Recall of Sexual Abuse Prevention Education at School and Home: Associations with Sexual Abuse Experience, Disclosure, Protective Parenting, and Knowledge

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Abstract

Background: Child sexual abuse (CSA) prevention is dominated by a focus on child education. However, evidence that this education reduces CSA risk is limited and mixed. ***Objective:*** We investigated whether participants' history of receiving school-based child sexual abuse prevention (CSAPP) was associated with experiencing CSA. Uniquely, we also investigated whether parent-led CSA education (PLSAE) and received protective parenting were associated with CSA. CSA knowledge was also considered. ***Methods:*** Australian university students (N = 1,265, M_{age} = 22.8, SD = 7.7, Mo_{age} = 18, Md_{age} = 20, 75% female) reported their history of CSAPP and PLSAE, experience of CSA, disclosure of CSA, parenting, and CSA knowledge. ***Results:*** CSAPP attendance was reported by 29% of respondents, 72% reported PLSAE, and 24% reported CSA. PLSAE was significantly associated with lower risk of CSA, but was CSAPP attendance was not. PLSAE was significantly associated with higher levels of parental involvement/care and monitoring/supervision. In a multivariate logistic regression model, involvement/care and monitoring/supervision were associated with lower risk of CSA, but PLSAE was not. Neither CSAPP attendance nor PLSAE was associated with CSA disclosure or CSA knowledge. ***Conclusions:*** These findings add to the small body of literature using reports of real-life experiences. Results call into question the over-reliance of child-education in CSA prevention and highlight the role of protective parenting. Building parenting capacity to include parenting practices is most likely to be effective for CSA prevention, such as monitoring and involvement, and should be included in CSA prevention efforts.

Keywords: CSA, sexual abuse prevention, protective behaviors, sexual abuse education, personal safety education, parenting.

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Child sexual abuse (CSA) is a crime perpetrated on millions of children worldwide every year (United Nations Children's Fund [UNICEF], 2020). Australia's rate of child sexual abuse is among the highest in the world (Stoltenborgh et al., 2011), with 1.4 million Australians experiencing sexual victimization before the age of 15 (Australian Bureau of Statistics [ABS], 2016). The rate of CSA has remained stubbornly high despite commitment across many sectors to prevention and intervention. Although many opportunities for prevention exist, the dominant strategy continues to be child education. Education is thought to be necessary to increase children's CSA knowledge, and to enhance the skills needed to avoid sexual advances and report incidents to trustworthy adults (Walsh et al., 2015). Education occurs mostly in school settings where a range of school-based child sexual abuse prevention programs (CSAPPs) are provided to educate children about personal safety to prevent sexual abuse and other forms of victimization. These programs are popular due to their access to large numbers of children, low cost, and acceptability to parents, advocates, and policy makers (Rudolph et al., 2018a). Ancillary to CSA prevention education at school, parents are encouraged to educate their children about CSA and equip them with the skills necessary to recognize, evade, and report suspicious encounters (Rudolph et al., 2018a; Wurtele & Kenny, 2010).

Multiple enquires into CSA have been conducted globally, including in England & Wales (Independent Inquiry into Child Sexual Abuse, 2018), Ireland (Marshall, 2014), Canada (Glaude, 2005), Germany (The Independent Inquiry into Child Sexual Abuse in Germany, 2020), the Netherlands (Deetman et al., 2011), France (French Independent Commission on Sexual Abuse in the Catholic Church, 2021) and Australia (Commonwealth of Australia, 2017). These enquires were remitted to identify and recommend strategies to address the conditions and structures that enable CSA to occur, and call for the development of robust frameworks for prevention and response. In Australia, child education has been deemed a crucial component of this response. The final report of

the *Australian Royal Commission into Institutional Responses to Child Sexual Abuse* recommended mandatory school-based prevention education to assist children in "strengthening self-protective skills and strategies" (Commonwealth of Australia, 2017, p. 4). Furthermore, CSA education is recommended by international guidelines (Sexuality Information and Education Council of the United States [SEICUS], 2004; United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2018) and endorsed in Australian policies such as the Australian Student Wellbeing Framework (Commonwealth of Australia, 2020) and the National Principles for Child Safe Organisations (Australian Human Rights Commission, 2018).

Using education to prevent CSA is worthwhile if it is effective. However, determining the effectiveness of child education in preventing CSA has been methodologically difficult. Prospective evaluation studies of CSAPPs have mainly relied upon 'proxy' or 'indirect' assessment of children's learning outcomes such as knowledge (measured in tests and quizzes) and hypothetical skills (measured via simulations or scenarios). This is because direct assessment of CSA prevention in the context of program evaluation is contraindicated owing to legal provisions protecting victim and perpetrator identities (e.g., Child Protection Act 1999, Qld, S189), making it impossible to collect the type of data needed to assess relationships between actual child victimization and program exposure.

CSAPP effectiveness has also been investigated using retrospective self-reports of CSA education and CSA victimization gathered from children, adolescents, and university students (Finkelhor et al., 1995, 2014; Gibson & Leitenberg, 2000; Kenny et al., 2020; Ko & Cosden, 2001). Although less common, this approach provides insights into the effectiveness of child education for preventing CSA. In the present study, we used this approach, extending it to investigate Australian university students' exposure to both school-based CSAPPs and parent-led sexual abuse education (PLSAE), and experience of sexual abuse before the age of 16, alongside CSA knowledge and experience of protective parenting practices in the participants' family-of-origin.

School-based Child Sexual Abuse Prevention Programs

CSAPPs have been implemented widely in Australia (Sanderson, 2004; Walsh et al., 2019). According to data collected in 2011-12 (Walsh et al., 2019), approximately 26% of Australian children participated in child sexual abuse prevention programs in the preceding year. Half the programs reported some form of evaluation, however, only two programs were described as rigorously evaluated. Almost all the CSAPPs covered topics with the "strongest evidence of effectiveness" (e.g., "it's ok to say no," "types of secrets and surprises"), reported using approaches grounded in behavioral skills training including key message repetition, active participation, and the use of demonstration and practice, and reinforced program messages with workbooks and worksheets.

