

# Child Sexual Abuse and Risk of Revictimization: Impact of Child Demographics, Sexual Abuse Characteristics, and Psychiatric Disorders

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## Abstract

Approximately half of child sexual abuse (CSA) victims report sexual revictimization later in life; however, there is limited rigorous evidence concerning factors contributing to sexual and nonsexual forms of revictimization. This article investigates the relationships between CSA and a range of revictimization experiences. It also examines the role of other individual-level factors (demographics, CSA characteristics, psychiatric disorders) in the risk of revictimization. The study compares data from a prospective-longitudinal study of 2,759 Australian children (<17 years old) alleged to have experienced contact-CSA between 1964 and 1995, and a comparison group matched on sex and age. In each case, CSA was deemed likely to have occurred according to expert forensic medical opinion. Abused children and comparisons were followed to age 35 years on average, and their lifetime official crime victimization histories and public mental health service records were extracted from statewide population-level administrative databases. Relative to comparisons, CSA victims experienced significantly higher rates of revictimization, with marked elevations in odds for interpersonal revictimization (i.e., sexual assault, physical assault, threats of violence, and stalking). The CSA–physical assault relationship was moderated by sex, with a stronger association for female victims. Among CSA victims, victim sex, age at index abuse, and several psychiatric diagnostic categories were independently associated with revictimization risk, with different patterns of vulnerability emerging depending on the nature of revictimization. Overall, CSA victims are vulnerable to a range of revictimization experiences later in life. Findings have implications for the identification of particular groups of sexually abused children at heightened risk for revictimization and the role mental health services may play in mitigating risk.

## Keywords

child sexual abuse, maltreatment, revictimization, mental health, psychiatric disorder

According to a meta-analysis of child sexual abuse (CSA) prevalence across 55 studies from 24 countries, between 8 and 31% of girls and 3 and 17% of boys experience CSA (Barth et al., 2013). The lower estimates reflect rates for more extreme acts involving forced intercourse, whereas the upper estimates capture rates of non-contact forms of CSA (Bart et al., 2013). The short- and long-term impacts of CSA can be far-reaching, with demonstrable links between exposure to early sexual abuse and a range of negative outcomes pervading biopsychosocial domains, including psychopathology, risky behaviors, physical illness, education and employment challenges, and crime and violence (Andrews et al., 2004; Beitchman et al., 1991, 1992; Cashmore & Shackel, 2013; Gilbert et al., 2009; Maniglio, 2009; Paolucci et al., 2001; Putnam, 2003).

Subsequent victimization later in life is among the most consistently documented outcomes of CSA (for reviews see Arata, 2002; Classen et al., 2005; Roodman & Clum, 2001;

Walker et al., 2019). This is often termed “revictimization,” defined in this instance as any further victimization occurring during childhood, adolescence, and/or adulthood and subsequent to an initial (or index) episode of CSA (Papalia et al., 2017). Although related, revictimization is distinct from concepts such as “multi-type maltreatment” and “polyvictimization.” Multi-type maltreatment emphasizes the interrelatedness and co-occurrence of different forms of abuse

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and neglect during childhood (Higgins & McCabe, 2001), whereas polyvictimization can reflect a broader range of traumatic victimizations that might co-occur during childhood, spanning, for example, child maltreatment, sexual violence, sibling abuse, crime victimization, neighborhood conflict, and peer bullying (Finkelhor et al., 2007, 2009). Revictimization as conceptualized in this paper is, therefore, similar to polyvictimization in that it captures a broader range of victimization experiences, but examines these experiences subsequent to an initial episode of CSA and from a “whole of lifespan” viewpoint (Bryce, 2019). Regarding sexual revictimization specifically, a recent meta-analysis of 80 studies comprising more than 12,000 CSA survivors reported the mean prevalence of lifetime sexual revictimization to be 47.9% (Walker et al., 2019). This is approximately 2–3 times the rate of sexual victimization among adult women without a history of CSA (Barnes et al., 2009; Elliott et al., 2004). Empirical research into the rates and risk factors for revictimization is critical, not only to assist with identifying strategies for interrupting the cycle of victimization, but also because further victimization is believed to exacerbate initial sexual abuse sequelae (Arata, 2002; Casey & Nurius, 2005; Fortier et al., 2009).

Existing revictimization literature has mostly relied on cross-sectional and retrospective research designs focused on *sexual* revictimization during adulthood. Participants have been largely drawn from community, college, and clinical samples, and have mostly comprised female-only samples. There is a small but increasing number of studies employing longitudinal and prospective methodologies that examine whether CSA heightens risk for an array of different trauma and revictimization experiences (e.g., sexual, physical) across the lifespan. These studies have revealed that revictimization—whether self-reported or officially documented—is relatively common among CSA survivors and occurs more frequently than among those without known histories of CSA (e.g., Banyard et al., 2001; Barnes et al., 2009; Culatta et al., 2017; McIntyre & Widom, 2011; Ogloff et al., 2012; Swanston et al., 2002; Widom et al., 2008). Moreover, it impacts males, females, and young people as well as adults. For example, McIntyre and Widom (2011) found that, while controlling for sex, race/ethnicity, and age, CSA survivors followed to middle-adulthood were at an increased risk for both physical and sexual revictimization, relative to matched non-abused controls, but were no more likely than controls to experience property crime victimization. Another study (Ogloff et al., 2012), from which the present data are drawn, similarly supported a broad association between CSA and several officially recorded revictimization outcomes, including lifetime sexual assault and lifetime physical assault revictimization.

The mechanisms and risk factors associated with various forms of revictimization following CSA are not well understood. Theoretical frameworks to date tend to focus on explaining sexual revictimization specifically; a phenomenon that is frequently understood within a social-ecological developmental perspective that accounts for a combination of interacting

stressors, risks, and protective factors, within and across individual, family, environmental, and societal domains (Bronfenbrenner, 1994; Matta Oshima et al., 2014; Pittenger et al., 2016, 2018; Simmel et al., 2012). Risk factors within the individual domain are particularly important for mental health professionals working therapeutically with CSA victims, given the potential to not only identify individuals at increased risk of various kinds of revictimization, but also, for those risk factors that are dynamic (i.e., changeable), to identify effective targets for intervention. Recent empirical evidence suggests that individual-level victim risk factors are more powerful predictors of risk for revictimization when considered in conjunction with risk factors across other levels of an individual’s ecology (Pittenger et al., 2018).

