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Abstract: Objectives: To provide a comprehensive profile of the prevalence of child sexual abuse (CSA) as well as other forms of child victimization in China, and to examine the associations between CSA, demographic factors, and other forms of child victimization.
Study design: Using a two-staged stratified sampling procedure, we recruited a total of 18,341 students in Grades 9-12 (46.7% girls, mean age = 15.86) from 150 randomly-sampled schools participated during November 2009 to July 2010 in 6 Chinese cities. We assessed the students' demographic background and their experience of CSA and other forms of victimization. The independent effect on CSA of each demographic factor and form of child victimization was examined after controlling for other variables.
Results: The overall lifetime and preceding-year prevalence of CSA was 8.0% and 6.4% respectively. Boys were more likely to report CSA than girls. Apart from having experienced other forms of child victimization, several characteristics were associated with greater risk of CSA: being a boy; being older; having sibling(s); having divorced, separated, or widowed parents; or having an unemployed father.
Conclusions: This study provides reliable estimates of child victimization to facilitate resource allocation in healthcare settings in China. The strong associations between CSA and other forms of child victimization warrant screening for additional forms of child victimization once any one of them has been identified.

**FULL TITLE:** Associating Child Sexual Abuse with Child Victimization in China

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**ABBREVIATIONS:** Child sexual abuse (CSA), Intimate partner violence (IPV), Juvenile Victimization Questionnaire (JVQ)

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**SHORT TITLE:**
CHILD SEXUAL ABUSE AND CHILD VICTIMIZATION

## ABSTRACT

**Objectives:** To provide a comprehensive profile of the prevalence of child sexual abuse (CSA) as well as other forms of child victimization in China, and to examine the associations between CSA, demographic factors, and other forms of child victimization.

**Study design:** Using a two-staged stratified sampling procedure, we recruited a total of 18,341 students in Grades 9-12 (46.7% girls, mean age = 15.86) from 150 randomly-sampled schools participated during November 2009 to July 2010 in 6 Chinese cities. We assessed the students' demographic background and their experience of CSA and other forms of victimization. The independent effect on CSA of each demographic factor and form of child victimization was examined after controlling for other variables.

**Results:** The overall lifetime and preceding-year prevalence of CSA was 8.0% and 6.4% respectively. Boys were more likely to report CSA than girls. Apart from having experienced other forms of child victimization, several characteristics were associated with greater risk of CSA: being a boy; being older; having sibling(s); having divorced, separated, or widowed parents; or having an unemployed father.

**Conclusions:** This study provides reliable estimates of child victimization to facilitate resource allocation in healthcare settings in China. The strong associations between CSA and other forms of child victimization warrant screening for additional forms of child victimization once any one of them has been identified.

**Introduction**

According to the World Health Organization in 2006,[1] 20% of women and 8% of men across 39 countries worldwide have been sexually abused as children. The chances of experiencing CSA are high before puberty and peak in adolescence.[2] CSA has been found to coexist with a problematic family environment, such as a history of physical abuse, neglect, substance dependence, poverty,[3] and having divorced parents.[4] In addition, given the associations between the various types of child victimization,[5] CSA is likely to be catalyzed by other forms of such experience.

CSA has been recognized as a major threat to child health and development. Victims of CSA suffer from a wide variety of health problems include poor psychiatric and psychosomatic outcomes such as anxiety disorder, depression, functional gastrointestinal disorders and chronic pelvic pain,[6-9] which may be related to a gene-environmental interaction in the early life of susceptible children changing one's resilience to stress and therefore increase the vulnerability to developing psychosomatic and psychiatric problems at a later period of life. CSA is indeed a major public health issue that warrants an effective public health approach for its prevention.[10-12]

