpose of meta-analysis due to the anticipated variability in the true effect as a result of differences in interventions, teaching methods and

sample characteristics between studies. A random effect model is useful for providing an overall effect estimate and characterizing the heterogeneity of effects across studies (DerSimonian & Laird, 2015). We estimated the amount of residual heterogeneity and ratio of true to total variance I^2. The I^2 is interpreted as the proportion of the observed variability in a set of effect sizes that reflects real differences among true effects (Borenstein, Cooper, Hedges, & Valentine, 2009). A value of 0% indicates no observed heterogeneity, and I^2 values of 25%, 50%, and 75% are considered as indicating low, moderate, and high heterogeneity, respectively (Higgins, Thompson, Deeks, & Altman, 2003).

Using methods not previously used in examining the effectiveness of school-based CSA prevention programs, to identify intervention components, and to understand variation in participant outcomes that may be attributed to characteristics of interventions, in the second stage we deductively coded, categorized, and described intervention *structural* components using the TIDieR checklist items as detailed above, and further explained below. We inductively coded, categorized, and described intervention *content* components that appeared in the narrative text of the study reports. Once content components had been identified, we then mapped each study report against these newly-devised categories.

As an advance on previous reviews, using meta-regression we also explored intervention components as moderator variables, an approach that has not previously been possible owing to insufficient information provided in study reports (Walsh et al., 2015; Davis & Gidyz, 2000). Meta-regression allows for the evaluation of one or more covariates simultaneously (Baker et al., 2009). To identify the components that contribute to program effectiveness, in the third stage, with structural and content components clearly identified through the TIDieR checklist and ICA coding, we ran meta-regression to explore sources of heterogeneity among studies by testing whether effect size estimates varied significantly by intervention structural and content

components. We also examined whether participants' characteristics contributed to program effectiveness. To further examine whether combinations of intervention components and study characteristics contributed to program effectiveness, we explored the association between effect sizes and intervention content components as well as study characteristics using multiple meta-regression (Harrer, Cuijpers, Furukawa, & Ebert, 2019).

4.2.4 Calculation of effect sizes

We calculated standardized effect sizes for all outcomes of interest. When possible, Hedges' *g* was calculated for between-group effects for all continuous outcome measures. It is suggested that Hedges' *g* is preferable to Cohen's *d* as Cohen's d has been shown to have a bias in small studies, for which it overestimates the effect (Hedges, 1981). Hedges' *g*, on the other hand, controls for this type of bias by calculating the pooled variance using a slightly different formula (Harrer et al., 2019). In addition, where studies reported outcome data at mid-intervention, post-intervention, and/or at follow-up periods, the immediate post-intervention time point was used. Where multiple studies reported the outcomes for one trial, the study that reported the outcome of most relevance to the current review was used, namely CSA knowledge gains. Furthermore, some trials had multiple treatment arms (i.e., these studies did not conform to the standard two-arm "intervention group" versus "control group" design and included two or more intervention groups). For the purpose of including the results of these studies in the meta-analysis, we followed the formula for combining groups recommended by Higgins & Green (2011) and synthesized the results of the intervention arms to obtain one single comparison with the control group.

4.2.5 Assessment of risk of bias in included studies

The methodological quality of the included studies was assessed using the Cochrane Risk of Bias Tool (v1.0; Higgins et al., 2011), which includes criteria to assess the risk of bias across

six different domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, and selective reporting. Each domain was assigned a judgment of "low" "unclear" or "high" risk of bias.

4.2.6 Sensitivity analysis

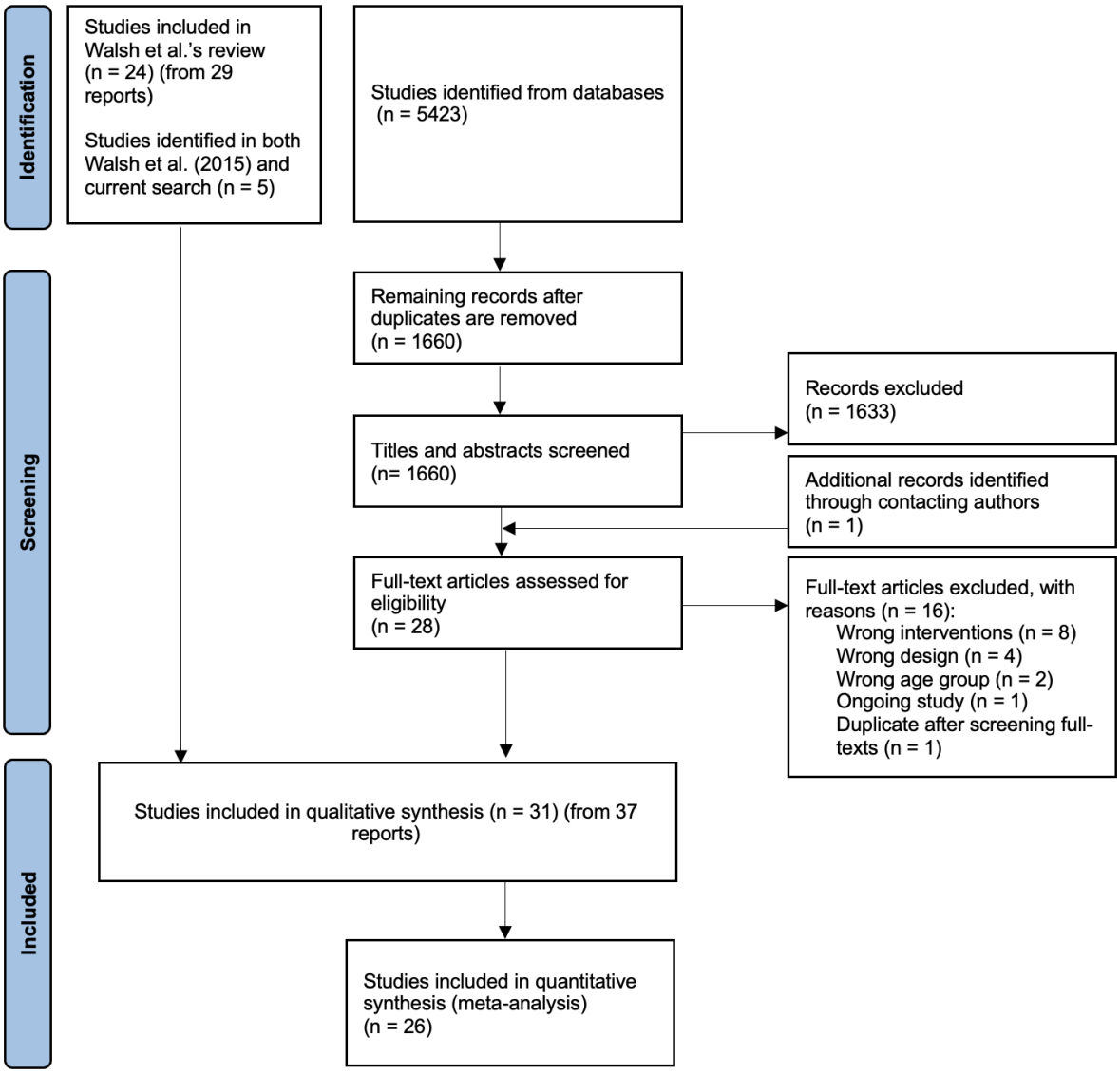
Where appropriate, we performed sensitivity analyses to examine if outliers were associated with the magnitude and significance of effect sizes. Outliers were defined as studies in which confidence intervals did not overlap with confidence intervals of the pooled effect (Harrer, et al., 2019).

4.3 Results

4.3.1 Results of the search

The study flow diagram is presented in Figure 6. Database searches yielded 5,423 records which were then imported into a reference management software, Mendeley (version 1.19.3; Elsevier, 2018). One thousand six hundred and sixty records remained for the title and abstract screening after duplicates were removed. Two papers (Holloway & Pulido, 2018; Pulido et al., 2015) reported the same trial, and we selected the first (Pulido et al., 2015) because it reported both pre- and post-test data. We contacted authors of 13 of the 31 included (the remaining authors being no longer available for contact) studies to identify further ongoing or unpublished trials, of which nine replied with information resulting in the identification of one additional study.

Figure 6. PRISMA Flowchart



After title and abstract screening against the inclusion and exclusion criteria, twenty-eight records progressed to full-text review alongside 29 records from the Walsh et al. (2015) review, which used identical inclusion and exclusion criteria to assess eligibility. Full-text reports of the 28 newly-identified records were assessed including four studies published in Chinese-language journals. Sixteen papers were excluded for reasons documented in the PRISMA flowchart, including four Chinese-language studies - these were excluded on the study design criteria (i.e., RCTs, cluster-RCTs, or quasi-RCTs). In addition, we found five studies that appeared in both

our search and Walsh et al.'s review (2015). Therefore, these studies were not included as they have already been included in Walsh et al.'s review (2015). One newly-identified study was conducted in China and published in an English-language journal. A total number of seven new studies (from eight reports) were identified. Together, the new searches (seven studies from eight reports), and the Walsh et al. (2015) searches (24 studies from 29 reports) resulted in 31 included studies (from 37 reports).

4.3.2 Study characteristics

4.3.2.1 Designs

Characteristics of included studies are presented in Table 7. Of the 31 studies, seven studies were RCTs, eighteen were cluster-RCTs, and six were quasi-RCTs. The unit of randomization in eighteen studies were groups of children (e.g., classes, schools, or administrative collectives such as districts). Of these, eighteen studies were cluster-RCTs (as above) and three were quasi-RCTs. The unit of randomization in the remaining ten trials was individual school students. Of these, seven studies were RCTs and three were quasi-RCTs.

Table 7. Characteristics of Included Studies

Authors	Design	Country	Intervention	Outcome Measures	Participant Mean Age (years)
Blumberg (1991)	Cluster-RCT	USA	STOP (stop, tell someone, own your body, protect yourself); Multimedia program: child abuse primary prevention program	Touch Discrimination Task (TDT); custom-made measure	7.20; grade level: kindergarten-3rd grades
Bustamante et al. (2019)	Cluster RCT	Ecuador	I have the right to feel safe at all times	Custom-made measure (questionnaire-based measure)	9.3 (range 6 – 14); grade level not reported
del Campo Sánchez & Sánchez (2006)	Quasi-RCT	Spain	Not specified	PSQ; custom-made measure	Not reported
Chen et al. (2012)	RCT	Taiwan	Red Flag/Green Flag People and Red Flag/Green Flag People II	Children's Sexual Knowledge Questionnaire (CSKQ); Children's Awareness of Scary Secrets (CASSQ); What If Situation Test (WIST) (Chinese version)	9.02; grade level: 1st - 6th grades
Crowley (1989)	Quasi-RCT	USA	Good Touches/Bad Touches: A Program to Prevent Child Sexual Abuse	PSQ; Sexual Abuse Knowledge Inventory (SAKI)	Mean age not reported; grade level: 4-5th grades
Daigneault et al. (2012)	Quasi-RCT	Canada	ESCAPE: a French adaptation of the American child assault prevention program	WIST (French version); CKAQ	7.75; 1st – 4th grades
Dake et al. (2003)	Cluster-RCT	USA	Not specified	Custom-made measure	8.70; grade level: 3rd grade
Dawson (1987)	Cluster-RCT	USA	Not specified	Personal Safety Issues Test	10.60; grade level: 4th – 6th grades
Fryer et al. (1987a)	RCT	USA	Children Need to Know Personal Safety Training Program	Children Need to Know Knowledge/Attitude Test (CNTKKAT)	Not reported
Grendel (1991)	Cluster-RCT	USA	CSA program developed by Women Helping Women	PSQ; WIST	6.90; grade level data not available

Table 7. (continued)

Authors	Design	Country	Intervention	Outcome Measures	Participant Mean Age (years)
Harvey et al. (1988)	RCT	USA	Good Touch-Bad Touch	Custom-made measure	5.80; grade level: kindergarten
Hazzard et al. (1991)	Cluster-RCT	USA	Feeling Yes, Feeling No	What Would You Do; What I Know About Touching scale	Mean age not reported; grade level: 3rd-4th grades
Hébert et al. (2001)	Quasi-RCT	Canada	ESCAPE: an adaptation of the American child assault prevention program	CKAQ; PSQ; Unnamed measure	7 years and 2 months; grade level: 1st and 3rd grades
Jones et al. (2020)	Cluster RCT	Australia	Name	CKAQ-R-III (questionnaire-based)	9.7 (range 8 – 10); grade level: year 4
Jin et al. (2017)	RCT	China	Body Safety Training	What If Situation Test (WIST)	Mean age not reported; grade level: 1st - 5th grades
Kolko et al. (1989)	Cluster-RCT	USA	Red Flag/Green Flag	Custom-made measure	8.30 (experimental group); 8.50 (control group); grade level: 3rd grades
Krahé & Knappert (2009)	Cluster-RCT	Germany	Live performance of a theatre play titled “No Child’s Play”; DVD (recorded version of the live performance)	Custom-made measure	7.55; grade level: 1st – 2nd grades
Kraizer (1991)	Cluster-RCT	USA	The Safe Child Program	CNTKKAT	Mean age not reported (range 3-10); grade level: k-3rd grades
Lee & Tang (1998)	RCT	China	Behavioral Safety Training	Personal Safety Questionnaire (PSQ); WIST	13.44; grade level not available
Morris et al. (2017）	Cluster-RCT	USA	Safe @ Last	Custom-made measure	Mean age not reported; grade level: 1st -6th grades
Müller et al. (2014)	Cluster-RCT	Germany	Cool and Safe	CKAQ	9.00; grade level not reported

Table 7. (continued)

Authors	Design	Country	Intervention	Outcome Measures	Participant Mean Age (years)
Oldfield et al. (1996)	Cluster-RCT	USA	Project TRUST	CKAQ-Revised	Mean age not reported; grade level: 1st – 6th grades
Poche et al. (1988)	Cluster-RCT	USA	Videotape (name not specified)	N/A	Not reported
Pulido et al. (2015)	Cluster-RCT	USA	Safe Touches	CKAQ	8.34; 2nd – 3rd grades
Tutty (1997)	RCT	Canada	Who do you tell?	Children's Knowledge of Abuse Questionnaire (CKAQ)-Revised	Mean age not reported: grade level: 1st - 6th grades
Urbann et al. (2020)	Cluster RCT	Germany	Safe with Same	Custom-made measure (questionnaire-based measure); WIST (vignette-based measure)	9.66 (range 8 – 12); grade level not reported
Salawsky & Wurtele (1986)	Quasi-RCT	USA	A film called "Touch"	PSQ; WIST	6.20; 11.10; grade level: kindergarten – 1st grades, 5th- 6th grades
Snyder (1986)	Quasi-RCT	USA	Good Secrets Bad Secrets	Good Secrets, Bad Secrets Quiz	9.60; 4th grade
Wolfe et al. (1986)	Cluster-RCT	USA	Play Intervention	Custom-made measure	10.20; 4th – 5th grades
Wurtele et al. (1986)	RCT	USA	A film called "Touch"	PSQ; WIST	6.10; 11.10; grade level: 28 kindergarten and 1st grade students; 43 5th and 6th grade students
Çeçen-Eroğu & Kaf Hasırcı (2013)	RCT	Turkey	Good Touches/Bad Touches	Good Touch Bad Touch Curriculum Test	Mean age not reported; grade level: 4th grade

4.3.2.2 Participants

A total of 9,049 participants were included across the 31 studies (5,802 participants from Walsh et al.'s review and 3,247 from the newly-included studies). Sample sizes in cluster-RCTs ranged from 74 to 1,269. For the standard RCTs, the sample sizes ranged from 46 to 565.

The studies were conducted in a number of different countries, a majority (n = 18) being from the United States, three were conducted in Canada and Germany, two studies were conducted in China and one apiece in Ecuador, Spain, Taiwan, and Turkey.

The mean age of participants could be identified in 20 studies. Authors of 11 studies did not report the mean age of participants. Where identified, participant mean age ranged from 5.8 years to 13.44 years old. The proportion of females in the included studies ranged from 44.20% to 56.10%. As with Walsh et al.'s (2015) review, only one study included female-only participants. Gender data for participants were not reported in five studies. Of note, gender data were reported in all newly-included studies.

4.3.2.3 Outcome measures

Questionnaire-based measures for studies included in the meta-analysis included the Personal Safety Questionnaire (PSQ), Children's Knowledge of Abuse Questionnaire and versions thereof (CKAQ, CKAQ-R, CKAQ-III-R), Children Need to Know Knowledge/Attitude Test, What I Know About Touching scale, Good Touch Bad Touch Curriculum Test, Children's Awareness of Scary Secrets (CASSQ) Children's Sexual Knowledge Questionnaire (CSKQ), Good Secrets Bad Secrets Quiz, Personal Safety Issues Test, Sexual Abuse Knowledge Inventory, other custom-designed and unnamed measures were also used. Vignette-based measures included the What If Situations Test (WIST), Touch Discrimination Task (TDT), What Would You Do? (WWYD) and other unnamed measures were also used.

4.3.3 Risk of bias in included studies

Figure 7 (summary for individual studies) and Figure 8 (summary across all studies) provide details on the quality of the included studies. Details of the judgment for each risk of bias domain made by two reviewers are presented in Appendix 3. Cohen's *kappa* was calculated before consensus was reached to assess inter-rater reliability. The average Cohen's *kappa* across each domain is $k = 0.69$, indicating substantial agreement between reviewers (McHugh, 2012). The most common disagreement was around the understanding of incomplete outcome data and what constitutes "complete" outcome data. Moreover, there were some disagreements regarding what should be included in the "other bias" domain (e.g., conflict of interest declared by authors).

Figure 7. Risk of Bias Assessment of Included Studies

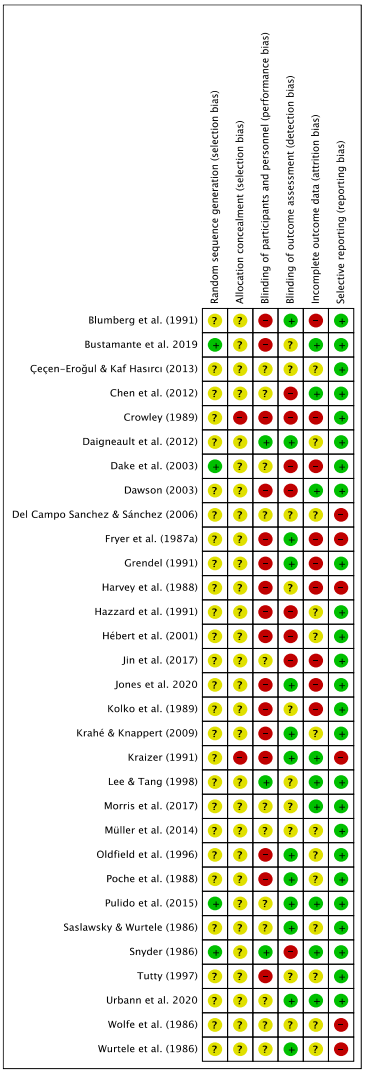
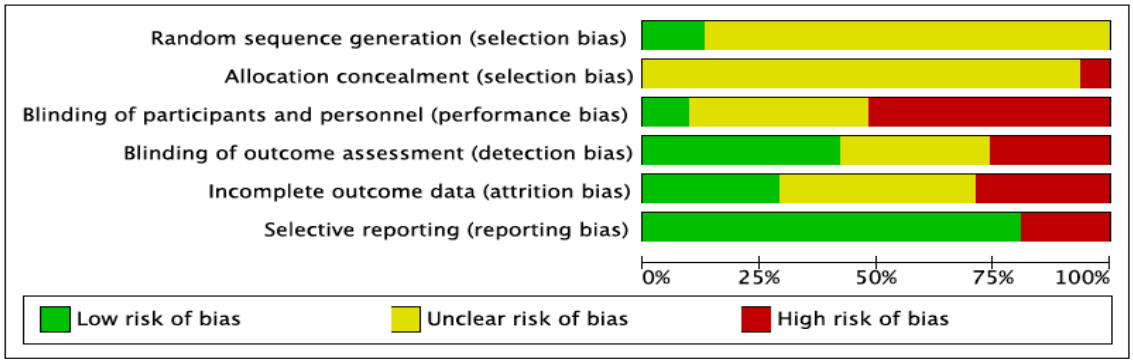


Figure 8. Review Authors' Judgements about Each Risk of Bias Item across All Included Studies



4.3.3.1 Random sequence generation (selection bias)

Notably, only four studies reported successful randomization, two of which were identified in the new search. The remaining 27 studies did not explicitly state the randomization process used, therefore were rated as unclear risk.

4.3.3.2 Allocation concealment (allocation bias)

None of the included studies reported the strategies used for allocation concealment. We therefore classified all of these studies as unclear risk of bias. Further to this, two studies were rated as high risk of bias by Walsh et al. (2015) due to failure of randomization and the involvement of school staff in the randomization process. None of the seven studies identified in the new search reported allocation concealment procedures, and these were also rated as unclear risk of bias.

4.3.3.3 Blinding of participants and personnel (performance bias)

Only three trials reported blinding of participants and personnel, we therefore classified these studies as low risk of bias. Sixteen studies (two of which were newly-included studies) were rated as high risk of bias in due to the potential bias resulting from knowledge about the study group. Eleven studies did not report on the blinding of participants and personnel, as a result, we rated them as unclear risk of bias. Five of the seven newly-included studies did not report clearly regarding blinding of participants and personnel. Therefore, we classified these studies as unclear risk of bias.

4.3.3.4 Blinding of outcome assessment (detection bias)

Blinding of outcome assessment was not reported in ten studies, therefore we rated them as unclear risk of bias. Thirteen studies (including six studies identified in our new search) were classified as low risk of bias because authors reported using strategies to minimize outcome

assessment bias. Eight studies were rated as high risk of bias as no strategies were in place to blind outcome assessors to group membership or to ensure children completed the assessment independently.

4.3.3.5 Incomplete outcome data (attrition bias)

Consistent with Walsh et al.'s (2015) criteria for attrition bias, we classified studies as low risk of bias when attrition rates were less than 10%, high risk of bias when attrition rates were more than 10%. Following this classification criteria, nine studies were rated as low risk of bias because they reported no attrition or loss to follow-up or reported attrition rates lower than 10%. Nine trials reported attrition rates higher than 10%, we therefore rated them as high risk of attrition bias. Thirteen studies did not report attrition rates, we classified these studies as unclear risk of bias.

4.3.3.6 selective reporting (reporting bias)

Six studies were rated as high risk of reporting bias because data for outcomes were not reported completely in the results section. The remaining 25 studies (including seven studies identified in our new search) were rated as low risk of bias.

4.3.4 Meta-analysis of the overall effectiveness of school-based CSA prevention programs

Twenty-six studies were included in the quantitative synthesis. Two meta-analyses were conducted. A total of 23 studies including 7,191 participants were included in the meta-analysis of participant knowledge outcomes assessed using questionnaire-based measures (i.e., assessment of factual knowledge), and a total of 13 studies (2,264 participants) were included in the meta-analysis of knowledge outcomes assessed using vignette-based measures (i.e., assessment of applied knowledge). The results of the two meta-analyses are presented in Figures 9 and 10.

Figure 9. Questionnaire-based CSA Knowledge Gains

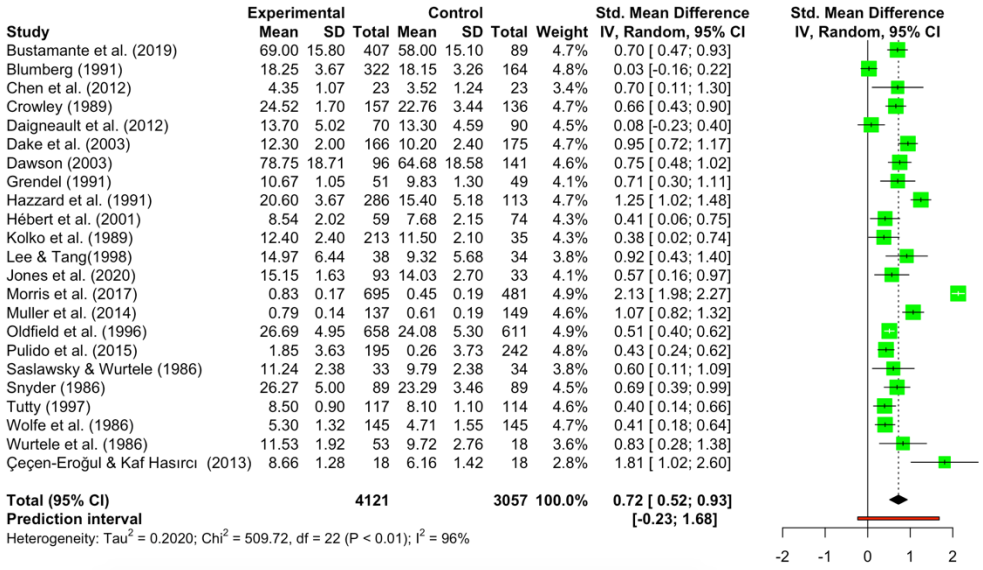
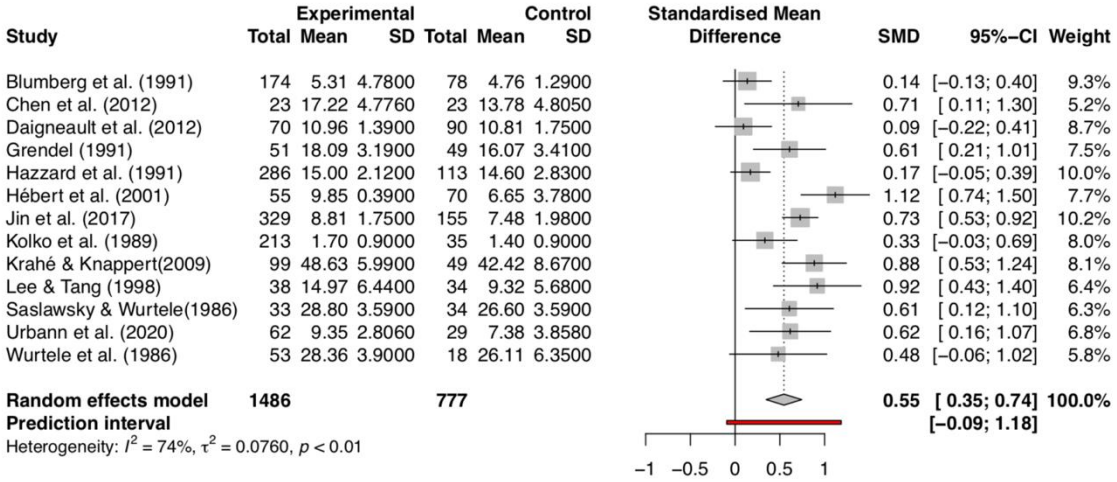


Figure 10.Vignette-based CSA Knowledge Gains



The random effects meta-analysis showed a significant medium to large effect size (Hedges' *g*) of 0.72 (95% CI [0.52, 0.93]) and 0.55 (95% CI [0.35, 0.74]) for factual knowledge with questionnaire-based measures and applied knowledge with vignette-based measures, respectively. This indicates that students who have participated in CSA prevention programs showed higher levels of factual and applied CSA knowledge than participants who did not

receive a CSA prevention program. As expected, there was significant heterogeneity in effect sizes across studies using both measures. These results suggest the importance of examining moderating variables and the value of conducting of meta-regression.

