2018

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HHS Public Access

Author manuscript

Child Maltreat. Author manuscript; available in PMC 2019 May 01.

Published in final edited form as:

Child Maltreat. 2018 May ; 23(2): 137–146. doi:10.1177/1077559517733813.

Predicting Sexual Revictimization in Childhood and Adolescence: A Longitudinal Examination Using Ecological Systems Theory

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Abstract

A substantial proportion of sexual abuse victims report repeat sexual victimization within childhood or adolescence; however, there is limited understanding of factors contributing to revictimization for youth. Thus, the present study examined predictors of sexual revictimization prior to adulthood using ecological systems theory. Records of 1,915 youth presenting to a Child Advocacy Center (CAC) were reviewed to identify individual, familial, and community factors as well as initial abuse characteristics associated with risk for revictimization. Results showed that 11.1% of youth re-presented to the CAC for sexual revictimization. At the individual level, younger children, girls, ethnoracial minority youth, and those with an identified mental health problem were most likely to experience revictimization. Interpersonal factors that increased vulnerability included the presence of a non-caregiving adult in the home, being in mental health treatment, and domestic violence in the family. Community-level factors did not predict revictimization. When factors at all levels were examined in conjunction, however, only individual-level factors significantly predicted the risk for revictimization. Findings from this study provide valuable information for CACs when assessing risk for re-report of sexual abuse and add to the field's understanding of revictimization within childhood.

Child sexual abuse (CSA) is a pervasive problem with myriad short- and long-term consequences for victims and their families. Its impact is far reaching with recent estimates that 26.6% of girls and 5.1% of boys experience sexual abuse or assault by age 17 (Finkelhor, Shattuck, Turner, & Hamby, 2014). Aside from the higher prevalence of psychiatric disorders and behavior problems following abuse (Putnam, 2003), CSA victims are at an increased risk for subsequent sexual victimization throughout the lifespan (i.e., revictimization; see Arata, 2002; Classen, Aggrawal, & Palesh, 2005). Although the majority of revictimization research has focused on adult sexual assault of CSA survivors, evidence suggests that 17–39% of CSA victims experience revictimization within childhood or adolescence (Finkelhor, Ormrod, & Turner, 2007; Swanston et al., 2002). Revictimization is a public health concern associated with an exacerbation of abuse sequelae including

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psychological distress, posttraumatic stress disorder (PTSD), depression, anxiety, suicidal ideation, non-suicidal self-injury, and substance abuse (Arata, 2002; Balsam, Lehavot, & Beadnell, 2011; Casey & Nurius, 2005; Fortier et al., 2009). Thus, it is imperative to identify risk factors in still-developing youth to inform prevention programs that may protect individuals from future harm and improve psychosocial well-being.

The extant revictimization literature almost exclusively focuses on sequelae of initial sexual abuse or assault episodes as contributing to risk for subsequent harm (for reviews see Arata, 2000; Classen et al., 2005; Messman-Moore & Long, 2003). For example, symptoms of depression, anxiety, and PTSD have been found to increase risk for revictimization in youth and adult samples (Auslander, Tlapek, Threlfall, Edmond, & Dunn, 2015; Cuevas, Finkelhor, Clifford, Ormrod, & Turner, 2010; McCart et al., 2012; Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004). Maladaptive, abuse-related cognitions such as self-blame, loss of trust, and negative self-appraisals (Penning & Collings, 2014) stemming from initial abuse experiences, and health risk behaviors including substance and alcohol use, unprotected sex, prostitution, and having frequent sexual partners (Fergusson, Horwood, & Lynskey, 1997; Krahe, Scheinberger-Olwig, Waizenhofer, & Kolpin, 1999; Testa, Hoffman, & Livingston, 2010) also place individuals at heightened risk.