At the individual level, research has identified certain demographic features (e.g., sex, age), characteristics of the initial sexual abuse (e.g., severity, timing), and the psychological consequences of CSA as possible contributors to risk for revictimization (for reviews, see Arata, 2002; Pittenger et al., 2016). For example, sex, although rarely examined, has been shown to affect risk of revictimization. Yet, results have varied depending on how sex is considered—for example, as a covariate in multivariate analyses predicting risk of revictimization, or a comparison of the strength of the CSA–revictimization association for males and females separately—as well as the nature of revictimization under consideration. For example, while female CSA victims appear to be at greater risk of sexual revictimization than male victims, there is some evidence to suggest that the magnitude of the relationship between CSA and sexual revictimization is stronger among males (c.f., Desai et al., 2002; Elliott et al., 2004; Matta Oshima et al., 2014; Nelson et al., 2002; Pittenger et al., 2018; Werner et al., 2016). Some studies have found that individuals experiencing sexual revictimization report being younger at the time of their initial sexual abuse compared to individuals not revictimized (Casey & Nurius, 2005; Jenkins et al., 2018; Pittenger et al., 2018). Others have shown that CSA occurring during adolescence is associated with increased risk of revictimization (Humphrey & White, 2000; Palusci & Ilardi, 2019; Siegel & Williams, 2003), and others still have found no effect of age (Jankowski et al., 2002; Maker et al., 2001). Previous research has also found that indicators of initial abuse severity (e.g., more invasive, frequent, and chronic abuse, the use of force, an intra-familial perpetrator) are related to revictimization both during adolescence and adulthood (e.g., Casey & Nurius, 2005; Fortier et al., 2009; Humphrey & White, 2000; Matta Oshima et al., 2014; Simmel et al., 2012; Swanston et al., 2002).

Numerous studies have found that the mental health sequelae of CSA also relate to an increased risk of youth and adult revictimization. Most of these studies focus on sexual revictimization and/or examine the influence of symptoms of post-traumatic stress disorder, depression, or global indicators of psychopathology (e.g., Auslander et al., 2018; Culatta et al., 2017; Fortier et al., 2009; Horner & Fischer, 2016; Hu et al., 2018; Noll et al., 2003; Pittenger et al., 2018). For example, Cuevas et al.’s (2010) longitudinal survey study involving

children aged 2–17 years demonstrated that psychological distress—defined as a combined score on depression, anger, and anxiety measures—following initial abuse predicted revictimization within one year of initial interview. Other studies have shown that drug and alcohol problems increase the likelihood of sexual revictimization following CSA (e.g., McCart et al., 2012; Siegel & Williams, 2003; Walsh et al., 2014). There is currently a paucity of information concerning the relationship between various mental health diagnostic categories, especially low prevalence disorders (e.g., psychosis, personality disorder), and different types of revictimization experiences. This precludes our understanding of how mental health problems at the more serious end of the spectrum (i.e., of sufficient severity to warrant formal mental health intervention) relate to risk of revictimization among CSA victims.

The purpose of this article is to provide a detailed exploration of whether CSA is a risk factor for a range of different types of lifetime revictimization and the role of other individual-level factors in influencing risk. The research investigated linked administrative data drawn from a large Australian prospective cohort study of male and female CSA victims, sexually abused before they turned 17 and followed for an average of 25 years, together with a matched comparison group (Ogloff et al., 2012; Papalia et al., 2018b). Drawing on these data, this article aimed to: (a) examine whether sex influences the CSA–revictimization relationship; (b) identify individual-level risk factors (i.e., sex, age at initial abuse, sexual abuse characteristics, and lifetime psychiatric diagnoses) among CSA victims that contribute to risk of different types of revictimization; and (c) recognizing the complex and multiply determined nature of revictimization, to identify which individual-level risk factors persist when examined in a multivariate context.

## Method

### Data Sources

**Child sexual abuse cases.** The CSA cohort was developed using existing clinical records collected by the then Office of Forensic Medicine (OFM) in Victoria, Australia.<sup>1</sup> The OFM performed medico-legal investigations of suspected cases of child sexual assault at the request of police or child welfare agencies. OFM physicians were responsible for collating the available evidence (i.e., physical examination findings, background and contextual information provided by the victim and/or primary caretaker, including an account of the alleged assault, and police/child protection official documentation) and providing an expert forensic medical opinion as to whether child sexual assault was likely to have occurred. Ultimately, however, it was the role of the police and the prosecution to decide whether to prosecute and child welfare services to decide whether to proceed with protective action. We included all 2,759 suspected cases of child sexual assault between 1964 (the time from which clinical records were available) and 1995, where the victim was less than 17 years of age. Given medical examinations relating to cases of non-contact sexual abuse

(e.g., indecent exposure, voyeurism) are highly unlikely to occur at the OFM, such cases were not included in this study.

The level of detail contained within the OFM records ranged from minimal (i.e., name, sex, date of birth, date of examination, physical examination findings, expert opinion) to extensive (e.g., background and contextual information gathered from interviews with the victim and/or primary caretaker, a detailed account of the alleged assault, behavioral observations during examination, and police/child welfare reports). Standard information available and extracted for all CSA cases included: name, sex, date of birth, age at examination (used to compute approximate age at abuse), and whether penetration of an orifice had occurred as per expert medical opinion. Consistent with other studies, we dichotomized age at sexual abuse to accord with approximate age of puberty onset—i.e. prior to age 12 years vs. ages 12–16 years (Malvaso et al., 2017; Papalia et al., 2018b; Siegel & Williams, 2003). When available in the files, the characteristics of the index sexual abuse leading to medical examination were extracted and coded as a series of binary variables, including: single or multiple occurrences; intra-familial or extra-familial perpetrator; and single or multiple perpetrators. Data were extracted manually from paper-based files by two researchers. Inter-rater reliability checks were not undertaken as the data coded were objective and did not rely on the subjective decision-making of the researcher. Data integrity checks were undertaken and any errors were rectified from the files.