Systematic reviews and meta-analyses of extant evaluations conducted in the last 20 years (Davis & Gidycz, 2000; Shin et al., 2019; Topping & Barron, 2009; Walsh et al., 2015; Zhang et al., 2021) indicate that CSAPPs, especially those that utilize behavioral skills training, active child participation, and a multi-session format, enhance children's prevention knowledge and skills, with results retained at follow-up (up to 6 months). Evidence for CSAPPs effects on disclosure is uncertain, due in large part to methodological problems in program evaluations. Methodological weaknesses in studies have been identified in all reviews, with the most significant being the absence of control groups. This is particularly noteworthy as some studies have reported maturation effects in the absence of intervention exposure (Del Campo & Fávero, 2019). Other methodological problems included ceiling effects, lack of standardized measurement, use of brief surveys, lack of randomization and blinding (with non-blinded studies finding greater effect sizes), lack of program fidelity evaluation, small sample sizes, lack of (or short) follow-up and attrition (Davis & Gidycz, 2000; Shin et al., 2019; Topping & Barron, 2009; Walsh et al., 2015; Zhang et al., 2021).

In order to focus on CSA prevention as a direct outcome of program effectiveness, five studies, all conducted in the USA using retrospective self-reports, gathered data on participants' past experiences of both CSAPP exposure and sexual victimization (Finkelhor et al., 1995, 2014; Gibson

& Leitenberg, 2000; Kenny et al., 2020; Ko & Cosdon, 2001). Using child and adolescent samples, three studies (Finkelhor et al., 1995, 2014; Ko & Cosden, 2001) found no significant association between program exposure and sexual abuse. In the Ko and Cosden study, no significant differences were found in rates of sexual abuse, use of prevention strategies, disclosure of abuse or abuse knowledge in students who had attended CSAPPs and those who had not. In the first of Finkelhor et al's. studies, (N = 2000) children and adolescents, aged 10-16, who had been exposed to CSAPPs did not experience less sexual victimization and did not feel significantly more efficacious in dealing with sexual threats. Although those who had attended a more comprehensive program were more likely to use recommended prevention strategies, they also reported sustaining more injuries. Disclose in this group was more likely than those who did not attend a CSAPP or who attended a less comprehensive program. Finkelhor and colleagues' conducted a similar study sixteen years later with 3,391 children and adolescents, aged 5 to 17, and found that again, exposure to CSA prevention education was not associated with less sexual victimization or increased reporting of victimization.

However, the remaining two studies of university students' experiences did report a significant association between CSAPP attendance and experience of CSA (Gibson & Leitenberg, 2000; Kenny et al., 2020). In their study of 825 (mostly White) women undergraduates, Gibson and Leitenberg found 62% had attended a CSA prevention program at school. Respondents were asked if, prior to the age of 16, they had engaged in sexual activity with someone who was at least five years older than themselves, and/or had been forced to engage in sexual activity with someone, regardless of the other person's age. Answering 'yes' to either question counted as a case of CSA. Eight percent of CSAPP attendees reported experiencing sexual abuse compared with 16% of non-attendees. However, attendees and non-attendees did not differ significantly on disclosure rates. In their mostly female and Hispanic sample of 1,502 university students, Kenny et al. (2020) used similar questions and confirmed the above results; finding that 62% had attended a school-based

program, and that 5% of CSAPP attendees reported experiencing sexual abuse, compared with 10% of non-attendees.

Parent-Led Sexual Abuse Education

The importance of parental involvement in CSA prevention has been promoted by researchers and advocates for some time (Berrick & Gilbert, 1991; Rudolph at al., 2018a; Smallbone et al., 2008; Wurtele & Kenny, 2010). Long-standing attempts have been made to increase parental awareness of CSA and encourage their discussion of CSA concepts, risks, and prevention with their children (Berrick, 1988). Parents are overwhelmingly supportive of CSA prevention education and report willingness to be their children's primary educators on the subject (Jin et al., 2019; Rudolph et al., 2021; Walsh & Brandon, 2012).

Despite positivity from parents, research on PLSAE suggests that caregivers find it difficult to address the issue with their children (Prikhidko & Kenny, 2021; Rudolph et al., 2018b; Rudolph & Zimmer-Gembeck, 2018b; Zhang et al., 2020). Parents find it easier to discuss other dangers (such as strangers and abduction, bullying and online safety) and other sensitive topics (such as domestic violence, death or suicide, and drugs) (Rudolph et al., 2018b; Rudolph et al., 2021). Although studies can be limited in scope, research has consistently revealed that about half of parents report educating their children about CSA and/or protective behaviors (Prikhidko & Kenny, 2021; Rudolph et al., 2018b; Walsh et al., 2012; Zhang et al., 2020).

Six studies, from various parts of the world, have examined the effect of parent education on child knowledge or hypothetical skills: USA (Finkelhor et al., 1995; Wurtele et al., 1992), China (Jin et al., 2017, 2019), Indonesia (Pandia et al., 2017), and Turkey (Cırık et al., 2019). Jin et al., (2019) assessed 452 parents' educational practices, their children's knowledge, and hypothetical prevention skills, and found PLSAE had a direct effect on children's CSA self-protection skills, but not their CSA knowledge. Pandia and colleagues (2017) reported increased child knowledge after children were read a CSA prevention-themed children's picture book by their parents every night for one

month. However, the methodology used by Pandia and colleagues was unclear, and child knowledge was assessed indirectly by interviewing parents and teachers. Likewise, the study by Cırık et al. (2019) had methodological flaws and incomplete reporting. Although they reported children scored higher on a CSA knowledge test following education by their parents on topics such as "your body belongs to you," and, "your private parts are your mouth, breasts, legs, and hips," this was not supported by the presentation of statistical test results. Finkelhor and colleagues (1995) conducted telephone interviews with a large sample of children and adolescents and found that comprehensive PLSAE was associate with higher knowledge scores and increased protective strategy use. Both Wurtele et al. (1992) and Jin et al. (2017) compared parents and teachers as CSA educators, with different results. Wurtele et al. found children taught by their parents outperformed those taught by their teachers at recognizing inappropriate touch requests and using personal safety skills. In contrast, Jin et al. found children taught by their teachers scored better than those taught by their parents. To the best of our knowledge, only one previous study has assessed PLSAE and subsequent sexual victimization. In the study discussed above, Finkelhor and colleagues (1995) asked 2000 children and adolescents, aged 10 to 16, about various abuse experiences and their exposure to PLSAE, and found 57% of participants had received CSA information from their parents and 36% reported comprehensive education from their parents. Participants who received comprehensive PLSAE had more knowledge, used more self-protection strategies, and were more likely to disclose sexual victimization, however they were not able to prevent sexual assaults. To date, PLSAE research has concentrated heavily on assessing outcomes in the form of children's knowledge and skills, and no recent research has queried exposure to PLSAE and actual CSA experience, to examine the extent to which contemporary parent education about CSA can be protective against sexual victimization.