In addition to negative abuse sequelae, some child characteristics (e.g., age, gender, and ethnicity) and features of initial abuse experiences (e.g., abuse severity) have been associated with sexual revictimization. Some studies have found that adolescents and adults reporting sexual revictimization note being younger at the time of their initial abuse experience compared to their singly victimized peers (Casey & Nurius, 2005; Humphrey & White, 2000; Simmel et al., 2012), although others have found no effect of age (Jankowski, Leitenberg, Henning, & Coffey, 2002). A recent study using longitudinal administrative data of reports to child protective services found that female CSA victims were more likely to have a re-report of sexual abuse by the time they reached adolescence compared to boys (Matta Oshima, Jonson-Ried, & Seay, 2014). These authors also found that African American adolescents experienced revictimization, defined as re-report of any maltreatment type, more frequently than European American youth. Prior studies have also found that more invasive forms of CSA have been linked to revictimization both prior to (Swanston et al., 2002) and during adulthood (Arata, 2000; Casey & Nurius, 2005; Simmel et al., 2012).

The few studies examining factors beyond the individual suggest that other contexts exhibit important influence over risk for sexual revictimization. In fact, multiple investigators have proposed the use of Bronfenbrenner's bioecological model (Bronfenbrenner & Morris, 2006) as a guiding theoretical framework for research in the field (e.g., Grauerholz, 2000; Messman-Moore & Long, 2003; Pittenger, Huit, & Hansen, 2016). The bioecological perspective allows for an integrated understanding of risk by examining factors across the individual and five contextual systems within which an individual develops: the microsystem (i.e., the individual's interaction with the immediate environment), mesosystem (i.e., interactions between two or more settings directly involving the individual), exosystem (i.e., interactions between two or more settings impacting the individual indirectly), macrosystem (i.e., societal values and the cultural conscience), and chronosystem (i.e., change in the individual and historical context over time). This study focuses on characteristics across

bioecological contexts, specifically, the individual, microsystem, and exosystem levels as factors within these levels (described in Table 1) were directly measured by the agency from which data were collected.

Microsystem Factors and Revictimization

Microsystems represent interpersonal interactions within which victimization, revictimization, help-seeking, and support occur (Messman-Moore & Long, 2003). The family context has likely been the most frequently studied microsystem, with evidence suggesting that parental discord, familial disruption and violence, parental psychopathology and substance abuse, and low socioeconomic status directly increase risk for revictimization (Fergusson et al., 1997; Finkelhor, Ormrod, & Turner, 2007; Matta Oshima et al., 2014; Swanston et al., 2002). These concerns may also pose danger to children by increasing the likelihood that they are exposed to potential perpetrators (Kellogg & Hoffman, 1997). For example, youth may cohabitate or come into frequent contact with non-caregiving adults such as caregivers' paramours, other substance abusing adults, extended family members, or individuals who rent-share, thus increasing opportunity for abusive contact to occur. Of note, prior family history of CSA is a risk factor for youth sexual victimization (McCloskey & Bailey, 2000) and should thus be evaluated in regard to its influence on vulnerability for multiple victimization episodes.

Youth victims of abuse are likely to interact with helping professionals, particularly with the availability of interventions designed to reduce symptomatology following CSA (e.g., TF-CBT; Cohen, Mannarino, Berliner, & Deblinger, 2000) and reduce risk of subsequent harm directly (e.g., Healthy Adolescent Relationship Project; DePrince, Chu, Labus, Shirk, & Potter, 2015). Given specific interventions' focus on addressing psychopathology and behaviors linked to revictimization risk (e.g., PTSD, risk detection, and sexual risk taking), it is important to evaluate the preventive function of therapies and professional support.

Finally, any consideration of interpersonal contributors to revictimization should recognize the victim's relationship to their initial abuse perpetrator. Unfortunately, there is a dearth of literature examining initial abuse perpetrator characteristics relating to revictimization (Classen et al., 2005), with some evidence for increased risk with intrafamilial offenders (Kessler & Bieschke, 1999) and those identified as caregivers' paramours (Matta Oshima et al., 2014).

Exosystem Factors and Revictimization

Despite their role in promoting child safety, exosystems have been largely absent from prior revictimization literature. The community environment represents an important context for child development, particularly in regard to violence exposure and victimization (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003). Indeed, in their study of various forms of victimization, Finkelhor and colleagues (2007) found that youth perceiving their neighborhood as lower in quality than others in which they have lived are more vulnerable to future victimization episodes. Drake and colleagues (2003) also found an increased risk for

revictimization of sexually abused youth when children lived in census tracts with low median household income (e.g., < $30,000).