4.3.5 Intervention components analysis

4.3.5.1 Structural components

An overview of intervention structural components is presented in Table 8. The detailed descriptions of intervention structural components and their coding descriptions, are shown in Table 9.

Table 8. Description of Structural Components of Interventions

Structural component	Description
Mode of delivery	Coded as free text: Home activities (homework, parental involvement); live performance (performance, theatre play); instructional (music, stories, films, pictures, presentations, instructions; review); behavioral (role-play, participant modelling, practice, shaping), feedback (social reinforcement, praise, discussion)
Providers	Coded as free text: Professionals (teachers, social workers, counselors, nurses, or community workers; police); parents; volunteers
Tailored or untailored	Coded as present (1) or absent (0)
Modification	Coded as present (1) or absent (0)
Fidelity assessment	Coded as present (1) or absent (0)
Training for program providers prior to program implementation	Coded as present (1) or absent (0)
Intervention dosage	Coded as 60 min or less (1); 61 min or over (0)
Intervention intensity	Coded as 1-3 sessions (1); 4-6 sessions (0)

Table 9. Overview of Intervention Structural Components

Study ID	How (Mode of Delivery)	What (Intervention Materials)	Who (Providers)	Training prior to the program implementation	Tailored or Untailored	Modification	How much (Intervention dosage and intensity)	Where (Study Location)	How well (Fidelity Assessment)
Blumberg et al. (1991)	Behavioral and instructional	Presentation; puppets	Professionals and parents	Yes	Yes	No	One*one-hour session	Classroom	No
Bustamante et al. (2019)	Behavioral and instructional	Workbook	Professionals and volunteers	Yes	Yes	No	Ten*one-hour sessions over 10 weeks	School	Yes
del Campo Sánchez & Sánchez (2006)	Not specified	Unclear	Not specified	Yes	Yes	Yes	Two*50-minute sessions delivered at the beginning of the school day before children begin their regular class.	Classroom	No
Chen et al. (2012)	Behavioral and instructional	Activity books	Professionals	Yes	Yes	Yes	Two*50-minute sessions delivered at the beginning of the school day before children begin their regular class.	Classroom	No
Crowley (1989)	Behavioral and instructional	Film	Professionals	Yes	Yes	Yes	Two*45-minute sessions; once per week for two weeks	Classroom	No
Daigneault et al. (2012)	Behavioral	Unclear	Professionals	Yes	Yes	No	One*90-minute workshop	Classroom	No
Dake et al. (2003)	Behavioral and instructional	Video tapes	Professionals	Yes	Yes	No	Two*one-hour sessions	Classroom	No
Dawson (1987)	Behavioral and instructional	Film	Professionals	No	No	No	One*one-hour session	Classroom	No
Fryer et al. (1987a)	Behavioral	Presentations	Not specified	No	No	No	One*20-minute presentation for 8 days	Classroom	No
Grendel (1991)	Instructional and feedback	Film	Professionals	Yes	No	No	One*50-minute lecture and film presentation	Classroom	No
Harvey et al. (1988)	Behavioral and instructional	Storybook; puppets	Professionals	Yes	Yes	Yes	Two*45-minute sessions; once per week for 2 weeks	Classroom	No
Hazzard et al. (1991)	Instructional and feedback	Video tapes comic books, home activities	Professionals	Yes	No	Yes	Three*one-hour sessions	Classroom	No
Hébert et al. (2001)	Behavioral	Unclear	Professionals	Yes	No	No	One*60-75 minute workshop	Classroom	No

Table 9. (continued)

Study ID	How (Mode of Delivery)	What (Intervention Materials)	Who (Providers)	Training prior to the program implementation	Tailored or Untailored	Modification	How much (Intervention dosage and intensity)	Where (Study Location)	How well (Fidelity Assessment)
Jin et al. (2017)	Behavioral and instructional	Workbook	Professionals and parents	Yes	No	No	Three sessions were finished within 15 days. Each session is about 30 minutes.	Classroom	Yes
Jones et al. (2020)	Behavioral; instructional	Online materials; activities	Professionals	Yes	No	No	Typically one hour a week/fortnight for five – 10 weeks. Minimum play time of five hours	School	No
Kolko et al. (1989)	Instructional	Workbook; film	Professionals and volunteers	Yes	No	No	Two*45-minute sessions on consecutive days	Classroom	No
Krahé & Knappert (2009)	Live performance and instructional	Theatre play	Professionals	No	Yes	No	One*60-minute session	Classroom	No
Krazier (1991)	Behavioral and instructional	Video tapes	Professionals	Yes	Yes	No	Preschool and kindergarteners: one session per day for 10 days. 1-3rd graders: one session per day for five days	Classroom	No
Lee & Tang (1998)	Behavioral and feedback	Workbook	Professionals	No	No	No	Two*45-minute sessions	Classroom	No
Morris et al., (2017)	Behavioral	Workbook	Professionals	Yes	Yes	No	Four-sessions each lasting 35 minutes, delivered in a weekly basis over one month	Classroom	No
Müller et al. (2014)	Instructional and feedback	Online materials	Professionals	Yes	No	No	Two hours during normal lesson time	Classroom	No
Oldfield et al. (1996)	Live performance and instructional	Theatre play	Professionals and volunteers	Yes	No	No	The presentation lasts for 30 minutes and is followed by a 15 minutes student Q & A period.	Classroom	No
Poche et al. (1988)	Behavioral, feedback, and instructional	Video tapes	Professionals	No	No	No	Video only (25 minutes) videotape and rehearsal 45 minutes standard program 60 minutes	Classroom	No

Table 9. (continued)

Study ID	How (Mode of Delivery)	What (Intervention Materials)	Who (Providers)	Training prior to the program implementation	Tailored or Untailored	Modification	How much (Intervention dosage and intensity)	Where (Study Location)	How well (Fidelity Assessment)
Pulido et al. (2015)	Home, instructional, and behavioral	Workbook; puppets	Professionals	Yes	No	No	One*50-minute workshop	Classroom	Yes
Urbann et al. (2020)	Behavioral; instructional	Puppets; film; workbook; activities	Professionals	No	No	No	Over two weeks, three unites taught per week, each lasting 180 minutes	School	Yes
Saslawsky & Wurtele (1986)	Instructional	Film	Volunteers	No	No	No	Thirty-five minutes film viewing and 15 minutes discussion following the film	Classroom	No
Snyder (1986)	Behavioral	Presentation	Professionals	Yes	No	No	Three sessions were finished within 15 days. Each session is about 30 minutes.	Classroom	No
Tutty (1997)	Home, behavioral and instructional	Workbook	Professionals	No	No	No	Two*45-60 minute sessions on consecutive days	Classroom	No
Wolfe et al. (1986)	Live performance; behavioral	Theatre play	Volunteers	Yes	No	No	Two*five-minute plays written and performed by volunteer medical students who consulted with child abuse specialists. One*70-minute session	Classroom	No
Wurtele et al. (1986)	Instructional, behavioral and feedback	Workbook; film	Volunteers	No	No	Yes	Intervention 1 and 2: 50-minute session; Intervention 3: one 60-minute session	Classroom	No
Çeçen-Eroğu & Kaf Hasırcı (2013)	Not specified	Video tapes	Unclear	No	Yes	No	One-hour sessions were carried out in four consecutive days	Classroom	No

Modes of Delivery. Twenty-one studies incorporated role-play teaching strategies to achieve the intervention goals. Eighteen studies included discussion as a teaching strategy in the program to enhance participants' understanding of CSA. Twelve studies employed the use of video recordings or films and two studies incorporated parental engagement or home activities outside the classroom as modalities. Three studies used live performance or theatre plays to achieve intervention goals.

Intervention Dosage and Intensity. The duration of interventions ranged from one single 50-minute session to 10 one-hour sessions delivered over 10 weeks. Of the seven newly-included studies, the duration of prevention programs ranged from one single 50-minute session to ten one-hour sessions delivered over a ten-week period. One study included three types of additional booster sessions beyond the initial program sessions, including a complete version of the original program (*ESPACE*), or a brief version of the original program (for third and fourth graders), or a program called "*Confidence, Solidarity, Respect*" (90 minutes) which revisited *ESPACE* concepts and addressed gender-based violence and respect (for fifth and sixth graders). These boosters were delivered two years after the initial intervention.

Provider of the Intervention. The intervention providers fell into three categories: professionals, parents, and volunteers (including student volunteers). Twenty studies were delivered by professionals such as teachers, guidance counselors, social workers, mental health professionals, and police. Three studies were delivered by volunteers. Two studies were delivered by both parents and professionals. Three studies were delivered by both professionals and volunteers. Three studies did not provide details about the intervention provider.

Training Prior to Program Implementation. Twenty-one studies reported providing training sessions for parents and/or teachers prior to program implementation.

Program Tailoring. Nineteen studies did not report whether or not the program was tailored or adapted. The remaining twelve studies reported tailored components. Tailored components included using different teaching strategies to accommodate children's developmental levels and interests (e.g., teaching younger children songs about safe and unsafe touches, using less complex role plays with younger children), and using culturally adapted names for characters in practical scenarios and examples.

Program Modification. Six studies reported modifying the program during the implementation process. Modifications included using a shorter version of the program in order to keep the length of the entire program comparable with school conditions, modifying program length for students in different grade or year levels, and adjusting the volume of the content presented to the students in a given session.

Fidelity Assessment. Four included studies reported fidelity assessment. All were newly-included studies. Bustamante et al. (2019) included volunteers to assist program implementation to maintain a degree of standardization between classrooms. Pulido et al. (2015) and Urbann et al. (2020) utilized a fidelity checklist/questionnaire to track whether the program was delivered according to the study protocol. In Jin et al.'s (2017) study, each intervention session was monitored by one of the researchers and fidelity checklists were also used to ensure that program providers covered key concepts.

4.3.5.2 Content components

The first author and the last author inductively coded, categorized, and systematically described intervention *content* components that appeared in the narrative text of the study reports. Any discrepancies between the two reviewers were resolved by discussion and consultation with a third reviewer. Cohen's *kappa* was calculated to measure the inter-rater

agreement between the two reviewers, the result $k = 0.72$ indicated substantial agreement between reviewers regarding the coded components (McHugh, 2012). The details of the coding process are presented in Appendix 6.

In total, the inductive coding process generated ten content components. The description and an overview of intervention content components are presented in Tables 10 and 11. Figure 11 presents an analysis of the frequencies of interventions incorporating each content component. Interventions were heterogeneous, incorporating two (*Who Do You Tell*? evaluated by Tutty, 1997) to 10 content intervention components (a CSA Prevention Program developed by Women Helping Women, evaluated by Grendel, 1991). In addition, "*self-protection skills*" appeared to be the most frequently taught component across the interventions, which was included in 30 of the 31 studies. In contrast, "*defining CSA*" was noted as the least commonly taught component, with only eight interventions including this.

Table 10. Description of Intervention Content Components

Content component	**Description**
Defining CSA	Teaching children about what CSA means
Private parts of the body	Teaching children to identify the private parts of their bodies, or distinguish public and private parts
Safe and unsafe touches	Teaching children to recognize appropriate and inappropriate touches and distinguish between these touches
Self-protection skills	Teaching children self-protection and a range of skills for responding in potentially abusive situations
Children are not the ones to blame	Teaching children that sexual abuse of a child is never the child's fault
Safe and unsafe situations	Teaching children to recognize safe and unsafe situations

Table 10. (continued)

Content component	Description
Awareness of personal rights/body ownership	Teaching children that their body belongs to them and no one can touch it without their permission
Offender characteristics and approaches	Teaching children that the perpetrators can be someone known or unknown to them and providing information about grooming strategies including gifts and favors
Good and bad secrets	Teaching children the difference between good and bad secrets, or to distinguish secrets and surprises)
Who to tell	Teaching children about the importance of disclosure and pointing them to appropriate and effective sources of help

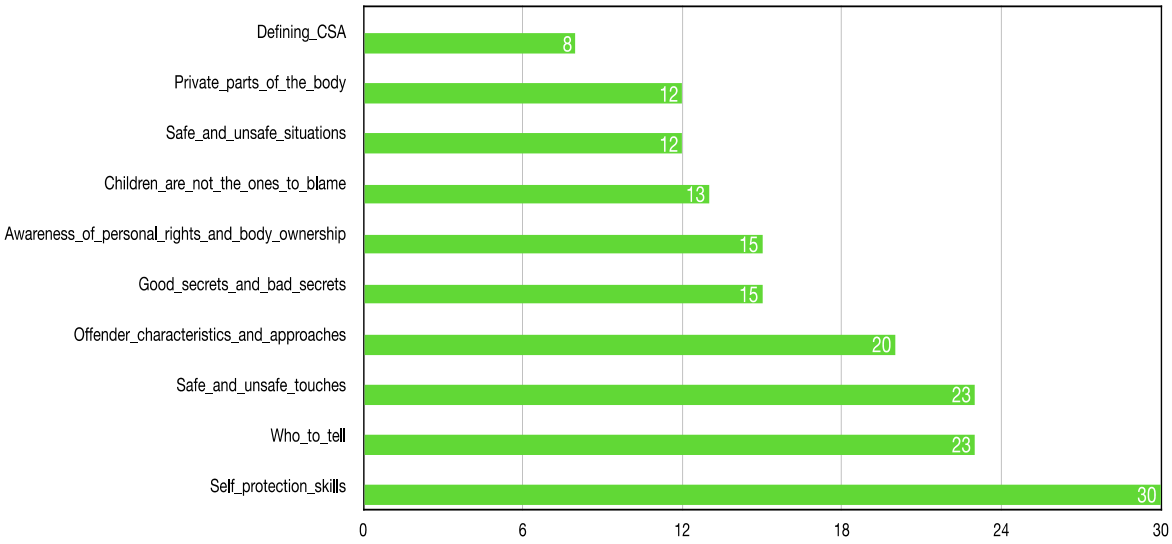
Table 11. Overview of Intervention Content Components

Study ID	Defining CSA	Private parts of the body	Safe and unsafe touches	Self-protection skills (say no, stay away, disclosure methods)	Children are not the ones to blame	Safe and unsafe situations	Awareness of personal rights/body ownership	Offender characteristics and approaches	Good and bad secrets	Who to tell	Sum of components
Bustamante et al. (2019)	0	0	1	1	1	1	0	1	1	1	7
Blumberg et al. (1991)	1	1	1	1	1	1	1	1	1	1	10
Chen et al. (2012)	0	1	1	1	0	1	1	1	1	1	8
Crowley (1989)	0	1	1	1	1	1	1	0	1	1	8
Daigneault et al. (2012)	0	0	0	1	0	0	1	0	0	1	3
Dake et al. (2003)	1	0	1	1	1	1	0	0	1	1	7
Dawson (1987)	1	0	1	1	1	0	1	1	1	1	8
del Campo Sánchez & Sánchez (2006)	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Fryer et al. (1987a)	0	0	0	1	0	1	0	1	0	0	3
Grendel (1991)	0	1	1	1	1	1	1	1	1	1	9
Harvey et al. (1991)	1	0	1	1	1	1	1	1	0	1	8
Hazzard et al. (1991)	1	1	1	1	1	1	0	1	0	1	8
Hébert et al. (2001)	0	0	0	1	0	0	1	0	0	1	3
Jin et al. (2017)	0	1	1	1	1	0	0	0	1	0	5
Jones et al. (2020)	1	1	1	1	1	1	0	1	0	1	8
Kolko et al. (1989)	1	0	1	1	0	0	0	0	0	1	4

Table 11. (continued)

Study ID	Defining CSA	Private parts of the body	Safe and unsafe touches	Self-protection skills (say no, stay away, disclosure methods)	Children are not the ones to blame	Safe and unsafe situations	Awareness of personal rights/body ownership	Offender characteristics and approaches	Good and bad secrets	Who to tell	Sum of components
Krahé & Knappert (2009)	0	0	0	1	0	1	0	0	1	0	3
Kraizer (1991)	0	0	1	1	0	0	1	1	1	1	6
Lee & Tang (1998)	0	1	1	1	1	0	1	0	0	0	5
Morris et al. (2017)	0	0	0	1	0	1	0	1	0	1	4
Müller et al. (2014)	0	1	1	1	0	0	1	1	1	0	6
Oldfield et al. (1996)	0	0	1	1	0	0	0	1	0	0	3
Poche et al. (1988)	0	0	0	1	0	0	0	1	0	1	3
Pulido et al. (2015)	0	1	1	1	1	0	0	1	1	1	7
Salawsky & Wurtele (1986)	0	0	1	1	0	0	1	1	0	1	5
Snyder (1986)	0	0	1	1	0	0	0	1	1	1	5
Tutty (1997)	0	0	1	1	0	0	0	0	0	0	2
Urbann et al. (2020)	0	1	1	1	0	0	1	1	1	1	7
Wolfe et al. (1986)	1	0	0	1	0	0	0	1	0	1	4
Wurtele et al. (1986)	0	1	1	1	0	0	1	1	0	1	6
Çeçen-Eroğu & Kaf Hasırcı (2013)	0	0	1	1	1	0	1	0	1	1	6
Total	8	12	23	30	19	24	15	23	15	23	

Figure 11. Content Components in Interventions Evaluated in the Included Studies (*n* = 31)



4.3.6 Results from meta-regression analyses

4.3.6.1 Meta-regression of intervention structural components

The results of the meta-regression for structural components showed that only one of the eight components was associated with significant program effects as shown in Table 12. In order to explore how many intervention sessions are associated with greater program effectiveness, we categorized the total number of intervention sessions into three major groups: a) up to 3 sessions (1) vs. 3 sessions and more (0); b) up to 4 sessions (1) vs. 4 sessions or more (0); and c) up to 5 sessions (1) vs. 5 sessions or more (0). Results from the meta-regression showed that although interventions with more than three sessions and more than four sessions are both found to be negatively associated with effect size, we observed a statistically significant relationship only between interventions with three or more sessions and the effect size (β = -0.6637, 95% CI [-1.1554, -0.1720], p = 0.0106), indicating that interventions with more than three sessions tended to be more effective than interventions with three or fewer sessions. We did not observe a statistically significant relationship between other structural components and effect size.

Table 12. Results from Meta-regression for Structural Components

Structure Component	***β* (95% CI, *p*-value)**	**R^2**	**I^2**
Delivery modes		0	92.29%
behavioral* (intrcpt)- reference	0.8574 ([0.3201, 1.3948], $p = 0.0043$)		
behavioral and feedback	0.0598 ([-1.2193, 1.3388], $p = 0.9211$)		
behavioral and instructional	-0.2387 ([-0.9150, 0.4377], $p = 0.4595$)		
home, behavioral and instructional	-0.4428 ([-1.3639, 0.4782], $p = 0.3179$)		
instructional	-0.3722 ([-1.3357, 0.5912], $p = 0.4190$)		
instructional and feedback	0.1622 ([-0.6611, 0.9855], $p = 0.6774$)		
instructional and live performance	-0.3481 ([-1.5142, 0.8179], $p = 0.5301$)		
instructional, behavioral, and feedback	-0.0276 ([-1.3390, 1.2837], $p = 0.9644$)		
live performance	-0.4486 ([-1.6364, 0.7392], $p = 0.4292$)		
Providers		3.61%	90.27%
Professionals* (intrcpt)- reference	0.7932 ([0.5534, 1.0331], $p < 0.0001$)		
Volunteers	-0.2011 ([-0.8153, 0.4131], $p= 0.5004$)		
Professionals and volunteers	-0.2588 ([-0.8335, 0.3158], $p = 0.3565$)		
Professionals and parents	-0.7650 ([-1.6841, 0.1541], $p = 0.0974$)		
Intervention dosage		1.46%	92.45%
up to 60 min (1) vs. 60 min and more (0)	0.2738 ([-0.2233, 0.7708], $p = 0.2649$)		
Intervention intensity			
Up to 3 sessions (1) vs. more than 3 sessions (0)	-0.6637 ([-1.1554, -0.1720], **$p = 0.0106$**)	24.11%	89.92%
Up to 4 sessions (1) vs. more than 4 sessions (0)	-0.5206 ([-1.0929, 0.0516]), $p = 0.0724$)	9.85%	91.36%
Up to 5 sessions (1) vs. more than 5 sessions (0)	0.0946 ([-0.6554, 0.8447]), $p = 0.7956$)	0	92.86%
Tailored (1) vs. untailored (0)	0.1559 ([-0.3050, 0.6167], $p = 0.4895$)	0	92.40%
Modification (1) vs. no modification (0)	0.2787 ([-0.2825, 0.8400], $p = 0.3134$)	0	92.50%
Training (1) vs. no training (0)	-0.1321 ([-0.6323, 0.3682], $p = 0.6179$)	0	92.84%
Fidelity assessment (1) vs. no fidelity assessment (0)	-0.1761 ([-0.9003, 0.5481], $p = 0.6184$)	0	92.62%

4.3.6.2 Meta-regression of intervention content components

We conducted univariate meta-regression for questionnaire-based knowledge outcomes to examine the association between study effect size and intervention content components. The results are presented in Table 13. Interventions including the specific content component "*Safe and unsafe situations"* tended to show larger effects (β = 0.2439, 95% CI [-0.1766, 0.6643], p = 0.2412). We planned to conduct exploratory multiple meta-regression to investigate the association between different combinations of intervention content components and effect size but the data provided in study reports did not allow for meaningful comparisons as I^2 values for all content components were strongly heterogeneous across studies. We also planned to conduct meta-regression analyses for vignette-based knowledge measures, however, there were insufficient data.

Table 13. Results from Meta-regression for Content Components

Content component	**β-value (95% CI, p-value)**	**R^2**	**I^2**
Defining CSA	-0.0922 ([-0.5694, 0.3850], p = 0.6919)	0	92.68%
Private parts of the body	0.0126 ([-0.4193, 0.4445], p = 0.9522)	0	92.74%
Safe and unsafe touches	-0.0801 ([-0.6286, 0.4683], p = 0.7642)	0	92.49%
Self-protection skills	0.7238 ([0.5161, 0.9314], p = <.0001)	0	92.58%
Children are not the ones to blame	0.1019 ([-0.3226, 0.5264], p = 0.6227)	0	92.59%
Safe and unsafe situations	0.2439 ([-0.1766, 0.6643], p = 0.2412)	1.80%	92.10%
Awareness of body rights	-0.0876 ([-0.5119, 0.3367], p = 0.6722)	0	92.67%
Offender characteristics and approaches	0.1161 ([-0.3312, 0.5634], p = 0.5949)	0	92.71%
Good and bad secrets	0.0010 ([-0.4259, 0.4280], p = 0.9960)	0	92.66%
Who to tell	0.0124 ([-0.5414, 0.5662], p =0.9633)	0	92.21%

4.3.6.3 Meta-regression results of participant characteristics

Demographic characteristics such as participant age, gender, ethnicity, socioeconomic position, and ability level are potential effect moderators and might explain existing heterogeneity (Walsh et al., 2015). However, participant demographic information was poorly reported in the included studies, and we were able to extract data only for participant age and gender.

We conducted meta-regression to explore the effects of participants' age on knowledge outcomes measured using different instruments (questionnaire-based measures versus. vignette-based measures). We treated eight years of age as the cut-off for the meta-regression based on the cut-off used in previous studies/reviews (Davis & Gidycz, 2000; Tutty, 1997) or used corresponding school grades as the cut-off when ages were not provided (e.g., kindergarten to third grade and fourth grade and above). The selection of this cut-off is educationally relevant as it is consistent with the distinction between the early years of primary school and secondary school. For studies using questionnaire-based measures, this categorization resulted in two groups of studies: 1) four studies with participants younger than eight years old; 2) sixteen studies including participants aged eight years and older. The results of meta-regression suggest that when testing factual knowledge utilizing questionnaire-based measures immediately after receiving the program, older children (eight years and older) show greater knowledge gains than children who are younger than eight years old (β = -0.4574, 95% CI [-0.8203, -0.0946], p = 0.0162).