The Role of Parenting

One previous study has shown that PLSAE is not completely divergent from other parenting

practices that predict CSA risk (Rudolph et al., 2018b). In this study, results showed that Australian and UK parents who reported using more positive parenting practices (monitoring, involvement, and general communication), were more likely to speak to their children about CSA. Furthermore, certain parenting practices put children at greater risk of CSA (see Assink et al., 2019 for a review), highlighting the importance of protective parenting practises (Rudolph & Zimmer-Gembeck, 2018a). For example, Finkelhor et al. (1997, 2007) reported that lower parental monitoring was associated with a higher rate of children's victimization, and specifically that a child being left at home alone without adequate supervision was a significant predictor of sexual abuse. Likewise, Testa et al. (2011) found mothers lower in monitoring were more likely to have daughters who experienced sexual victimization. In addition, permissive parenting and parents' liberal sexual attitudes have also been identified as risk factors for CSA (Meston et al., 1999; Testa et al., 2011).

Parenting characterized by low care and involvement has also been associated with greater CSA risk. For example, research has found that poor parent-child relationships (Black et al., 2001 Roberts et al., 2004), absence of a caring adult female (Fleming et al., 1997), low levels of maternal attachment and bonding (Fergusson et al., 1996; Lewin & Bergin, 2001), unhappy families (Finkelhor et al., 1990), unwanted pregnancy (Brown et al., 1998), neglect (Laaksonen et al., 2011; Pérez-Fuentes et al., 2013), and emotional and physical abuse (Fergusson et al., 1996; Kim et al., 2007) to be significant risk factors for CSA. In light of this body of research linking PLSAE to positive parenting and reinforcing the importance of parenting in reducing CSA risk, we considered parental monitoring/supervision and involvement/care as factors that could be protective against CSA unique from PLSAE.

The Present Study

In summary, CSAPPs are a widely used prevention tool. Most evaluations of CSAPPs' effectiveness utilize proxy or indirect measures to assess children knowledge and skills, however, some studies have used natural experiments with a retrospective design. The majority of these

reported no significant association between CSAPPs and CSA experience with the exception of two studies, which reported differences in CSA victimization rates among North American university students who recalled attending a CSAPP in childhood and those who did not. The effectiveness of PLSAE on child knowledge and skills is currently unknown, with the extant research assessing proxy outcomes mostly methodologically unsound. One naturalistic retrospective study conducted more than 25 years ago found PLSAE was not able to influence children's experience of sexual victimization.

The aim of the present study was to investigate whether retrospective recall of CSA education (via CSAPP attendance at school and PLSAE exposure at home) among a large sample of Australian university students is associated with CSA experienced before the age of 16. This study replicates two previous US studies of CSAPP attendance and CSA experience (Gibson & Leitenberg, 2000; Kenny et al., 2020). However, we also extended on these previous studies in four important ways. First, PLSAE is integral to prevention efforts, yet its association with CSA has not been investigated recently. Here, we captured respondents' recall of both CSAPP and PLSAE to test their associations with CSA experience. Second, as PLSAE has been associated with positive parenting practices, we measured practices that research suggests may protect against CSA (supervision/monitoring, care/involvement) and investigated their association with PLSAE and CSA. Third, as increased knowledge is an aim of CSA prevention education, we investigated associations of CSAPP and PLSAE with CSA knowledge. Finally, we present results from Australia, a country which has some of the highest rates of CSA in the world (Stoltenborgh et al., 2011).

Method

Participants

The participants were 1265 university students (75% female) aged between 17 and 62 (M = 22.8 years, SD = 7.72, Mo = 18, Md = 20; 87% of the participants were under age 30). Another 56 participants attempted the questionnaire but did not answer the education and/or the sexual abuse

screening items and were excluded from the analyses. Respondents could choose 'all that apply' for their ethnicity, with most respondents endorsing White (80%) and born in Australia (78%). Participants also endorsed their background as Aboriginal/Torres Strait Islander (3%), Pacific Islander (3%), Asian (13%) or one of a range of other sociocultural backgrounds (9%). A random subset of 860 participants also completed a measure of parenting; thus, analyses of parenting measures are based on this reduced sample size. There were no significant differences between the participants who responded to the parenting measures and those that did not across PLSAE, CSA experience or disclosure, however the groups did differ on CSAPP attendance χ^2 (1, N = 1,265) = 21.42, $p < .001$.

Procedure

Approval for the study was granted by the University Human Research Ethics Committee (Ref No: 2021/112). The instrument was piloted with a convenience sample of six participants (50% women) for readability, comprehension and face validity of the survey items. Small editorial changes were made based on the feedback received.

Participants for the study were recruited in one of three ways during the first half of 2021: (a) online administration for research credit, where the survey was made available in an online system for students enrolled in a first year (i.e., freshman) psychology course to complete in exchange for course credit; (b) online administration with prize draw, where the study was included in a monthly broadcast email sent to all students enrolled at the university inviting research participation and upon completion participants could provide their email to be included in a prize draw; and (c) paper-and-pencil administration, where participants were recruited by research assistants from areas around the university campus with adjoining quiet spaces (e.g., library and study areas). Participants completed a paper copy of the survey and were offered a small token of appreciation when they returned their surveys. Before deciding on their participation, students were presented with a participant information sheet detailing the aims of the survey, possible risks, privacy protection, and data

storage. After perusing the study information, participants provided specific informed consent in the online surveys by clicking "Yes" or "No" in response to the question: "Would you like to progress to the survey?" and in the paper-and-pencil survey, verbal consent was ascertained before providing the survey for completion.