Legal and child welfare systems are also housed within this level. These include investigation and prosecution outcomes as well as outcomes associated with use of the Child Advocacy Center (CAC) model. CACs (Anderson & McMaken, 1990) perform investigative, advocacy, and supportive functions for CSA victims and their family members. To date, the only evaluation of the CAC model regarding revictimization found that although cases investigated with the support of CACs are more often substantiated and prosecuted, they are no less likely to experience revictimization (Wolfteich & Loggins, 2007). This finding reflects prior research regarding case substantiation and revictimization (Drake, Jonson-Reid, Way, & Chung, 2003), but leaves questions about whether case outcomes such as law enforcement action or adjudication, which may be influenced by use of the CAC model, in turn influence revictimization risk.

The Current Study

The extant revictimization research has helped to identify risk factors and avenues of intervention; however, limited inclusion of males, frequent use of retrospective abuse reports, and reliance on cross-sectional data leave significant gaps in the literature. Further, the few studies examining revictimization in youth have included multiple forms of abuse and neglect, rather than focusing on sexual revictimization. These issues highlight the need for research targeting sexual victimization in childhood and adolescence that (a) uses longitudinal methods and (b) explores contextual factors that contribute to risk. Thus, the current project employed a longitudinal design using a bioecological perspective (Bronfenbrenner & Morris, 2006) to examine revictimization in a large sample of male and female youth CSA victims aiming to identify (a) individual factors that contribute to sexual revictimization within childhood and (b) contextual factors at the micro- and exosystem levels that contribute to sexual revictimization within childhood. We hypothesized that youth would be more likely to experience revictimization if they:

1. were younger at the time of initial abuse discovery *(individual level)*,
2. had identified mental health problems *(individual level)*,
3. lived in homes with current or historical domestic violence, parental substance use, and/or the presence of a non-caregiving adult *(microsystem level)*,
4. had a family member with a CSA history *(microsystem level)*,
5. did not receive mental health treatment at the time of their initial abuse *(microsystem level)*, and
6. lived in neighborhoods characterized by low socioeconomic status *(exosystem level)*.

Given limited research, we explored both the effect of gender *(individual level)* and the initial abuse victim-perpetrator relationship *(microsystem level)* on risk for revictimization. Finally, recognizing the complexity of child development, we further sought to identify

which risk factors persist when examined in a multivariate model representing the bioecological contexts.

Method

Data

Closed case records of children with a sexual abuse investigation between the years 2002 and 2009 were accessed with permission from a local CAC. Following referral by law enforcement or the Department of Health and Human Services, CAC staff created and maintained a case record for each victim based on information gathered during an intake interview. To determine median household income and education attainment for the adult population – proxies of socioeconomic status – cases were matched by zip code to the U.S. Census Bureau (2000) American Fact Finder Profile of Selected Economic Characteristics from the 2000 Census Summary File 3 (SF 3) and Profile of Selected Social Characteristics from the 2000 Census Summary File 4 (SF 4), respectively. Table 1 includes detailed descriptions of all study variables. Twenty-nine percent of the case files included in this study were randomly selected to be independently coded by research staff, indicating 98.6% item-level agreement.

Youth under age 19 and who had at least one incident of CSA resulting in CAC contact were included in this study. Prior research has found no significant differences between substantiated and unsubstantiated cases (e.g., Drake et al., 2003); therefore, all allegations of abuse were considered. Cases were excluded from this study if (a) they were identified as at-risk for abuse without any specific allegation or corroborating evidence (i.e., self-disclosure, witness to abuse, or physical evidence), (b) CAC staff documented suspicion of false reporting by caregiver or youth, (c) there was insufficient information documented in the case record (e.g., incomplete intake report and no accompanying documentation), or (d) the child had reported to the CAC or another entity for allegations of sexual abuse prior to 2002. Youth were coded as revictimized if they returned to the CAC for a subsequent sexual abuse allegation occurring through end of year 2014 and that involved a different perpetrator from the initial report.