For studies using vignette-based measures, four studies included participants younger than eight years old. Eight studies included participants aged eight years and older. The results of meta-regression show that when testing applied knowledge using vignette-based measures immediately after the program, we did not observe any association between

participants' age and program effectiveness (β = 0.0323, 95% CI [-0.4295, 0.4941], p = 0.8792).

In the next set of meta-regression, we explored whether program effectiveness varied with participants' gender. The meta-regression results are presented in Table 14. Overall, we did not observe any association between participants' gender and program effectiveness (β = -0.2552, 95% CI [-1.1506, 0.6402], p = 0.5542).

Table 14. Results from Meta-regression for Participant Characteristics

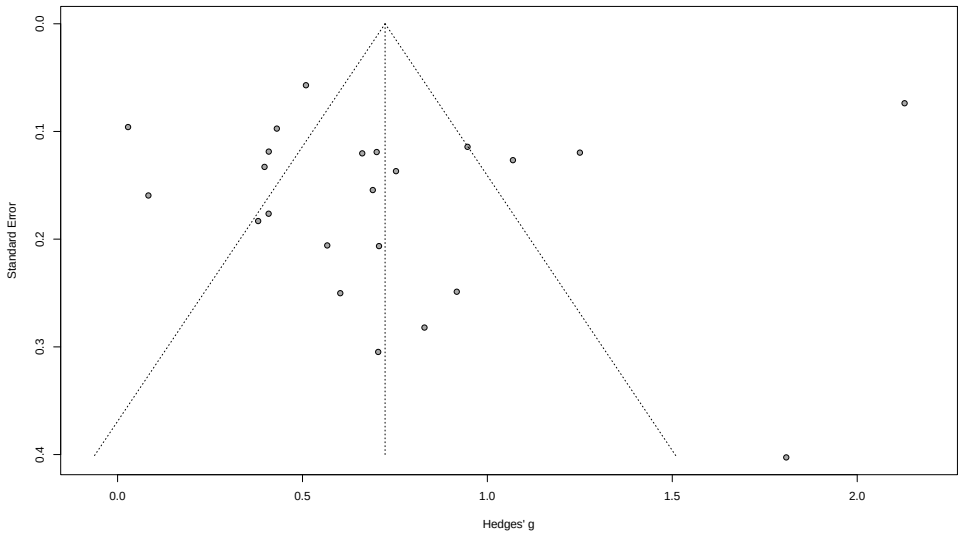
Participants Characteristics	**β (95% CI, p-value)**	**R^2**	**I^2**
Up to 8 years old (1); 8 years and older (0)	**Questionnaire-based measures: -0.4574 ([-0.8203, -0.0946], p = 0.0162)**	21.65%	79.63%
	Vignette-based measures: 0.0323 ([-0.4295, 0.4941]), p = 0.8792)	0	71.03%
No males (<5%) (1)； 50-60% male (2)； Mostly males (>60%) (3)； All males (>95%) (4)	-0.2552 ([-1.1506, 0.6402], p = 0.5542)	0	88.72%

4.3.7 Sensitivity analysis and publication bias

We conducted sensitivity analyses to examine whether study quality was associated with the magnitude and significance of effect sizes. Five studies were identified in which effect size confidence intervals did not overlap with the confidence interval of the pooled effect (Harrer et al., 2019). The results of the sensitivity analysis in which these five studies were removed showed an overall effect size of 0.6360 (95% CI [0.5302, 0.7417], p < 0.0001), which was lower than the original effect size of 0.7234 (95% CI [0.5159, 0.9310], p < 0.0001) but was still in the range for a medium effect. I^2 value was reduced from 95.7% to 58.8% indicating that even with studies at higher risk of bias removed, this remains a heterogeneous set of studies. Finally, potential publication bias was assessed for the studies included in the meta-analysis for questionnaire-based CSA knowledge gains. According to

Egger's test, there was no evidence of publication bias (*intercept*: -1.286; 95% CI [-6.03, 3.46]; $p = 0.600785$). Although this result did not reach statistical significance, we cannot fully rule out the existence of publication bias because the subjective visual assessment of the funnel plot (see Figure 12) suggested that there were fewer studies at the bottom left and the bottom right on both sides of the center, indicating the potential for missing studies.

Figure 12. Funnel Plot Used to Explore Publication Bias



4.4 Discussion

This systematic review and meta-analysis advances on the substantive work undertaken in previous systematic reviews in several ways. First by replicating searches using identical search and screening strategies, and extending these to capture studies from one of the worlds' most populous regions by also searching Chinese-language databases. Second, this systematic review and meta-analysis is the first to employ an ICA approach to catalog CSA prevention programs' structural and content components and in a way that enables systematic assessment of factors associated with program effectiveness. By systematically mapping out intervention components using inductive thematic coding, the findings from this review advance the field's understanding of intervention components in existing school-based CSA prevention programs. This innovation can, in turn, serve several purposes

including providing criteria for program development, and the potential to develop an auditing tool for program quality assessment. Third, we provided a very robust analysis of the predictors for greater program effectiveness, which is of particular importance for contexts such as LMICs where resources are limited and the impetus to avoid resource wastage and provide only effective interventions is high.

In total, we found seven new studies (from eight reports, one of which was conducted in China), and combined these papers in analyses with the 24 studies (from 29 reports, two of which were conducted in China) identified by Walsh et al. (2015). This resulted in a total of 31 included studies (from 37 reports) that assessed the effectiveness of school-based CSA prevention programs. The majority of included studies (n = 26) were conducted in high-income countries (HICs), for example, in North America and Europe. Only five studies were conducted in LMICs and upper-middle-income countries such as China, Ecuador, Taiwan, and Turkey. It should also be noted that programs used in these evaluation studies (e.g., *Red Flag/Green Flag People*, *Body Safety Training*, *Behavioral Safety Training*, *Good Touches/Bad Touches*) were all originally developed in HICs and the majority of the studies did not report any cultural adaptation undertaken during the implementation process. Although some included studies reported that programs had been adapted or tailored, only one study (Bustamante et al., 2019) evaluated the program that was specifically tailored to resource-constrained settings and LMICs, indicating an urgent need for developing context-specific school-based CSA prevention programs that have been adapted to address different sociocultural contexts and gender norms. Further to this, having screened all the studies from database searches, we excluded four Chinese studies that did not meet our study design criterion (i.e., RCTs, cluster-RCTs, quasi-RCTs), suggesting the need for rigorous evaluation studies such as RCTs to be conducted in China, and more broadly, in LMICs, to deepen our understanding of factors that influence the effectiveness of programs in these settings.

Another innovation of the review is, for the first time, we adopted an ICA approach to systematically categorize and synthesize existing intervention components in existing school-based CSA prevention programs. Further to this, we adopted the TIDieR checklist to report structural intervention components, and used inductive methods to code intervention content components. This enabled us to extract a comprehensive range of CSA intervention components and to provide an auditable trail via which to replicate this work in future review updates. The results of our meta-analyses suggest that students who participated in school-based CSA prevention programs showed an increase in CSA knowledge as assessed via questionnaires and vignettes. The overall weighted mean effect sizes (Hedges' g) were 0.72 (95% CI [0.52, 0.93]) and 0.55 (95% CI [0.35, 0.74]) for questionnaire-based measures and vignette-based measures, respectively, indicating a significant medium to large effect. Despite the inclusion of seven further studies (from eight reports), these results did not differ greatly from Walsh et al.'s (2015) original review which produced effect sizes of 0.61 (95% CI [0.45, 0.78]) and 0.45 (95% CI [0.24, 0.65]), for factual knowledge assessed using questionnaire-based measures and applied knowledge assessed using vignette-based measures, respectively.

4.4.1 Structural components and participants characteristics

In terms of structural intervention components, intervention intensity was found to be negatively associated with effect size (β = -0.6637, 95% CI [-1.1554, -0.1720], p = 0.0106), indicating that longer interventions (with more than three sessions) tended to be more effective than interventions that were shorter (with three or fewer sessions). Although it remains unclear regarding the exact number of sessions that produce maximum program effectiveness, previous reviews have suggested that the more effective studies include four or five sessions on average (Topping & Barron, 2009; Davis & Gidycz, 2000). Furthermore, previous literature suggested that dividing programs into several sessions allows participants

to maintain their attention for the entire period of the intervention and increases the opportunity for repeated presentations of key concepts, which reinforces earlier learning (Sanderson, 2004). Davis and Gidycz (2000) proposed that prevention education has a cumulative effect, with children's knowledge and skills continuing to improve with further exposure to program content, and although repeated exposure is known to be an effective instructional strategy (Hattie & Yates, 2013), it is yet to be tested empirically with this specific category of educational interventions.

As for participants' characteristics, results from the meta-regression are consistent with Walsh et al.'s (2015) findings, which indicated that when using questionnaire-based measures, older children (eight years and older) demonstrate greater knowledge gains than younger children (less than eight years) exposed to the same programs. Several reasons might explain the results. First, younger children's cognitive, social and emotional, and behavioral development may account for some of their challenges in learning CSA prevention concepts. Second, it may also be that programs evaluated in studies in this review, were not ideal in terms of developmental appropriateness for children in the early childhood years. The ways in which these concepts are taught may benefit from greater tailoring to suit children in this age range, for example, in the use of interactive toys, games, and multimedia. This appears to be supported by the intervention component analysis which revealed that in less than half of the included studies (n = 12) interventions were tailored to participants' developmental levels. This finding is consistent with earlier claims that it is not uncommon for one program to be applied to both younger and older children without taking their development levels into consideration (Barth & Derezotes, 1990). These findings have implications for improving the design for both behavioral-based and information-based CSA prevention programs. Third, as the findings from the meta-regression showed, the way in which program outcomes are measured appears to matter. Further to this, the measures used to assess factual and applied

CSA knowledge have typically been independently completed self-report paper and pencil tests. These may favor children with higher reading and comprehension skills and, indeed, more experience with test-taking. With the ubiquitous presence and use of digital technologies in schools, study assessors may now begin to capture the opportunities for diverse and more inclusive methods for data collection with young children, meaning that in the future, there will be less possibility for testing methods to interfere with the assessment of program effects.

Finally, we did not observe a significant association between program providers and effect size, which is consistent with the findings of a previous meta-analysis (Davis & Gidycz, 2000). Moreover, we did not observe any significant association between delivery modes, intervention dosage, program modification or tailoring, training prior to program implementation and effect sizes. Fidelity assessments that record which components were used in the actual program implementation process would be useful in examining the degree to which the intervention was delivered as intended. We were not able to conduct such analysis due to limited reporting with only four studies reporting on fidelity assessment (Urbann et al., 2020; Bustamante et al., 2019; Jin et al., 2017; Pulido et al., 2015). It is noteworthy that these were more recent studies and this may indicate the quality of study reporting, at least on this criteria, is starting to improve.

4.4.2 Intervention content components

We found that the most frequently used intervention content component was teaching participants "*self-protection skills*", which appeared in 30 of the 31 interventions that were the subject of effectiveness studies in this review (one study did not report details on the contents of the interventions). Other common contents included "*who to tell*" (23 studies), "*safe and unsafe touches*" (23 studies), and "*offender characteristics and approaches*" (20 studies). The results of the meta-regression with 23 studies showed that alone, none of the

individually coded intervention content components produced a statistically significant effect or reduced the observed heterogeneity among those studies, suggesting that discrete program content components are not crucial moderators of program effects. Although we did not observe significant relationships between any of the individual program content components and the overall effectiveness of the intervention, information about "*safe and unsafe situations*" tended to be relatively more effective than other components in improving participants' understanding of CSA knowledge and concepts (β = 0.2439, 95% CI [-0.1766, 0.6643], p = 0.2412). The reason for the lack of effect for other content components remains unclear. One possible explanation being that the focus on program components often fails to consider other features of interventions which might contribute to differences in effect sizes, such as component sequencing, coordination, and guiding supervision infrastructure (Chorpita & Daleiden, 2007). Alternatively, the number of included trials was small, and data were strongly heterogeneous, which limited the ability of statistical analysis to examine associations.

4.4.3 Limitations

This review has a number of limitations. First, we only included only immediate post-test outcome assessments in this review, which does not allow for the identification of whether these results are maintained over time, or for the possibility of sleeper effects that might have been identified with longer term follow-up. Second, the intervention components were coded based on a relatively small number of studies, which might have resulted in spurious associations or masked true differences in effectiveness related to other intervention components that were not examined in our meta-regression. Moreover, our content components analysis relied solely on the narrative text of study reports. We did not seek out the actual programs to determine whether or not the study reports included a comprehensive description of program contents. The publication of reporting guidelines such as the TIDieR

checklist (Hoffmann et al., 2014) makes it incumbent upon study authors to ensure that they have fully explained the programs they are evaluating.

In terms of the limitations of the included studies, we were not able to conduct moderator analyses with several variables such as fidelity assessment and the program's theory of change due to poor reporting of the characteristics of interventions in many study reports. We were also not able to conduct exploratory multiple meta-regression to investigate the association between different combinations of intervention content components due to the high heterogeneity across studies. Furthermore, the results of the meta-regression should be seen as exploratory because intervention components were coded based on limited information regarding the theoretical basis of the CSA intervention components in study reports. In addition, the relationship explained by meta-regression analysis is an observational association across trials and it does not indicate causation (Thompson & Higgins, 2002). It should also be noted that meta-regression will always be subject to the risk of ecological fallacy, because it attempts to make inferences about individuals using study-level information (Higgins & Green, 2011).

4.4.4 Implications for research and practice implications

4.4.4.1 Implications for research

Despite the limitations, our findings have important research, practice, and policy implications. First, clearer reporting of implementation fidelity and intervention components is needed in order to rigorously control for potential sources of confounding. Second, it is important to investigate the program's theory of change as a moderator of effect size. Future studies should clearly report program theory and further explore the heterogeneity across interventions. Third, researchers need to identify additional moderators and intervention components/moderators that could explain the heterogeneity that was identified across studies, particularly in terms of identifying the factors associated with greater effectiveness in

terms of school-based CSA prevention programs. It is also important to include follow-up assessments in a longer-term assessments in future studies, as immediate post-test outcomes might potentially over/underestimate intervention effectiveness.

Fourth, previous research showed that studies published in languages other than English are often neglected in the conduct of systematic reviews (Rasmussen & Montgomery, 2018). In addition, evidence indicated that searching English-only databases might have an effect on the results of a systematic review (Brown & Sutton, 2010). Rasmussen and Montgomery (2018) further argue that these non-English studies might boost the internal validity and ensure the external validity of review findings. One of the limitations of Walsh et al.'s (2015) review was that they only included English databases and failed to consider studies published in non-English languages. To address this, we expanded our search to capture studies published in Chinese databases and identified four studies during the search. Although these studies were excluded on the basis of study design, they provided important insights into the current evidence base in the CSA prevention field in China. As such, future reviewers should consider including non-English databases when time and resources are available to avoid the potential omission of eligible studies published in non-English languages.

In addition, the majority of included studies in this review were conducted in Western countries and only a limited number of studies were conducted in LMICs and upper-middle income countries such as China. Particularly, of two studies conducted in China (Jin et al., 2017; Lee & Tang, 1998), both had imported programs from the United States (*Body Safety Training* and *Behavioral Safety Training*), indicating the need for the development of programs that are appropriately designed for rather than adapted to Chinese cultural contexts. A recent qualitative study with Chinese stakeholders indicated that school-based CSA prevention programs alone are not enough to prevent CSA in China and there is an urgent

need for the development of an integrated child protection system to support CSA victims (Lu et al., 2020). These findings further point to the importance of taking cultural contexts into consideration in the design of CSA prevention programs. Furthermore, more evaluation studies in LMICs and upper-middle income countries such as China are needed in order to strengthen context-specific evidence regarding school-based CSA prevention programs.

Finally, Garnder et al. (2016) suggested that updated reviews are most useful when there is new information or methods that lead to changes in findings. It should be noted that, however, in situations where the main findings of an updated review do not change, these findings are still important for retaining the credibility of the previous review (Garnder et al., 2016). In a similar vein, Bashir, Surian and Dunn (2018) conducted a retrospective analysis of the update timing of systematic reviews published in the Cochrane Database of Systematic Reviews between January 1st, 2010 and December 31st, 2010. Findings revealed that it was much more common for the conclusions to remain unchanged by new evidence.

In fact, the review (Walsh et al., 2015) upon which this present systematic review was built, was an update of an earlier Cochrane review on this topic (Zwi et al., 2007). By identifying additional ten studies, Walsh et al.'s (2015) findings are consistent with major conclusions from the original review. Nonetheless, Walsh et al.'s (2015) work retained the credibility of the previous review and contributed to the evidence base for the primary CSA prevention field. Therefore, despite findings from this updated systematic review and meta-regression analysis did not vastly differ from those of previous reviews, with the advances discussed in the previous sections, this review provided a comprehensive picture of the effectiveness of school-based CSA prevention programs and paved the way for future updates.

4.4.4.2 Implications for policy and practice

In terms of optimizing the delivery of school-based CSA prevention programs, professionals and policymakers should focus on ensuring that programs being offered include components that appear to be associated with greater effectiveness such as *safe and unsafe situations*. Program developers could self-audit their programs against these components to ensure they are delivering programs that have the best chance of success.

4.5 Conclusion

CSA is a global issue that has significant negative effects on victims' physical, psychological, and sexual well-being. The findings of the review suggest that school-based CSA prevention programs are effective in increasing participants' CSA knowledge as assessed by both questionnaire-based and vignette-based measures. This systematic review provides the CSA prevention field with a comprehensive overview of the components in school-based CSA prevention programs that are associated with better outcomes. According to our findings, an effective CSA prevention program should include at least three or more sessions that cover the content component "*safe and unsafe situations*". Program developers should consider participants' age when designing the prevention programs and use age-appropriate outcome measures to evaluate children's performance. Our findings also provide recommendations for future research, particularly in terms of optimizing the effectiveness of school-based CSA prevention programs, and the better reporting of intervention components as well as participant characteristics.

4.6 References

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Chapter 5. DPhil Paper II: "Prevention alone is not enough": Stakeholders' Perspectives about School-based Child Sexual Abuse (CSA) Prevention Programs and CSA Research in China

This is the second stand-alone paper of the DPhil thesis and aims to explore stakeholders' perspectives on: 1) school-based CSA prevention programs in China; 2) the components of these programs; 3) CSA research in China. This paper has been published in *Journal of Interpersonal Violence*.

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Statement of Authorship

I confirmed that I completed the majority of the work in this study. I conducted all the interviews and thematic analyses reported in the paper and drafted the first version of the article. Jane Barlow and Franziska Meinck contributed to the interpretation of findings and suggested some analysis refinements. Yumeng Wu is the second coder to establish inter-rater reliability.

Systematic Review Implications for DPhil Paper II

Findings from DPhil Paper I highlighted intervention components that contribute to greater program effects. Yet, it remains unclear how these findings address and are responsive to the needs of children in China. As discussed in Chapter 1, most of the CSA prevention content in China are embedded within sexuality education (e.g., *Treasuring Life* for 1st -6th graders; *Way of Growth* for adolescents) (UNFPA, 2018) or designed by passionate individuals or NGOs (e.g., *Girls' Protecting Project*). Furthermore, findings from DPhil Paper I showed that the majority of included studies were conducted in Western countries and only a limited number of studies were conducted in LMICs and upper-middle income countries such as China, indicating an evidence gap regarding CSA prevention research in China. As such, the aim of the qualitative study (DPhil Paper II) is to triangulate the findings with those of the systematic review, contribute to the evidence base of CSA research in China, and enrich our understanding regarding stakeholders' views about the existing school-based CSA prevention programs and CSA prevention research in China.

Abstract

While existing studies have examined the effectiveness of school-based child sexual abuse (CSA) prevention programs in China, there is currently little qualitative evidence on how stakeholders view these programs and research on CSA in China more generally. To address this research gap, the aims of this study were to explore stakeholders' perspectives on: 1) school-based CSA prevention programs in China; 2) the components of these programs; 3) CSA research in China. Qualitative semi-structured interviews were conducted with 21 participants in Beijing and a county under Lanzhou City, China. Interview transcripts were systematically coded and emerging themes were developed. An inductive thematic analysis approach was utilized to analyze the interview data. Participants' perspectives on school-based CSA prevention programs included: 1) recognition of the importance of these programs; 2) fear about a possible negative impact on children participating in such programs; 3) assessment that school-based CSA prevention programs alone are not enough to prevent CSA. Components that participants thought needed to be part of Chinese school-based CSA prevention programs were: 1) content regarding online-facilitated CSA; 2) the use of a rights-based approach; and 3) greater parental and community involvement. Participants also identified factors that have both fostered the implementation of CSA research (i.e., the growing awareness of CSA in the central government) and prevented researchers from effectively conducting CSA research: 1) lack of national data; 2) inadequate government support; and 3) barriers to research collaboration among organizations. The findings indicated that while CSA prevention programs are on the whole regarded positively by key stakeholders in China, a number of important concerns were identified. Our study highlighted a number of ways in which future CSA prevention programs and research on CSA could be strengthened in the Chinese context.

Keywords: sexual abuse, intervention/treatment, prevention of child abuse

5.1 Background

Child sexual abuse (CSA) is defined as "*Child sexual abuse is the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society*" (WHO, 2006, p.62). CSA is a global public health concern and China is not an exception. The most recent meta-analysis on the prevalence of CSA based on questionnaires and face-to-face interviews in China suggested estimates of 9.1% for men and 8.9% for women (Ma, 2018). Evidence from both China and other parts of the world indicates that CSA can lead to significant adverse psychological, behavioral, sexual, and economic consequences (Fang et al., 2015; Optimus Study, 2013; Luo, Parish, & Laumann, 2008; Arriola, Louden, Doldren, & Fortenberry, 2005; Chen, Dunne, & Han, 2004; Maniglio, 2009).

In response to this, efforts have been made to address CSA with different populations, including children, their parents, professionals, and the general public (Wurtele, 2012). Schools are deemed to be the most promising institution for the delivery of CSA prevention efforts due to their consistent and longitudinal contact with children and their families (Wurtele, 1987). School-based CSA prevention programs are designed to provide students with skills to identify, respond to, and report sexual abuse (Finkelhor, 2009). These prevention programs were first introduced in the U.S. in the 1970s and were widely implemented across the U.S. (Finkelhor, 1995; Berrick, 1991).

A number of systematic reviews have found that participants' self-protection skills such as recognizing potentially abusive situations, resisting by saying "no" and removing themselves from the potential perpetrator, reporting previous or ongoing CSA incidents to an authority figure increased after participation in the program (Wurtele, 1998). These skills

were measured through questionnaire-based and vignette-based measures (Walsh, Zwi, Woolfenden, & Shlonsky, 2015; Zwi et al., 2007).

The development of school-based CSA prevention programs is still in its infancy in China. Currently, most CSA prevention education content is located within sex education curricula, which are mainly integrated into other subjects such as biology, psychology, and moral education classes (UNFPA & UNESCO, 2018). This integrative model is widely adopted by many schools and it is suggested that little time is allocated to sex education content (UNFPA & UNESCO, 2018). Furthermore, programs focused specifically on CSA prevention have frequently been driven by passionate individual workers or non-governmental organizations (NGOs) such as *Girls' Protecting Project* (Girls' Protecting Fund, 2019). Despite the slow progress, there have been two randomized controlled trials (RCTs) (Jin, Chen, Jiang, & Yu, 2017; Lee & Tang, 1998) that examined the effectiveness of school-based CSA prevention programs in China. The results have shown promising results in improving participants' knowledge and self-protection skills.

However, existing qualitative evidence is limited and is primarily focused on exploring the development of child protection policy and system (Chui & Jordan, 2018) in addition to child protection practices in China (Man, Barth, Li, & Wang, 2017; Xu, 2014). The limited research examining stakeholder perspectives is focused mostly on preschool/elementary school teachers' perceptions of CSA in China. In interviews with 22 preschool and elementary school teachers in Liaoning and Hubei Provinces regarding their perspectives about CSA in China, Han and Chen (2009) found a paucity of knowledge about CSA among the interviewees: a large number of teachers believed that CSA only includes touching behaviors and were not aware that strangers are not the main perpetrators of CSA. These findings are consistent with a mixed-methods study exploring the implementation of comprehensive sex education in middle schools in China, which suggested that the limited

awareness among teachers and the lack of training for teachers are major barriers to teaching sexuality-related content (UNFPA & UNESCO, 2018). The research highlighted the need for school-based CSA curricula and training of preschool and elementary school teachers in China.

Therefore, the aim of the current study was to address the lack of qualitative data and enrich our understanding of stakeholders' views about existing school-based CSA prevention programs; the components of such programs; and CSA prevention research in China.

5.2 Methods

5.2.1 Design

A qualitative research design was used, involving individual semi-structured interviews with a range of stakeholders. Semi-structured in-depth interviews were chosen because unlike other methods (e.g., questionnaires), one major advantage of interview methods is that use of open-ended questions and probing gives participants the opportunity to respond in their own words and therefore can often gather more in-depth insights on participants' perspectives about research questions (Kendall, 2008; Mack, 2005).