The survey and other materials were designed to be sensitive to participants' safety and security. Participants were informed before undertaking the survey that they would be asked questions about sexual abuse, there were multiple check-in points through the survey, and participants were able to skip questions they did not wish to answer by selecting "*prefer not to answer*" options which were offered for all sensitive questions (i.e., sexual abuse experiences, disclosure). All participants were encouraged to complete the survey in a private space. They could choose to pause and return, or terminate the survey at any time. During face-to-face recruitment on the university campus, research assistants had direct phone access to a registered psychologist with expertise in sexual assault and trauma counselling who could talk with participants if needed. Participants were provided with a list of freely accessible support services, including contact details for a 24-hour emergency counselling line, sexual assault helpline, and the university counselling service. The first and second authors' phone numbers were also supplied, and the emergency counselling contacts were reiterated on their voicemail messages for the project duration. No participant made contact with the first or second authors for follow up assistance, questions, or support, and there were no adverse events arising from data collection.

Measures

Demographics. Participants were asked to report on their age, sex, country of birth, and ethnicity.

Protective Behaviors Education at School. After reading a description of CSAPPs, participants were asked if they recalled attending such a program in their childhood. If participants responded "yes," they completed additional questions to assess their grade/year level for program

exposure, the number of different programs they attended, the country in which they received the program and, if in Australia, which jurisdiction. They were then presented with a list of 22 topics that may be taught in CSAPPs and asked to identify topics covered in the CSAPPS they recalled (e.g., *private and public body parts*, *warning signs*, *safe/unsafe secrets, to say 'no,' stranger danger*). The definition of CSAPPs and the related question was worded as follows: *"*Protective behaviors education is usually taught to primary school children and refers to education about personal safety to prevent sexual abuse and similar forms of victimization. In the past these programs were sometimes referred to as "Stranger Danger" programs. We are NOT referring here to sex education in which children/ adolescents are taught about puberty, relationships, and sex. As best as you can recall, in your primary school years (grades prep/K to 6/7), did you attend any protective behaviors, child sexual abuse prevention or "stranger danger" course?"

Parent-Led Sexual Abuse Education. Questions to assess PLSAE followed the same pattern as above. Participants were asked if they recalled a parent/carer or other adult outside of school educating them about sexual abuse, protective behaviors or 'stranger danger' to help them in a sexually abusive situation. If participants responded "yes", they answered additional questions about how old they were when a parent/carer first spoke to them about CSA and protective behaviors and how often discussions took place (*frequently/many times, occasionally/a few times, once or very rarely*). They were then presented with the same list of 22 topics detailed above, with participants asked to check all the topics they recalled learning about.

CSA Experiences. Using items derived from past research (Gibson & Leitenberg, 2000; Kenny et al., 2020), participants were asked about sexual abuse using the following two items. 1. "Prior to the age of 16, did anyone more than 5 years older than you, engage you in any form of sexual activity?" and 2. "Prior to age the age of 16, did anyone (of any age) persuade, manipulate, coerce or force you to engage in any form of sexual activity?" In light of the fact that CSA does not always involve force, we extended the second definition used by the previous two studies by adding

"persuade, manipulate, coerce." If participants answered "no" to both items they were re-directed to the end of the survey; and, if participants answered "yes" to either of the items, they continued on to disclosure items. Participants were then asked whether they had ever disclosed their victimization, with possible answers of "yes", "no", and "prefer not to answer questions about disclosure." A follow-up question was asked regarding who they had first told about the abuse. Participants chose from a range of familial (e.g. parent, sibling) and non-familial options (e.g. intimate partner, friend, counsellor) or gave details of a non-listed person with the "other" option.

Knowledge about Sexual Abuse. Ten items drawn from past research (Rudolph et al. 2018b; Tutty, 1993) were used to assess CSA knowledge. Seven of these items required multiple choice response (e.g., "If a child has been sexually abused there will be physical evidence in ___ cases." a. *almost all,* b. *about half,* c. *hardly any,* d. *no).* Three items required a true/false response (e.g., "Girls are more likely to be sexually abused than boys"). Correct answers were given a score of 1, for a total score ranging from 0 to 10.

Protective Parenting Practices. Participants' family-of-origin experience of protective parenting practices was assessed with the Parental Bonding Instrument (PBI; Parker et al., 1979) and the Alabama Parenting Questionnaire (APQ; Frick, 1991). Both instruments are widely used and validated using samples in multiple countries and cultures (Kitamura & Suzuki, 1993; Xu et al., 2018). Monitoring/supervision was measured with the APQ Monitoring/Supervision scale (eight items; e.g., "Your parents do not know the friends you are with"). Participants indicated the frequency of each statement on a scale of 1 (*never*) to 5 (*always),* with a possible total score of 8 to 40. *Care and Involvement* was measured with the PBI Care subscale and the APQ Involvement scale. The PBI queries respondents about mothers and fathers separately, however for the current study, we asked about parent(s) (11 items; e.g., "Your parents/caregivers spoke to you in a warm and friendly voice"). Participants indicated the degree to which the statements applied, from 1 (*very like my parent(s)*) to 4 (*very unlike my parent(s)*). We also used the APQ Involvement scale (eight items;

e.g., “You played games or did other fun things with your parent(s)”). A total score of 19 to 84 was possible.

Items on each scale were summed to form a total score. As all the monitoring/ supervision items were negatively worded, they were reverse scored, so that higher scores indicated higher levels of monitoring/supervision or care/involvement. Cronbach’s alpha was .79 for monitoring/supervision and .84 for care/involvement.

Data Analysis

We first present descriptive analysis of the data. Next, we used χ^2 analyses to determine if either CSAPP attendance or exposure to PLSAE was associated with CSA. We also repeated these analyses narrowing the focus to the two definitions of CSA. In order to expand our consideration of why PLSAE may be associated with CSA, we calculated correlations to estimate associations of PLSAE and CSA with protective parenting. We then used logistic regression to investigate whether PLSAE was significantly associated with CSA even after controlling for parenting practices, and participant sex and age. Next, we focused on disclosure among participants who had reported CSA, conducting a χ^2 analysis to investigate the relationship between CSA education (via CSAPP and PLSAE) and disclosure. Finally, independent samples t-tests were performed to ascertain the association between CSA education and CSA knowledge.