There is a growing body of CSA research conducted in the Chinese populations.[13-16] In spite of the belief of many national officials that CSA is uncommon in Mainland China due to the more conservative oriental culture and strict discipline in Chinese communities, more

research is needed to fully understand the prevalence and impact of CSA in the Chinese populations. Past research often found CSA rates ranging from 2% to 14% among the Chinese populations, [14-16] which are comparable to the figures found in the Western literature. However, given the huge population in China, most Chinese studies on CSA were limited to a city or a province.[13-16] Research involving several cities or provinces in China is scarce. We acknowledged this research gap and, in this study, aimed to investigate CSA with a larger and more diverse sample so as to provide a more comprehensive and thorough profile of CSA in China. The associations between CSA and both demographic factors and additional forms of victimization were also tested. Based on previous findings, we hypothesized that CSA would be associated with demographic factors such as age, having divorced parents, and family poverty, as well as with other forms of child victimization such as peer victimization and other types of maltreatment.

## Methods

### Study Design and Procedure

With the enormous population of China, it is not feasible to conduct a truly representative sample of all people of China. A better option was to purposively sample cities from different geographic regions in China in order to make the sample more representative of the diversity of the whole nation. In this study we sampled five cities in the Mainland China: Tianjin (located in the North), Shenzhen (in the South), Shanghai (in the East), Xi’an (in the

West), and Wuhan (in the Central area). These cities share similar characteristics in terms of their social, economic, political and cultural development, and can be differentiated from the sixth city sampled – Hong Kong, a former British colony whose sovereignty was returned to China in 1997.

Data collection was conducted between November 2009 and July 2010. We used a two-stage stratified probability sampling procedure to identify eligible student participants in the six cities. In the first stage, we randomly drew 150 schools from the urban and rural areas of all the sampled cities with the probability of selection proportional to school enrollment size. Then, at the second stage, we randomly sampled one to two classes from each of the $9^{th}$ to $12^{th}$ Grades in the selected schools. All students aged 15-17 years in the sampled classes were invited to participate. This age group was selected based on the assumption that its members would be able to understand and complete the self-reported items on CSA.

Participation in this study was voluntary. All participants provided written consent prior to taking part in the study. They were briefed by trained interviewers in a private and quiet place. The questionnaire was self-administered by the participants. We emphasized that they could decline to answer any question or terminate the interview at any time they wished. Each completed questionnaire was assigned a record identifier; apart from this, no information about the student's name, address, or school was recorded. All procedures were given ethical approval by the institutional review boards for each research site. We trained all interviewers in

ethical issues related to working with participants who were reporting violence. Where appropriate, participants were given an information card containing details of social services related to violence prevention.

**Measures**

*CSA*. CSA was measured using the sexual victimization module of the Chinese version of the Juvenile Victimization Questionnaire (JVQ).[5, 17, 18] The original version of JVQ has shown to have good construct validity, adequate test-retest reliability as well as good internal consistency. The JVQ items correlated well with measures of traumatic symptoms [5]. The original version of the sexual victimization module contained seven items assessing different forms of sexual abuse behaviors, e.g. sexual assault by known adults and nonspecific sexual assault. With the permission from the original authors, we modified the subscale by adding five new items to assess other forms of CSA. The new items included; (a) forced exposure to pornography, (b) nude photo(s) being taken unwillingly, (c) private parts being watched, (d) being forced into commercial sex, and (e) nude photo(s)/video(s) being uploaded on the Internet unwillingly. Items were rated on a 0/1 scale where 1 represented having had an experience of the violent behavior and 0 represented not having had such experience. We selected two time frames for the reporting of these violent acts: (a) during the year preceding the study and (b) over the participant's lifetime. The modified sexual victimization module had a Cronbach's alpha of .97, indicating good internal consistency.

*Child Victimization*. Four modules of the Chinese version of the JVQ [5, 17] were used to assess other forms of child victimization. These included: (a) conventional crime, (b) child maltreatment, (c) peer and sibling victimization, and (d) witnessing of, or indirect, victimization. The Chinese JVQ has demonstrated good internal consistency, with Cronbach's alphas ranging from .64 to .89.[17] Similar to the sexual victimization module, all 27 items were rated on a 0/1 scale. The internal consistencies of the four modules in this study were satisfactory to good (Cronbach's alphas were .83, .63, .77, and .78 for conventional crime, child maltreatment, peer and sibling victimization, and witnessing or indirect victimization respectively).