Sample

The sample included 1,915 youth (M = 10.2 years old, SD = 4.4) who were predominantly female and European American (see Table 1) with some representation of Black or African American (n = 150, 7.8%), Hispanic (n = 131, 6.8%), Native American (n = 42, 2.2%), and Asian or Pacific Islander (n = 19, 1.0%) ethnoracial minorities. Regarding custody, 458 (23.9%) youth were in both of their biological parents' custody (residing either together or estranged), 512 (26.7%) were in their mother's custody, 394 (19.0%) were with their mother and mother's partner (both married and unmarried), 71 (3.7%) were with their father, 87 (4.5%) were with their father and father's partner, and 85 (4%) were living with another relative. Of youth identified as state wards (n = 256; 13.4%), 133 (6.9%) were living with foster families while others resided in kinship care, residential facilities, or mental health facilities.

Analytic Techniques

Analyses were run using the Statistical Package for the Social Sciences (SPSS) version 22 (IBM Corp, 2013) and Mplus version 7.4 (Muthén & Muthén, n.d.). All dichotomous variables were coded with "1" indicating *yes* and "0" indicating *no*. Missing data were addressed using multiple imputation (MI) in Mplus to reduce bias. Analyses were performed on each of 100 complete data files generated as part of the MI procedure, then pooled to determine final test statistics. For the present analyses, the imputed datasets were used to examine bivariate and multivariate relations. Mplus provides Pearson correlation coefficients for continuous variables, tetrachoric correlations for binary variables, and biserial correlations for a combination of continuous and binary variables. To test our hypotheses, we ran a series of logistic regression models with the robust maximum likelihood estimator to represent the individual, microsystem, and exosystem levels of the bioecological model as well as a full model including variables across these levels.

Results

Occurrence of Revictimization

A total of 213 (11.1%) youth re-presented to the CAC for subsequent sexual abuse allegations and were therefore known to be revictimized; 28 presented for multiple instances of revictimization (two revictimization episodes, $n = 23$; three episodes, $n = 3$; and four episodes, $n = 2$). There was a wide range in time to first revictimization episode (1–137 months; Median = 30 months). A substantial proportion of the revictimized youth presented within two years of their initial CAC visit: 29 (13.6% of revictimization cases) returned to the CAC within six months of their initial abuse incident and 87 (41.0%) had returned by 24 months.

Individual Factors

Bivariate relationships with revictimization—Revictimized youth were younger at the time of their initial referral to the CAC and a larger proportion were girls compared to boys (see Table 2). Fewer European American youth were revictimized compared to those identifying as ethnoracial minorities and more youth in the revictimized group had an identified mental health problem. There was no significant difference in the proportion of youth with a physical disability between groups, therefore this variable was not included in further analyses.

Correlations among individual-level factors—Significant, positive correlations suggested that older youth were more likely to be female and have an identified mental health problem in comparison to younger youth (Table 3).

Logistic regression model—Odds ratios for the multiple logistic regression model are presented in Table 4. Similar to bivariate analyses, age, gender, ethnicity, and mental health problems predicted a youth's return to the CAC for subsequent sexual victimization. Specifically, youth were 8% less likely to experience revictimization for each year they aged and European American youth were 34% less likely to be revictimized compared to ethnoracial minorities. Girls were 130% more likely to be revictimized compared to boys

and youth with a mental health problem were 188% more likely to be revictimized than those without.

Microsystem Factors

Bivariate relationships with revictimization—Bivariate analyses (Table 2) showed that current or historical domestic violence in the home, a history of CSA for another family member, having a non-caregiving adult in the home, and being in therapy at the time of presentation to the CAC for initial abuse were all positively associated with revictimization. Parental substance use, current or historical, and the relationship of the alleged perpetrator to the victim were not significantly related to revictimization and were not included in further analyses.

Correlations among microsystem-level factors—Correlations (Table 3) suggested that different forms of family violence clustered together, as domestic violence and prior history of CSA for a youth's family member were positively correlated with one another. Additionally, youth reporting a history of domestic violence in the home were more likely to have a non-caregiving adult in the house and to be in therapy. Finally, youth with a non-caregiving adult in the home were more likely to be in therapy.

Logistic regression model—Three predictors emerged as significant in the microsystem model (see Table 4): historical or current domestic violence in the home, non-caregiving adult in the home, and the child being in therapy at the time of presentation to the CAC. A prior history of CSA in the family did not significantly predict revictimization, holding other variables constant. Revictimization was 56% more likely for youth with current or historical domestic violence in their home, 45% more likely for those with non-caregiving adults in the home, and 37% more likely for those who were in therapy.