Results

Child Sexual Abuse Prevention Education

Child Sexual Abuse Prevention Program at School. Three-hundred and sixty-six (29%) participants reported attending at least one CSAPP. Most were reported to have occurred in primary school, between grades 3 and 5 (30%). Multiple programs were attended by 42% of the 366 participants who attended programs, with most of these 158 participants (49%) reporting attendance at 2 or 3 programs. Almost all CSAPPs were attended in Australia (92%) and, of these, most had been delivered in the data collection jurisdiction (75%). Participants recalled a significant number of

CSAPP safety topics, with almost half (43%) of participants recalling ten or more topics. The most recalled topics included 'stranger danger' (97%), not to go anywhere with someone you don't know (85%), to tell a trusted adult (81%) and private and public body parts (63%). Although stranger and abduction safety were the most recalled topics, only ten participants (2.7%) of those that attended a CSAPP recalled only these topics and no other protection themes. For descriptive purposes, we compared participants who recalled attending a CSAPP to those that had not, finding that these groups did not differ significantly on sex or ethnicity when compared those who did not recall attending a CSAPP; however, those who had attended were slightly younger (M_{age} = 22.11, *SD* = 6.65) on average, relative to those that had not attended a CSAPP (M_{age} = 23.13, *SD* = 8.11), $t(816.90) = 2.33$, $p = .020$.

Parent-Led Sexual Abuse Education. Nine-hundred and fifteen (72%) participants reported that their parents educated them about CSA and protective behaviors. The age at which the highest proportion of participants recalled their first discussion of these topics was in the range of 5-8 years (46%), followed by 9-12 years (33%). Over half of participants (56%) recalled their parents speaking with them *occasionally/a few times* about CSA, 26% reported their parents addressed the topic *once or very rarely*, and 18% remembered their parents teaching them about CSA *frequently/many times*. Participants remembered a number of topics; however, slightly less parent-led topics were recalled than CSAPP topics, with 38% (compared to 43%) recalling more than ten topics. The top topics participants recalled being discussed were stranger danger (97%), not to go anywhere with someone you don't know (84%), to tell a trusted adult (76%) and to get away/run away/escape (68%). Although stranger and abduction safety were the most recalled topics, only 3.4% (slightly higher than the 2.7% for CSAPP) of those participants that received PLSAE, recalled only these topics and no other protection themes. Those who reported PLSAE were younger (M_{age} = 21.76, *SD* = 6.45), on average, relative to those who did not report PLSAE (M_{age} = 25.65, *SD* = 9.78), $t(471.20) = 6.89$, $p < .001$. Also, those who reported PLSAE more likely endorsed White rather than non-White (54%

endorsed White) relative to those who did not report PLSAE (19% endorsed White), χ^2 (1, N = 1,261) = 6.45, p = .011. Participants who recalled PLSAE did not differ on sex, χ^2 (1, N = 1,265) = 0.023, p = .89.

Child Sexual Abuse Experience

Two-hundred and eighty-nine (23%) participants reported that someone had persuaded, manipulated, coerced, or forced them to engage in sexual activity prior to age the age of 16. In addition, 173 (14%) participants reported that someone more than 5 years older than them had engaged them in sexual activity before the age of 16. A new CSA variable was created for participants who answered yes to either one or both of the CSA items and this new variable was then used in all analyses unless otherwise stated. A total of 306 (24%) participants reported experiencing one or both types of CSA. Of these, 270 (88%) were women. A much higher proportion of women (21%) than men (3%) reported CSA, χ^2 (1, N = 1,265) = 35.78, p < .001. Participants who reported CSA were, on average, older (M_{age} = 26.20, SD = 10.22) relative to those who did not report CSA (M_{age} = 21.76, SD = 6.34), t(383.500) = -7.15, p < .001.

Associations Between CSA Prevention Education and CSA Experience

Child Sexual Abuse Prevention Program at School. As can be seen in Table 1, 23% of those who reported CSAPP attendance had experienced CSA, which did not differ from the rate of CSA among those who had not attended CSAPP (24%), χ^2 (1, N = 1,265) = 0.14, p = .714. Follow-up analyses showed that there were no significant differences between the CSAPP attendees and non-attendees when the two types of CSA victimization were considered separately (see Table 1).

Table 1

*Report of Child Sexual Abuse (CSA) and Disclosure of CSA among Respondents who did or did not Recall Prevention Education Experience (*N *= 1,265)*

	CSA Prevention Program			Parent-led CSA Education		
	Yes	No	χ^2	Yes	No	χ^2

	n = 366	*n* = 899		*n* = 915	*n* = 350	
CSA total	86 (23%)	220 (24%)	0.14	190 (20%)	116 (33%)	21.15***
CSA: manipulation/ coercion/force	82 (22%)	207 (23%)	0.06	179 (20%)	110 (31%)	20.22***
CSA: 5-year difference	47 (12%)	126 (14%)	0.30	102 (11%)	71 (20%)	17.91***
Disclosed (*n* = 306)	60 (19%)	145 (47%)	0.42	130 (42%)	75 (24%)	1.77

*** $p < .001$.

Parent-Led Sexual Abuse Education. As can be seen in Table 1, 20% of those who reported PLSAE had experienced CSA, which was significantly lower than the rate of CSA among those who did not recall PLSAE (33%), χ^2 (1, N = 1,265) = 21.15, $p < .001$. Furthermore, significant differences in the rate of CSA by PLSAE status were found when the two definitions of CSA were considered separately (Table 1). Twenty percent of participants who reported PLSAE, but 31% of the those that did not experience PLSAE, reported a history of CSA through persuasion/manipulation/coercion/force, χ^2 (1, N = 1,265) = 20.22, $p < .001$. Likewise, 11% of the participants who reported PLSAE, but 20% of those that did not, reported a history of CSA defined by a 5-year age difference, χ^2 (1, N = 1,265) = 17.91, $p < .001$.

Correlations between PLSAE, CSA experience, and protective parenting practices are presented in Table 2. PLSAE was significantly negatively associated with CSA and significantly positively associated with parental involvement/care and monitoring/supervision. Also, CSA experience was significantly negatively associated with involvement/care and monitoring/supervision.