5.2.2 Sampling of participants

Twenty-one interviewees were recruited between September and November 2019 from universities, NGOs, and inter-governmental organizations in Beijing and an elementary school in a county under Lanzhou city, China. These two sites were selected, one in an urban area and one in a rural area, in order to obtain a wide range of perspectives on the research questions. The inclusion criteria for participants were as follows: 1) individuals who have regular contact with elementary school students in either a personal or a professional capacity (e.g., parents, caregivers, or educators); or 2) professionals who work in the child protection field (e.g., social workers, representatives of NGOs, government officials, or child welfare researchers).

5.2.3 Recruitment

A purposive sampling method was used in which we sought to identify stakeholders with different professional perspectives and varying practical and specific experiences of CSA prevention in China. Purposive sampling allowed for the selection of participants needed to provide information that is particularly relevant to the research questions (Maxwell, 2012). Participants were identified from universities, schools, and organizational websites based on their professional training and expertise. We then employed a snowball sampling method by asking interviewees to recommend additional individuals or organizations to take part in this study. Snowball sampling is considered to be an effective sampling approach to recruit previously "hidden" populations and participants with similar characteristics (Parker, Scott, & Geddes, 2019; Atkinson & Flint, 2001).

Potential participants were initially contacted through an email, which included details about the purpose of the study and requested them to contact the first author regarding their interest in participating in the study. Where they responded to say that they were interested, the first author would schedule a phone call to discuss their participation further. Where appropriate, the first author then further arranged a mutually agreed upon date and time to complete the recruitment process and conduct the interview.

All the participants were provided with a hard copy of the information sheet, providing detailed information about the purpose of the study, potential risks and benefits, incentives, study procedures, voluntary participation and the right to withdraw, confidentiality, data management, and contact information of the researchers. The first author reviewed the information sheet with participants and provided them with the opportunity to ask questions prior to agreeing to participate in the study. Written consent was obtained prior to participation in the study.

5.2.4 Ethics approval

Ethics approval was obtained from the Department of Social Policy and Intervention, University of Oxford and the School of Social Development and Public Policy, Beijing Normal University. Ethical approval letters can be found in Appendix 7.

5.2.5 Data collection

The study utilized a semi-structured interview schedule. Data collection took place between September and November 2019. An interview guide with a list of open-ended questions was used to facilitate the stakeholder interviews. Interview questions varied depending on participants' expertise. For example, interview questions related to CSA intervention programs were put to all the participants, whereas questions related to CSA research, were only put to professionals and researchers. All interviews were conducted in Mandarin Chinese either over the phone or in person in an office or an empty classroom, and audio-recorded with the permission of the interviewee. Interviews ranged from 40 minutes to 80 minutes, with an average length of 60 minutes. Interview questions can be found in Appendix 10.

5.2.6 Data analysis

An inductive thematic analysis was carried out to analyze the interview transcripts using ATLAS.ti software (Version 8.4.4; Muhr, 2004). Thematic analysis is a qualitative research approach that can be applied to a wide range of epistemologies and research questions (Norwell et al., 2017). Through its theoretical freedom, thematic analysis provides a highly flexible approach that can be modified for the needs of many studies, providing a rich and detailed, yet complex, account of data (Braun & Clarke, 2006). Following an inductive thematic analysis approach, all the interviews were transcribed verbatim by the first author immediately after each interview. Upon completion of the transcription process, the first author conducted the initial review of the transcripts and developed a draft codebook, which included definitions of codes, and examples of when to use the code (see Appendix

11). It is suggested that ensuring a project's codes and codebook are an accurate interpretation of any given text is a crucial component of judging the validity, reliability, trustworthiness, and perceived quality of research conclusions (Church, Dunn, & Prokopy, 2019). An approach to ensure coding reliability is to include two or more coders in the coding process (Church, Dunn, & Prokopy, 2019). Following this, all authors then reviewed the draft codebook and provided feedback. The first and the last author conducted initial coding using the draft codebook and further revised the codebook based on co-authors' feedback and the actual coding experience. The first and the last author double-coded all transcripts to ensure intercoder reliability. Discrepancies between the two coders were resolved by discussion. The first and the last author then reviewed the coded content and generated themes. All authors agreed on the final themes and sub-themes. Quotes selected to be presented in this manuscript were translated from Mandarin Chinese to English by the first author and reviewed by the last author, both of whom are native Mandarin Chinese speakers.

5.3 Results

Twenty-five stakeholders were approached to take part in an interview, of whom four declined (one volunteer, two NGO officials, and one parent) due to conflicting schedules and 21 participants were interviewed, and their roles are described in Table 15. All participating professionals and university researchers were recruited from universities, NGOs, inter-governmental organizations in Beijing and have experience in either conducting child protection research projects or child protection practice in both rural and urban areas. The school social workers, teachers and parents were interviewed in an elementary school in a county under Lanzhou city. The student volunteer was based in a child protection organization in Beijing and had rich experiences in teaching CSA prevention lessons.

Table 15. Sample Characteristics

Participants	**ID**	**Number of participants (*n* =21)**
Professionals		
Non-governmental organization (NGO) officials	E4, E5, E8	4
University researchers	E1, E3, E6, E7	4
Inter-governmental organization official	E2	1
Practitioners		
School social workers	V1, V2, V3	3
Volunteers	V4	1
Parents	P1, P2, P3, P4, P5, P6	6
Elementary school teachers	T1, T2	2
Total		**21**
Sex		
Female		19
Male		2

5.3.1 Views about school-based CSA prevention programs

As described in the methods section, interview questions related to CSA intervention programs were put to all the participants. Table 16 provides a summary of stakeholders' perspectives about school-based CSA prevention programs.

Table 16. Stakeholders' Perspectives about School-based CSA Prevention Programs

Stakeholders' views	Themes
Positive views on the programs	Recognition of the need for school-based CSA prevention programs
Negative views on the programs	Concerns about the potential negative impact of such programs.
	Inadequate preparation when delivering CSA prevention programs
	School-based CSA prevention programs alone are not enough

5.3.1.1 Positive views on the programs: recognition of the need for school-based CSA prevention programs

The majority of interviewed parents and teachers believed that while the school would provide general safeguarding training related, for example, to fire and water, that there was no training specifically targeting CSA:

There are no specific CSA-related lessons in the school and some (CSA-related) content is integrated into subjects such as moral education and safety training. (T2, elementary school teacher)

While one parent said that her son had learned about saying "no" to suspicious strangers in the safeguarding training, our interviews with the majority of stakeholders suggested that programs targeted at CSA prevention were rarely delivered at schools.

The school provides regular safety trainings including earthquake, fire, and water safety to students. Students would practice the skills that they learned in classrooms. Teachers also teach CSA prevention stuff such as saying "no" (to suspicious strangers). (P1, parent)

One teacher also reported the limited CSA-related trainings that they received:

We are not experts in teaching CSA-related content. It feels like we are teaching what we have just learned. We would pay more attention to it (CSA prevention lessons) when the local education authorities put pressure on us. However, most of the time the classes are about general safety trainings. (T1, school teacher)

Despite a lack of CSA-related lessons in the school, parents referred to the importance of school-based CSA prevention programs. All interviewed parents perceived the potential benefits of CSA prevention lessons and wanted their children to participate in such lessons in school. Two factors seemed to underpin this view: 1) their lack of knowledge with regard to CSA prevention; and 2) concerns regarding the potential risks that their children might encounter later in life.

It might be helpful if teachers could teach these classes because as parents, we do not know how to tell them (about this). We did not receive such trainings when we were students. (P1, parent)

Even though it is less dangerous in rural areas, I think that children should learn these skills so they could protect themselves when they grow up and go to schools in bigger cities. (P2, parent)

Interviewed professionals acknowledged the importance of school-based prevention programs. For instance, one NGO official also highlighted the importance of enabling children to protect themselves from CSA through the delivery of school-based CSA prevention programs:

Children's participation is important in the child protection process. Parents cannot supervise them 24/7 so it is necessary to have these programs in place and teach children self-protection skills in schools. It is adults' responsibility to protect children; however, it is also our responsibility to teach children to protect themselves. (E5, NGO official)

5.3.1.2 Negative views on the programs: concerns about school-based CSA prevention programs

***Concerns about the potential negative impact of such programs*.** A number of researchers and professionals were concerned about the possible negative impact of CSA prevention programs. For example, one researcher expressed the view that CSA prevention programs might unintentionally depict sex as dangerous and dirty, and some interviewees also suggested that a comprehensive sex education curriculum was needed:

> *If the school only allocates one hour to these programs with the sole focus on discussing sexual abuse, I believe this is not comprehensive, it is rather negative. From the child development point of view, positive responses are needed throughout one's developmental process. I hope that CSA prevention programs could teach children to understand their body from a positive perspective and encourage them to explore their body with confidence and self-esteem.* (E3, university researcher)

One school social worker who had delivered CSA lessons also described encountering situations in which parents approached them with concerns regarding the content of the programs:

> *I think the biggest challenge we are facing is that parents would come to us after reviewing the manual and tell us that they think certain elements in the manual are not age-appropriate for children*. (V1, school social worker)

Inadequate preparation when delivering CSA prevention programs. Interviewees who had experience of delivering CSA prevention programs described receiving inadequate preparation. For example, one school social worker described how they had been asked to teach students about CSA prevention after school, without being given any preparation for this role. As a consequence, this member of staff described not knowing how to go about teaching it, and even being unsure with regard to the definition:

> *It was our first time to do activities (CSA classes) like this, I am still thinking about how to do it...I am still unclear about the definition of CSA myself, the information that I searched online may not be accurate*. (V3, school social worker)

These teachers never received proper sex education while they were in elementary schools and they did not receive relevant training when they were in college either. Also, their parents might not tell them these things. Thus, they do not know how to teach these lessons. (E3, university researcher)

One student volunteer from a child protection NGO reported that the organization provided standardized training prior to teaching the program, but that despite this she experienced difficulties in handling situations where students were disruptive or asked questions that were not covered by the manual:

For lower graders, the biggest challenge is that we don't have strategies to quieten the class like teachers do. (V4, student volunteer)

Some volunteers could memorize every word in the training manual; however, they feel lost when students ask them questions that are not listed in the manual. (V4, student volunteer)

5.3.1.3 School-based CSA prevention programs alone are not enough

Despite the majority of interviewees recognized the importance of school-based CSA prevention programs, there was strong consensus among the interviewed professionals and researchers that alone are not enough to prevent CSA given the lack of follow-up services for victims. For example, one school social worker who had delivered CSA prevention programs in elementary schools pointed out that it is challenging to seek support for children who disclosed sexual abuse after the class:

Our class is targeted at preventing CSA and some kids might realize they have been sexually abused after the class. However, we do not have sufficient support for them, especially in rural areas...there is a lack of these kinds of resources across the country in general...Some victims who came to us for help but there was no follow-up on this. (V1, school social worker)

Given the lack of such follow-up services for CSA victims, one NGO official questioned the effectiveness of school-based CSA programs and suggested that school-based

CSA prevention approaches were popular because they were easier to implement than support services:

I think that it is necessary to deliver such classes in schools. However, is it the most important step? Or just because it is the easiest approach? Why do people put all the efforts on school settings? I personally doubt the effectiveness of these programs, especially given that there is extremely limited support for CSA victims... Most of the time NGOs just pick the easiest thing to do. (E4, NGO official)

5.3.2 Views about the components of school-based CSA programs

In order to ascertain the views of interviewees regarding the key components of CSA programs and what else might be needed, a list of the components with definitions was presented to the interviewees (see Table 17).

Table 17. Key Components Identified in the Systematic Review (DPhil Paper I; Lu, Barlow, Meinck, Walsh, & Wu, under review)

Name of the component	Description
Defining child sexual abuse	Teaching children about what CSA means
Private parts of the body	Teaching children to identify the private parts of their bodies, or to distinguish public and private parts
Safe and unsafe touches	Teaching children to recognize appropriate and inappropriate touches and distinguish between these touches
Self-protection skills	Teaching children self-protection and a range of skills for responding in potentially abusive situations
Children are not the ones to blame	Teaching children that sexual abuse of a child is never the child's fault

Table 17. (continued)

Name of the component	Description
Safe and unsafe situations	Teaching children to recognize safe and unsafe situations
Awareness of personal rights/body ownership	Teaching children their body belongs to them and no one can touch it without their permission
Offender characteristics and approaches	Teaching children that the perpetrators can be someone known or unknown to them and providing information about grooming strategies including gifts and favors
Other harms that can be experienced by children	Teaching children about different forms of harm to children including physical and emotional abuse, witnessing domestic/family violence, or peer victimization such as bullying
Good and bad secrets	Teaching children the difference between good and bad secrets, or to distinguish secrets and surprises
Who to tell	Teaching children about the importance of disclosure and pointing them to appropriate and effective sources of help

5.3.2.1 Component(s) that participants liked and disliked

Table 18 presents an overview of participants' perspectives about components in school-based CSA prevention programs.

Table 18. Overview of Participants' Perspectives about Intervention Components

Stakeholders' Views	Components
Intervention components liked by stakeholders	Offender characteristics and approaches
Intervention components disliked by stakeholders	"Who to tell" may retraumatize the child if no follow-up support is provided when the child discloses CSA
Missing components identified by stakeholders	Online facilitated CSA prevention concepts
	Right-based approach
	Parental and community involvement

There was considerable agreement among interviewees that the identified components were essential in terms of helping children learn about CSA prevention-related skills and knowledge. Specially, all of the interviewed parents noted that these components were necessary in terms of improving children's CSA prevention knowledge and self-protective skills. Interviewed professionals and researchers provided a more nuanced perspective regarding the intervention components. For example, many interviewees believed that the component "*offender characteristics and approaches*" is very important because children may have misconceptions about potential perpetrators.

I think that it is important to teach children that perpetrators could be someone they have known for a long time. (E2, inter-governmental organization official)

We should tell children that non-strangers could hurt them too. (E4, NGO official)

In terms of components that were disliked, participants stressed that the component "*who to tell*" requires additional consideration in a Chinese context where supporting services for CSA victims are extremely limited. They suggested that disclosure should only be encouraged when supportive services are in place.

Disclosure of CSA does not mean that the victims can get help. Children might be retraumatized if they cannot receive appropriate help after disclosing the CSA experience. (E2, inter-governmental organization official)

I am not saying that telling children to disclose their abuse is not important, but how should we respond to a child's disclosure? (E4, NGO official)

5.3.2.2 Missing components identified by participants

Three main suggestions for additional components emerged from the interviews with professionals: 1) content regarding online-facilitated CSA; 2) the need for a rights-based focus; 3) parental and community engagement.

Content regarding online-facilitated CSA. One professional noted the emerging trend in terms of online-facilitated CSA in China, and discussed the importance of adding content to school-based CSA prevention programs about the risk of abuse on the internet:

…but they (CSA programs) can't cover all the dangerous circumstances. For example, there is a growing trend of online-facilitated CSA currently in China, like forcing children to take or view nude images of themselves…Unless internet companies remove these photos, but some of them are presented in formats such as cartoons so it is difficult for AI to sense them…so there is a lack of prevention of this kind of CSA form so far. (E2, inter-governmental organization official)

Rights-based focus. The need for a "rights-based" approach was identified as something that should be a key component of Chinese CSA prevention programs as a result of the fact that traditional Chinese culture places a strong emphasis on children's obeisance to parents and external authority, and to enable children to address the "power imbalance" that occurs with CSA:

Our culture heavily emphasizes authority and children are educated to listen to their parents since they are at a very young age. There is a power imbalance here. Therefore, we need to tell children that they have many rights, especially body rights. (E3, university researcher)

The power imbalance between the perpetrator and the CSA victim may lead to severe psychological consequences for the victim… We need to teach children that they have the power to say "no". (E6, university researcher)

Parental and community involvement. Parental and community involvement was also identified as being a key element of effective CSA prevention. Interviewees suggested that the prevention of CSA requires the involvement of the wider community, including parents. For example, one researcher said:

It is important to provide training to parents and let them know (what we are teaching). Sometimes they do not understand why we are teaching the knowledge to the first graders, we need to let them know that this is good for children's well-being and overall development. (E3, university researcher)

In addition to educating parents, interviewed researchers suggested the need to educate the wider community in order to ensure that children were not held responsible for preventing child abuse:

Community education is also important in the educational process. Because schools are like bubbles and are not where children live in real life. The biggest problem here is that children might not know how to protect themselves even after receiving the training in the school. As a result, they might blame themselves for not being able to protect themselves. (E7, university researcher)

This interviewee further explained how the community can be protective of children in urban settings:

It has become clearer that community is getting more and more important (in our work). Urban and rural areas are two different concepts: there is a strong sense of "community" in Chinese rural areas, which means individuals are connected with each other and neighbors would help each other if anything happens...However, the problem with urban areas is that the boundaries are clearly defined, a child can be hidden pretty well in this situation and the neighbors might not even know the child exists... (E7, university researcher)

5.3.3 Views about CSA research

5.3.3.1 Facilitators of CSA research implementation

As described in the methods section, questions regarding CSA research were put to professionals and researchers. One official described how the central government has become increasingly aware of the severe child maltreatment cases, many of which are exposed by

media, and the negative consequences that child maltreatment can cause, and suggested that this had served as a facilitator of further CSA research:

For example, in 2013, two kids were found starved to death at home in Nanjing because their mother, who is a drug addict, locked them alone at home and left for more than two weeks. After this incident, the government officials realized the severity of child maltreatment and felt pressured by the public. This incident, along with many other child maltreatment cases that happened in 2013, improved research in child abuse. (E2, inter-governmental organization official)

5.3.3.2 Barriers to CSA research implementation

Lack of national data. Researchers and professionals identified the lack of representative data with which to determine the scale of CSA, as being a barrier to addressing CSA and also to the conduct of research on CSA. The need for collecting national-wide data on this matter was repeatedly expressed:

I hope that we could have a large dataset to estimate this issue (CSA prevalence). For example, our research team can only collect data from a limited number of schools, but people would say it does not prove anything because we only include hundreds of students. It is difficult for us to conduct evidence-based research because no national data collection efforts have been made so far. (E3, university researcher)

People do not know where and how to start (collecting data). There is a research collaboration project about (hidden for anonymous purposes) and I was trying to collect data on the number of domestic violence-related incidents. My request was rejected because it was viewed as a sensitive topic. (E4, NGO official)

Inadequate government support. Researchers and professionals also reported that they received limited support from the government when conducting research related to child welfare and child protection more generally. This lack of support was described as being manifest in multiple domains: at the policy level, where the government perceives CSA prevention as being a low priority compared with aging and poverty alleviation, resulting in insufficient funding to the field; and at an individual level, where indifference towards the topic of CSA prevention has led to difficulties for researchers in recruiting government

officials for research projects, thereby limiting the researchers' ability to better understand officials' perspectives on CSA issues.

I think the government doesn't really support scholars' work. For example, it is very difficult for us to interview government officials. We have to rely on personal connections and go from "the back door", but we often are still rejected by relevant authorities. (E1, university researcher)

In general, the government's work is more focused on poverty alleviation and eldercare...The government always stresses the primary responsibility of the families and the government views families as the "safety nets" of children. So, I don't think that it (child protection) is the most urgent issue now. (E1, university researcher)

One researcher pointed out that social welfare in China is still at an early stage, and that the lack of government support can be seen across all aspects of social care:

The country is still navigating social service models in all the areas…they don't know how to connect with each other and there are not many professionals (doing this). In the past, we tended to emphasize "food and clothing" … it was all about meeting basic needs and not enough emphasis on social support. (E6, university researcher)

5.3.3.3 Barriers to research collaboration

Lack of awareness regarding existing resources. Participants described being unaware of what resources for collaboration are available in terms of CSA prevention, and how to initiate such collaboration. They also suggested that it might be beneficial to create platforms such as annual conferences or charity exhibitions to enable social service agencies that conduct work on CSA, to get to know each other's work. While they believed the government had to take the initiative, some interviewees also expressed concern about this approach because "*things will become difficult when the government enters the scene*". (V4, student volunteer)

Failure to view the individual as a whole person. Most participants shared the view that the government fails to view children as a whole person in relation to CSA prevention and child protection more generally, particularly in terms of the way in which the system

works. For example, one researcher, who has considerable experience of working with the government on child protection issues, described the difficulties in terms of the way in which the government works:

The traditional Chinese government structure consists of many vertical lines. For example, the line of the Ministry of Health is very smooth from top to bottom and so is the All-China Women's Federation…but there is no connection horizontal-wise. That is to say, collaboration with wider government initiatives has not been required in the past. However, a child needs to be viewed as a complete person under the framework of the Convention on the Right of the Child, and that requires support for different aspects [of their functioning]. This need is overlooked by the central government. (E6, university researcher)

This factor was also perceived to be an obstacle to scaling up CSA prevention programs:

There are laws about mandatory reporting, but what next? How to collect the evidence? When is the best timing to collect the evidence? It is all blank. It is problematic and dangerous to just rely on the police's judgements...We hope to break these government barriers because it is difficult to solve children's issues through just one department. (E4, NGO official)

5.3.3.4 Changes needed

In addition to the above views, participants described changes that they would like to see in the CSA prevention/child protection field in China. Four recommendations were provided and could be broadly divided into two dimensions reflecting the proposed research questions.

5.3.3.4.1 Changes needed in school-based CSA prevention programs

The need for more evaluation studies of CSA programs. Many researchers and professionals thought that the conduct of evaluations of school-based CSA programs would be a good opportunity to examine the effectiveness of these programs. For example, one researcher said:

I hope to see more empirical studies evaluating the impact of these curriculums (sex education) on child development. I also hope that we could have a large dataset to explore

this...Unfortunately, our government does not think about doing so. (E3, university researcher)

One NGO official identified the wider culture as being problematic in terms of such evaluation:

I really want to see evaluation studies on these (CSA prevention) programs. I do not think Chinese people trust scientific research. It is not until recently that scientific concepts were adopted to China, our ancestors did not really believe in science [laugh]... (E4, NGO official)

Cultural adaptation of child protection systems and CSA prevention programs.

Participants noted that the need for cultural adaptation should be taken into account when developing school-based CSA prevention programs and the child protection system. For example, one NGO official suggested that some of the CSA prevention curricula from Western countries may not be suitable to the Chinese cultural context:

Some Nordic countries are more advanced than us in terms of CSA prevention, but we cannot just simply copy their programs because our culture is more conservative. For example, we would use some references instead of the names of private parts when teaching these lessons. (E5, NGO official)

Another NGO official was interested in learning about how the child protection systems work in Western countries and what needs to be done before adopting certain elements:

I would like to see the differences between child protection systems under Chinese and foreign contexts. We can only "copy" their strategies once we have a clear understanding of what works in those systems or programs. However, there are not many scholars conducting research on these topics in China. (E4, NGO official)

5.3.3.4.2 Changes needed in CSA research in China

Eliminating external risk factors for CSA. There was a strong consensus among professionals and researchers about the importance of reducing external risk factors for CSA. For example, one researcher highlighted the necessity of educating potential offenders:

> *Prevention should not just focus on child protection education for children; instead, we should pay attention to people who are not supposed to hurt others...We should also assume that some of the students who receive such educational training will hurt others. We should let them know that it is illegal to do so, and they will be punished for their harmful behaviors.* (E6, university researcher)

An NGO official provided recommendations for eliminating external risk factors for CSA. For example, it was suggested that there should be a more sufficient legal definition of CSA to protect children from being sexually abused. The interviewee also described how the lack of an adequate definition of CSA has posed barriers for professionals who work with children:

> *I think the main challenge is that social workers don't know how to intervene when investigating CSA cases … [the lack of adequate CSA definition] also poses challenges when it comes to sentencing of the CSA offenders.* (E5, NGO official)

Moreover, this interviewee suggested that severe penalties should be in place to deter potential perpetrators from committing CSA acts:

> *We need harsher punishment for CSA offenders in China. Some countries would arrest people for producing child pornography. We should increase the maximum penalties for CSA offences.* (E5, NGO official)

Building an integrated child protection system. Professionals and researchers highlighted the urgent need to establish an integrated child protection system that involves identifying, referring, and supporting CSA victims. Participants argued that one should look at the whole picture when it comes to CSA prevention instead of focusing on one particular

point along the prevention treatment continuum. That is to say, "*we should put efforts into preventing, referring and intervening at different stages of this matter."* (E4, NGO official)

The word "institutionalization" was frequently used by participants when asked how to establish this integrated child protection system. It was suggested that the government should build the platform and take the initiative, rather than social services agencies and NGOs. Professionals with experience in piloting an integrated child protection system suggested that the project they are working on should be scaled up by the central government, and that this would help to form and stabilize the system.

One researcher, who identified challenges while implementing a pilot project on child protection services, perceived the lack of human resources and funding in rural areas as being the major obstacle to delivering and scaling up the service:

> *In China, the government provides social service primarily through purchasing services from social organizations. The development of social organizations, however, is extremely imbalanced between rural and urban areas. Therefore, we were only able to find child protection professionals from nearby cities to provide services to children in need due to lack of human resources and funding in rural areas. Therefore, it is challenging to link children in need with social services in these areas.* (E1, university researcher)

This response echoed the concern raised by a social worker in the rural elementary school, who reported that they "*do not have sufficient support for children who disclose CSA experiences and there is no follow-up regarding their disclosures either*". (V1, school social worker)

As a result, it was suggested that the central government should protect the implementation of practice by issuing policy mandates and allocating funding to ensure the availability and quality of child protection services in both rural and urban areas and support the prevention of CSA from the very beginning.