**Controls.** A general population comparison group without a known history of CSA was sourced from Victoria using the electoral rolls. Voting and voter registration is compulsory in Australia for individuals 18 years and older; thus, 96% of the voting eligible population appears on the electoral rolls (Victorian Electoral Commission, 2018). The Australian Electoral Commission selected a random sample of 5,000 Victoria citizens (50% female) from the State's electoral roll aged between 16 and 61 years. A subsample of 2,677 was matched to the CSA cases on sex and 2-year age banding; no matches were found for 82 abuse cases. Data integrity checks were undertaken to ensure that no matched comparisons also appeared in the CSA cohort.

**(Re)victimization.** The complete crime victimization histories (i.e., date and type of each incident) of CSA cases and controls were extracted from the Victoria Police Law Enforcement Assistance Program (LEAP) database. This is an administrative database that documents all contacts between the police and the public in Victoria, including cautions, arrests, charges, convictions, and witnesses or victims of crime. We used the LEAP categorization and definitions of offenses together with the Australian and New Zealand Standard Offence Classification system to assist in defining 10 major categories of crime victimization, outlined in Table 1 (Australian Bureau of Statistics, 2011; Victoria Police, 2014). “(Re)victimization” was defined as having at least one victimization incident recorded in LEAP occurring subsequent to

**Table 1.** Criminal (Re)Victimization in 2,759 CSA Cases and 2,677 Controls.

(Re)victimization type	Controls n (%)	Cases n (%)	OR	95% CI
Any type	893 (33.4)	998 (36.2)	1.13*	1.01–1.27
Public order offenses	4 (0.1)	3 (0.1)	0.73†	0.16–3.25
Theft	736 (27.5)	684 (24.8)	0.87*	0.77–0.98
Fraud/Deception	15 (0.6)	25 (0.9)	1.62	0.85–3.09
Property damage	175 (6.5)	259 (9.4)	1.48***	1.21–1.81
Weapons offenses	0 (0.0)	10 (0.4)	–	–
Stalking	16 (0.6)	33 (1.2)	2.01*	1.11–3.67
Threat of violence	15 (0.6)	63 (2.3)	4.15***	2.36–7.30
Abduction	0 (0.0)	8 (0.3)	–	–
Physical assault	163 (6.1)	397 (14.4)	2.59***	2.14–3.14
Sexual assault	42 (1.6)	214 (7.8)	5.28***	3.77–7.38

Note. OR = odds ratio; CI = confidence interval. The figures represent the numbers of cases and controls ever (re)victimized during the follow-up period. ORs reflect the odds of (re)victimization among CSA cases relative to controls. Only the major categories of victimization are detailed. There were no victims of homicide in the CSA or control groups during the follow-up period, and thus this victimization category does not appear in the table.

\* $p < 0.05$ . \*\*\* $p < 0.001$ .

† Fisher's exact test.

the date of forensic medical examination for the index abuse (yes/no) for the CSA sample, and any victimization incident recorded in LEAP (yes/no) for the comparison sample, at the time of data linkage. (Re)victimization incidents occurring during childhood and adulthood were considered collectively, thus reflecting “lifetime” (re)victimization.

**Psychiatric disorder.** Mental health service history data for the CSA cohort were extracted from the Victorian Psychiatric Case Register (and its successor, the Redevelopment of the Acute and Psychiatric Information Directions database). This a statewide psychiatric patient information system, which includes records of all public psychiatric inpatient admissions since 1961 and, since 1990, all contacts with community mental health and emergency room services. The database does not include admissions to inpatient beds in the private sector or contacts with private outpatient services. For this study, we extracted diagnostic data for all CSA victims who had contact with public mental health services on at least one occasion at the time of data linkage. Lifetime psychiatric diagnoses, as indicated by the treating or responsible psychiatrist, were coded according to the International Classification of Diseases–9th/10th Revision (ICD-9/10; World Health Organization, 1978, 1992). Given the large number of specific disorders, primary diagnoses were collapsed into major diagnostic groups, consistent with common psychiatric diagnostic systems, including psychotic disorders (e.g., schizophrenia, schizoaffective, delusional, mood disorder with psychotic features); affective disorders (e.g., major depressive, bipolar affective); posttraumatic stress disorders; anxiety disorders (e.g., generalized anxiety,

obsessive-compulsive, panic disorder); substance use disorders; and personality disorders.

### Data Linkage

The procedure for linking sample data (CSA cases/controls) to the LEAP and public mental health services databases involved both deterministic and probabilistic matching, using iterations of individual identifiers (e.g., name, date of birth/age, sex). SOUNDEX—a phonetic algorithm used to find names by their sound—was used to improve matching. Linkage was performed by a data analyst from Victoria Police (LEAP) and the Victoria Department of Human Services (public mental health data) in 2008/9, with matched data then provided to the researchers in a de-identified and secure format. More detailed information concerning the linkage process can be found in previous reports utilizing these data (Cutajar et al., 2010; Papalia et al., 2018b). Data integrity checks were manually undertaken to exclude any victimization incidents that occurred prior to the index abuse among the CSA cohort. Further, where a CSA case had an officially recorded sexual victimization incident that was concurrent with the time of the index abuse resulting in forensic examination, this victimization incident was excluded from analyses.