*Demographic Information*. Participants were asked about their gender, age, number of siblings, parental marital status, father's and mother's education level, father's and mother's employment status, family income, and social security (if any) received by their family.

**Statistical Analyses**

Some variables were derived to form other meaningful modules of victimization. In particular, three items from the conventional crime module were extracted to form the property crime module, while ten items from the conventional crime, child maltreatment, and peer and sibling victimization modules formed the physical assault module. We summarized the demographic characteristics as well as the prevalence rates of CSA and all other forms of child victimization, and performed comparisons of these variables by gender using Fisher's exact

test. To examine the associations between CSA, other forms of child victimization, and the various demographic characteristics, we performed a structured multiphase logistic regression with CSA as the dependent variable. In phase 1, we performed a series of multiple logistic regression analyses. In each analysis of this phase, one of the demographic variables was treated as the independent variable and the others as controlled variables. In phase 2, we examined the associations between CSA and child victimization by performing another series of logistic regressions. In this analysis, each type of child victimization was entered as the independent variable one by one while other types of victimization as well as all demographic factors were controlled. Multicollinearity was also checked, and the values of all variance inflation factors (VIF) were smaller than 3 before regression analysis was conducted. A p-value $< .05$ was considered statistically significant and SPSS 17.0 was used to perform all the statistical analyses in this study.

## Results

A total of 18,341 students participated in this study (46.7% girls; mean age = 15.86, *SD* = 0.97), giving a response rate of 95.8%. Such a high response rate was secured because the participated schools were very supportive and they helped encourage students to participate. The characteristics of the students participating in the study were compared with the students who refused participation. No significant difference was found between them in terms of gender, age and demographics. The demographic and socioeconomic characteristics of the

participants and their families are shown in Table I.

[Table I about here]

**Prevalence of Child Sexual Abuse and Other Types of Child Victimization**

Table II lists the lifetime and preceding-year prevalence rates of CSA and other types of child victimization by gender. The overall lifetime and preceding-year prevalence of CSA was 8.0% and 6.4% respectively. A higher percentage of boys than girls had encountered sexual victimization. When CSA was split into 12 specific behaviors, a significant difference in prevalence rates by gender persisted. Again, more boys than girls reported having had an experience of victimization across all of the CSA behaviors. The most prevalent form of lifetime CSA was sexual assault by a known adult (lifetime = 3.8%; preceding-year = 3.0%), followed by nonspecific sexual assault (lifetime = 3.4%; preceding-year = 3.0%), and forced exposure to pornography (lifetime = 3.4%; preceding-year = 2.4%).

To distinguish the prevalence of forced sexual violence and that of sexual behaviors assented by adolescents, the prevalence of forced CSA was calculated excluding the item "statutory rape" (which included sexual intercourse assented by adolescents). The resultant lifetime and preceding-year prevalence rates were 7.8% and 6.0% respectively, which were very close to the original ones (Table II).

[Table II about here]

In terms of other types of child victimization, conventional crime (lifetime = 57.1%;

preceding-year = 43.7%) was the most prevalent. Again, there was a gender difference in prevalence rates for all types of child victimization. Boys were more likely than girls to report all kinds of violence, except for witnessing or indirect victimization.

**Factors Associated with Child Sexual Abuse**

Results of the first phase of the logistic regression revealed several factors that increased the odds of CSA (phase 1, Table III). Specifically, being a boy; being older in age; having siblings; having divorced, separated, or widowed parents; and having an unemployed father (a*OR* ranging from 1.10 [1.02-1.20] to 2.30 [1.77-2.98]) were all significantly associated with increased odds of CSA (all $p < .05$). However, there was no significant association with family income and parental education level.