Table 2

*Correlations, Means, and SDs between PLSAE, CSA and Protective Parenting (*N *= 860)*

	1	2	3	4
1. PLSAE (0 = no, 1 = yes)	-			
2. CSA (0 = no, 1 = yes)	-.13**	-		

3. Involvement/care	.29**	-.31**	-	
4. Monitoring/supervision	.09**	-.10**	.12**	-
M	-	-	62.30	26.90
SD	-	-	14.06	4.89

** $p < .01$, * $p < .05$

Binary logistic regression was performed to determine if PLSAE, CSAPP and protective parenting practices were uniquely associated with CSA, controlling for participant sex and age. The model was statistically significant, χ^2 (6) = 136.94, $p < .001$. As can be seen in Table 3, PLSAE did not have a significant association with CSA ($p = .314$), but monitoring/supervision (*OR* .956, 95% CI [0.924, 0.989]), care/involvement (*OR* 0.960, 95% CI [0.948, 0.972]) and participant age and sex were shown to have significant associations with CSA whereby older participants and females relative to males had a significantly higher odds of reporting CSA. The interaction between CSAPP and PLSAE was also tested in the regression model but was found to be non-significant (*B* (*SE*) = 0.25(.46), *Wald* = .30, *OR* = 1.286, 95% CI [0.521, 3.173]).

Table 3

*Results of Regressing CSA on PLSAE, CSAPP, Protective Parenting Practices, Age and Sex (*N = *860)*

				95% CI	
Predictor	*B* (*SE*)	Wald	OR	Lower	Upper
PLSAE	-.20 (.20)	1.02	0.822	0.561	1.204
CSAPP	.15 (.20)	0.52	1.156	0.778	1.717
Monitoring/Supervision	-.05 (.02)	6.80	0.956*	0.924	0.989
Involvement/Care	-.04 (.01)	41.87	0.960**	0.948	0.972
Age	.05 (.01)	18.57	1.046**	1.025	1.067
Sex	1.21 (.24)	24.73	3.360**	2.084	5.417

*$p < .01$. **$p < .001$.

Note: The dependent variable was reported Child Sexual Abuse (CSA; 0 = no, 1 = yes). OR = odds ratio. CI = confidence interval. PLSAE = Parent-Led Sexual Abuse Education. CSAPP = Child Sexual Abuse Prevention Program.

Disclosure

Of the 306 participants who experienced CSA, 205 (66%) disclosed their victimization, 78 (25%) did not disclose, and 23 (9%) chose not to answer questions about disclosure. Just over one-third of those who disclosed had done so to friends (37%), with fewer disclosing to their parents (21%) and intimate partners (15%). Chi-square tests were used to examine if CSAPP attendance or receiving PLSAE at home was associated with disclosure of CSA to anyone. The results revealed no significant differences in CSA disclosure between those who did or did not attend a CSAPP, $\chi^2(2, 308) = 0.47$, $p < .792$, or experienced PLSAE, $\chi^2(2, 308) = 1.86$, $p < .395$. Removing participants that chose not to answer disclosure questions did not change these results.

Child Sexual Abuse Knowledge

The average CSA knowledge score was 6.72 out of 10 ($SD = 1.5$). Fifty-eight percent of participants scored 7 or more out of 10. Most participants answered correctly that familiar adults were the most likely CSA perpetrators (87%), that abuse was most likely to happen in children's homes (76%), that adolescents are responsible for between 30-50% of sexual crimes against children (75%), that children may not feel negatively about the perpetrator (68%), and that girls are at more risk than boys (67%). Participants who had attended CSAPP ($M = 6.81$, $SD = 1.4$) and those who had not attended CSAPP ($M = 6.68$, $SD = 1.6$) did not differ significantly on knowledge score, $t(752.38) = -1.45$, $p = .13$. The participants exposed to PLSAE ($M = 6.74$, $SD = 1.50$) and those who were not ($M = 6.66$, $SD = 1.62$) also did not differ significantly on CSA knowledge score, $t(589.45) = -.79$, $p = .43$. Regarding CSA history, the participants who had experienced CSA ($M = 7.18$, $SD = 1.34$) scored significantly higher on knowledge than the those who had not experienced CSA ($M = 6.57$, $SD = 1.57$): $t(592.58) = -6.59$, $p < .001$.

Discussion

Sexual abuse education, delivered via school-based programs or by parents at home, remains the dominant prevention strategy in most parts of the world. The aim of this study was to investigate

whether retrospective recall of attendance at a child sexual abuse prevention program (CSAPP) or experience of parent-led sexual abuse education (PLSAE), are associated with reduced reports of sexual abuse before the age of 16. This study replicated previous research (Gibson & Leitenberg, 2000; Kenny et al., 2020) and extended these findings by reporting on PLSAE; assessing associations with protective parenting practices (supervision/monitoring, care/involvement); measuring the effect of education on participants' CSA knowledge, PLSAE and CSA experience; and presenting the results from a sample outside North America. These results add to the growing body of literature exploring the risk reduction utility of child CSA education, moving beyond focusing on educational effects on child CSA knowledge and prevention skill approximation only (Finkelhor et al., 1995, 2014; Gibson & Leitenberg, 2000, Kenny et al., 2020; Ko & Cosden, 2001).

Rates of CSA

We quantified CSA as involving either of the following before the age of 16: (i) sexual activity involving persuasion, manipulation, coercion and/or force, or (ii) sexual activity with someone more than 5 years older. When both are taken into consideration, 24% of participants reported experiencing CSA (87% of these were women). This rate is higher than the 17% reported by Kenny et al. (2020), and considerably higher than both the 10% reported by Gibson and Leitenberg (2000) and the global prevalence rate of 12% reported in a meta-analysis in 2011 (Stoltenborgh et al., 2011). Differences in the definition of CSA across studies is a possible reason for the higher rate of CSA found in the current study compared to the rates reported by Gibson and Leitenberg and Kenny et al. We did not limit CSA to instances where perpetrators used force; including experiences that involved coercion, persuasion, and manipulation. The rate we report is similar to that reported by the same meta-analysis (21.5%) for girls in Australia, which is the highest rate of CSA for girls in the world (Stoltenborgh et al., 2011). Other studies have also reported these self-reported rates such as those reported for the Ontario Child Health Study sample (22.1% for girls; McMillan, Tanaka et al., 2013). The Australian Bureau of Statistics reports a lower rate of 16% for girls before the age of

15. We found 23% of participants reported that someone had persuaded, manipulated, coerced or forced them into sexual activity. A somewhat smaller proportion (14%) reported that someone more than five years older had engaged them in sexual activity before the age of 16, although it is possible that without the presence of force or manipulation, the sexual activity may have been considered 'consensual' and not recognized as CSA by some participants (Sklenarova et al., 2018).