### Statistical Analyses

Analyses were carried out using the Statistical Package for the Social Sciences Version 24 (International Business Machines (IBM) Corp, 2016). Missing values were identified among three dichotomous variables, namely, frequency of abuse ( $n = 1,809$ , 65.6%), number of perpetrators ( $n = 819$ , 29.7%), and relation to perpetrator ( $n = 1,218$ , 44.1%). These missing data primarily related to sexual abuse cases presenting to the OFM prior to 1989, as physicians were not routinely required to record contextual information pertaining to the abuse until standardized forms were introduced in 1989. To minimize bias, multiple imputation (MI) involving chained equations was used to address missing data. Forty imputed datasets were generated using ten iterations (Graham et al., 2007), and then pooled using Rubin's (1987) rules to determine final test statistics. This is consistent with our approach to handling missing data in previous analyses involving this dataset (Papalia et al., 2018b).

The (re)victimization outcomes of abuse cases and controls were compared using *t*-tests for continuous variables and Pearson Chi-squared tests of association for categorical variables (Fisher's exact test was reported when the expected count for one or more cells was less than five). To investigate whether associations between CSA and revictimization outcomes were moderated by sex, a series of binary multiple logistic regression models were computed, which included group (CSA victims vs. control) and sex as main effects, along with the “group  $\times$  sex” interaction term. Next, we examined bivariate relationships between abuse-related characteristics, psychiatric diagnoses, and revictimization outcomes among the complete CSA sample. For the sake of parsimony and to minimize statistical

problems associated with low base-rate outcomes, the 10 different revictimization types (see Table 1) were collapsed into three major categories for this part of the analyses: sexual assault (yes/no); violence (yes/no); and non-violence (yes/no). "Violence" was conceptualized as offenses against the person involving any actual, attempted, or threatened harm, consistent with the Australian and New Zealand Standard Offence Classification system (Australian Bureau of Statistics, 2011). Physical assault, abduction, threat of violence, and weapon-related victimizations were therefore coded as "violence," whereas property damage, fraud/deception, theft, and public order victimizations were coded as "non-violence." Finally, abuse-related characteristics and psychiatric diagnoses were simultaneously entered into a series of binary multiple logistic regression models to examine which risk factors remained unique predictors of each type of revictimization in the presence of all other variables. We report odds ratios (ORs) with their 95% confidence intervals (CIs) as measures of effect size. An OR of 1.00 suggests that the odds of a given outcome are similar across two groups, whereas an OR less than or greater than 1.00 suggests that the odds of a given outcome are lower or greater in one group relative to the other. ORs of 1.00–1.49 were interpreted as small, 1.50–2.49 as moderate, and 2.50 or more as large effects (Rosenthal, 1996).

### Ethical Approval

Five independent human research ethics committees granted approval to conduct this study with a consent waiver: Monash University, the Victorian Institute of Forensic Medicine, Victoria Police, the Victorian Department of Human Services, and Swinburne University of Technology.

## Results

### Sample Description

**CSA cases.** The CSA cohort comprised 2,759 children (2,201, 79.8% female) aged 16 years or under who had been ascertained as sexually abused between 1964 and 1995. Mean age at examination was 10.22 years ( $SD = 4.44$ , range: 0.27–16.99), with girls slightly older, on average, than boys ( $M = 10.43$ ,  $SD = 4.28$  vs  $M = 9.40$ ,  $SD = 4.22$ ;  $t = 5.08$ ,  $p < 0.001$ ). Penetrative abuse was experienced in 1,737 (63%) cases, with higher rates for girls than boys (64.9% vs 55.2%;  $\chi^2 = 18.06$ ,  $p < 0.001$ ). The abuse was perpetrated by a relative in 51.9% (614; valid  $n = 1,184$ ) of female cases and 36.4% (130; valid  $n = 357$ ) of male cases ( $\chi^2 = 26.20$ ,  $p < 0.001$ ). Most children (94.4%) were abused by a single perpetrator (1,832; valid  $n = 1,940$ ) and on more than one occasion (589; 62%; valid  $n = 950$ ); there were no sex differences for these variables. Mean age at data linkage was 35.58 years ( $SD = 11.05$ , range: 16.29–59.58), with an average follow-up time of 25.36 years ( $SD = 8.17$ , range: 13.97–44.77).

**Controls.** The 2,677 controls did not differ from CSA victims on age ( $M = 35.53$ ,  $SD = 10.81$ , range: 15.34–62.25) at data

linkage. There were slightly fewer control females ( $n = 2,055$ ; 76.8%) than CSA females ( $n = 2,201$ ; 79.8%;  $\chi^2 = 7.24$ ,  $p = 0.007$ ).

### Rates of (Re)Victimization

Overall, 998 (36.2%) CSA victims were registered on LEAP for having being revictimized for any kind of crime subsequent to their index sexual abuse. This was slightly higher than the overall rate of victimization among controls ( $n = 893$  [33.4%]), with the effect size interpreted as small (see Table 1). The total number of (re)victimizations was higher, on average, among CSA cases than controls ( $M = 2.95$ ,  $SD = 2.64$ ,  $Mdn = 2.00$  vs.  $M = 1.93$ ,  $SD = 1.63$ ,  $Mdn = 1.00$ ;  $t = 10.21$ ,  $p < 0.001$ ).

In the CSA cohort, most types of revictimization for which sufficient cases existed so that odds ratios could be computed were found to be significantly elevated over controls (Table 1). Theft victimization was the only category where CSA victims were significantly less likely to be exposed. The effect sizes were moderate or large for associations between CSA and revictimization rates for crimes that were of an interpersonal nature—that is, large effects for sexual assault, physical assault, and threats of violence, and a moderate effect for stalking. In contrast, group differences for nonperson-related offenses—that is, property damage, theft, fraud/deception, and public order offenses—were accompanied by small effect sizes or the differences were not statistically significant.