5.4 Discussion

Overall, the findings from the study suggest that although there have been significant recent developments in child protection, several important issues remain in relation to school-based CSA prevention programs and CSA research in China.

5.4.1 School-based CSA prevention programs

Our findings suggest that parent participants felt that school-based CSA programs were important. Evidence drawn from the global research reported mixed results. For example, our findings are consistent with a previous study conducted in Australia, in which parents supported these programs even though they did not receive CSA prevention education themselves (Walsh & Brandon, 2012). In addition, however, our findings contrast with some studies conducted in higher income countries (HICs). For example, a qualitative study with 24 parents in Australia found that the majority of participants had concerns about potential negative impacts or harms of CSA prevention education (Rudolph & Zimmer-Gembeck, 2018). In another qualitative study exploring teachers' experiences of implementing a school-based CSA prevention program in the U.S., teachers described that some of the parents were concerned about the program content and would opt their children out of the program (Allen, Livingston, & Nickerson, 2019).

Furthermore, unlike parent participants who shared no concerns and supported the implementation of CSA prevention programs in school settings, some interviewees, particularly NGO officials and researchers, expressed their concerns about the content of the program and potential negative outcomes (e.g., fear, anxiety) for younger participants. The finding that interviewees who had delivered CSA programs received inadequate preparation is also consistent with earlier research, which suggests that school teachers are poorly equipped in terms of knowledge about CSA prevention in China (Zhang et al., 2015; Han &

Chen, 2009), and highlights the need to empower teachers to deliver CSA prevention programs as an important part of their professional development (Zhang, Chen, & Liu, 2015). Similarly, Allen et al.'s (2019) study in the U.S. revealed that teachers lacked expertise in teaching CSA prevention programs and did not receive adequate training prior to delivering it. Likewise, other studies conducted in U.S. and Denmark have suggested that teachers lacked knowledge regarding signs of CSA (Kenny, 2004) and educational resources to teach CSA prevention related content (Zeutben & Hagelskjær, 2013; Helweg-Larsen, Andersen, & Plauborg, 2010).

Further to this, some interviewees in this study doubted the effectiveness of school-based CSA prevention programs in terms of supporting children who have already been abused because of the limited support services for CSA victims in China, and the potential harms that these programs may cause when a child is encouraged to disclose a CSA incident, but no follow-up services are in place. Participants indicated that this is of particular concern in rural areas. In addition, there is no agency primarily responsible for child protection in China, and child protection procedures remain unclear (Man et al., 2017). This has posed challenges for professionals in terms of intervening in child maltreatment cases and providing appropriate support for CSA victims.

5.4.2 Components of school-based CSA prevention programs

There was consensus among participating interviewees that the components of school-based CSA prevention programs identified by the systematic review (Lu et al., under review) are all essential. In addition, participants noted the importance of taking cultural factors into consideration when developing school-based CSA prevention programs and proposed a number of additional components that were missing from the original list in order to adapt CSA prevention programs to the Chinese social and cultural context. For example, participants suggested that it is particularly important to utilize a rights-based approach to

CSA prevention programs to help restore the power imbalance in the Chinese cultural context, where parents have absolute authority over children and disobedience toward parents is unacceptable (Xu et al., 2019).

In response to the increasing amount of online-facilitated CSA, participants also suggested adding prevention strategies to address this new form of CSA. To date, evidence remains inconclusive with regard to the best strategy to prevent online CSA and school-based prevention programs that target online CSA are primarily implemented in HICs (e.g. *Safer Surfing* in the U.K; *Netsmartz* in the U.S.) (Radford, Allnock, & Hynes, 2014). Evaluation of these programs in HICs have shown promising results in improving children's understanding of key messages of online CSA (Davidson & Martellozzo, 2008) and there is a clear need for developing context-specific evidence on online CSA prevention strategies in lower- and middle-income countries (LMICs).

Last but not least, parental and community involvement were also identified as potential strategies for preventing CSA. Previous studies conducted with parents in mainland China also identified that parents should be engaged in prevention efforts, especially given the lack of government leadership and support services in China (Xie, Qiao, & Wang, 2016; Chen, Dunne, & Han, 2007). In terms of community efforts, existing community-based approaches include Barefoot Social Workers, introduced into the Chinese child welfare system in 2010. It has become an important community-based approach to child welfare at the grassroots level (UNICEF, 2018). It should be noted from the interview data that comparing with rural areas where the sense of "community" is stronger, communities in urban areas in China have relatively loose ties among community members. As such, modifications will need to be made to tailor the program to the unique characteristics and needs of urban community members when addressing child protection issues. Furthermore, the effectiveness of the Barefoot Social Workers program remains unclear and the program

has not been associated with CSA prevention directly. Future research should rigorously evaluate this program and assess the potential for integrating CSA prevention components into this existing service.

5.4.3 CSA research in China

Participating researchers and professionals discussed the facilitators and barriers to CSA research in China highlighting the way in which an increased awareness of CSA in the central government has fostered research on child protection. Participants also highlighted a lack of national data on violence against children and inadequate government support as major barriers to conducting CSA research. Other barriers that were identified included the need for more effective collaboration across government agencies, a finding that has been highlighted by other research in terms of the need for more coordinated efforts to eradicate CSA in the U.S. (Wurtele, 2009). Furthermore, professionals and researchers also suggested that more evaluation studies of school-based CSA prevention programs need to be conducted in order to build a best practice knowledge base in the child protection field in China. Only two RCTs conducted in China (Jin et al., 2017; Lee & Tang, 1998) was included in the most recent systematic review examining the effectiveness of school-based CSA prevention programs (Lu et al., under review). Therefore, there is an urgent need to address this evidence gap. In addition, future research should also advocate for policy changes to eliminate the external risk factors for CSA, which involves clarifying the definition of CSA and specifying clear consequences for perpetrators of CSA. Last but not least, efforts need to be made to establish an integrated child protection system which includes early identification, reporting, and response to CSA. At the same time, the system should take the disparities between rural and urban areas into account to improve vulnerable children's access to child protection services in rural areas.

5.5 Limitations

This study has two major limitations. First, we used snowball sampling to recruit participants from only two sampling locations, which may result in selection bias. However, the participating professionals and researchers in Beijing all had research or practice experiences in different regions of the country (especially rural areas), and as such their views reflect a wide range of experiences across different regions. Second, we did not include children's perspectives on effective CSA components. As children are the major recipients of school-based CSA prevention programs, their voices should be taken into account when designing future programs or policies. Future studies should examine children's perspectives on CSA prevention programs and their components. Despite these limitations, our study findings have provided rich insights in terms of the research questions posed and are consistent with and extend findings from previous studies conducted in both China and other countries.

5.6 Implications for future policy, practice, and research

5.6.1 Implications for future practice and policy

The findings of this study suggest that while the components of most school-based CSA prevention programs are regarded as being appropriate, some adaptation and development of CSA programs is needed to ensure that they are suited to a Chinese cultural context. The findings also suggest that practitioners believe that school-based CSA prevention programs that do not include the wider community are not likely to be sufficient to address the problem of CSA and as such both parents and the wider community should be involved in CSA prevention efforts. In this regard, the Barefoot Social Worker program could be used to empower community members against CSA by identifying children in need,

raising community awareness regarding child protection, and providing training on parenting skills (UNICEF, 2018).

The research also suggests that there is currently inadequate preparation of providers of school-based CSA prevention programs, and inadequate support systems for children who disclose sexual abuse. Better training for those delivering these programs is essential, as is the establishment of an integrated child protection system in China. Given that most of the CSA prevention content are located within sex education curricula, it is therefore important to work with school staff and consider how to integrate a stand-alone CSA prevention program with the school's existing course structure and other aspects of policy and practice. At a policy and legislation level, this should involve better clarification of the definition of CSA and improved support for CSA victims in China. There is also a need for better collaboration across the different government agencies involved in the delivery of both prevention and treatment services for CSA. Participants underscored the importance of collective engagement of government sectors and ensuring the consistency of child protection practices. To address this, a better developed child protection system is needed with better coordination in terms of the multiple sectors of government.

5.6.2 Implications for future research

School settings were viewed to be the mainstream platform to deliver CSA prevention curricula but concern about the appropriateness of these programs due to limited support services were voiced. Currently, there is a lack of standardized CSA prevention programs in China and it is imperative that such programs are either developed or adapted from other countries, and that they are then rigorously evaluated to assess their benefits and harms.

Our findings also indicated a need to reduce some of the existing barriers to CSA research implementation and collaboration. This could be addressed in part through the

provision of a platform for professionals and researchers to share potential collaboration opportunities and resources. Through the development of a more collaborative working relationship, researchers, professionals, and organizations could potentially improve their capacities, exchange knowledge, and eliminate the gaps between research and practice. Furthermore, previous studies indicated that there is a lack of standardized measures to assess any negative effects of these interventions (Topping & Barron, 2009) and therefore investigations of both short- and long- term program effects are needed (Walsh et al., 2015).

5.7 Conclusion

This is one of the first qualitative studies to examine stakeholders' perspectives on school-based CSA prevention programs and CSA research in China, and our findings suggest a number of ways in which future CSA prevention programs could be strengthened and adapted to a Chinese context. This study also highlights the importance of breaking down existing barriers to CSA research, including the need for better collaboration, and multi-sectoral and coordinated responses. The findings can also inform the wider development of child protection policies in China.

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Chapter 6. DPhil Paper III: Unpacking School-based Child Sexual Abuse Prevention Programs: A Realist Review

This is the third stand-alone paper of the DPhil thesis and systematically synthesizes existing evidence from a broad range of data, and generating plausible explanations of how, for whom, and under what contexts school-based CSA prevention programs work. This paper is currently under review.

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Statement of Authorship

I led the full process from review registration to final write-up. I developed the review protocol, developed and implemented the search strategy, conducted the data synthesis and drafted the first version of the article. Jane Barlow and Franziska Meinck contributed to the write-up and interpretation of findings. Lakshmi Neelakantan contributed to data extraction and quality assessment of included studies in order to satisfy the double rating criterion.

Abstract

Background: Existing efforts to understand school-based child sexual abuse (CSA) prevention programs in the global and Chinese contexts mainly focus on the effectiveness of these programs in increasing participants' CSA knowledge and self-protective skills. There are currently, however, no reviews addressing the underpinning pathways leading to these intended outcomes. In order to better our understanding of the underpinning causal and contextual factors and inform the further development of school-based CSA prevention programs, a realist review was conducted to synthesize existing evidence from a broad range of data. **Methods**: An iterative search of electronic databases and grey literature was conducted, supplemented with citation tracking to locate relevant literature. For quantitative evidence, we considered evaluation studies that focused on students aged 5-18 years, who were enrolled in primary or secondary schools; for other types/formats of studies/documents, no population restrictions were applied. We included school-based CSA intervention programs that focused on improving knowledge of CSA or self-protective skills. Outcomes of interest included knowledge of CSA or self-protective skills. We did not apply methodological filters in terms of the types of studies to be included. Thematic content analysis was conducted to synthesize data. **Result**: Sixty-two studies were included. Five themes (i.e., adaptation, repetition, imitation, competence and ownership, and trust building) and five overarching Context-Strategy-Mechanism-Outcome configurations (CSMOs) that contributed to the success of school-based CSA interventions were identified, including: tailoring programs to participants' cognitive developmental levels, repeated exposure of key concepts and skills, utilization of interactive delivery methods and positive feedback, delivery of positive information, and application of the "train-the-trainer" model.

Keywords: child sexual abuse, child sexual abuse prevention, school-based interventions, primary prevention programs, realist review

6.1 Background

School-based child sexual abuse (CSA) prevention programs are designed to provide participants with the skills to identify, react to and report CSA (Finkelhor, 2009), and are a widely used strategy to prevent CSA (Walsh et al., 2015). Existing evidence mainly focuses on the effectiveness of these programs in increasing participants' CSA knowledge and skills regarding self-protection (e.g., Walsh et al., 2015; Topping & Barron, 2009). However, despite participants reporting feeling more empowered following participation in such programs, it remains unclear whether they can transfer the knowledge and skills into real-life situations (Daro, 1994) or whether participation in these programs leads to a decrease in CSA (Russell, Higgins, & Posso, 2020). Studies have suggested that participants who have received training are more likely to disclose their previous or current CSA experience (Walsh et al., 2015), which might assist CSA victims to access services and potentially prevent further CSA (Alaggia, Collin-Vézina, & Lateef, 2019). The recent COVID-19 pandemic, has also identified increased risks of sexual abuse and violence due to social distancing measures, thereby underscoring the need for such programs (The Alliance for Child Protection in Humanitarian Action, 2020).

The effectiveness of school-based CSA prevention programs is highly dependent on the wider contexts within which they are implemented. Schools are "complex adaptive systems" comprised of heterogeneous components including structural (e.g., guidelines, policies, physical environments) and informal elements (e.g., school ethos, social "environment") (Keshavarz et al., 2010). Students' responses to school-based CSA prevention programs also vary in accordance with their cognitive and behavioral developmental levels. Thus, as with medical education interventions, the impact of school-based CSA prevention programs may "*vary considerably depending on who delivers it, to*

which learners, in which circumstances, and with which tools and techniques" (Wong, Greenhalgh, Westhorp, & Pawson, 2012, p.90).

As home to the world's second largest population of children, China experiences a considerable burden of CSA (UNICEF, 2014; Ma, 2018). While there exists some evidence on the effectiveness of school-based CSA prevention programs in China (Lee & Tang, 1998; Jin, Chen, Jiang, Yu, 2017), there is a paucity of evidence regarding the underpinning context and mechanisms that contribute to the intended outcomes. A recent qualitative study (Lu et al., 2020) questioned the effectiveness of such programs given the lack of infrastructure services for children who disclose CSA in China, indicating the need to explore how contextual factors and underlying mechanisms impact intervention efficacy and uptake.

This points to the need to explore underpinning causal factors, in addition to how and in what contexts, school-based CSA prevention programs work, using a realist perspective (Pawson, Greenhalgh, Harvey, & Walshe, 2005). There are currently no realist reviews of school-based CSA prevention programs, and the purpose of the current review is to use a realist framework to synthesize existing evidence from a broad range of data from both English-language and Chinese-language databases and resources, to investigate how, why, and in what contexts, school-based CSA prevention programs succeed in both global and Chinese contexts.

6.2 Review aims and review questions

This realist review aims to: a) develop and refine a program theory to explain how contextual factors, intervention strategies, and program mechanisms influence outcomes of school-based CSA programs; b) integrate evidence from Chinese literature and provide evidence-based and context-specific recommendations to support the development of school-based CSA prevention programs in China. The review questions are: a) What are the contexts, intervention strategies, and mechanisms that lead to the success of school-based

CSA prevention programs? b) To what extent are the findings from Chinese databases with regard to the implementation of school-based CSA prevention programs in China consistent with those from the English language databases?

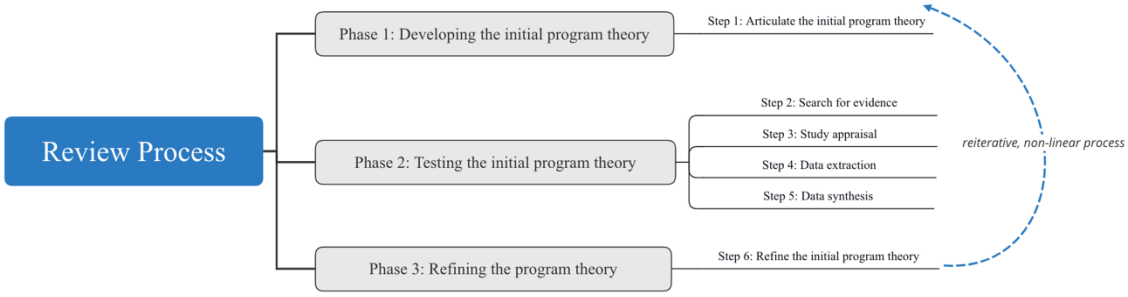
6.3 Methods

The realist enquiry posits that, in order to infer a causal outcome (O) between two events (X and Y), one needs to systematically investigate the underlying causal mechanism (M) that connects the events and the contexts in which the events occur (Pawson et al., 2005). While examining included documents, we expanded the CMO configuration to include "intervention strategies" (S) in the initial and refined program theories. This was essential for understanding the context-mechanism interactions resulting from the intervention strategies used in the programs. Thus, all the coded components were aligned using a Context-Strategy-Mechanism-Outcome (CSMO) configuration framework, which was further translated to an "*if…then…because*" statement (Westhorp, 2014).

This realist review included three phases and six operational steps. In Phase 1, we developed the candidate program theory that could potentially help us to understand the key contexts, intervention strategies, and underpinning mechanisms that lead to the success of school-based CSA prevention programs. An informal scoping search was conducted to identify material that could contribute to the development of the initial program theory, which can be subsequently tested against the evidence in the next phase. Next, in Phase 2, we undertook a systematic search of literature and other sources for studies that can be used to test, support or refute the candidate program theory identified in Phase 1. For Phases 1 and 2, the first author reviewed the full-text study reports and decided whether individual studies included sufficient detail to contribute to the development of the initial program theory. A second reviewer checked a random subsample of 10% of studies to confirm the decisions made. Any discrepancies were resolved through discussion or consultation with a third

reviewer. Finally, we refined the program theory through the synthesis of the data obtained in Phase 2. The refined program theory reflected the generative mechanisms that are supported by evidence. The phases and steps of the realist review are presented in Figure 13.

Figure 13. Phases and Steps of the Realist Review



6.3.1 Phase 1: Clarification of the Scope of the Review and Development of the Initial Program Theory

To develop an initial program theory, a scoping review of the literature was conducted. The initial scoping phase was not intended to be exhaustive but to serve as a foundation for locating or developing the initial program theory. As such, we only examined both, the included and excluded studies of a systematic review of school-based CSA prevention programs conducted by the first author (Lu et al., under review), and an earlier systematic review on this topic conducted by Walsh et al. (2015). In addition, the review team provided insights on the final included studies and the development of the initial program theory. Qualitative studies and other study designs were searched in Phase 2. Having identified studies that were eligible for inclusion we developed a codebook (available upon request) to guide the initial extraction of data regarding the relevant factors that could potentially contribute to the establishment of the initial program theory (Mukumbang et al., 2018, p.4).

6.3.2 Phase 2: Identification of evidence with which to test and refine the initial program theory

6.3.2.1 Search strategy

We developed a search strategy to identify studies that would enable us to support or refute the initial program theory identified with English-language studies in Phase 1 (step 1). We conducted a systematic search in Chinese databases and the grey literature to provide context-specific evidence and obtain an understanding of the extent to which the candidate theories were confirmed or refuted by the Chinese literature. Initial search terms and search strategy were guided by the initial program theory developed in Phase 1 (step 1). Initial and final search strategies are described in Appendix 15. The search ceased when there was sufficient evidence to refine the final program theory.

6.3.2.2 Electronic databases and other methods used for identifying relevant evidence

We included a combination of the following search methods: a) an electronic search of the following English-language and Chinese-language databases: EMBASE, Medline, ERIC, EMBASE, the Cochrane Database of Systematic Reviews, PsycINFO, CINAHL, Campbell Database of Systematic Reviews, China Academic Journals Full-text Database and Wanfang Database; b) forward and backward citation tracking; c) contacting authors; d) grey literature such as OpenGrey, abstracts from ProQuest, WHO child maltreatment database, ClinicalTrials.gov, and organization websites such as UNICEF and Save the Children.

6.3.2.2.1 Inclusion criteria

Population: For quantitative studies, we considered evaluation studies that focused on students aged 5-18 years, who were enrolled in primary or secondary schools; for other types/formats of studies/documents, no population restrictions were applied because these

studies could involve various stakeholders (e.g., teachers, parents, government officials) who might contribute to answering the review questions.

Intervention: we only included school-based CSA intervention programs that focused on improving knowledge of CSA, or skill acquisition in self-protective behaviors.

Outcomes of interest: we only included studies that measured knowledge of CSA or CSA prevention concepts; self-protective skill acquisition; decrease of CSA prevalence; disclosure of CSA. During the review process, we identified that the distal outcome (decrease of CSA prevalence) would require longitudinal data to examine whether rates of CSA differ overall between children who had and had not received a CSA prevention program (Gibson & Leitenberg, 2000), and none of the included studies provided such follow-up; as such, we only included proximal outcomes (CSA knowledge and self-protection skills) in the refined program theory.

Types/format of studies to be included: realist reviews do not exclude studies solely on the basis of their study design (Wong et al., 2013); therefore, we did not apply methodological filters in terms of the types of studies to be included. Furthermore, the search included studies published from inception to November 1st 2020, and was limited to English and Chinese languages. We did not exclude studies based on the country or setting in which the study took place.

6.3.2.2.2 Appraisal of primary studies

Studies were selected based on their *relevance* and *rigor*. *Relevance* is defined as whether the study can substantiate and refine the initial program theory. To assess the relevance of included documents, we drew on the notion of "thick" and "thin" developed in the qualitative research field (Denzin & Lincoln, 1994). Studies that provided rich and detailed descriptions regarding how, for whom, and under what contexts school-based CSA

prevention programs work were classified as “thick” and weighted more heavily in the data synthesis stage; conversely, studies with little evidence of the information above was classified as “thin”. We conceptualized “rigor” as the degree to which the included studies were credible based on the sample size, data collection, and data analysis approaches described in the findings. Studies were not excluded based on this appraisal, and these ratings allowed for a focus on the more conceptually rich studies, without excluding relevant weaker studies that may still contribute to the final synthesis (Pawson, 2006b). The most common reasons for excluding studies were that they did not answer the review questions.

6.3.2.2.3 Data extraction

The main characteristics of the included studies were imported into an Excel spreadsheet by the first author. Specifically, data was extracted regarding the descriptions of the program, the context of the study, intervention strategies used in the programs, the underpinning mechanisms of the program, and the outcomes or findings of the study, or explanations as to how and why the intervention worked in particular contexts. Data was also extracted on other study characteristics such as authors, year of publication, and study design. The first author conducted data extraction and the second reviewer checked a random subsample of 10% of studies for accuracy. Disagreements between the reviewers were resolved through discussion or in consultation with a third reviewer.

6.3.3 Phase 3: Data synthesis and refinement of the initial program theory

Phase 3 and the final step of the realist review involved synthesizing data and refining the initial program theory developed in Phase 1. All of the included studies were reviewed again and were imported into Atlas.ti (version 9.0.4; Muhr, 2004) to be coded for the purpose of data synthesis. The process of refinement was ongoing as data extraction progressed, and as a clear picture was generated of how different contexts and intervention strategies

appeared to have triggered different mechanisms thereby resulting in different outcomes. Furthermore, the relationship between contexts, strategies, mechanisms, and outcomes was not only sought within the same article, but across different sources. We continued the content thematic analysis until CSMOs reflected the wide range of data included within documents coded for this review. Direct quotations from the included studies were often considered as most informative of depicting the theme (Rycroft-Malone et al., 2012). As a result, each CSMO has supporting evidence in the form of quotes from the included studies that supported the development of the CSMO configuration. Furthermore, we synthesized some of the concepts into CSMO frameworks through an iterative and open process. These concepts were linked together to build a conceptual framework refining the initial program theory and illustrating the final program theory of school-based CSA prevention programs.

6.4 Results

6.4.1 Initial program theory (Phase 1)

The initial program theory of this realist review was informed by studies included/excluded by the most recent systematic review on this topic conducted by the first author (names removed for peer review). A total of 44 studies were included to develop the initial program theory. Appendix 17 describes the characteristics of studies that were used to develop the initial program theory.

Table 19 depicts the key features of the existing literature concerning the context, and program mechanisms and intervention strategic factors, that might influence the outcome of school-based CSA prevention programs. These concepts were incorporated into our initial program theory from which we then evaluated to what extent the evidence from the Phase 2 search, confirmed or refuted this theory. In total, we identified four different contextual factors, twelve intervention strategies, four mechanisms, two proximal outcomes (i.e.,

increase in CSA knowledge/skills; increase in CSA disclosure), and one distal outcome (i.e., decrease in CSA prevalence). The initial program theory which consisted of the following CSMOs can be succinctly expressed as follows: ***If*** the participants receive programs that consider their individual characteristics (i.e., cognitive developmental level, prior exposure to CSA prevention concepts, socio-economic status), presence of a supportive family (i.e., parental involvement) and social environment (i.e., cultural contexts where CSA is not a taboo, governmental and legislation support for CSA (C), and key strategies (e.g., discussion, roleplay, modeling) are applied to the program implementation process (S), ***then*** participants' knowledge of CSA or self-protection skills will increase (O), ***because*** the program increases their motivation and interest in learning about personal safety, and empowers them to learn more about CSA prevention knowledge (M). As a result, their understanding of CSA will change.

Although the CSMOs that were developed within the above initial program theory were still lacking in sufficient specificity in terms of the linkages between each of the component parts, it nevertheless provided a testable initial program theory that could be refined in the next phase.