[Table III about here]

After adjusting for all demographic and socioeconomic factors in Phase 2 of the multivariate analysis, lifetime experiences of all types of child victimization were significantly associated with increased odds of lifetime and preceding-year CSA (a*OR* ranging from 3.74 [3.23, 4.34] to 5.40 [4.54, 6.43], $p < .001$).

## Discussion

Our study successfully captured a large and diverse sample from different geographical area in China, and is one of the largest youth-based survey studies to investigate the severity of CSA and its association with demographics and other forms of child victimization in the

Chinese population. Almost one in ten (9.3%) boys in this study had experienced CSA by an adult during their lifetime, as had nearly one in 15 (6.6%) of the girls. This study also reveals a higher prevalence of all forms of CSA among boys, and this relationship persists after controlling for other risk factors in the multivariate analysis. This finding is different from those in Western studies which generally find that CSA was more likely to be directly to girls.[19-23] The prevalence rate for boys in this study falls into the Western range of 4%-76% for males; however, for girls the prevalence is lower than the Western average range of 20%-30%.[19-21] Some researchers argue that the female predominance in CSA may be due to the failure of identification and underreporting of CSA among boys.[24] One of the reasons behind is that many boys are unsure whether their early sexual experience is a true sexual assault,[25] and sexual victimization by the same sex is often linked with homosexuality among adolescent boys which may lead to confusion to their sexual identity.[26] In this study, however, underreporting among boys relative to girls does not appear to be a concern in the Chinese context, and the male predominance in CSA prevalence echoes the higher rates of victimization of boys by other forms of violence (e.g. physical assault and peer and sibling victimization). The finding may also be due to an apparent difference between the readiness of adolescent girls in the West and those in China to report their CSA experience. School-aged girls in China are probably more likely to underreport the unfavorable sexual events which may be considered as too sensitive in the context of Chinese culture. Besides, the higher prevalence

of CSA against boys in this study may reflect a true difference in the prevalence of CSA between China and the West: given the one-child policy operating in Mainland China, parental supervision of children, especially girls, is generally strict.[27] Chinese girls are more likely to be expected to stay at home, under parents' supervision, and the high value placed on female virginity in Chinese societies may further encourage parents to be more protective to their daughters from sexual abuse.[28] The strict parental supervision might therefore reduce the likelihood for Chinese girls to experience sexual victimization (especially by non-family members), resulting in a relatively lower prevalence than boys. Interestingly, similar gender ratio with more males reported for sexual harassment was found among Israel and South African school students,[29, 30] while equivalence in the prevalence of CSA among males and females was reported in two other school studies in Palestine and South Africa.[31]

The most prevalent form of CSA was sexual assault by a known adult. This is in line with previous findings that victims often report having been sexually abused by family members, or known but unrelated men.[32, 33] Some demographic and socioeconomic factors were found to be associated with CSA. This study is the first to provide evidence for a link between having siblings and increased risk of CSA. Apart from the possibility that the siblings themselves could be perpetrators,[34, 35] one possible explanation for this association could be that having more children in a family disperses the resources of parents (such as care and economic support) among them, making each individual more vulnerable to child

victimization or CSA.

Consistent with previous research, problematic family environment such as single parent and unemployed father was related to increased risk of CSA.[4] However, family income and social security did not emerge as risk factors of CSA, and whether economic disadvantage places children at higher risk of CSA remains inconclusive.[36] Furthermore, income has been considered as a very private piece of information in China, where total/true income (which include other sources of income) could be much higher than the official basic salary and would be kept strictly confidential to any people outside the family due to taxation and socio-political reasons. Hence family income reported in a school survey could be unreliable.