### Group Differences by Sex and Test of Group $\times$ Sex Interaction

Group differences in revictimization rates were examined by sex (Table 2). Male CSA victims had significantly higher rates of sexual assault revictimization and physical assault revictimization relative to male controls, with a large and moderate effect size, respectively. Rates for other subtypes of revictimization were not significantly different between male CSA victims and male controls. Female CSA victims had significantly higher odds of being a victim of a subsequent sexual assault, physical assault, threatened violence, and property damage compared to female controls; effect sizes were large, except for property damage, which was a moderate effect. There was a small statistically significant difference in rates of theft victimization, with lower rates among abused females relative to control females. Interaction analyses examining whether associations between CSA and revictimization outcomes varied with sex indicated a significant "group  $\times$  sex" interaction term for physical assault revictimization only (Table 2). This suggested that the association between CSA and physical assault revictimization was stronger for females, relative to males. The accompanying effect size for the interaction was moderate (adjusted OR = 1.75, 95% CI 1.17, 2.62; odds are adjusted for the main effects of group and sex).

**Table 2.** Group Differences in Rates of Criminal (Re)Victimization by Sex and Test of Group  $\times$  Sex Interaction.

(Re)victimization type	Males				Females				Group × Sex interaction
	Controls (n = 622)	CSA Victims (n = 558)	OR	95% CI	Controls (n = 2,055)	CSA Victims (n = 2,201)	OR	95% CI	
	n (%)	n (%)			n (%)	n (%)			
Any type	247 (39.7)	254 (45.5)	1.27*	1.01–1.60	646 (31.4)	744 (33.8)	1.11	0.98–1.27	0.13 (0.14)
Public order	1 (0.2)	1 (0.2)	1.12†	0.07–17.87	3 (0.1)	2 (0.1)	0.62†	0.10–3.73	0.58 (1.69)
Theft	203 (32.6)	191 (34.2)	1.07	0.84–1.37	533 (25.9)	493 (22.4)	0.82**	0.72–0.95	0.27 (0.14)
Fraud/Deception	3 (0.5)	7 (1.3)	2.62†	0.68–10.19	12 (0.6)	18 (0.8)	1.40	0.68–2.92	0.62 (0.79)
Property damage	44 (7.1)	44 (7.9)	1.13	0.73–1.74	131 (6.4)	215 (9.8)	1.59***	1.27–1.99	-0.35 (0.25)
Weapons offenses	0 (0.0)	3 (0.5)	–	–	0 (0.0)	7 (0.3)	–	–	–
Stalking	0 (0.0)	5 (0.9)	–	–	16 (0.8)	28 (1.3)	1.64	0.89–3.04	–
Threat of violence	4 (0.6)	9 (1.6)	2.53	0.78–8.27	11 (0.5)	54 (2.5)	4.67***	2.44–8.96	-0.61 (0.69)
Abduction	0 (0.0)	2 (0.4)	–	–	0 (0.0)	6 (0.3)	–	–	–
Physical assault	72 (11.6)	109 (19.5)	1.85***	1.34–2.56	91 (4.4)	288 (13.1)	3.25***	2.55–4.15	-0.56 (0.21)**
Sexual assault	5 (0.8)	29 (5.2)	6.77***	2.60–17.60	37 (1.8)	185 (8.4)	5.01***	3.50–7.16	0.30 (0.52)

Note. OR = odds ratio; CI = confidence interval; CSA = child sexual abuse; B = beta regression coefficient; SE = standard error. ORs reflect the odds of (re)victimization among CSA male/female cases relative to male/female controls.

\* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

†Fisher's exact test.

**Table 3.** Descriptive Statistics and Bivariate Relationships between Abuse-related Characteristics, Psychiatric Disorders, and Criminal Revictimization among CSA Victims (N = 2,759).

Variable	Total N = 2,759	Sexual Assault (n = 214)	Violence (n = 430)	Non-violence (n = 772)
	n (%)	OR [95% CI]	OR [95% CI]	OR [95% CI]
Abuse-related characteristics				
Male victim	558 (20.2)	0.60 [0.40, 0.89]*	1.60 [1.26, 2.03]***	1.64 [1.35, 2.00]***
Penetrative abuse	1,737 (63.0)	0.68 [0.51, 0.89]**	0.91 [0.74, 1.13]	0.96 [0.80, 1.13]
Age < 12 years	1,557 (56.4)	2.15 [1.57, 2.92]***	1.32 [1.07, 1.63]*	1.07 [0.90, 1.27]
Multiple episodes	589 (21.0)	1.21 [0.79, 1.84]	0.91 [0.67, 1.23]	0.80 [0.63, 1.03]
Multiple perpetrators	108 (3.9)	0.88 [0.45, 1.75]	1.14 [0.72, 1.82]	1.10 [0.74, 1.63]
Intra-familial perpetrator	744 (26.9)	1.03 [0.76, 1.40]	0.80 [0.63, 1.01]	0.78 [0.64, 0.95]*
Psychiatric diagnoses				
Psychotic disorders	78 (2.8)	1.58 [0.78, 3.20]	2.65 [1.63, 4.32]***	1.83 [1.15, 2.89]**
Affective disorders	177 (6.4)	2.66 [1.75, 4.05]***	3.34 [2.41, 4.63]***	1.99 [1.46, 2.71]***
Posttraumatic stress disorders	122 (4.4)	3.14 [1.97, 5.05]***	1.82 [1.19, 2.79]**	1.43 [0.97, 2.09]
Anxiety disorders	160 (5.8)	3.32 [2.19, 5.03]***	3.30 [2.35, 4.65]***	2.28 [1.65, 3.15]***
Substance use disorders	152 (5.5)	2.94 [1.90, 4.55]***	4.07 [2.89, 5.73]***	2.99 [2.15, 4.16]***
Personality disorders	100 (3.6)	4.36 [2.71, 7.01]***	3.88 [2.56, 5.87]***	2.80 [1.87, 4.18]***

Note. OR = odds ratios; CI = confidence interval. Descriptive statistics relate to non-imputed data; therefore, % values reflect the proportion of valid cases rather than total N where applicable. ORs for criminal re-victimization subtypes were calculated with imputed data where relevant. ORs reflect the odds of re-victimization among CSA cases in the listed target group (e.g., male victim) relative to CSA cases in the opposing reference group (e.g., female victim). "Violence" includes the subcategories of physical assault, abduction, threat of violence, stalking, and weapons offenses. "Non-violence" includes the subcategories of property damage, fraud/deception, theft, and public order.

\* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

### Risk Factors for Revictimization

**Bivariate relationships with revictimization.** Sex (female), severity of abuse (non-penetrative), age at abuse (prior to 12 years), and all forms of mental health disorders (except for psychotic illnesses) were associated with sexual assault revictimization among CSA victims (Table 3). For violence revictimization, male victims, victims abused prior to age 12, and victims

developing any form of mental health disorder evidenced significantly higher rates. Being male, exposure to abuse by someone outside the family, and all forms of mental health disorders (except for posttraumatic stress disorders) were associated with higher rates of non-violence revictimization.

**Binary multiple logistic regression models.** Adjusted odds ratios for the binary multiple logistic regression models are

**Table 4.** Binary Multiple Logistic Regression Models Examining Risk Factors for Criminal Re-victimization among CSA Victims (N = 2,759).

Variable	Sexual Assault (n = 214)	Violence (n = 430)	Non-violence (n = 772)
	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]
<b>Abuse-related characteristics</b>			
Male victim	0.54 [0.35, 0.81]**	1.58 [1.23, 2.03]***	1.64 [1.33, 2.02]***
Penetrative abuse	0.87 [0.64, 1.18]	1.05 [0.84, 1.33]	1.02 [0.85, 1.24]
Age < 12 years	2.45 [1.74, 3.46]***	1.46 [1.15, 1.85]**	1.12 [0.92, 1.33]
Multiple episodes	1.30 [0.80, 2.11]	0.93 [0.66, 1.30]	0.81 [0.61, 1.08]
Multiple perpetrators	0.99 [0.48, 2.04]	1.05 [0.64, 1.71]	0.97 [0.64, 1.49]
Intra-familial perpetrator	0.84 [0.59, 1.20]	0.84 [0.64, 1.10]	0.87 [0.70, 1.10]
<b>Psychiatric diagnoses</b>			
Psychotic disorders	0.78 [0.34, 1.78]	1.19 [0.68, 2.09]	1.01 [0.61, 1.69]
Affective disorders	1.04 [0.59, 1.84]	1.78 [1.18, 2.67]**	1.19 [0.82, 1.74]
Posttraumatic stress disorders	2.21 [1.27, 3.85]**	1.05 [0.64, 1.73]	1.02 [0.67, 1.55]
Anxiety disorders	2.12 [1.29, 3.49]**	1.95 [1.31, 2.89]**	1.67 [1.16, 2.40]**
Substance use disorders	1.68 [0.94, 3.02]	2.39 [1.58, 3.62]***	2.14 [1.46, 3.15]***
Personality disorders	2.59 [1.35, 4.95]**	1.72 [1.03, 2.88]*	1.67 [1.04, 2.69]*

Note. AOR = adjusted odds ratios; CI = confidence interval. ORs are adjusted for all other variables included in the model and are calculated with imputed data. ORs reflect the odds of re-victimization among CSA cases in the listed target group (e.g., male victim) relative to CSA cases in the opposing reference group (e.g., female victim). "Violence" includes the subcategories of physical assault, abduction, threat of violence, stalking, and weapons offenses. "Non-violence" includes the subcategories of property damage, fraud/deception, theft, and public order.

\* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

presented in Table 4. Similar to bivariate analyses, sex (female) and age at abuse (prior to 12 years) independently predicted sexual assault revictimization, with moderate effect sizes. Among the psychiatric disorders, only posttraumatic stress disorders, anxiety disorders (moderate effects), and personality disorders (large effect) remained significant predictors. For both violence and non-violence revictimization, male sex, anxiety disorders, substance-use disorders, and personality disorders were significant predictors, with moderate effect sizes in all cases. Two other predictors emerged as significant for violence revictimization: a younger age at abuse (<12 years), with a small effect size; and affective disorders, with a moderate effect size.

## Discussion

This prospective-longitudinal, matched-cohorts study examined the relationship between CSA and lifetime risk for an array of revictimization experiences, and the role of individual-level victim factors in influencing this risk. To our knowledge, no previous study has examined these issues in a sample of this size (including a large sample of males), with follow-up through to adulthood, and with a focus on risk factors for sexual, violent, and nonviolent revictimization. CSA victims were significantly more likely than controls to have experienced both a lifetime revictimization incident at follow-up as well as a higher frequency of revictimization. These differences were particularly evident for interpersonal crimes, including sexual assault (OR = 5.28), physical assault (OR = 2.59), threats of violence (OR = 4.15), and stalking (OR = 2.01). We found a moderating effect of sex on the CSA–physical assault revictimization

relationship, which indicated a stronger association among females. Among CSA victims, we found that sex, age at initial sexual abuse, and various mental health disorders were significant predictors of the likelihood of revictimization.

## The CSA–Revictimization Relationship and the Influence of Sex

Our finding that CSA was strongly related to risk of sexual assault (OR = 5.28) and physical assault (OR = 2.59) revictimization is consistent with existing prospective and longitudinal research (Barnes et al., 2009; Culatta et al., 2017; McIntyre & Widom, 2011; Widom et al., 2008). The large sample allowed us to investigate several infrequently occurring revictimization experiences generally not reported in previous studies (for an exception, see Widom et al., 2008). For example, sexual abuse victims had 2 and 4 times the odds of being a victim of stalking and threats of violence, respectively, relative to comparisons without known CSA. At the population level, there are very few cases of officially reported kidnapping/abduction in Victoria each year (2–3 victims per 100,000); therefore, finding eight cases in the abuse cohort is unusual. Consistent with the findings of earlier revictimization studies, associations between CSA and nonperson-related revictimization, including property damage, theft, fraud/deception, and public order offenses, were smaller or non-significant.