Exosystem Factors

Bivariate relationships with revictimization—Revictimized youth came from neighborhoods with lower median household income and a lower proportion of adult high school graduates compared to non-revictimized youth (see Table 2). There was no significant difference between groups regarding the proportion of the adult population with a four-year college degree, therefore this variable was not included in subsequent analyses.

Correlations among microsystem-level factors—Median household income and education attainment at the high school/GED level were highly correlated as shown in Table 2.

Logistic regression model—When included in a multiple regression model, neither of these constructs emerged as significant predictors of revictimization.

Bioecological Model of Revictimization Risk

Table 3 presents correlations between factors across the three bioecological levels examined. The high correlation between median household income and education attainment noted in the previous section suggested a potential issue with collinearity; however, logistic

regression models run with both predictors and with income only did not significantly differ; therefore, the model with both predictors is reported here. In the bioecological logistic regression model, only individual level predictors emerged as significant, while domestic violence and presence of a non-caregiving adult exhibited trend-level regression coefficients. Odd ratios indicated that youth were 7% less likely to be revictimized for each year they aged and European American youth were 32% less likely to experience revictimization compared to ethnoracial minority youth. Girls were 191% more likely to experience revictimization and those with a mental health problem were 142% more likely.

Discussion

There is a breadth of literature examining sexual revictimization; however, extant research has primarily focused on adult sexual victimization, used retrospective methodology, and rarely examined revictimization of boys and men. Further, the few studies examining revictimization within childhood and adolescence tend to include various forms of maltreatment in their definitions of revictimization. Thus, the present study provided an important contribution to the knowledge base regarding sexual revictimization by longitudinally examining factors across the bioecological model in a sample of male and female CSA victims to predict sexual revictimization occurring prior to adulthood. Just more than one in ten youth in the current sample re-presented to the CAC for subsequent allegations of sexual abuse; a large number of these youth returned within two years of their first CSA investigation. Our results highlighted several factors across bioecological contexts that are associated with revictimization, although only individual-level factors persisted as significant predictors in the bioecological model. Below, we highlight findings relevant to the identification of youth at risk for ongoing sexual abuse and review the utility of the bioecological model in predicting revictimization.

Our results highlighted risk for subsequent harm, however, the rate of sexual revictimization for the current sample was considerably lower than in previous studies of youth and adults (Classen et al., 2005; Finkelhor, Ormrod, & Turner, 2007), even among those using similar methodology (Swanston et al., 2002). It is likely that our results reflect a conservative estimate of revictimization for a number of reasons, the most obvious of which is that abuse must have been discovered and reported to law enforcement or child protective services *at least twice* for the child to be identified as revictimized. Although overly dependent on child disclosure and appropriate adult response to disclosure, this definition of revictimization has external validity as disclosure and reporting often fail to happen in close proximity to the abuse incident (London, Bruck, Wright, & Ceci, 2008). Therefore, differences in rates of revictimization between retrospective and prospective methodologies may highlight the proportion of youth experiencing subsequent sexual abuse who do not receive help. Further, the findings presented here may generalize to the hundreds of thousands of children served by CACs each year and are therefore helpful in identifying youth at risk for multiple CSA investigations.

Individual level factors exhibited strong relationships with revictimization, which persisted in the cross-level model and appeared to account for the risk posed by microsystem factors. Although past findings regarding age at time of initial abuse have been inconsistent (Casey

& Nurius, 2005; Jankowski et al., 2002), our results showed that younger youth were at greater risk for revictimization. Some investigators have pointed to a cascading effect of victimization whereby childhood experiences of sexual abuse increase risk for adolescent victimization (Miron & Orcutt, 2014), and that these experiences in combination then increase risk for adult sexual assault (Gidycz, Coble, Latham, & Layman, 1993; Humphrey & White, 2000). Given the detriments to individual health and wellbeing caused by repeat victimization, the increased risk for young children may warrant additional monitoring and intervention to prevent future harm.