CSAPP Attendance and CSA

Adding to the small body of literature using a naturalistic study design and retrospective recall to explore the effectiveness of sexual abuse education in childhood, we found no significant association between recalled attendance at school-based CSA education and CSA experience. This finding contrasts the results reported by both Gibson and Leitenberg (2000) and Kenny et al. (2020), who reported significant associations between attendance at a CSAPP and experiences of CSA in US university samples. Our findings support previous research using child and adolescent samples which found no significant association between program attendance and self-reported victimization (Finkelhor et al., 1995, 2014; Ko & Cosdon, 2001). Again, it is the definition of CSA that might account for differing findings. Limiting CSA to the use of force ("forced to engage in sexual activity"), as was done in Gibson and Leitenberg (2000) and Kenny et al. (2020), only captures a subset of victimisation experiences and excludes those experiences of abuse in which the victim did not encounter force per se, but were coaxed or coerced through manipulation and persuasion. Perhaps CSA education is more helpful for abuse that involves force. For example, children and adolescents may more easily draw upon CSA education in settings where they are being forced to engage in sexual activity, relative to the much more sophisticated social and perceptual skills they might need to minimise their risk of CSA that involves skilful and nuanced manipulation and persuasion.

We found much lower rates of CSA education at school than both the previous North American studies with university samples; only 29% of the current sample recalled CSAPP

attendance compared to 62% of students in the US (Gibson & Leitenberg, 2000; Kenny et al. 2020). These results corroborate those of a previous Australian study reporting 2011 data on the proportion of children exposed to CSAPPs (26%; Walsh et al., 2019); at which time the majority of this current sample (65%) were still in primary (elementary) school. Considering that contemporary CSAPPs (including those surveyed by Walsh and colleagues) teach children about the possibility of attempts at sexual contact from those close or known to them, it both surprising and concerning that the participants in the current study mostly recalled being taught only about strangers and abduction.

PLSAE, Protective Parenting, and CSA

The participants in the current sample reported high rates of PLSAE, with 72% of university students reporting that their parents had discussed CSA with them. This rate is considerably higher than the PLSAE reported by the young people in the Finkelhor et al., (1995) study. It is also higher than rates reported by parents. For example, surveying Australian and UK parents, Rudolph et al., (2018b) reported that about half had spoken to their children about CSA. Other studies have reported similar rates (Prikhidko & Kenny, 2021; Walsh et al., 2012; Zhang et al., 2020). Parents find it easier to discuss themes related to strangers and abduction (Deblinger et al., 2010; Finkelhor, 1984; Rudolph et al., 2018b; Rudolph & Zimmer-Gembeck, 2018b; Walsh et al., 2012) rather than CSA specifically, so it is unsurprising that the participants in this study mostly recalled their parents speaking to them about topics such as stranger danger.

Only one previous study has examined the relationship between PLSAE and CSA experience (Finkelhor et al., 1995). In testing these associations, contrary to Finkelhor et al. we found participants had a lower risk of CSA when they reported PLSAE compared to their peers who did not recall PLSAE. To explore this relationship further, we examined the association between protective parenting, PLSAE and CSA experience. Analyses showed that participants whose parents engaged in more involvement/care and monitoring/supervision were also exposed to more PLSAE. In addition, involvement/care and monitoring/supervision were associated with a lower risk of CSA, and PLSAE

was no longer significantly associated with CSA in this model. Thus, protective parenting may be an alternative explanation for why PLSAE reduces the risk of CSA

Taken together, these findings support proposals by Mendelson and Letourneau (2015) and Rudolph et al., (2018a) that there may be better ways to harness the protective potential of parents other than parent-child prevention education. Specifically, these findings reinforce what we propose elsewhere (Rudolph et al., 2018 a, b); that parents can be protective via two pathways: (a) the creation of safer environments in which CSA is less likely to occur, achieved through monitoring and supervision, and (b) the fostering of child well-being, through positive parenting, care and involvement, which, evidence suggests, may reduce the likelihood of children being targeted by a perpetrator.

CSA Education and CSA Disclosure

Disclosure of CSA is fraught with difficulties for those making disclosures including; risk of not being believed, self-blame, shame/guilt, fear of reprisal, and concern for the safety and well-being of self and others (Goodman-Brown et al., 2003; McElvaney & Culhane, 2017). We found that 66% of participants had disclosed their abuse, a figure which sits between those reported by the studies we are replicating (50%; Kenny et al., 2020; 77-83%; Gibson & Leitenberg, 2000). Congruent with previous findings using university and child/adolescent samples (Finkelhor et al., 2014; Gibson & Leitenberg, 2000; Kenny et al., 2020; Ko & Cosden, 2001), we did not find a significant association between CSAPP and CSA disclosure. Additionally, contrary to one extant study (Finkelhor et al., 1995), PLSAE was also not associated with CSA disclosure. Our findings are based on a subsample of participants who reported CSA (n = 306).

Victim testimony attests to the difficulties in disclosing CSA, and CSA disclosure is dependent on numerous factors including the identity of the perpetrator, the perpetrator-victim relationship, and cultural factors (Goodman-Brown et al., 2003; Fontes & Plummer, 2010; McElvaney & Culhane, 2017). Although encouraging CSA disclosure to trusted adults is a topic

covered in most CSAPPs, there is some disagreement as to whether disclosures can or should be a valid indicator of CSAPP success (Finkelhor & Strapko, 1992; MacMillan et al., 1994; Topping & Barron, 2009). Although it is thought that CSA disclosures will result in the termination of ongoing abuse, therefore lessening its duration and impact, recent research with CSA survivors suggests otherwise (Stiller & Hellmann, 2017; Swingle et al., 2016). Close to seventy percent of participants in one study (Swingle et al., 2016) who disclosed CSA at the time of the abuse reported that their abuse continued. Over half of the disclosures resulted in negative or indifferent reactions, especially for disclosures to parents. Ongoing, post-disclosure CSA resulted in more psychological symptoms in adulthood for participants who disclosed compared to those who had not disclosed. Relevant to the design of future CSAPPs, disclosure may not be associated with reduced long-term psychological impact, and this highlights the importance of concurrently educating adults surrounding children about how to best respond to children's disclosures.