Table 19. Contexts, Strategies, Mechanisms, and Outcomes that Emerged from the Thematic Analysis of the Included Documents

Contextual factors	**Intervention strategies**	**Mechanisms**	**Outcomes**
Individual level: cognitive developmental level; prior exposure to CSA prevention programs; socio-economic status	Discussion; teaching concrete rules; rehearsal; roleplay; booster sessions; modelling; feedback;	Participating in the program increased children's interest in personal safety	Proximal outcomes: increase in CSA
Family level: parental involvement/awareness		Empowerment: participating in the program empowers	

	reinforcement/repetition; simulation; instruction; play; film	children to learn CSA prevention knowledge	knowledge and self-protection skills; increase in CSA disclosure
School level: school environment; training for school staff		Behavior change: participants' behaviors change through modelling and roleplay practice	
Societal level: cultural context; government leadership support; legislation on CSA; media coverage; social environment		Improving understanding of CSA	

6.4.2 Results of the search for evidence to refine/test the initial program theory (Phase 2)

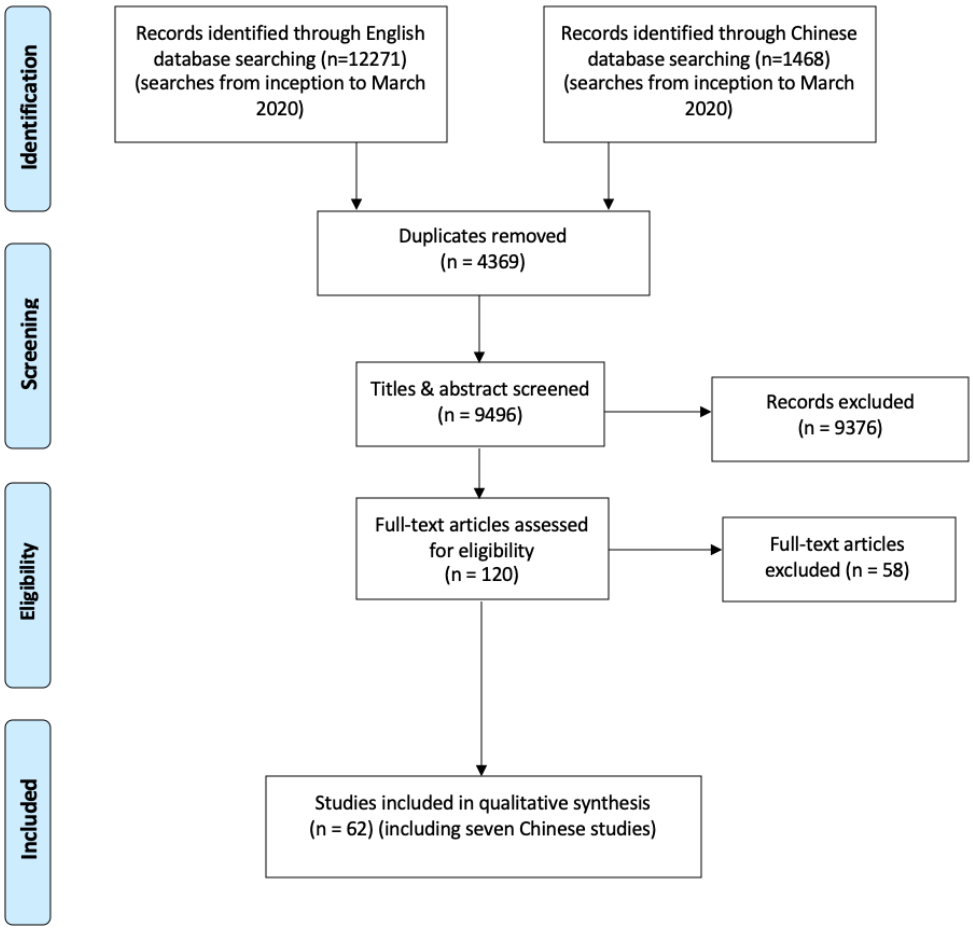
6.4.2.1 Document characteristics

Figure 14 presents the search process of the review. A total of 13,739 studies were found and 9,496 studies were screened after the removal of duplicates. One hundred and twenty studies were eligible for full-text assessment. All potentially eligible studies were appraised for relevance and rigor. As a result, fifty-eight studies were excluded due to the lack of conceptual-richness and methodological credibility. In total, 62 studies (seven of which were identified from Chinese-language databases) were included and coded to refine the initial program theory. The summary of the critical appraisal of the included studies is presented in Appendix 16.

Included studies were published between 1987 and 2020. The included English-language studies were mainly published in the United States, with a small number of studies published in Australia, Canada, China, Ecuador, Germany, Indonesia, the Netherlands, New Zealand, South Korea, the United Kingdom. Among the included studies there were seven Chinese-language studies. A wide range of documents were included, 57 of which were

journal articles, including 38 quantitative studies (e.g., RCTs, pre- and post- test design), three qualitative studies (e.g., interviews), 15 reviews (e.g., systematic review and meta-analysis, narrative reviews) and one mixed-methods study. In addition, we included two commentaries, one critique, one magazine article, and one book chapter. Details of the characteristics of the included documents are presented in Appendix 18.

Figure 14. PRISMA Flowchart Illustrating the Search Process



6.4.2.2 Refined program theory (Phase 3)

Before proceeding to discuss the CSMO configurations that contributed to the refinement of the final program theory, we first present two overarching concepts that emerged from the thematic content analysis of the included studies. We then describe the

final program theory, which is informed by five CSMO configurations that the evidence suggests contributing to the success of school-based CSA prevention programs.

6.4.2.1 Empowerment

Empowerment is a process by which individuals and groups gain greater control of issues of concern to them (Rappaport, 1987). Empowerment encompasses both processes and outcomes and is a multidimensional construct in which each level of analysis depends on the others (Zimmerman,1995). At the individual level, Zimmerman (1995) suggests that efforts to gain control, access to resources, and a critical understanding of one's social context are fundamental aspects of the empowerment process. Empowerment outcomes include situation specific perceived control, skills, and proactive behaviors (Zimmerman, 2000).

Table 20. Empowerment Constructs (adapted from Zimmerman, 1995)

Constructs	Components
Processes	Gain control; access to resources; critical understanding of one's social context
Outcomes	Situation specific perceived control; skills; proactive behaviors

The concept of *empowerment* was frequently used in the included documents as the underlying theoretical basis guiding the development and implementation of school-based CSA prevention programs. Overall, included programs demonstrated the empowerment processes by focusing on helping children gain control over their body and safety, and enabling them to access support resources. Furthermore, included studies discussed empowerment outcomes such as participants' self-protection skills and behaviors in CSA prevention. For example, one of the included studies (Kim,2017) posits that *empowerment* is "*a process of enabling people to choose to take control over and make decisions about their lives*" (Morton, & Montgomery, 2013; cited in Kim, 2017, p.124). For CSA prevention, it is suggested that empowerment maybe achieved through the following pathways: a) raising

children's awareness regarding CSA; b) establishing trust and a sense of safety; c) providing support services and enabling children to develop a sense of control; d) developing children's confidence and improving self-esteem; e) providing choices and services to enable children to become active agents of change (Simantiri, 2018). For example, Calhoun (2009) examined the relationship between concepts and skills presented in CSA prevention programs. They found that "*when given adequate information, a sense of personal power, and a list of community resources, children were able to assist in their own self-protection*" (Wurtele & Miller- Perrin, 1992; cited in Calhoun, 2009, p.7). In addition, empowerment was frequently used to conceptualize the objectives of the study. For example:

> *"The goal of the curriculum is to educate and empower students to prevent, recognize, and respond appropriately to bullying, cyberbullying, the four types of child abuse, and digital dangers"* (Bright, 2020, p.5).

In addition, *empowerment* appeared to be embedded within key concepts and intervention strategies being used by school-based CSA prevention programs. For example, one of the key messages that prevention programs aim to deliver is that CSA is not children's fault, and to *empower* them to share their own experiences, encourage disclosure of negative experiences, and enable access to supporting services (Simantiri, 2018). In addition, intervention components such as role play are at the heart of *empowering* children to prevent abuse because it allows them to apply concepts and transfer them into skills, thus enabling them to stop CSA before it occurs (Kolko, 1987).

It should be noted, however, that none of the included studies examined empowerment using a critical understanding of children's social context, which is considered as an important aspect of the empowerment process (Zimmerman, 1995). In addition, included studies also failed to explore whether children gain control over their body and utilize self-protection skills in real-life CSA situations.

6.4.2.2 Competence

The second concept that emerged from the thematic analysis of the reviewed documents is *competence*. In general, social competence is defined as "*involving the personal knowledge and skills which persons develop in order to deal effectively with life's many choices, challenges, and opportunities*" (Leffert, Benson, & Roehlkepartan, 1997; cited in Han & Kemple, 2006, p. 241). In early childhood, social competence has been defined as "the ability of young children to successfully and appropriately select and carry out their personal goals" (Guranlnick, 1990, p.4). Following this definition, the included studies suggest that participation in these programs enables children to develop personal knowledge and skills to deal with CSA more effectively, thereby enhancing their competence in handling dangerous situations.

The included studies suggest that school-based CSA prevention programs were developed to both *empower* children by enhancing their *competence* in knowledge about CSA and self-protective behaviors (Kim, 2017).

6.4.3 Context-mechanism-strategy-outcome configurations (CSMOs)

Once coding was complete, patterns of contexts, mechanisms, strategies, and outcomes were identified. The final program theory has been organised into five commonly occurring themes (i.e., adaptation, repetition, imitation, competence and ownership, and trust building) and further refined into five CSMO configurations (see Table 21).

Table 21. Collating CSMO Evidence and Development

Theme	Context	Strategy	Mechanism	Outcome	Supporting Quotes and Data Source
Adaptation - CSMO1	C1: children's different cognitive developmental levels	S1: strategies that tailor to each age group's needs S2: strategies that tailor to needs of children with disabilities	M1: integrating knowledge into cognitive repertoire and learning process	O1: Improvement in CSA knowledge and self-protective skills	"It is possible that some of the students in the k-3rd group were influenced by other means of accessing knowledge of CSA, which ultimately reduced the effects of the CARE program." (researcher's view; Alexander, 1998)
Repetition - CSMO2	C1: SES C2: parental involvement	S1: repeated exposure	M1: enhancing retention		"It is vital that teachers and caregivers involve parents in their programs, first by providing them with information about the risks to children and secondly, to encourage the reinforcement of safety concepts in the home." (researcher's view; Briggs, 1994b)
Imitation - CSMO3	C1: children's different cognitive developmental levels	S1: interactive delivery approaches	M1: engaging in imitation process		"The success of interventions that performed by nurses in this study was also caused by intervention model which created specifically and compatible with characteristics of primary school aged children, such as,

		S2: positive feedback			love to play, happy to move, enjoy working in groups and happy to feel or do something directly." (researcher's view; Neherta et al., 2017)
Trust building – CSMO4	C1: Supportive environment	S1: delivery of positive messages	M1: empowerment	O2: CSA disclosure	"Desired communication that appeared to lead to higher levels of disclosure included lessons delivered with open body language, warm voice tone, positive behavior management, a capacity to wait for noise to lower naturally, "peer to peer" talk more akin to the playground, short turns taken by presenters, and disclosures received without judgment." (researcher's view; Topping & Barron, 2003)
Competence and ownership – CSMO5	C1: resource-constraint settings C2: LMICS	S1: train-the-trainer model	M1: competence		"The 'train-the-trainer' approach that our program utilized could allow the trained teacher to continue to reinforce knowledge of CSA prevention strategies for a longer period and with subsequent groups of students beyond the present study." (researcher's view; Bustamante, 2019)

CSMO 1. Participants' CSA knowledge and self-protective skills will increase (O) when programs take children's different cognitive developmental levels (C) into consideration. It is also important to tailor the program to children's various needs, including 1) special needs for children with disabilities and 2) different age groups (S) such that participants are able to integrate CSA concepts and self-protective skills into their cognitive repertoire and learning processes (M).

Evidence. Nine of the included studies supported this CSMO and Piaget's cognitive development theory was frequently referenced as being core to the success of school-based CSA prevention programs (e.g., Barbee, 1992; Manheim, 2019). Two key constructs of Piaget's cognitive development theory are accommodation and assimilation. Assimilation is the process of interpreting experiences using pre-existing cognitive structures. Accommodation refers to a shift in cognitive structure in response to environmental changes (Piaget, 1980). According to Piaget, cognitive development was conceptualized to be a constant effort to adapt to the environment through a continuous balance between assimilation and accommodation (Piaget, 1980). In addition, Piaget suggests that children view and understand the world differently at different periods in their lives and children assimilate the same information in a different manner during different stages of development (Wadsworth, 1996). For example, two included studies measured skills acquisition and knowledge gains with elementary school students in Canada and Indonesia (e.g., Tutty, 2020; Nehert et al., 2017). Findings indicated that programs that used strategies to tailor the content to participants' cognitive developmental levels and age were more effective in improving participants' overall performance. Moreover, an included study that examined the effectiveness of the CSA prevention program *CARE* with participants from kindergarten to 5th grade in Canada, found that participants without special needs appeared to gain more knowledge regarding CSA compared with participants with special needs (i.e., remedial

students who received support for Language arts) (Alexander, 1998). In addition, authors reported that remedial students tended to overgeneralize prevention messages, which led to emotional stress. It is also suggested that remedial students or students with disabilities would be less able to determine whether they were abused, and to disclose CSA (Martinello, 2014), and that as a result, program content needs to address the needs of these groups of children in terms of increasing their competency in these areas (Martinello, 2014).

Second, age was also identified as an important factor that contributes to better knowledge outcomes. For example, one study which reviewed CSA prevention programs noted that "*older students have received higher knowledge scores on questionnaires, especially for complex concepts, than younger students*" (Kolko, 1988, p.203). Another suggestion was that older children might already have previous knowledge of the concepts or skills that the program delivers. For example, Alexander (1998) evaluated a school-based CSA prevention program C.A.R.E with elementary school students in a rural Canadian province and argued that older children might have already accessed knowledge about CSA from other sources, which ultimately reduced the program's effectiveness. In a similar vein, using a narrative review that examined the efficacy of school-based CSA prevention programs between 1990 and 2002, Barron and Topping (2008) found that the small outcome gains observed, could be attributed to high prior levels of knowledge that participants brought to the program.

Evidence from the Chinese literature. This CSMO is supported by one included Chinese study. In their evaluation study of an adapted CSA prevention program conducted in Beijing (*Body Safety Training* adapted from the United States), Zhang and Deng (2019) found that in comparison with teaching kindergarten children about abstract concepts (e.g., defining CSA), which might be more acceptable to older children, concrete and clear rules with rehearsal (e.g., teaching children to "runaway" instead of "leave" when someone asks to

view their private body parts) seemed to be more effective in improving preschool aged children's understanding of CSA because children at this age have limited understanding with regard to complex abstract concepts.

CSMO 2. Participants' knowledge of CSA and self-protection skills will increase (O) when the program involves *repeated exposure* to the key concepts (S), which will enhance participants' understanding of program materials and reinforce key concepts and skills taught in the program (M). The contextual factors (C) that appear to influence this configuration are parental involvement and socio-economic status (SES).

Evidence. We identified 16 studies that provided support for this CSMO. Included studies showed that *repetition* and *reinforcement* were necessary to optimize program effectiveness and improve participants' knowledge outcomes. For example, one included evaluation study conducted in Canada found that there was a need to deliver the program "*in a powerful manner*" (Tutty, 2000, p.296), including delivering program materials repeatedly or at regular intervals, especially for younger children who were often forgetful of what they had learned (Manheim, 2019; Tutty, 2000). Repetition of difficult-to-learn concepts was also encouraged in one included study (Barron & Topping, 2008). However, the evidence also suggests that repetition does not necessarily indicate increased time spent in learning (Davis & Gidycz 2000); rather, it may refer to the importance of dividing prevention programs into shorter sessions that allow children to stay focused for the entire period, and increases the opportunity to repeat program materials, ultimately leading to greater retention of knowledge. Similarly, an evaluation study of a school-based CSA prevention program (*Talking About Touching*) found that students should not attend programs for one brief session only and that one single session may not be appropriate for all ages (Madak, 1992).

Parental involvement was a significant contextual factor that was viewed as enhancing outcome gains. Two pathways through which parents could engage in the

education process were identified: a) involving parents during the program implementation process, such as providing training for parents or informing them of what children have been taught at school (e.g., Manheim, 2019; Lape, 1999; Kolko, 1987); b) providing home activities where children can practice key concepts that they learned in the school with parents at home (e.g., Brown, 2017; Casper, 1999). It is argued that providing caregivers with the knowledge and tools to discuss sexual abuse encourages parents to gain understanding in CSA prevention, promoting open dialogue at home. As a result, children feel more comfortable and confident in discussing issues related to CSA (Manheim et al., 2019; Kenny, 2009). Moreover, due to young children having a tendency to forget what they have learnt, it has been strongly recommended that parents participate in CSA prevention education in order to support continual reinforcement of the knowledge at home. In particular, an included study reviewed different types of CSA prevention programs and pointed out that parents must be included in the actual training process and receive CSA prevention training themselves in order to optimize the program effectiveness (Manheim et al., 2019).

The mechanism underlying this intervention strategy was described in one included study as follows:

> "*Involving the family in the educational process may help reduce the secrecy surrounding the topic of CSA, and may stimulate parent-child discussions about sexuality in general…Children trained by their parents would also receive repeated exposure to prevention information in their natural environment, thus providing a series of 'booster sessions' to enhance generalization*" (Wurtele,1992, p.874).

The supportive environment was also viewed in included studies to create a safe space for children to disclose abuse that has already taken place or if it occurs in the future. This is discussed further in CSMO 4 below.

SES status was found to be another contextual factor contributing to differences in children's knowledge gains. In particular, children from lower SES communities were

identified in two studies as being at greater risk of CSA due to their lower knowledge and skill base, and as experiencing fewer gains from CSA prevention programs (e.g., Scholes, 2012; Briggs, 1994b). Interestingly, we also found that participants' SES is an important contextual factor influencing parental involvement levels, with less parental involvement identified for students from lower SES families, which further inhibits children's knowledge gains (e.g., Briggs & Hawkins, 1994a; Sanderson, 2004).

Evidence from the Chinese literature. We only found one Chinese study that explicitly emphasized the importance of *repeated exposure* in enhancing kindergarten children's understanding of CSA knowledge and protective skills (Zhang & Deng, 2019); one further mixed-methods study exploring parents' views about CSA in China (Xie et al., 2020) described methods of engaging parents in the program implementation process, such as providing training for parents through the school, which is consistent with the pathway we identified from the wider international literature.

CSMO 3. When the program utilizes interactive delivery approaches and positive feedback (S), children will obtain more knowledge of CSA and self-protective skills (O) through imitation (M). The contextual factor concerning this configuration is participants' cognitive developmental level (C).

Evidence. Interactive delivery approaches were identified in the sixteen included studies as being important factors influencing whether the intended outcomes were achieved. One evaluation study of a CSA prevention program conducted in Indonesia, for example, concluded that the success of the intervention depended on the extent to which the intervention model was designed with the characteristics of primary school-aged children in mind (Neherta et al., 2017). Digital program formats that involved interactive learning strategies, were also identified as improving participants' CSA knowledge and self-protective skills. Findings from a study that examined a mobile application designed for preventing

CSA among primary school students in South Korea indicated that program materials that were presented using animations and interactive quiz sessions were better received by participants than print-based materials (Moon, Park, & Song, 2017).

Bandura's social learning theory was referenced as the theoretical basis for the use of these approaches in a number of papers (e.g., Blumberg, 1991; Wurtele, 1987). Bandura (1977) suggested that "*treatments implemented through actual performance will achieve results more than those are based on symbolic forms of instruction*" (Wurtele et al., 1986, p.691). Bandura contends that observational learning is more effective if the program content is meaningful to the observer and they retain the information that makes most sense to them and discards the rest (Barbee, 1992). Bandura proposed four key constructs for observational learning: attention, retention, reproduction, and motivation (Bandura, 1977). In order to achieve intended program outcomes, children need to be aware of the events happening around them and must pay close *attention* to the activities that are being displayed first (Bandura, 1986). Further, children must be able to take what they observe and *retain* it in their memories. One included study suggested that when programs use observational learning such as audio or visual materials, older children will be more likely to already have an existing knowledge scheme for incorporating the new knowledge of CSA prevention. Younger children, however, are less likely to make significant behavioral changes or knowledge gains based on their limited level of pre-existing knowledge of CSA prevention (Barbee, 1992). Following this, children view observed behaviors as those that should be *imitated,* and they can replicate existing behaviors when they are *motivated*. To facilitate the imitation of CSA skills taught in the CSA prevention programs, included studies suggested that prevention programs should not simply use program materials that will be understood by older children (Tutty, 1994); rather, that program educators should make sure that program material is "*presented in a stimulating and varied manner for young children*" (Daro, 1994,

p.215). For example, interactive delivery methods such as modelling, role-playing, and rehearsal are advocated, all of which enable CSA prevention knowledge to be reconstructed and to become a more integrated part of the child's cognitive organization. These strategies enable children to *engage in imitation* and get children actively motivated and involved in the program such that the key information becomes "*clearer and more salient, allowing for the most gains in acquisition*" (Davis & Gidycz, 2000, cited in Manheim et al., 2019, p.748). It is also suggested that rehearsal provides participants with opportunities "*to establish an appropriate sequence of activity while attempting to isolate and discard mistakes*" (Snyder, 1986, p.8).

Evidence from the Chinese literature. Two included Chinese studies supported this CSMO. For example, Chen et al. (2013) found that a self-designed CSA prevention program that involved brainstorming, roleplaying, and skill practices, appeared to increase 7th grade students' knowledge of CSA and self-protective skills at post- and follow-up tests. Similarly, Zhang and Deng (2019) who evaluated the Chinese version of Body Safety Training with 92 pre-schoolers in Beijing, found that the active engagement of children and the use of games as part of the delivery format, appeared to improve participants' overall knowledge about CSA.

CSMO 4. When the environment is supportive (C) and the program consistently delivers messages such as experiencing CSA is not children's fault, identifying trusted adults that children could disclose CSA to, and that it's never too late to disclose (S), participants tend to disclose past or ongoing CSA (O) because they become empowered and therefore are more willing to talk about negative experiences (M).

Evidence. Six included studies supported this CSMO. Disclosure was found to be the most unambiguous outcome of CSA prevention programs (Finkelhor & Strapko, 1992, cited in Alexander, 1998) because when children are well supported, disclosures "*may cause*

ongoing abuse to end, and the impact of CSA to be lessened" (Barron & Topping, 2010, cited in Ruldoph, 2018, p.546). By participating in these programs, children's knowledge and awareness of CSA are improved, therefore they are *empowered* to understand that CSA is not their fault and are more likely to disclose CSA to trusted adults (e.g., Kenny, 2009; Blakely, 2019).

Barron and Topping (2013) who evaluated the effectiveness of a school-based CSA prevention program *Tweenees* with 6^{th} – 8^{th} grade students in the UK stressed the importance of delivering lessons "*with open body language, warm voice tone, positive behavior management, a capacity to wait for noise to lower naturally, 'peer to peer' talk more akin to the playground, short turns taken by presenters, and disclosures received without judgment*" (Barron & Topping, 2013, p.945). A supportive environment also appeared to be an important contextual factor in which disclosure was likely to occur. For example, Blakely et al. (2019) explored factors that were associated with CSA disclosure among youth from kindergarten through 12^{th} grade. Findings suggested that at the familial level, children with supportive caregivers were more likely to disclose CSA. Barron and Topping (2013) proposed that at the program level, incorporating proactive statements within a supportive environment where "*students hear others disclosing and presenters respond with affirming communication*" (Barron & Topping, 2013, p.944) would likely lead to disclosure.

Evidence from the Chinese literature. Evidence regarding the CSMO on disclosure is limited in the Chinese literature. One evaluation study (Chen et al., 2012) showed that compared with children in the control group, participants who received the CSA prevention program reported that they would tell adults when CSA occurred. The underlying mechanism, however, remains unexplored.

CSMO 5. When the "train-the-trainer" model is integrated into the program implementation process (S), participants' knowledge and skill gains increase (O) as it

enhances trainers' competence and ownership of the program (M), thus allowing for further reinforcement of concepts beyond the study. The contexts (C) under which this CSMO is most effective includes but is not limited to settings where resources are constrained (e.g., lower- and middle-income countries (LMICs)).

Evidence. The "train-the-trainer" model refers to "*experts in a particular field training others in the community, school, or other settings to implement a prevention program*" (Baker, 2014, p.107). As discussed in CSMO 2, parents and caregivers can be empowered through an increase in their knowledge and skills. Their involvement can be viewed as an example of the application of the "train-the-trainer" model. In this section, we primarily focus on school settings where teachers are the "trainers" of CSA prevention programs. We found eleven of the included studies supported this CSMO.

In the included studies, teachers were identified as being critical in the prevention process because children "*are mandated to attend school and teachers have the most close contact with children outside their families*" (Scholes, 2012, p.107). For example, Scholes (2012), who conducted a systematic review exploring the "*most theoretically coherent and empirically evidenced account of key considerations for effective CSA prevention programs in schools*" (Scholes, 2012, p.109) found that the involvement of teachers in the child protection process can contribute to the safety of their students (e.g., Briggs, 1994a; Walsh et al., 2011). Integration of the "train-the-trainer" model into the program implementation process, was also found to enable program deliverers to be trained to teach the program materials following the protocol, which in turn was identified as increasing teachers' CSA knowledge and chances of having a successful and rewarding experience, and thereby also of having an impact on how the program materials are delivered to students (Baker et al., 2013). Involving teachers in the program implementation process, and providing them with training was identified as improving the sense of teachers' *ownership* of the program, and thereby

deepening their understanding of the program materials, thus allowing for further reinforcement of concepts beyond the study (Barron & Topping, 2008).