The differences found between episodes of interpersonal revictimization and non-person-related revictimization may reflect the difficulties that CSA victims can sometimes experience in their relationships (de Jong et al., 2015; Li et al., 2019). For example, it seems plausible that physical assault, sexual

assault, stalking, and threat victimization more often involve pre-existing or familial relationships, compared to other forms of victimization (e.g., theft, property damage), which are often anonymous and/or conducted without direct contact with the victim (McIntyre & Widom, 2011). Previous quasi-experimental research has demonstrated a direct link between CSA and later involvement in violent intimate relationships (Jennings et al., 2015), which may partly explain the increase in risk found for interpersonal crimes.

Consistent with earlier work (Desai et al., 2002; Nelson et al., 2002; Werner et al., 2016), we found that the association between CSA and sexual assault revictimization was not just applicable to females, with male CSA victims showing almost seven times the odds of sexual revictimization relative to male comparisons. Other types of revictimization were also found to be elevated among males CSA victims over male controls. However, only physical assault revictimization attained significance, with other officially recorded victimization categories likely impacted by the relatively smaller sample of males combined with low victimization base-rates. Interestingly, we found that the strength of relationship between CSA and revictimization varied by sex, but only for physical assault revictimization, which was observed to be stronger among women. One possible reason for the amplified effect in females is that the lower prevalence of violence victimization means that even small absolute effects lead to large increases in odds ratios (Fitton et al., 2018). Alternatively, previous research has shown that the relationship between child abuse and violence *perpetration* is also stronger among females (Fitton et al., 2018; Papalia et al., 2018a). Therefore, given the well-documented relationship between violence perpetration and victimization (Jennings et al., 2012), this may partially explain the sex-moderated effect observed in the current study. That is, female abuse survivors who engage in violent behavior may be more often exposed to motivated offenders and high-risk scenarios that are conducive to violent victimization. Studies have also shown that females experience a larger increase in odds of substance-use disorders, emotion dysregulation, and trauma symptomology following abuse relative to males (Cutajar et al., 2010; Widom & White, 1997), which may increase their risk for violence revictimization.

### *Risk Factors for Revictimization among CSA Victims*

Our data suggest that not all CSA victims experience revictimization, with 36.2% experiencing any type of revictimization, 14.4% experiencing physical assault revictimization, and 7.8% experiencing sexual assault revictimization. Therefore, it is important to consider the factors that relate to risk. We examined the role of a set of individual-level factors, including demographic variables, sexual abuse characteristics, and mental health disorders, in the risk of sexual assault, violence, and non-violence revictimization. Victim sex was an independent predictor of each type of revictimization, with moderate effect sizes; sexually abused girls were at heightened risk for sexual revictimization, whereas sexually abused boys were at

heightened risk for both violence and non-violence revictimization. This is consistent with the evidence base on risk factors for sexual and violent victimization in general, as well as with studies examining predictors of revictimization following abuse (DeCamp & Zaykowski, 2015; Palusci & Ilardi, 2019; Pittenger et al., 2018). It is possible that the magnitude of the difference between abused males and females in rates of sexual revictimization is influenced by males disclosing experiences of sexual assault less frequently than females, perhaps due to concerns of being labeled homosexual, masculine ideals of self-reliance, erroneous assumptions that such experiences are a normative part of boys' lives, and expectations that others may minimize their experiences (Alaggia, 2004; Pittenger et al., 2018; Spataro et al., 2001). It has been suggested that these concerns may be further intensified in the case of revictimization, whereby responses to initial sexual abuse disclosure are likely to influence decisions to disclose further sexual assaults (Pittenger et al., 2018).

Previous findings in relation to age at abuse and risk of revictimization have been mixed. The inconsistencies may be explained by variation in study design features (e.g., cross-sectional vs. longitudinal, prospective vs. retrospective), length of follow-up periods, the age range of abusive experiences, and how age at abuse is conceptualized (e.g., age at first or final incident, or an "index" incident, as is the case in this study). Our results suggest that individuals sexually abused before the age of 12 were at greater risk of sexual assault revictimization and violence revictimization, consistent with recent longitudinal work (Jenkins et al., 2018; Pittenger et al., 2018). Interestingly, our previous research involving a subset of the current sample found that an older age at abuse (12–16 years) predicted more frequent and chronic patterns of interpersonal revictimization over time (Papalia et al., 2017). This may suggest a differential effect of age depending on how revictimization is conceptualized (i.e., presence vs. frequency/chronicity of revictimization). It is possible that younger sexual abuse victims more often come from disadvantaged and maltreating family environments, meaning that their risk of re-exposure to sexual abuse and violence is particularly heightened during childhood/adolescence. For older sexual abuse victims, it seems likely that revictimization in dating relationships becomes increasingly relevant, potentially resulting in more sustained patterns of revictimization throughout adolescence and young adulthood. Younger sexual abuse victims may also be perceived as more vulnerable, thus contributing to surveillance bias from child welfare and other relevant services and therefore an increased likelihood of officially reported revictimization. Other characteristics of the index sexual abuse (i.e., severity of abuse, number of episodes, number of perpetrators, relation to perpetrator) were found to be immaterial in predicting risk of revictimization in the multivariate context.

The association between sexual revictimization and adverse mental health is well-documented in the literature (e.g., Culatta et al., 2017; Fortier et al., 2009; Pittenger et al., 2018). Our findings support and extend this body of research by demonstrating that mental health disorders also relate to risk of



violence and nonviolence revictimization following CSA. In the presence of other individual-level risk factors, personality disorders and anxiety disorders consistently predicted all forms of revictimization. Other diagnostic categories were implicated for certain types of revictimization, with posttraumatic stress disorders predicting sexual revictimization, substance use disorders predicting violence and nonviolence revictimization, and affective disorders predicting violence revictimization. One explanation for these findings is that CSA may interrupt typical psychological and biological developmental processes, creating vulnerabilities in self-regulatory functioning across physiological, affective, and behavioral domains (Papalia et al., 2018b). These vulnerabilities can increase risk for various mental health disorders, which in turn may increase susceptibility for revictimization via mechanisms such as impaired risk detection and response, hypervigilance, emotion dysregulation and maladaptive coping, attachment and relationship problems, and risk-taking behavior (Atmaca & Geçöz, 2016; Fortier et al., 2009; Krahé & Berger, 2017; Noll et al., 2003; Risser et al., 2006). An alternative explanation is that mental health problems stem from revictimization experiences. Although this study cannot determine the temporal ordering of psychiatric illness relative to revictimization, other longitudinal findings support the notion that mental ill-health may have a causal effect on revictimization rather than develop as a result of revictimization (Pittenger et al., 2018).