Finally, this study also shows that the experience of other forms of child victimization was associated with an increased risk of CSA after holding each relationship independent. These findings converge with those of previous studies in the West [37-39] by suggesting that CSA risks increase with the presence of other forms of child victimization. It has been argued that, given the shared symptoms exhibited by the victims of child abuse and bullying, the two types of violence may be associated.[40] Our findings confirm the association between child abuse and peer victimization, and provide support for the approach of screening for the other when one is detected.

**Implications**

The associations among the various types of child victimization, including CSA, warrant the development of a screening procedure for all kinds of child-related violence. Screening for other types of child victimization when one is detected would help improve the effectiveness of identification of child victims. The use of the JVQ, which can be completed in 10 minutes, in health or medical settings may be a feasible approach to such screening. Our findings also signify the need of further investigation e.g. through in-depth qualitative interviews, to study what has happened and what are the reasons and vulnerable factors (e.g. improper parenting, marital relationship, family risk factors, etc) which could be accounted for the important associations between CSA and other forms of victimization in order to facilitate child protection in China.

From a policy perspective, our findings provide compelling evidence to the government that child sexual abuse is a significant health problem in China. It is also important to pay special attention to the close linkage of CSA with other types of child victimization and vulnerable (family and environmental) factors. Hence it is in our society's interest to strengthen the existing policy in China on child protection, child victimization surveillance and family support in parenting and child welfare.

As in any study based on self-reports, recall bias may affect the results. One of the factors contributing to recall bias may be the time frame used to measure CSA and other forms of child victimization. Previous research has highlighted that a year may be a long period over

which to recall victimization that occurs more frequently, while also being a relatively short frame within which to recall rarer incidents.[41] Moreover, there were other potential confounding variables such as family asset, parenting method and parental mental health not being included in the analysis. The reliability of family income captured in this study should also be handled in caution, because income and asset can be a sensitive topic in China and the responses may not be accurate. Indeed, 12% participants did not indicate their family income. As to the sampling procedure, our study focused on adolescents in schools in major cities, our findings may not be generalizable to other children in rural areas of China. However, volunteer bias should be minimal with the stringent design of random selection of school classes as well as the achievement of a very high response rate. Future studies could incorporate other sources of information such as parents' reports, or health or police records, to cross-check the reliability of students' self-reporting of CSA and other forms of violent victimization.

**Conclusion**

Using a large and diverse sample of adolescents in six Chinese cities, this study provides a comprehensive profile of the prevalence of CSA and other forms of child victimization in China. Reliable estimates of such prevalence rates may facilitate better resource allocation in healthcare and mental health settings. In addition, our data reveal strong associations between the likelihood of experiencing CSA, certain demographic factors, and other forms of violence victimization. Child protection services and services for intimate

partner or family violence may therefore find it useful to screen for CSA once any other form of child victimization has been identified.

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**Table 1**



Table I. Demographic Characteristics of Children's Respondents (N = 18,341)