Findings from LMICs and resource-constrained settings offer unique evidence for this CSMO configuration. In addition to promoting the long term impact of the program, the "train-the-trainer" model was identified as being an important means of ensuring that these programs are delivered in settings where there is a shortage of educators because "*it helps to minimize time and expense required of outside staff to implement the program as well as harnessing the relationships that already exist between teachers and students*" (Orfaly et al., 2005, cited in Baker et al., 2013, p.169). The effectiveness of this model was illustrated by one included study in which a sexual violence prevention program with high school students in Hawaii was delivered by teachers using the train-the-trainer model, and which showed that students' knowledge of sexual violence in the intervention group significantly improved after the study, indicating that training teachers to become program deliverers is promising in achieving the program's intended outcomes (Baker et al., 2013). Furthermore, researchers pointed to the usefulness of the model in cultural settings such as Hawaiian and Asian communities, which emphasize the importance of extended family networks, suggesting that the "train-the-trainer" model has the potential to be utilized in settings other than schools (see parental involvement explained in CSMO 2). Similarly, Bustamante et al. (2019), who evaluated the effectiveness of a school-based CSA prevention program that utilizes the "train-the-trainer" model with children aged seven to 12 years old in Ecuador, found that knowledge and skills were maintained at the six-month follow-up, suggesting that the "train-the-trainer" approach allowed for further knowledge/skills reinforcement beyond the study.

Evidence from the Chinese literature. Consistent with findings from the international literature, studies conducted in China confirmed that the "train-the-trainer" model is a sustainable approach to delivering CSA prevention curricula. An important contextual factor

that emerged from the majority of included Chinese studies was the lack of professionals who have expertise in CSA prevention education in Chinese primary schools (Yang et al., 2019; Yi et al., 2019) and teachers' lack of confidence in delivering CSA prevention lessons (Chen et al., 2008). For instance, one study that reviewed the current situation in terms of CSA prevention education in primary schools in China, highlighted the need for professionals who can provide training to teachers and school staff, to improve teachers' knowledge in CSA prevention and facilitate the effective delivery of CSA programs (Yi et al., 2019). Furthermore, the effectiveness of the "train-the-trainer" approach was confirmed as part of an evaluation with a group of elementary school teachers in Beijing, which found that when provided with comprehensive training and sufficient support, teachers were able to deliver the program effectively (Jin, Chen, Jiang, &Yu, 2017).

Linkages between CSMOs. It should be noted that, while we did not examine the interactions across configurations, they appeared interrelated and could be present in one program in any combination. For example, "*repeated exposure*" is proposed as a separate configuration but is also linked to CSMO5, which discusses the train-the-trainer model. Similarly, CSMO1 suggests that programs should be tailored to participants' cognitive developmental levels, which echoes CSMO3 which highlights the use of interactive delivery methods for different age groups.

6.5 Discussion

6.5.1 Study findings

This realist review was the first attempt of which we are aware, to examine how, why, and under what circumstances, school-based CSA prevention programs work in both a global and more specifically, a Chinese context. A range of study designs and publications types were included to deepen our understanding regarding the underlying program theory (Pawson

et al., 2005). Furthermore, the concept of "relevance" and "rigor" was used to assess the quality of the studies, which resulted in a total of 62 documents (seven of which were conducted in China) being included for the purpose of developing the final program theory.

The initial program theory was developed in the first stage of the review based on studies included in an earlier review by Walsh et al. (2015), and consisted of a suggested series of CSMOs that were then refined in the second phase. As described in the methods section, we strengthened the CMO configurational logic of the realist synthesis by incorporating "intervention strategies" into the original CMO configuration. This kind of modification has been proposed in previous realist reviews. For example, Velonis et al. (2020) incorporated "strategies" into the CMO configuration to illustrate the process through which batterer interventions work.

We then identified two overarching concepts underlying these intervention programs that emerged from the included studies and documents, namely "empowerment" and "competence". These were included in the final program theory as core underpinning concepts. Following this, we developed five CSMO trajectories that appear to underlie school-based CSA prevention programs. These highlight the importance of tailoring the program to the cognitive developmental level of the participants, repeated exposure to program material, the use of interactive delivery approaches and positive feedback, delivery of positive information, and the utilization of the "train-the-trainer" model.

Our refined program theory not only substantiated the initial program theory, but also provided more nuanced configurations that were supported by the wider literature. First, we argued that participants are able to integrate the taught concepts of CSA and self-protective skills into their cognitive repertoire and learning processes when the intervention program is tailored to their cognitive developmental level, which will lead to the improvement of participants' CSA knowledge and self-protective skills. Second, if participants are repeatedly

exposed to CSA prevention knowledge and self-protective skills, the mechanism of knowledge reinforcement and knowledge enhancement can be triggered, thereby promoting the achievement of the intended outcomes. We also identified that SES and parental involvement are two major contextual factors in which this configuration is likely to be activated.

Third, we proposed that through the use of interactive delivery methods and positive feedback, participants are able to engage in the imitation process to improve their overall performance. The contextual factor in which this configuration was more likely to be triggered included participants' cognitive developmental levels. Fourth, we argued that when positive information is delivered, children will feel more empowered sharing negative experiences, thereby leading to the disclosure of CSA. A supportive environment was identified as being an important contextual factor for this configuration. Last but not least, we suggested that particularly with LMICs and resource constrained settings, the use of the "train-the-trainer" model ensures that more skilled providers such as teachers are able to deliver the CSA programs effectively.

In terms of the Chinese literature, despite the scarcity of evidence that we identified, included Chinese studies confirmed the CSMOs that we identified from the English-language literature. We found that the majority of studies concerning school-based CSA prevention programs in China were dominated by baseline needs assessment of stakeholders' (e.g., children, parents, teachers) knowledge of CSA, with only a small number of evaluation studies examining the effectiveness of these programs. As such, we had little evidence to draw on because very few studies were suitable for investigating the theories behind and mechanisms within programs. This reflects the wider absence of high quality evidence in the CSA prevention field in China. Due to the lack of such empirical evidence, we were not able to identify CSMOs that were unique to the Chinese context.

6.5.2 Strengths and limitations

The main strength of this review was the use of a realist methodology. To the best of our knowledge, this is the first use of a realist review to explore the CSMOs that underpin school-based CSA prevention programs in a global and Chinese context. Unlike conventional systematic reviews, which focus on the effectiveness of the program, we included a wide range of study designs to deepen our understanding regarding contextual, strategic, and mechanistic factors that lead to the success of these programs. By unpacking the program using a realist lens, we have identified some of the key features of CSA prevention programs.

There are three major limitations of the review worth noting. The first relates to the search strategies of the realist review. In order to be comprehensive, we searched all databases and other sources from inception, and as a result, some of the programs in this review were unavailable or no longer accessible. Furthermore, it is possible that studies published in languages other than English and Chinese may have been missed.

Second, it should be noted that the purpose of this review was not to provide a detailed account of all existing or potential relationships between CSMOs in school-based CSA prevention programs but rather to identify from the existing literature some of the key mechanisms; it was also not aimed at providing evidence of the effectiveness of the CSMOs identified and as such, this review is not conclusive and needs to be complemented with further studies to test and refine the program theories that we have developed here. We were not able to do so in this realist review and future research should address this limitation. Nevertheless, included studies contributed strong support for the CSMOs that we developed and provided a solid foundation for future researchers to build upon.

Further to this, instead of conducting a systematic search to develop the initial program theory, we generated our initial program theory by examining studies in two recent

systematic reviews on this topic (i.e., Walsh et al., 2015; name removed for peer review). We addressed problems related to this approach at the theory refinement stage where we systematically searched for studies with a range of research designs. However, it should also be noted that our refined program theory was based on existing literature and did not search for studies beyond those that had direct relevance. For example, we only searched for child-focused interventions and excluded interventions such as adult interventions which might have included elements relevant to the program theory. However, by triangulating findings from across 61 documents, we believe that the CSMOs developed in this realist review reflected the underlying pathways most relevant to school-based CSA prevention programs. Last but not least, we did not involve a broad range of stakeholders in the review process. Instead, we contacted study authors to request additional information on the intervention implementation process. Furthermore, all members of the review team have expertise in the field of child protection/abuse prevention, which was utilized when developing the initial and final program theory.

6.6 Implications for future research, policy and practice

6.6.1 Implications for future research, policy, and practice in the global context

This realist review has a number of implications for research, policy and practice. First, program developers should utilize the CSMOs derived from this realist review to inform future program development and implementation. This should involve ensuring that CSA programs are tailored to the cognitive developmental level of the targeted participants, using repeated exposure of key concepts and skills, and utilization of interactive delivery methods and positive feedback, and delivery of positive information. It is also important that policymakers in LMICs commission the delivery of programs that are optimized in terms of the needs of their particular populations, including the use of programs that can be delivered using “train the trainer” models, particularly in settings where there is a shortage of program

providers. Second, it should be noted that the current realist review included two most used proximal outcomes measured by questionnaire-based and vignette-based instruments (i.e., increase in CSA knowledge/skills; increase in CSA disclosure). There are, however, other child outcome measures used when evaluating the effectiveness of school-based CSA prevention programs, including children's perception of safety, self-efficacy/confidence to act, and harm (Trew et al., 2021). Future studies should consider including these measures in their realist synthesis, which might provide additional insights into the underlying mechanisms of CSA prevention programs. Similarly, this realist review did not consider distal outcomes such as the actual decrease in CSA prevalence due to a lack of eligible studies. It is suggested that prevalence data can identify gaps in prevention efforts that are unrelated to programs (Trew et al., 2021). To date, however, research has pointed to an incongruence between the low number of official reports of CSA to authorities and the high rates reported in CSA studies (Alaggia et al., 2019; see Fallon et al., 2015, Stoltenborg et al., 2011). As a result, realist reviewers should investigate robust ways to capture prevalence data and inform the program theory by incorporating prevalence data into CSMO configurations in the future.

Last but not least, future research should ensure that the reporting process provides a clear picture of the underlying program theory thereby allowing for a deeper understanding of whether the necessary program mechanism is in place to achieve the desired outcomes. Last but not least, future investigations should further explore the contextual factors that determine the success of the intervention programs.

6.6.2 Implications for future research, policy, and practice in LMICs and the Chinese context

There are a number of context-specific implications of this review for LMICs and the Chinese context. First, there is a need for more rigorous studies to be conducted in the CSA

prevention field in China and other LMICs, including high-quality qualitative studies that explore stakeholders' perspectives on school-based CSA prevention programs, evaluation studies that rigorously examine the effectiveness of these programs, and systematic reviews that examine the overall effectiveness of these programs in a Chinese context. The proposed combination of qualitative and quantitative studies are necessary to develop a comprehensive understanding of the way in which school-based CSA prevention programs work in a Chinese context. Second, our findings suggest that teachers and parents can be effective agents of change to facilitate the delivery of school-based CSA prevention programs, which is important in LMICs and resource constrained settings. Therefore, future practice in these settings should involve engaging teachers, as program providers. However, it should be noted that perpetrators may be someone the child knows and/or may live in the household. In fact, previous research has suggested that up to one-third of CSA is perpetrated by family members (Seto et al., 2015). Furthermore, given that the primary out-of-school rate is 20% in low-income countries compared with only 3% in high-income countries (UNESCO, 2018), there is a need to find other ways of preventing CSA that go beyond school settings.

6.7 Conclusion

Although school-based CSA prevention programs have been extensively researched since their development in the 1980s, there is still a lack of evidence regarding the theoretical underpinning in terms of how these interventions work, for whom, and in what circumstances. This realist review has enabled us to identify key contextual factors, program strategies and program mechanisms, in both a global and Chinese context, that appear to be associated with improvements in CSA knowledge in children. The implications for future policy, practice and research are identified.

Critical findings:

- Five CSMO trajectories appear to underlie school-based CSA prevention programs: tailoring programs to participants' cognitive developmental levels, repeated exposure of key concepts and skills, utilization of interactive delivery methods and positive feedback, delivery of positive information, and application of the "train-the-trainer" model.
- The majority of included Chinese studies confirmed the CSMOs that we identified from the English-language literature but there is an absence of good quality evidence in the CSA prevention field in China.

Implications:

- Program developers should utilize the CSMOs derived from this realist review in future program development and implementation.
- Future research should ensure that the reporting process provides a clear picture of the underlying program theory thereby allowing for a deeper understanding of whether the necessary program mechanisms were in place to achieve the desired outcomes.
- More rigorous studies need to be conducted in the CSA prevention field in China to develop a comprehensive understanding of the way in which school-based CSA prevention programs work in a Chinese context. Practice in LMICs and resource constrained settings should involve engaging teachers, as program providers.

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Chapter 7. Discussion and Conclusion

7.1 Summary of DPhil findings

7.1.1 Overview of DPhil findings

The main objective of this DPhil thesis was to extend the current literature on school-based CSA prevention programs and provide important context-specific evidence to inform the development of school-based CSA prevention programs in China. Specifically, this thesis had three aims: 1) to systematically identify intervention components in school-based CSA prevention programs and explore predictors for greater program effectiveness; 2) to explore stakeholders' perspectives regarding school-based CSA prevention programs and CSA research in China; 3) to identify and explore how, for whom, and in what contexts school-based CSA prevention programs work.

An explanatory sequential mixed-methods design was applied to answer these research questions. The use of a mixed-method study design allowed us to integrate qualitative and quantitative data and led to a richer understanding than would have been possible if they had been analysed separately (Tonkin-Crine et al., 2015). There are two points where integration occurs in an explanatory sequential mixed-methods design (Creswell & Clark, 2018). First, DPhil Paper I synthesized evidence on the effectiveness of school-based CSA prevention programs, and predictors that lead to greater program effectiveness. In order to build context-specific evidence, findings from DPhil Paper I pointed toward the need for further investigation regarding stakeholders' perspectives about school-based CSA prevention programs and CSA research in China. As such, a list of interview questions was developed based on findings from DPhil Paper I and a qualitative study (DPhil Paper II) consisting of a series of in-depth interviews was carried out. Further to this, informed by the findings from DPhil Papers I and II, a realist review (DPhil Paper III) was conducted to unpack school-based CSA prevention programs in terms of the context-mechanism-strategy-

outcome pathways by which they work. Findings from DPhil Paper III also complemented the quantitative findings obtained from DPhil Paper I and qualitative findings obtained from DPhil Paper II, providing a richer and more informed picture of the underlying mechanisms of school-based CSA prevention programs. Once the qualitative strand was complete, the two sets of connected results were integrated and synthesized.

In this chapter, I will first describe how reflexivity and positionality were reflected throughout the study process and their impacts on my understanding and interpretation of the findings in the DPhil thesis. Second, I will synthesize findings from the DPhil thesis and then reflect on the strengths and limitations of the thesis. Last, I will conclude this chapter with a discussion of the implications for practice, policy and research.

7.1.2 Reflexivity and positionality

Reflexivity relates to sensitivity to the ways in which the researcher and the research process may shape the data collected, including the role of prior assumptions and experiences (Birks et al., 2014). Essentially this involves paying attention to all that researchers bring to the research. It is stated that "*reflexivity enhances the quality of research through its ability to extend our understanding of how our positions and interest as researchers affect all stages of the research process*" (Primeau, 2003, p.10). Similarly, positionality refers to an individual's worldview and the position they adopt about a research task and its social and political context (Holmes, 2020). Reflexivity informs positionality (Holmes, 2020).

On a personal level, my identification as a Chinese child protection researcher and a previous school social worker in the U.S. situated the study and shaped the conceptualization of the DPhil thesis. As a Chinese child protection researcher focusing on CSA prevention research in China, I am interested in learning about the overall evidence base in CSA prevention research in the Chinese as well as the global context. This focus informed the research questions proposed in the DPhil thesis. In particular, DPhil Papers I and III searched

both Chinese and English databases to develop a comprehensive understanding of the existing evidence around CSA prevention research.

In terms of the qualitative study, having worked as a school social worker who has experience in delivering CSA prevention classes and facilitating group discussions on CSA prevention skills, I understand what it is like to teach these classes and the challenges that program deliverers might encounter during the program implementation process. However, I was also aware of the contextual differences in which I delivered these lessons (the U.S.) and the very different context of interviewees situated within (China). These differences made me interested in learning about how the safeguarding procedures work in China. Furthermore, given the lack of empirical studies conducted in China, I was interested in learning the current evidence base of CSA prevention in China.

Furthermore, I was interested in learning about whether or not knowing about my professional and academic background (as listed on the information sheet) could have impacted on interviewees' willingness to talk openly about experiences, or how this knowledge might have shaped what was said. During the interviews, I endeavoured to bracket my knowledge of CSA prevention and focused on participants' responses. At a methodological level, this qualitative study was designed to elicit contributions from a wide range of stakeholders. The quotes selected have been chosen to illustrate stakeholders' perspectives and as such, no particular interviewee's opinion was "privileged" over others; that is to say, data analysis included a process of constant comparison between the accounts of interviewees, to uncover similarities and differences, which were subsequently highlighted in the results and discussion. Furthermore, field notes, which consist of reflexive writing, were used throughout the interview process, and this helped me to examine how my thoughts evolved as I engaged more deeply with the data. The field notes also established an audit

trail, which helped me to keep track of the meaning of the data and how they related to each other.

7.1.3 Synthesis of DPhil findings

This section provides a discussion of the overarching findings from the DPhil thesis with regard to both body of global evidence in addition to that from China specifically. Before proceeding to the discussion, a joint display of the main findings from the DPhil thesis is presented in Table 22. Through a joint display, we can obtain new perspectives beyond the data gathered separately based on quantitative and qualitative results (Haynes-Brown & Fetters, 2021).

Table 22. Joint Display of Main Findings

Domain	Quantitative results	Qualitative results
Conclusion derived from global evidence: School-based CSA prevention programs are effective in improving participants' CSA knowledge and self-protective skills.	Participants' knowledge of CSA and self-protection skills were improved following the program, as measured by both questionnaire- and vignette-based measures (DPhil Paper I).	Five CSMO configurations have been identified to contribute to the effectiveness of school-based CSA prevention programs (DPhil Paper III).
The conclusion derived from global evidence: Several intervention components and context-strategy-mechanism-outcome (CSMO) configurations contribute to greater program effectiveness.	Longer interventions (with more than three sessions) tended to be more effective than interventions that were shorter (with three or fewer sessions) (β = -0.6637, 95% CI [-1.1554, -0.1720], p =0.0106; intervention content component "*safe and unsafe situations*" tended to be relatively more effective than other components in improving participants' understanding of CSA knowledge and concepts (β = 0.2439, 95% CI	

	[-0.1766, 0.6643], p = 0.2412 (DPhil Paper I).	
The conclusion derived from evidence from China: Several context-specific factors contribute to the effectiveness of school-based CSA prevention programs.	Little evidence was found in terms of school-based CSA prevention programs that targeted LMICs and China (DPhil Paper I).	"Right-based approach", "online CSA prevention", and "parental and community involvement" are identified as important components that need to be included in school-based CSA prevention programs in China (DPhil Paper II).
The conclusion derived from evidence from China: The evidence gap and lack of cultural considerations in the Chinese literature regarding CSA prevention have posed challenges to the establishment of the evidence in China.		1) There is a lack of infrastructure in terms of services for CSA survivors in the Chinese context (DPhil Paper II). 2) Participants identified a range of concerns about school-based CSA prevention programs within a Chinese cultural context (DPhil Paper II). 3) Due to a lack of evidence, no CSMOs specific to the Chinese cultural context were developec (DPhil Paper III).

7.1.3.1 Global: School-based CSA prevention programs are effective in improving participants' CSA knowledge and self-protection skills

Overall, findings from the DPhil thesis support existing findings with regard to school-based CSA prevention programs in terms of their effectiveness in improving children's CSA knowledge and self-protective skills. For example, results from the systematic review and meta-analysis (DPhil Paper I) indicated that school-based CSA prevention programs are effective in improving participants' knowledge of CSA as measured

by both questionnaire-based measures (g = 0.72, 95% CI [0.52-0.93]) and vignette-based measures (g = 0.55, 95% CI [0.35-0.74]). These findings were in line with findings from previous research, and specifically, did not differ greatly from Walsh et al.'s systematic review (2015), upon which the systematic review was based. Walsh et al.'s review (2015) produced effect sizes of 0.61 (95% CI [0.45, 0.78]) and 0.45 (95% CI [0.24, 0.65]) for questionnaire-based knowledge and vignette-based knowledge, respectively.

7.1.3.2 Global: Several intervention components and Context-Strategy-Mechanism-Outcome configurations contribute to greater program effectiveness

A second contribution of this DPhil thesis is that the key factors that contribute to the effectiveness of school-based CSA prevention programs were identified. For example, in addition to examining the effectiveness of school-based CSA prevention programs, the systematic review (DPhil Paper I) systematically mapped the intervention components using inductive thematic analysis, which advanced our understanding about the intervention components in existing school-based CSA prevention programs. Further to this, a meta-regression which was conducted to explore the factors associated with greater program effectiveness showed that interventions with more than three sessions are more effective than interventions with fewer sessions (β = -0.6637, 95% CI [-1.1554, -0.1720], p =0.0106). In addition, results from the meta-regression showed that older children (eight years and older) overall gained better scores than younger children (up to eight years), but that the results were not significant with vignette-based measures, and should therefore be interpreted with caution.

This DPhil thesis then moved beyond "what works" to address the question "how, for whom, and under what contexts, school-based CSA prevention programs work?", through the conduct of a realist review (DPhil Paper III) to explore the underlying program theory of school-based CSA prevention programs. The refined program theory highlighted five

important Context-Strategy-Mechanism-Outcome configurations that contribute to the success of school-based CSA prevention programs. First, it was found that programs appear to be more successful when tailored to participants' cognitive developmental levels. Second, programs that emphasized repeated exposure appeared more likely to be effective, with the mechanism behind this being retention enhancement. Third, interactive delivery methods, and positive feedback were found to yield improvements in children's CSA knowledge and self-protection skills. Fourth, the results suggest that supportive environment and positive information can lead to the disclosure of CSA because children feel more empowered sharing negative experiences. Finally, the results suggest that the "train-the-trainer" model was effective in improving participants' CSA knowledge and self-protective skills in LMICs and resource-constrained settings.

Taken together, findings from this DPhil thesis provide additional understanding regarding the effectiveness of school-based CSA prevention programs, and more importantly, the underlying pathways through which these programs produce intended outcomes.

7.1.3.3 China: Several context-specific factors contribute to the effectiveness of school-based CSA prevention programs in China

Another important contribution of the DPhil thesis is its focus on the development of school-based CSA prevention programs and CSA research in China. While DPhil Paper I has examined the effectiveness of school-based CSA prevention programs and predictors for greater program effectiveness in a global context, evidence in a Chinese context in particular, remains scarce. As such, a qualitative study (DPhil Paper II) was conducted to explore stakeholders' views about these programs in order to inform the development of such programs in China. Overall, findings from the qualitative study (DPhil Paper II) supported those from the systematic review (DPhil Paper I).

Epistemics is concerned with the pervasive elements of language use in which speakers refer to what they know and understand in daily conversations via claims and assertions, and how these are responded to, defended, taken up, and contested by speakers (Roulston, 2018). Participants' personal epistemic beliefs are a multidimensional set of beliefs about the nature of knowledge and knowing (Guilfoyle et al., 2020). Epistemics provides a valuable lens through which to observe the work that goes into creating data through question and answer sequences because interviews encourage participants to communicate about their knowledge and experiences (Roulston, 2018). This is reflected throughout the thesis. For example, stakeholders described the need to educate children about CSA prevention and suggested that the key components identified in the systematic review (DPhil Paper I) are necessary to improve children's self-protection skills and CSA prevention knowledge. This was found to be consistent with another qualitative study exploring parents' attitudes toward CSA in China (Xie, Qiao, & Wang, 2016), in which interviewed parents described feeling embarrassed about talking about CSA with their children, and perceived schools to be the most appropriate setting within which to deliver such information. Likewise, a study that surveyed key stakeholders (e.g., teachers, parents, students) to understand how they perceive sexuality education found that teachers tended to avoid sensitive topics such as CSA due to their limited knowledge and capacity (UNFPA, 2018).

This was also supported by findings from a systematic review (Hunt & Walsh, 2011) which synthesized evidence on parents' views about CSA prevention programs, indicated a generally positive attitude towards the use of CSA prevention programs in schools in different countries.

In addition to the overall positive attitude about delivering school-based CSA prevention programs in Chinese elementary schools, participants identified a range of concerns about school-based CSA prevention programs within a Chinese cultural context.

First, professionals' fear about programs' potential negative impact on children emerged as one of the major concerns. Moreover, given the lack of infrastructure in terms of services for CSA survivors, participants suggested that school-based CSA prevention programs alone were not enough to prevent CSA in China. Previous research from outside China showed that it maybe even more challenging to involve parents and caregivers when perpetrators maybe someone the child knows and/or may live in the household (Seto et al., 2015).