### Limitations

Despite overcoming some shortcomings of previous research, the present study had several limitations. Rates of revictimization based on incidents coming to police attention significantly underestimate the true rate of revictimization. Importantly, the control group had victimization established in an identical manner to the CSA cases. This gives confidence, if not in absolute levels, at least in the relative rates. Individuals with serious forms of mental disorder (e.g., schizophrenia) are highly likely to have received public mental health services and therefore appear in the psychiatric databases used in this study. However, those with high prevalence disorders (e.g., depression, anxiety) that can be effectively managed by a general practitioner or the private sector may not be captured. Our analyses involving psychiatric diagnoses should be viewed with this limitation in mind. Although the inclusion of a large sample of sexual abused boys is a strength of the study, the sample was predominantly (80%) female. While this is representative of the fact that CSA is more common among females (Barth et al., 2013), it does mean that findings may not generalize to the broader population of sexually abused boys. As mentioned earlier, our sex-stratified analyses were likely impacted by small cell sizes among males, particularly given men tend to be less likely than females to report victimization to the police (Arnocky, & Vaillancourt, 2014). Three sources of bias may have reduced the size of the associations between CSA and revictimization:

(1) we cannot exclude unreported cases of CSA from the control group; (2) because CSA victims came to official attention, it is possible they received some form of intervention to ameliorate the impacts of the abuse; and (3) there may be a loss of revictimization data for any CSA victims who relocated from Victoria or changed their name, which is less of an issue for the control sample, which was established close to the time of victimization data extraction.

In contrast, the nature of the CSA sample likely generates a degree of bias in the reverse direction. CSA cases presenting to a forensic medical service represent some of the more severe cases of sexual abuse and are generally skewed toward the lower end of the socioeconomic spectrum. As a result, many CSA victims may have experienced additional disadvantages like family fragmentation, concurrent physical/emotional abuse and neglect, domestic violence, and reduced educational opportunities. Though this methodological limitation is unlikely to entirely account for the associations found in this study, it is equally unlikely we can attribute risk of revictimization simply to the effects of CSA. Relatedly, our focus on one type of childhood victimization may be viewed as a limitation, with some researchers arguing that the field should examine the complete range of victimization that some children are exposed to. This is in light of compelling evidence that childhood victimizations are likely to co-occur, and that multiple exposures to a range of childhood victimizations are associated with more detrimental impacts (Bryce, 2019; Finkelhor et al., 2007; Higgins & McCabe, 2001). However, there is also strong evidence that specific kinds of child maltreatment independently and differentially predict negative outcomes later in life (e.g., Fergusson et al., 2008; Nelson et al., 2002; Werner et al., 2016), and therefore we, like others, suggest that it is important not to forget this specificity (Widom, 2017). Nevertheless, future research should investigate how CSA interacts with other early adversities to influence risk of risk of revictimization. Because our study only included victims of contact CSA, results may not generalize to the significant proportion of the CSA population who experience non-contact forms of sexual abuse. Finally, this study focussed on lifetime risk of various forms of revictimization. It is possible that different patterns of risk may emerge if revictimization outcomes were examined and compared across discrete developmental periods (i.e., childhood, adolescence, and adulthood).

### Implications

The results have a number of practical implications. Evidently, children coming to official attention for sexual abuse ought to be offered early support, monitoring, and/or intervention in order to reduce their risk of revictimization. Our results indicate that children abused prior to the age of 12 may be particularly vulnerable to further sexual assault and violence revictimization, and therefore may require increased service provision to prevent these types of revictimization. We found that the increase in risk for revictimization was experienced by both male and female CSA victims, and largely for crimes of an

interpersonal nature (i.e., physical assault, sexual assault, threats of violence, stalking). Although the responsibility for offending behavior properly lies with the perpetrator and not the victim, these results suggest that it may also be beneficial to develop interventions that provide strategies and supports to CSA victims to reduce the likelihood of interpersonal revictimization (e.g., safety planning, negotiating family and intimate relationship dynamics, interpersonal boundaries) (McIntyre & Widom, 2011). Greater knowledge regarding the pathways to revictimization, including the extent to which these are sex-specific, may provide direction as to how such interventions ought to be targeted (Finkelhor et al., 2009; Hailes et al., 2019). Consistent with notions of trauma-informed care, findings suggest the need for frontline staff who have contact with victims of interpersonal matters (e.g., police officers, general practitioners, victim support counsellors, mental health clinicians) to be aware of the possibility of dealing with someone who has experienced CSA or other revictimization, and to understand the need for sensitivity and safety.

Our findings indicated that certain psychiatric disorders (e.g., posttraumatic stress disorders, affective disorders, anxiety disorders, substance use disorders, and personality disorders) were associated with an increased likelihood of revictimization. Therefore, identification and effective treatment and management of mental health conditions in sexually abused individuals may have a role to play in reducing risk of revictimization. However, more research is needed to understand how mental health conditions and revictimization experiences are temporally related, including to what extent mental health conditions are an antecedent or consequence of revictimization, or a combination of both, and underlying mechanisms. At a minimum, findings suggest that mental health practitioners working with individuals who have CSA in their backgrounds should be aware of their heightened risk for revictimization and seek to support the individual to minimize such risk. Finally, although CSA victims were at increased risk for a range of interpersonal revictimization events, a large proportion of CSA victims did not have officially recorded revictimization. Future research should identify factors contributing to resilience in this group, which in turn may provide insights into strategies to mitigate risk of revictimization in CSA survivors showing higher-risk profiles.

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### Note

1. Victoria is the second most populous Australian state, with a total population of more than 6 million, concentrated mainly in the capital city, Melbourne.

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