| Characteristics | *n* (%) Total (*N* = 18,341) | | Boys (*n* = 9,773) | | Girls (*n* = 8,568) | | *p*-value [a] |
|---|---|---|---|---|---|---|---|
| Site | | | | | | | 0.00 |
| Hong Kong | 3,926 | (21.4%) | 1,882 | (19.3%) | 2,044 | (23.9%) | |
| Shanghai | 2,032 | (11.1%) | 1,227 | (12.6%) | 805 | (9.4%) | |
| Wuhan | 2,030 | (11.1%) | 1,187 | (12.1%) | 843 | (9.8%) | |
| Tianjin | 3,372 | (18.4%) | 1,807 | (18.5%) | 1,565 | (18.3%) | |
| Xi'an | 3,175 | (17.3%) | 1,486 | (15.2%) | 1,689 | (19.7%) | |
| Shenzhen | 3,806 | (20.8%) | 2,184 | (22.3%) | 1,622 | (18.9%) | |
| Children's characteristics | | | | | | | |
| Age [mean (SD)] | 15.86 | (0.97) | 15.87 | (0.98) | 15.85 | (0.96) | 0.08 |
| No. of siblings | | | | | | | 0.00 |
| 0 | 7,110 | (41.1%) | 4,175 | (45.4%) | 2,935 | (36.2%) | |
| 1 or more | 9,189 | (58.9%) | 5,021 | (54.6%) | 5,068 | (63.8%) | |
| [mean (SD)] | 0.91 | (1.04) | 0.85 | (1.06) | 0.97 | (1.03) | 0.00 |
| Parents' characteristics | | | | | | | |
| Marital status | | | | | | | 0.10 |
| Married / Cohabiting | 16535 | (90.2%) | 8845 | (90.5%) | 7690 | (89.8%) | |
| Divorced / Separated / Widowed | 1390 | (7.6%) | 700 | (7.2%) | 690 | (8.1%) | |
| Missing | 416 | (2.3%) | 228 | (2.3%) | 188 | (2.2%) | |
| Father's education [b] | | | | | | | 0.00 |
| Secondary 3 or below | 7,678 | (41.9%) | 3,987 | (40.8%) | 3,691 | (43.1%) | |
| Secondary 4 to 7 | 4,898 | (26.7%) | 2,516 | (25.7%) | 2,382 | (27.8%) | |
| Tertiary or above | 3,456 | (18.8%) | 1,973 | (20.2%) | 1,483 | (17.3%) | |
| Missing | 2,309 | (12.6%) | 1,297 | (13.3%) | 1,012 | (11.8%) | |
| Mother's education [b] | | | | | | | 0.00 |
| Secondary 3 or below | 8,640 | (47.1%) | 4,456 | (45.6%) | 4,184 | (48.8%) | |
| Secondary 4 to 7 | 4,537 | (24.7%) | 2,322 | (23.8%) | 2,215 | (25.9%) | |
| Tertiary or above | 2,909 | (15.9%) | 1,670 | (17.1%) | 1,239 | (14.5%) | |
| Missing | 2,255 | (12.3%) | 1,325 | (13.6%) | 930 | (10.9%) | |
| Father's unemployment | 1,066 | (5.8%) | 520 | (5.3%) | 546 | (6.4%) | 0.01 |
| Mother's unemployment | 1,080 | (5.9%) | 583 | (6.0%) | 497 | (5.8%) | 0.00 |
| Family income | | | | | | | 0.00 |
| No income | 1,625 | (8.9%) | 788 | (8.1%) | 837 | (9.8%) | |
| Below median | 2,759 | (15.0%) | 1,373 | (14.0%) | 1,386 | (16.2%) | |
| Above median | 12,429 | (67.8%) | 6,867 | (70.3%) | 5,562 | (64.9%) | |
| Missing | 1,528 | (8.3%) | 745 | (7.6%) | 783 | (9.1%) | |
| Receiving social security | 1,354 | (7.4%) | 708 | (7.2%) | 646 | (7.5%) | 0.00 |

[a] *P*-values obtained by by *t* test or $\chi^2$ test.

[b] Secondary 3 or below = Grade 9 or below in the United States; Secondary 4 to 7 = Grade 10 to Grade 12 (or high school) in the United States; Tertiary or above = university, college, vocational education, or above.

**Table II**



Table II. Prevalence of Child Sexual Victimization and Other Child Victimization by Gender (N = 18,341)