Next, stakeholders suggested three additional components that were not identified by the systematic review (DPhil Paper I) but were considered to be essential in preventing CSA: namely 1) content regarding online-facilitated CSA, 2) the use of a rights-based approach, and 3) content regarding greater parental and community involvement. With increasing global utilization of the internet, new forms of CSA have emerged and affected children's safety and wellbeing (UNICEF, 2020). This has not been addressed in most of the existing school-based CSA prevention programs and it remains unclear as to the best prevention strategy to eradicate online-facilitated CSA. Furthermore, the majority of programs that have added content to address this issue, have primarily been evaluated in HICs such as the UK and the U.S. (Radford, Allnock, & Hynes, 2014). This may be more important than ever in the context of the COVID-19 pandemic, which has led to widespread school closures in 131 countries during the lockdowns, and in which online learning was instigated as a major solution to supporting children's learning activities (UNESCO, 2020). While online technologies support children to continue their learning and social life, increased online activities have placed children at a higher risk of online harms such as online-facilitated CSA and cyberbullying (UNICEF, 2020). As such, it has become imperative that strategies aimed at mitigating the risk of online-facilitated CSA should be in place to protect children.

Moreover, participants suggested that in order to restore the power imbalance in the Chinese cultural context, where parents have authority over children and disobedience is

unacceptable (Xu et al., 2019), a rights-based approach should be integrated into the program design. A right-based approach places children at the center of services and children are educated about their rights in terms of challenging adults. It also improves the ability of professionals, services and partner organizations to protect and fulfil children's rights, thereby protecting children from all forms of abuse, including CSA (UNICEF, 2014).

Finally, involving parents and communities in the program implementation process was also considered to be crucial for school-based CSA prevention programs in China. On the one hand, previous studies conducted in China have indicated that parent-involved CSA prevention should be developed in mainland China, and that CSA prevention education for Chinese parents should be a key part of these initiatives (Xie, Qiao, & Wang, 2016). Similarly, evidence from international CSA prevention literature suggests that involving multiple stakeholders (e.g., potential offenders, parents, community members) is feasible, and that adopting a wide range of stakeholders in the prevention process will minimize the implicit message that children are responsible for their safety (Smallbone et al., 2008; Swift & Ryan-Finn, 1995). On the other hand, however, several challenges related to involving parents in the prevention process were identified in DPhil Paper II. For example, due to limited knowledge regarding CSA prevention that parents had themselves received in their education, interviewed parents in the study described the challenge of teaching their children about CSA prevention concepts. In a similar vein, previous research has identified the challenges of engaging parents and caregivers in the prevention process. For instance, parents may feel that their children are too young and/or sufficiently well supervised, and thus are not "at-risk" for CSA. Parents may also fear frightening their children unnecessarily with cautions about CSA (Reed-Perricone, 2003). This finding was consistent with those from Xie et al.'s (2016) qualitative study, which suggested that parents think that their children are too young to receive information about sex-related topics (Xie, Qiao, & Wang, 2016).

In summary, by providing a series of context-specific suggestions that tailor to Chinese children's needs, findings from the qualitative study (DPhil Paper II) provided support for the development of future school-based CSA prevention programs in China.

Following this, in the realist review (DPhil Paper III), I attempted to identify the possible CSMOs that lead to the success of school-based CSA prevention programs within a Chinese context. While only a small number of Chinese studies were included in the data synthesis, included studies confirmed the CSMO pathways that I developed from the English-language literature. Specifically, CSMO 5, which emphasizes the importance of the "train-the-trainer" model in LMICs or resource-constrained settings, are highly relevant to the implementation of these programs in a Chinese setting. Evidence that emerged from the Chinese literature further confirmed this. For example, on the one hand, evidence from Chinese literature highlighted the paucity of professionals who have expertise in CSA prevention education in Chinese elementary schools (Yang et al., 2019; Yi et al., 2019; Chen et al., 2008). On the other hand, included Chinese studies have documented promising findings showing that when provided with comprehensive training and sufficient support, teachers were able to deliver such programs effectively (Jin et al., 2017).

Together, findings from the DPhil thesis, particularly DPhil Paper II and part of DPhil Paper III, can be translated into the optimization of school-based CSA prevention programs in China.

7.1.3.4 China: The evidence gap (DPhil Papers I, II, & III)

In summary, findings from the DPhil thesis reflected the lack of evidence and consideration of the need for cultural adaptation in the CSA research field in China. In DPhil Paper I, for example, little evidence was found in terms of school-based CSA prevention programs that targeted LMICs and China. In fact, the majority of included studies (n = 26)

were conducted in HICs such as the U.S., Canada, Germany, Spain, and Australia and only three studies were conducted in LMICs and two in China, indicating an urgent need for more rigorous studies examining effectiveness within a Chinese cultural context to be conducted. Specifically, only one included study (Bustamante et al., 2019) evaluated a school-based CSA prevention program (*I Have the Right to Feel Safe at All Times*) that had been adapted to the Ecuadorian cultural context, which contributed to the limited evidence in the CSA prevention field in LMICs and also provided a powerful example of the potential need for, and benefit of, cultural adaptation of such interventions. Neither of the two included Chinese studies evaluated programs that were originally designed in China nor made relevant cultural adaptations during the program implementation process.

Similarly, the realist review (DPhil Paper III), which primarily built on secondary data, did not capture many eligible studies conducted in China due to inadequate study designs or the absence of evidence in the field in general. Moreover, the majority of included studies in this review were conducted in Western countries, with only a limited number of studies being conducted in China. Therefore, it was not possible to identify any CSMOs that are unique to the Chinese cultural context.

There is mixed evidence regarding the association between the effectiveness of interventions and cultural adaptation. On the one hand, a traditional view suggested that cultural moderator variables are associated with intervention effectiveness (Castro, et al., 2010), and that as such, programs designed in HICs may not be appropriate in terms of the cultural norms in LMICs. Examples of the successful cultural adaption of programs in terms of the particular needs of families in LMICs can be found in the field of parenting interventions. For instance, Lachman et al. (2016) developed a parenting program targeted at disadvantaged families in South Africa using the United Kingdom Medical Research Council's framework for developing and evaluating complex social interventions (Craig et

al., 2008). The researchers integrated content components (e.g., components related to HIV/AIDS communication) that addressed the South African population's particular needs and also retained core components that were known to contribute to children's overall wellbeing in generic parenting programs. Evaluation of these interventions has shown promising results in terms of improving positive parenting behaviors, thereby reducing the risk of child maltreatment (Cluver et al., 2018; Lachman et al., 2017).

On the other hand, however, research has also suggested counter-intuitive conclusions regarding this issue. For example, in a systematic review that examined the extent to which evidence-based parenting programs for reducing child behavioral problems are effective when transported to new countries, Gardner et al. (2016) found that extensive adaptation did not appear necessary for successful transportation; furthermore, parenting interventions appeared to be more effective when transporting to culturally more distant regions compared to the origin countries. Researchers argued that it might be that basic principles about parenting are universal across cultures. Nonetheless, these studies have provided valuable insights in terms of the design and development of interventions that respond to the diverse needs of people in LMICs. Despite the fact that parenting programs and school-based CSA prevention programs are different in nature, some basic principles (e.g., child behavior change through social learning) are universal across cultural contexts. As such, existing cultural adaptation of parenting programs provide some practical examples for program developers looking to design CSA prevention programs in China.

In addition, the qualitative study (DPhil Paper II) provided important insights into stakeholder perceptions regarding the lack of evidence in the CSA prevention field in China. For example, three factors were identified as barriers to effectively conducting CSA research, namely, 1) a lack of national data, 2) inadequate government support, and 3) barriers to research collaboration among organizations. These findings confirm the results of previous

research, which suggest a lack of public recognition of child abuse and a paucity of literature that estimates national statistics on its prevalence in China (Qiao & Chan, 2005). Further to this, although it is recognized that in order to provide effective protection for maltreated children, a formal child protection system needs to be in place (Katz et al., 2011). Findings from the qualitative study (DPhil Paper II) suggest significant barriers to developing such a system and a lack of guidance regarding its implementation due to the limited support that researchers and practitioners receive from the central government. As a result, findings from this DPhil thesis suggest that guidance and support from the central government for researchers and professionals is urgently needed to address these gaps.

7.2 Strengths and limitations of the DPhil thesis

7.2.1 Strengths of the DPhil thesis

To the best of the candidate's knowledge, this DPhil thesis is the first attempt to systematically synthesize the most up-to-date evidence in terms of existing school-based CSA prevention programs. The findings add much needed evidence to the field and make a number of original contributions. With a particular focus on China, home to the world's second largest child population (aged 0-17 years) (UNICEF, 2018), findings from this DPhil thesis, have provided the first context-specific evidence regarding CSA prevention. The systematic review (DPhil Paper I) is the first known attempt to provide a detailed description of school-based CSA prevention intervention components and systematically assess their roles in terms of the effectiveness of such prevention programs. By systematically mapping the structural and content components, the findings from this review advance our understanding of existing components in these programs. Further to this, a robust analysis was conducted to examine predictors of program effectiveness, which are of particular importance for contexts such as LMICs where resources are limited.

Following this, DPhil Paper II is the first qualitative study to explore stakeholders' perspectives about school-based CSA prevention programs, and CSA research in China. A wide range of stakeholders were interviewed to provide context-specific evidence for school-based CSA prevention programs and CSA research in China. Findings from the study suggested a number of ways in which future CSA prevention programs could be strengthened and adapted to a Chinese context.

Finally, a realist review (DPhil Paper III) was conducted to test an underpinning program theory for school-based CSA prevention programs. Realist review is an increasingly popular approach to the review and synthesis of evidence, however, there has been no research conducted using a realist perspective in the CSA prevention field. As such, using a realist review approach, this DPhil thesis was the first attempt to explain how, under what contexts, for whom school-based CSA prevention programs work.

One important methodological strength of this DPhil thesis is the use of the mixed-methods design, which allowed me to examine the research questions using multiple methods and types of data. As the result, a number of methodologies (e.g., systematic reviews, meta-analyses, qualitative methods, realist reviews) were applied and quantitative and qualitative data were integrated across three stand-alone papers, providing a nuanced understanding of the research questions proposed. Nevertheless, there are also a number of limitations, which suggest the need for caution in interpreting the findings. These limitations are discussed below.

7.2.2 Limitations of the DPhil thesis

7.2.2.1 Limitations of the systematic review and meta-analysis (DPhil Paper I)

7.2.2.1.1 Outcome data

The first limitation relates to the outcome data that were included in the meta-analysis - only the immediate post-test data for the meta-analysis were included, which might under/over-estimate the program effect as participants' behaviors and knowledge of CSA may change over a longer time frame (Walsh et al., 2015).

7.2.2.1.2 Small number and poor reporting of included studies

Intervention components were coded based on a relatively small number of studies, which may have resulted in spurious associations or masked true differences in effectiveness related to other intervention components that were not examined in the meta-regression. Furthermore, the poor reporting of study characteristics in many included studies, meant that it was not possible to conduct exploratory multiple meta-regression to investigate the association between different combinations of intervention content components due to the high heterogeneity across studies. Finally, the relationship described by meta-regression is an observational association across trials and it does not indicate causation (Thompson & Higgins, 2002).

7.2.2.2 Limitations of the qualitative study (DPhil Paper II)

7.2.2.2.1 Sampling strategy

While the study included a wide range of stakeholders who have regular contact with elementary school students in either a personal or professional capacity, the snowball sampling strategy that was used in the study could potentially lead to selection bias. As such, results are not generalizable to other populations or areas.

7.2.2.2.2 Not involving children as participants

It is recognized that the involvement of end-users mitigates the risk of creating an ineffective system that does not meet users' needs (van Deen, et al., 2019). By listening to children and considering their needs, they are empowered to participate in the decision-making process (Save the Children, 2020). In addition, previous research suggests that while implementation research necessitates the application of evidence-based theories and strategies to the intervention study design, the engagement of end-users in the design phase before launching the interventions is a critical step to optimize research feasibility and relevance (Martin et al., 2018). Therefore, as children are the major recipients of school-based CSA prevention programs, their voices are critical to the development of effective interventions and should be considered when designing future programs or policies. Due to the inadequate and vague review criteria regarding ethical approval for conducting research with children in China and the challenges of conducting fieldwork in the COVID-19 pandemic, the current study did not include the end-users of the school-based CSA prevention programs, as participants. Nonetheless, findings from the DPhil thesis provided important insights into the research questions and contributed to the evidence base for involving children as research participants in the future.

7.2.2.3 Limitations of the realist review (DPhil Paper III)

7.2.2.3.1 Review scope

It should be noted that the review was intended to be as comprehensive as possible by searching records from inception to March 2020, and as a result, there was a possibility that some of the literature was no longer available or was inaccessible, although this did not happen. Furthermore, only English-language and Chinese-language databases were searched,

and it is therefore possible that studies published in languages other than English and Chinese may have been missed.

7.2.2.3.2 Nature of realist synthesis

The second limitation of the realist review related to the nature of the realist synthesis, which is focused on identifying mechanisms that are then tested as part of later research. As such the purpose of this review was not to provide a detailed account of all existing or potential relationships between CSMOs in school-based CSA prevention programs but to identify from the existing literature some of the key mechanisms; it was also not aimed at providing evidence of the effectiveness of the CSMOs identified. Furthermore, given that the fundamental role of a realist review is to explore what works in what contexts, recommendations that one can make might not be generalizable (Rycroft-Malone et al., 2012), although the findings are theoretically transferable, indicating a potential for testing in different contexts with different stakeholders (Rycroft-Malone et al., 2012).

7.3 Implications for future research

The ultimate goal of this DPhil thesis was not only to answer the proposed research questions, but to raise new questions for further exploration and to inform practice and policy. This section discusses the key research, practice and policy implications arising from the results of this doctoral program of work. These can be categorized as follows:

1) Integrating factors that contribute to better program effectiveness into the development of school-based CSA prevention programs;
2) Improving the reporting of future studies;
3) Strengthening the context-specific evidence base in the field of CSA prevention in China.

In addition, the final section will discuss the implications of the findings from the DPhil thesis in the context of COVID-19.

7.3.1 Integrating factors that contribute to better program effectiveness into the development of school-based CSA prevention programs

One of the most prominent contributions of the DPhil thesis is that it unpacked school-based CSA prevention programs, first through a systematic review and meta-analysis (DPhil Paper I), then through a qualitative study which investigated stakeholders' perspectives about these programs (DPhil Paper II), and a realist review that provided insights into the underpinning pathways by which these programs work (DPhil Paper III). Findings from the systematic review and meta-analysis (DPhil Paper I) showed that interventions should be at least three sessions or longer, include content components that lead to better program effects such as "*safe and unsafe situations*", and should be tailored to participants' cognitive developmental levels. Furthermore, the qualitative component of the thesis (DPhil Paper II) suggested additional intervention components that were not identified in the systematic review but were considered to be important, such as content regarding online-facilitated CSA, the use of a rights-based approach and the involvement of the wider community and parents in the CSA prevention process. Further to this, DPhil Paper III mapped out five CSMO configurations through which these programs appear to work. Program developers should ensure that these proposed components and CSMO configurations that have been identified to be important or associated with greater program effectiveness are incorporated into the development of school-based CSA prevention programs and ensure they are adapted to the local cultural context.

7.3.2 Improving the reporting of studies and outcome measures

Previous research has repeatedly suggested that the poor reporting of studies threatens the transparency and replicability of the research. Poor reporting makes it impossible to evaluate the risk of bias due to study selection (Schalken & Rietbergen, 2017). Findings from DPhil Paper I showed that the majority of the included studies did not sufficiently report study information, which posed challenges for data extraction and examining associations between several predictors (e.g., fidelity assessment, theory of change) and program effectiveness. Similarly, results from DPhil Paper III highlighted the poor reporting and lack of detail in the description and evaluation of interventions, making it difficult to make nuanced inferences about CSMO configurations. In recent years, reporting guidelines have been developed to improve the reporting and transparency of research (e.g., CONSORT statement; TIDieR checklist), and it should be imperative for researchers to use these in the reporting of CSA studies, and journals should require completion of checklists as part of the submission process.

In addition, a recent review explored the effectiveness of programs for CSA prevention (Del Campo & Fávero, 2019). According to the authors, the majority of research shows that children and adolescents retain what they learned from school-based CSA prevention programs for several weeks, months, or even one year following the program. Yet, some included studies found that there is some knowledge loss among younger children in follow-up studies (Del Campo & Fávero, 2019). Likewise, an earlier systematic review on the effectiveness of school-based CSA prevention programs suggested that retention of knowledge should be examined beyond six months to evaluate the long-term benefit of these programs (Walsh et al., 2015). As such, future evaluation studies should ensure outcomes are evaluated in appropriate follow-up periods and results are reported in accordance with evidence-based guidelines as discussed above.

The ultimate goal of school-based CSA prevention programs is to prevent CSA from happening in the first place (Kraizer, 1989). To date, however, only a few studies have been made to evaluate this outcome. Instead, the majority of school-based CSA prevention programs consider factual knowledge of CSA and self-protection skill gains as two important outcomes for school-based CSA prevention programs. Further, reviews have consistently highlighted the paucity of evidence that greater knowledge of CSA and self-protection skills contribute to actual reductions in CSA victimization (Walsh, et al., 2019). In addition, CSA disclosure has also been considered as a direct outcome of CSA prevention programs as it has the potential to stop ongoing CSA (Alexander, 1998). Yet, CSA disclosures have rarely been reported in evaluation studies. Similarly, the DPhil thesis included these three outcomes as major outcomes when considering the effectiveness of the school-based CSA prevention programs. This has pointed to the need for shifting the focus from children to adults (i.e., protectors and offenders) because targeting these groups also has the potential to stop CSA before it occurs (Rudolph & Zimmer-Gembeck, 2018).

Existing studies have also measured indirect or unintended outcomes of taking part in the programs, including harm (i.e., child anxiety or fear), self-esteem, and self-confidence (Walsh et al., 2019). Although programs stress that CSA is never the child's fault, it maybe difficult to reconcile with the message that they can take actions to escape (Tharinger et al., 1988). Furthermore, findings from DPhil Paper III indicated that when children are feeling empowered or supported, they are more likely to disclose CSA or escape from CSA situations. Altogether, these measurements are useful in determining if psychological benefits, extend beyond knowledge and skills obtained (Trew et al., 2021). In summary, future studies should explore outcome measures to evaluate the actual prevention of CSA following the programs and utilise appropriate instruments for the evaluation of such outcomes. Studies should also stress that children's increased knowledge of CSA does not

imply that they are responsible for CSA that may occur as a result of their inability to repeat what they have learned from a program in a real-life CSA situation (Zwi et al., 2007).

7.3.3 Strengthening the evidence base in the field of CSA prevention in China

Another important direction for future research is to strengthen the evidence base in the field of CSA prevention in China. Findings from all three stand-alone papers suggested that there is a clear need for more studies using rigorous designs to be conducted in addition to culture-specific exploration regarding CSA prevention research in China. For example, results from the systematic review (DPhil Paper I) suggested that evaluation studies of school-based CSA prevention programs need to be conducted to build the evidence of effectiveness. Similarly, the paucity of Chinese studies led to difficulties in terms of developing CSMO configurations from the existing small selection of eligible studies in Chinese databases (DPhil Paper III). To develop a comprehensive understanding of the way in which school-based CSA prevention programs work in a Chinese context, studies with rigorous designs need to be conducted and evaluated. These should include high-quality qualitative studies that further explore stakeholders' perspectives on school-based CSA prevention programs, evaluation studies that rigorously examine the effectiveness of these programs, and systematic reviews that examine the overall effectiveness of CSA programs in a Chinese context. Last but not least, the findings from the realist review (DPhil Paper III) provided a nuanced picture of how participants' CSA knowledge and self-protective skills may be improved through interactions of contextual, causal mechanisms, and intervention strategies. As such, future investigations should further explore the context, strategies, and mechanisms that determine the success or failure of the school-based CSA prevention programs in a Chinese cultural context.

7.4 Implications for practice and policy

7.4.1 Engaging the wider community and parents in the CSA prevention process

Practice and policy implications arising from the DPhil thesis are mainly focused on the Chinese context. First, findings from the DPhil thesis suggested the need for engaging parents and the wider community into CSA prevention. Likewise, the realist review (DPhil Paper III) suggested that teachers and parents could be effective agents of change to support the delivery of school-based CSA prevention programs. As such, it is necessary to actively engage these stakeholders in the education process, especially in resource constrained settings. However, in reality, the inadequate preparation of providers of school-based CSA programs has inhibited them from delivering these programs effectively. As such, there is an urgent need to provide better support and training for educators who deliver CSA prevention programs.

7.4.2 Reducing existing barriers to CSA research implementation and collaboration

The second policy implication arising from this DPhil thesis concerns the lack of support services for children who disclose CSA during or after receiving the program in China. For example, findings from DPhil Paper II reflected the need for building the infrastructure needed to support CSA survivors and scaling up the establishment of the child protection system in all the local authorities. Furthermore, participants in DPhil Paper II underscored the importance of the collective engagement of government sectors and ensuring the consistency of child protection practices. That is to say, there is a need for better collaboration across the different government agencies involved in the delivery of both prevention and treatment services for CSA, including the development of a well-coordinated multi-sector response for CSA cases. At a policy and legislation level, this should involve better clarification of the definition of CSA and improved support for CSA victims in China.

7.5 Implications of the findings in the context of COVID-19

COVID-19 has spread rapidly and many governments have implemented measures including school closures and lockdowns to contain the spread of the disease (Pereda and Díaz-Faes, 2020). As a result, some children no longer have access to the safe space the school can provide, which in turn, will increase their exposure to violence and other forms of harm (Pereda and Díaz-Faes, 2020).

In addition to school closures, by August 2020, 139 UNICEF country offices had reported a total of 49% of disruption in delivering violence prevention programs (UNICEF, 2020) resulting in further risk increases in vulnerability for children. As such, it is important to transfer findings from this DPhil thesis into actions that can be advocated by schools in the time of COVID-19 to prevent CSA. Here, I propose the following pathways in which findings from the DPhil thesis can be used to inform CSA prevention in the current situation.

7.5.1 Research implication: making use of online platforms

As a result of school closures, many children's learning experiences are being reshaped by the introduction of online learning (UNICEF, 2020). Therefore, it is possible to make use of online CSA prevention programs as alternative mechanisms to promote and deliver CSA prevention knowledge and self-protective skills. For example, DPhil Paper I identified two school-based CSA prevention programs (Program *Name* evaluated by Jones et al., 2020; *Cool and Safe* evaluated by Müller; et al., 2014) using an online format to deliver CSA prevention knowledge. The evaluation of these two programs has shown promising results in improving children's outcomes, indicating knowledge about CSA prevention can be successfully delivered through online-based format.

In addition, existing research has suggested ways in which components in school-based child abuse prevention programs can be adapted to virtual learning and communication spaces. For example, Roca et al. (2020) explored stakeholders' perspectives on six actions implemented remotely in nine participating schools in Spain. These actions focus on fostering positive relationships and a safe environment to prevent child abuse during COVID-19. More importantly, they included components identified by previous research on school-based child abuse programs. Findings suggested that despite the fact that teachers cannot control the contexts of the children participation virtually from home, the more spaces for dialogue and positive relationships children have, the more opportunities exist to prevent and overcome child abuse. These results are encouraging in that it provides a possibility of integrating findings identified in this DPhil thesis into a non-classroom based online learning environment and mitigate the increased risk of CSA in the context of COVID-19.

7.5.2 Implications for research and policy: engaging the wider community

It is reported that 2.2 billion – or two-thirds of children and young people aged 25 years or less do not have access to internet at home and are unable to access remote learning (UNICEF, 2020). Evidence has suggested that disruptions in children's schooling can exacerbate the learning crisis and lead to child marriage and child labor (UNICEF, 2020). Therefore, it is clear that the lack of digital connectivity is a barrier that prevents children and young people from accessing effective learning and self-protection content. Findings derived from the DPhil thesis could address this need in the following ways. First, they suggested the need for an integrated CSA prevention effort which involves the community and parents (see DPhil Papers II and III). This is particularly relevant in contexts where delivering CSA prevention programs through schools (including online learning) is impossible. In addition, findings from DPhil Paper III highlighted the "train-the-

trainer" model as a potentially optimal approach to the delivery of these programs, especially in resource-constrained settings. These two proposed implications echo the policy and practice recommendations for the Chinese context. Taken together, communities and parents can be empowered through relevant training on CSA prevention and act as active agents to deliver these messages, ultimately contributing to the healthy development of children and their safety.

7.6 Conclusion

This DPhil thesis is the first known study to provide much-needed evidence on school-based CSA prevention programs, and CSA prevention in China. By applying a mixed-methods approach, research findings from different types of data were integrated, thereby providing a more comprehensive understanding of the research questions than would have been possible with just one type of data alone. Findings highlighted the effectiveness of school-based CSA prevention programs in increasing participants' CSA knowledge and identified predictors that lead to greater program effectiveness. Furthermore, findings suggested the need for integrating components with greater effects into the design of these programs and conducting evaluations using rigorous designs especially in LMICs and upper-middle income countries such as China.

In addition, the DPhil thesis strengthened the evidence base with regard to context-specific factors that might deepen our understanding of school-based CSA prevention programs, and CSA research in China. It identified components that should be included when designing CSA prevention programs within a Chinese context. Further, it drew attention towards the lack of training for program implementers and infrastructure support for CSA victims, which prevents children from disclosing CSA and receiving appropriate support after disclosure. Last but not least, the DPhil thesis deconstructed school-based CSA prevention programs and identified multiple avenues through which school-based CSA prevention

programs work in a global and Chinese context, providing explanatory insights into the underpinning the contexts, mechanisms, strategies, and outcomes configurations that lead to intended program outcomes.

In conclusion, it is my hope that findings arising from this DPhil thesis will contribute to shaping the direction of future research in CSA prevention, and to informing the development of school-based CSA prevention programs globally and in China, ultimately improving children's safety and wellbeing.

7.7 References

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