We did not hypothesize a specific gender effect on risk for revictimization due to the limited number of prior studies that included male samples, but did observe that girls were more likely to re-present to the CAC for sexual victimization compared to boys. Consistent with epidemiological data regarding sexual abuse (Centers for Disease Control, 2010), the majority of our sample was female and it appeared that males may have been underrepresented. Important to note, however, is that approximately 7% of the boys included in this sample returned for additional sexual abuse allegations showing that this is not a phenomenon solely impacting girls and women. In fact, Werner and colleagues (2016) found that although women more frequently report revictimization, CSA more strongly predicts adult sexual assault for men. It is possible that boys are less likely to experience revictimization prior to adulthood; however, it is also likely that boys fail to disclose abuse more frequently than girls. This failure to disclose may be due to fears of being labeled homosexual, not wanting to be considered a victim, and expecting their abuse to be minimized by others (Alaggia, 2004). Disclosure fears may be even more salient in the case of revictimization as individuals have the prior experience of reactions to their initial abuse disclosure, which shape their decision making processes.

For youth in the present sample, identifying as an ethnoracial minority was associated with revictimization. Few studies have examined racial disparities in regard to revictimization. Recently, however, Matta Oshima and colleagues (2014) found a higher incidence of re-report of maltreatment for black children with a history of CSA, although only when they were not living in poor families. Ethnoracial youth in this study were also more likely to have historical or current domestic violence in their homes and to live in lower socioeconomic status neighborhoods; however, the effect of race on revictimization was not explained by these additional risk factors. Given the limited ethnic diversity of the present study and collapsing all ethnic minorities into one group for comparison, the effects driving this racial disparity are uncertain and warrant additional exploration. It is possible that some portion of risk for minority youth may be due to increased surveillance (i.e., child protective service involvement) and therefore higher likelihood of abuse discovery (Mikton & Butchart, 2009). There may also be important contextual factors that influence risk and were not accounted for in the present models. Given the relationships between ethnicity and the risk factors noted above, it may be helpful to examine how characteristics of the home or neighborhood environment moderate the effect of ethnicity on risk for revictimization.

Mental health problems are well documented among individuals reporting sexual revictimization (for review, see Classen et al., 2005), and our findings are consistent with this research. Our findings also offer support for the notion that mental health difficulties

may have a causal effect on revictimization, rather than stem from repeat experiences. Nearly one-fifth of cases examined in this study had at least one identified psychiatric problem at the time of their initial abuse investigation and these youths were at significantly greater risk for revictimization compared to those without a mental health problem. These findings support the continued exploration of psychosocial abuse sequelae and suggest that risk for initial and subsequent victimization may be elevated for children with emotional disturbance in general, as youth may have exhibited emotional problems prior to their initial victimization episode. Further, although they did not emerge as significant predictors in the bioecological model presented here, youth who had mental health problems also reported other forms of family violence (i.e., domestic violence, CSA of another family member). The cumulative adversity of CSA and living in a violent home reflects recent research suggesting a positive relationship between poly- and revictimization (Pereda & Gallardo-Pujol, 2014). Family violence and dysfunction have also been cited as barriers to disclosure and help-seeking following CSA (Collin-Vezina, De La Sablonniere-Griffin, Palmer, & Milne, 2015). Thus, future research should investigate potential indirect effects of family violence on revictimization mediated by child mental health or other factors such as abuse disclosure.

Ultimately, the findings presented here did not support use of the bioecological model. Considering the risk factors outlined in Table 1, those at the individual level appeared most important in predicting revictimization, despite significant differences in the odds of experiencing revictimization by microsystem factors when examined within-level (e.g., domestic violence and the presence of a non-caregiving adult in the child's home). Further, neither of the hypothesized risk factors from the exosystem level exhibited significance. This is not to say that the bioecological model is without merit as a guiding framework to direct future revictimization research and intervention endeavors (Grauerholz, 2000; Messman-Moore & Long, 2003; Pittenger et al., 2016). Rather, it is likely that the micro- and exosystem models tested here failed to capture important constructs. For example, exosystem variables including investigation and adjudication outcomes were of interest to this project; however, limitations of the pre-existing data prevented their inclusion. There may be family factors such as parental monitoring, quality of caregiver-child relationships, and belief and support regarding initial abuse experiences that also affect risk for subsequent harm. Further, this project was not able to evaluate peer groups, which become increasingly important contexts as youth develop. Therefore, continuing to explore revictimization from the bioecological perspective will help elucidate the disruptions to development that occur with initial victimization and the contexts that contribute to ongoing vulnerability. Additionally, mediation and moderation analyses, as noted throughout this section, may further help identify who is at risk and under what conditions.