CSA Education and CSA Knowledge

Increasing CSA knowledge is one of the main aims of CSAPPs. The *Australian Royal Commission into Institutional Responses to Child Sexual Abuse* final report (Commonwealth of Australia, 2017) recommended "prevention education delivered through preschool, school and other community institutional settings that aims to *increase children's knowledge of child sexual abuse*" (italics added, p. 4) be mandatory for all pre-schools and schools. Indeed, most CSAPP evaluations demonstrate increases in children's factual knowledge about sexual abuse and its prevention, however follow-up to test knowledge maintenance is either short (up to 6 months) or absent (Davis & Gidycz, 2000; Shin et al., 2019; Topping & Barron, 2009; Walsh et al., 2015; Zhang et al., 2021). The evidence for PLSAE is more mixed with methodological improvements needed, which prevents clear conclusions in some studies (Cırık et al., 2019; Finkelhor et al., 1995; Jin et al., 2017, 2019; Pandia et al., 2017; Wurtele et al., 1992).

Despite the importance of knowledge as an outcome of CSA education and prevention, previous retrospective research (Gibson & Leitenberg, 2000; Kenny et al., 2020) did not explore these associations. The present analyses showed that overall, participants had a relatively good CSA knowledge; knowing important details such where and with whom abuse is most likely to occur. However, knowledge was not associated with CSAPP attendance or PLSAE exposure. Interestingly, those participants who reported experiencing CSA displayed more CSA knowledge. It may be that experiencing sexual victimization leads people to seek out information to try to make sense of their experiences.

Limitations and Future Research

The retrospective and cross-sectional design of the study is vulnerable to several limitations. First, relying on participant memory is subject to recall basis. In other words, there may be some flaws in participants' memory of their exposure to either school programs or parent education related to the passage of time, leading to inaccurate reporting. Furthermore, certain experiences might exacerbate errors in recall. For example, it is possible that participants who experienced sexual abuse may be primed to recall more exposure to CSA education. It is also possible that participants who experienced sexual abuse may report less exposure to CSA education, attributing their experience to lack of awareness/education. Unfortunately, there is no research to indicate which one is more feasible. Additionally, experience of CSA education might influence the extent to which participants defined experiences as sexual abuse. For example, contemporary CSA education may provide a more comprehensive understanding of the spectrum of perpetrator behaviors that constitute sexual abuse. This information may or may not have made its way into school-based programs, and into parents' orbit of awareness leading to a wider range of activities being recognized as CSA. These recall biases must be taken into consideration when interpreting the results of this study; the best way for future research projects to further test the associations identified in this study is with prospective longitudinal designs. However, it is also important to reinforce the evidence on the veracity of

retrospective reports regarding child maltreatment (Dube et al., 2004), with experts agreeing that retrospective designs investigating child maltreatment make an important contribution to the field (Balwin et al., 2019; Hardt et al., 2004). Another way to reduce the recall bias is to triangulate self-reports with reports from significant others.

The quality of sexual abuse education is highly likely to be associated with information retention and recall in an abusive or potentially abusive encounter. Although we asked participants to recall the topics they remembered from school programs or parent-led education, we were unable to accurately ascertain the quality of the education they received (e.g., framing of key messages, depth of content, and dosage), or indeed, what they ultimately learned. The topics chosen by participants (from a list of 21 common CSAPP themes) in this survey, gave us insight into the education they received, but not its quality. Analyses of the association of this important variable with future experience of CSA was not possible and would also benefit from a longitudinal design.

Perpetrator identity and victim-perpetrator relationship may also impact children's ability to apply learned information in an abusive encounter. Unfortunately, ethical considerations for data collection with university student participants precluded us obtaining further details about participants' sexual abuse experiences, including the identity of perpetrators. To address this shortcoming, in future, CSA prevention researchers should consider partnering with experienced child maltreatment prevalence researchers to identify ways in which data can be augmented to provide a clearer picture of the relationships among key variables including the nature and content of prevention education, the identity of perpetrators, and the identities of individuals to whom disclosures are made.

Furthermore, in view of the current findings, more research needs to be conducted into the specific parenting practices and features of the parent child relationship and home environment that are protective against CSA. Furthermore, longitudinal research into the effectiveness of CSA education both at home and at school for reducing CSA is necessary.

Several factors may limit the generalizability of these results. Firstly, university students are not representative of the general population. Second, although not unusual in social science research, the high proportion of female participants limits generalizability. However, these considerations do not affect comparisons with the two previous studies as these involved women-only (Gibson & Leitenberg, 2000), and women-majority (82%; Kenny et al., 2020) university samples. Finally, the low rate of respondents who reported their sex as non-binary precluded this group from being represented in the analyses and targeting this group in future research would be beneficial. Despite these drawbacks, our sample was representative in other ways, with participation of First Nations People (3%), Pacific Islanders (3%), and Asian Australians (13%) representative of the Australian population overall (3%, 3%, and 12% respectively; ABS, 2020).

In light of the limitations addressed here, the current study must be considered tentative and be considered along with previous research exploring the association between CSA education and CSA experiences (Finkelhor et al., 1995, 2014; Gibson & Leitenberg, 2000; Kenny et al., 2020; Ko & Cosden, 2001).

Conclusion

The results reported here are important for the future of CSA prevention. Child education remains the dominant method of prevention, with this strategy supported by parents, endorsed by governments, and promoted by NGOs in Australia (Bravehearts; Commonwealth of Australia, 2017) and internationally (NSPCC, 2015; SEICUS, 2004; UNESCO, 2018; Prevent Child Abuse America, 2015). This study presents evidence via participants' retrospective reports which calls into question the effectiveness of child education in the prevention of CSA, the encouragement of disclosure, and the enhancement of knowledge. These findings add to the research on CSA risk factors (Assink et al., 2019) and offender modus operandi (Leclerc et al., 2009; Smallbone & Wortley, 2001) which suggests that parenting and the home environment are crucial to CSA mitigation. These findings also support our assertions that parents may be more suitable targets for prevention initiatives and align

with our proposal of involving parents in prevention via the creation of safe environments (through supervision and monitoring) and child well-being (through positive parenting, care and involvement).

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