| | Lifetime Prevalence | | | | Preceding-year Prevalence | | | |
|---|---|---|---|---|---|---|---|---|
| **Victimization** | **All (*N* = 18,341)** | **Boys (*n* = 9,773)** | **Girls (*n* = 8,568)** | ***p*-value [a]** | **All (*N* = 18,341)** | **Boys (*n* = 9,773)** | **Girls (*n* = 8,568)** | ***p*-value [a]** |
| Child sexual victimization (Total) | 8.0% | 9.3% | 6.6% | <.001 | 6.4% | 7.8% | 4.7% | <.001 |
| Sexual assault by known adult | 3.8% | 4.5% | 3.0% | <.001 | 3.0% | 3.9% | 2.0% | <.001 |
| Nonspecific sexual assault | 3.4% | 4.3% | 2.4% | <.001 | 3.0% | 3.9% | 2.0% | <.001 |
| Sexual assault by peer | 2.6% | 3.2% | 1.9% | <.001 | 1.8% | 2.1% | 1.4% | <.001 |
| Rape (attempted or completed) | 2.2% | 2.5% | 1.9% | .01 | 1.8% | 1.9% | 1.6% | .26 |
| Flashing / Sexual exposure | 2.5% | 2.9% | 2.1% | <.001 | 2.1% | 2.4% | 1.9% | .02 |
| Verbal sexual harassment | 2.9% | 3.5% | 2.2% | <.001 | 2.5% | 3.0% | 1.8% | <.001 |
| Statutory rape & sexual misconduct | 2.8% | 3.4% | 2.1% | <.001 | 2.0% | 2.5% | 1.4% | <.001 |
| Forced exposure to pornography | 3.4% | 4.4% | 2.4% | <.001 | 2.4% | 3.2% | 1.5% | <.001 |
| Nude photos being taken unwillingly | 2.0% | 2.5% | 1.4% | <.001 | 1.5% | 2.0% | 0.9% | <.001 |
| Nude photo(s)/video(s) being uploaded on the Internet unwillingly | 2.0% | 2.4% | 1.6% | <.001 | 1.5% | 1.9% | 1.1% | <.001 |
| Private parts being watched | 3.1% | 4.1% | 2.0% | <.001 | 2.4% | 3.1% | 1.6% | <.001 |
| Being forced into commercial sex | 1.6% | 2.0% | 1.1% | <.001 | 1.3% | 1.6% | 1.0% | <.001 |
| Child sexual victimization (excluding "statutory rape & sexual misconduct") | 7.8% | 9.0% | 6.4% | <.001 | 6.0% | 7.3% | 4.6% | <.001 |
| Other types of child victimization | | | | | | | | |
| Conventional crime | 57.1% | 59.0% | 55.0% | <.001 | 43.1% | 44.7% | 41.3% | <.001 |
| Child maltreatment | 28.1% | 28.8% | 27.3% | .03 | 21.7% | 22.2% | 21.0% | .06 |
| Peer and sibling victimization | 32.6% | 36.9% | 27.7% | <.001 | 25.3% | 29.3% | 20.8% | <.001 |
| Witnessing and indirect victimization | 40.3% | 38.6% | 42.3% | <.001 | 32.7% | 31.7% | 33.8% | <.001 |
| Property crime [b] | 51.1% | 51.9% | 50.1% | .01 | 38.0% | 38.8% | 37.1% | .02 |
| Physical assault [c] | 45.0% | 50.6% | 38.7% | <.001 | 34.1% | 38.6% | 29.1% | <.001 |

[a] *P*-value by $\chi^2$ test.

[b] Property crime = Items 1-3 of the Conventional crime module.

[c] Physical assault = Items 4-8 of the Conventional crime module + Item 1 of the Child maltreatment module + Items 1, 2, 3, & 6 of the Peer and sibling victimization module.

**Table III**



Table III. Independent Effects of Socio-demographic Variables and Other Types of Child Victimization on Child Sexual Abuse (CSA) ($n$ = 11,150)