A number of other hypotheses were also not supported and warrant discussion. First, youth were more likely to re-present to the CAC for sexual revictimization if they were in mental health treatment at the time of initial presentation. As one may expect, youth with an identified mental health problem were more likely to be in therapy, and this seemed to account for the positive association between therapy and revictimization. It would be interesting to explore whether mental health treatment moderates the effect of psychiatric problems on revictimization with further analyses, although these analyses were not within

the scope of this project. Second, parental substance use did not show a significant association with revictimization. An astonishing proportion of youth in the current sample had a parent with a current or historical substance use problem, suggesting that parental substance use may be a significant risk factor for sexual victimization in general. Finally, initial abuse perpetrator relationship to the child did not predict revictimization, which contradicts prior research showing victims with intra-familial or caregiving perpetrators suppress risk detection mechanisms thereby increasing future risk (DePrince, 2005; Kessler & Bieschke, 1999).

Our results should be considered along with of a number of limitations. First, there were likely multiple victims from the same family included in the dataset but the researchers were not able to track whether children were related. Second, the term “revictimization” here refers to any youth who re-presented to the CAC, which likely does not represent all youth who experienced subsequent sexual victimization but rather those who remained in the same geographical area and disclosed their abuse or were responded to in a manner that allowed for a return to this CAC. It is likely that some youth experienced revictimization and failed to present to this CAC due to non-disclosure or moving out of the catchment area. This limitation may have contributed to the relatively low revictimization rate and may also have interfered with the predictive value of the logistic regression models presented. Third, the CAC only serves individuals 18 years and younger, with some exceptions made for an individual’s developmental abilities. While the focus of this study was to examine revictimization prior to adulthood, individuals who delay disclosure of subsequent victimization until adulthood may have been missed in the dataset. This may also have contributed to the reported age effect, as younger youth had a longer timeframe within which to re-present to the CAC. Finally, the majority of the sample identified as European American, resulting in a binary categorization of ethnicity in analyses. Collapsing ethnic minorities into one group is a concerning, yet sometimes necessary, practice as it may result in larger within- than between-group diversity. The state from which this sample was drawn has a relatively homogenous population with 13.9% of citizens identifying as ethnoracial minorities (U.S. Census Bureau, 2010); therefore, further study in more diverse locations will be beneficial.

The present study had a number of strengths. Most notable are the longitudinal research design, large sample size, and examination of gender. Results of the present study contribute to our understanding of the causes of sexual revictimization by examining administrative case files in a longitudinal fashion, thereby reducing methodological concerns inherent to cross-sectional, self-report, and retrospective designs. Additionally, this sample reflects the population of youth who are brought to CACs nationwide.

Upon inspection, the risk factors identified as contributing to revictimization appear to be quite similar to those correlated with CSA. For example, being female, living with adults other than one’s parent, and witnessing family conflict have all been identified as risk factors for sexual abuse (Finkelhor, 2007; Sedlak et al., 2010). There is also the issue of perpetrators selecting vulnerable youth (Rebocho & Silva, 2014), such as those who have mental health problems and come from adverse family environments. Thus, youth presenting for multiple victimization episodes in the current study seemed to be encapsulated in risky contexts. This

challenges our notions about revictimization as a product of initial abuse sequelae and rather calls attention to the environmental risk factors that place individuals in harm's way. The findings presented here support further integration of mental health services, including screening and intervention, into CAC programming – currently a focus of the National Child Traumatic Stress Network (NCTSN) and National Children's Alliance (NCTSN, 2017).

Acknowledgments

The authors wish to acknowledge the generous support of the Child Advocacy Center in Lincoln, Nebraska by allowing access to the data necessary to execute this research.

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Table 1

Variable Descriptions.