| Variable | Adjusted Odds Ratio (95% CI) | |
|---|---|---|
| | **Lifetime CSA** | **Preceding-year CSA** |
| Phase 1 [a] | ($n$ = 11,150, Nagelkerke $R^2$ = 2.1%, $p$ [b] = 0.280) | ($n$ = 11,150, Nagelkerke $R^2$ = 2.4%, $p$ [b] = 0.231) |
| Site | | |
| Mainland [c] | 0.90 (0.74, 1.09) | 0.96 (0.77, 1.19) |
| Hong Kong | 1.00 | 1.00 |
| Children's characteristics | | |
| Gender | | |
| Boy | 1.48*** (1.28, 1.71) | 1.76*** (1.50, 2.07) |
| Girl | 1.00 | 1.00 |
| Age (mean) | 1.11** (1.03, 1.20) | 1.10* (1.02, 1.20) |
| Having siblings (No. of siblings > 0) | 1.30** (1.10, 1.54) | 1.30** (1.08, 1.56) |
| Parents' characteristics | | |
| Marital status | | |
| Divorced / Separated / Widowed | 2.30*** (1.77, 2.98) | 2.29*** (1.72, 3.04) |
| Married / Cohabitating | 1.00 | 1.00 |
| Father's education [d] | | |
| Secondary 3 or below | 1.22 (0.90, 1.66) | 1.25 (0.89, 1.76) |
| Secondary 4 to 7 | 1.27 (0.95, 1.69) | 1.19 (0.87, 1.64) |
| Tertiary or above | 1.00 | 1.00 |
| Mother's education [d] | | |
| Secondary 3 or below | 0.98 (0.71, 1.35) | 0.97 (0.68, 1.38) |
| Secondary 4 to 7 | 0.91 (0.67, 1.22) | 0.96 (0.69, 1.33) |
| Tertiary or above | 1.00 | 1.00 |
| Father's unemployment | 1.34* (1.02, 1.77) | 1.40* (1.04, 1.90) |
| Mother's unemployment | 0.91 (0.67, 1.23) | 0.87 (0.62, 1.22) |
| Family income | | |
| Below median (including no income) | 0.90 (0.76, 1.05) | 0.90 (0.75, 1.08) |
| Above median | 1.00 | 1.00 |
| Receiving social security | 1.21 (0.94, 1.55) | 1.27 (0.97, 1.66) |

*$p$ < .05. **$p$ < .01. ***$p$ < .001.

[a] Variables in Phase 1 were adjusted by other variables in the same phase, while variables in Phase 2 were adjusted by all variables in Phase 1 and other variables in Phase 2.

[b] $P$-value by the Hosmer & Lemeshow test.

[c] Mainland = All sites in mainland China, i.e. Shanghai, Shenzhen, Tianjin, Wuhan, and Xi'an.

TABLE III. (Continued) Independent Effects of Socio-demographic Variables and Other Types of Child Victimization on Child Sexual Abuse (CSA) (*n* = 11,150)

| Variable | Adjusted Odds Ratio (95% CI) | |
|---|---|---|
| | Lifetime CSA | Preceding-year CSA |
| Phase 2 [a] | | |
| Lifetime child victimization [d] | | |
| Conventional crime | 4.29*** (3.65, 5.05) | 4.57*** (3.81, 5.49) |
| Child maltreatment | 3.74*** (3.23, 4.34) | 3.89*** (3.30, 4.57) |
| Peer and sibling victimization | 4.56*** (3.93, 5.29) | 5.29*** (4.48, 6.25) |
| Witnessing and indirect victimization | 4.29*** (3.67, 5.00) | 4.32*** (3.64, 5.12) |
| Property crime | 3.72*** (3.20, 4.34) | 4.17*** (3.51, 4.96) |
| Physical assault | 4.93*** (4.23, 5.76) | 5.40*** (4.54, 6.43) |

*$p < .05$. **$p < .01$. ***$p < .001$.

[a] Variables in Phase 1 were adjusted by other variables in the same phase, while variables in Phase 2 were adjusted by all variables in Phase 1 and other variables in Phase 2.

[b] *P*-value by the Hosmer & Lemeshow test.

[c] Mainland = All sites in mainland China, i.e. Shanghai, Shenzhen, Tianjin, Wuhan, and Xi'an.

[d] Property crime = Items 1-3 of the Conventional crime module; Physical assault = Items 4-8 of the Conventional crime module + Item 1 of the Child maltreatment module + Items 1, 2, 3, & 6 of the Peer and sibling victimization module.