Variable	Description	Source
Individual level		
Age	Child age in years at the time of presentation for initial abuse allegation	Intake
Gender	0 = Male, 1 = Female	Intake
Ethnicity	0 = Minority Youth (African American, Native American, Hispanic, Asian American, Middle Eastern), 1 = European American	Intake
Physical disability *	Report of any physical disability	Intake
Mental health problem *	Report of any mental health problem	Intake
Microsystem level		
Parental substance use *	Report of parental substance use either historical or current	Intake
Domestic violence *	Report of domestic violence in the child's home, historical	Intake
Prior CSA of other family member *	Report of history of CSA for another family member	Intake
Non-caregiving adult in home *	Any adult other than those identified as caregivers in the home	Intake
In mental health treatment *	Report that child has current therapist	Intake
Initial perpetrator relationship *	Dummy coded variables indicating perpetrator(s) in the immediate family, extended family, and/or non-familial	Intake
Exosystem level		
Median household income	Dollar amount	Census Data
Neighborhood education attainment	(1) Percentage of adults with GED or High School Diploma and (2) Percentage of adults with Bachelor's degree	Census Data

Note: gender was coded 0 = *male* and 1 = *female*; all variables indicated with

*were dichotomous, with 0 = *no* and 1 = *yes*.

Table 2

Descriptive Statistics of Non-Imputed Data, Frequency of Missing Information, and Correlations with Revictimization for Imputed Data.

	M (SD)/N (%)	*N* Missing	*r*
Individual Characteristics			
Age (years)	10.2 (4.4)	6	−.104*
Female	1,461 (76.2)	2	.177*
European American	1,512 (79.0)	46	−.124*
Physical Disability	28 (1.5)	136	−.017
Mental Health Disability	341 (17.8)	136	.254*
Microsystems			
Parental Alcohol/Substance Use	733 (38.3)	576	.067
Domestic Violence in Home	608 (31.7)	611	.182*
Prior CSA of Other Family Member	745 (38.9)	643	.128*
Non-Caregiving Adult in Home	286 (14.9)	135	.125*
In Therapy	563 (29.3)	202	.128*
Immediate Family	728 (38.0)	50	−.020
Extended Family	300 (15.7)	50	.020
Non-Familial	777 (40.6)	50	.004
Exosystems			
Median Household Income	$39,923 ($9,985)	51	−.093*
% High School Graduate/GED	87.7 (5.2)	51	−.081*;
% College Graduate (Bachelor's)	25.6 (10.1)	51	−.010

*Significant at the .05 level.

Child Maltreat. Author manuscript; available in PMC 2019 May 01.

Table 3

Correlations among Predictors Using Imputed Data.

	1	2	3	4	5	6	7	8	9
Individual Factors									
1. Age (years)	–								
2. Gender	.297*	–							
3. Ethnicity	.031	−.012	–						
4. Mental Health Problem	.272*	−.057	.037	–					
Microsystem Factors									
5. Domestic Violence in Home	−.062*	.016	−.119*	.226*	–				
6. Prior CSA of Family Member	−.035	−.096*	−.046	.192*	.436*	–			
7. Non-Caregiving Adult in Home	−.037	−.001	−.048	.044	.119*	.085	–		
8. Currently in Therapy	.125*	−.09*	.08	.409*	.203*	.141*	.033	–	
Exosystem Factors									
9. Median Household Income	.043	−.052	.142*	−.066	−.123*	−.172*	−.051	.113*	
10. % High School Graduate/GED	.049*	−.053	.082*	−.039	−.038	−.116*	−.059	.136*	0.722*

*Significant at the .05 level.

Table 4

Odds Ratios and Confidence Intervals (95%) of Revictimization Risk Factors Using Imputed Data.

Variable	Individual	Microsystem	Exosystem	Bioecological
Age (years)	.92*** (.90-.95)			.93*** (.90–.95)
Gender	2.30*** (1.64–3.21)			2.91*** (1.64–3.20)
Ethnicity	.66* (.49-.87)			.68* (.51–.91)
Mental Health Disability	2.88*** (2.17–3.83)			2.42*** (1.78–3.29)
Domestic Violence in Home		1.56* (1.72–2.08)		1.37+ (1.01–1.84)
Prior CSA of Family Member		1.27 (.93–1.73)		1.20 (.87–1.66)
Non-Caregiving Adult in Home		1.45* (1.06–1.96)		1.39+ (1.02–1.91)
In Therapy		1.37* (1.06–1.78)		1.33 (1.00–1.77)
Income			.99 (.97–1.00)	.99 (.98–1.01)
% High School Graduate/GED			.99 (.96–1.01)	.98 (.95–1.01)

+ p < .1;

* p < .05;

** p < .01;

*** p < .001