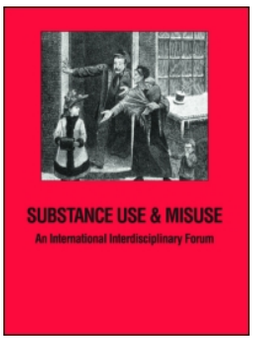

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ORIGINAL ARTICLE

Substance Use and Childhood Sexual Abuse among Girls Who Are Victims of Commercial Sexual Exploitation

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ABSTRACT

Background: Girls who are victims of commercial sexual exploitation (CSEC) have high rates of substance use and childhood sexual abuse. We compared girls who are victims of CSEC and matched controls on childhood sexual abuse and substance use, and examined if substance use is associated with increased CSEC odds. *Methods:* Data were retrospectively collected from assessments completed by 80 girls who were referred by the Department of Child Services (Mage=15.38, SD=1.3, 51.9%White). *Results:* CSEC girls reported higher substance use (t=-2.76, p=.007), and were more likely report childhood sexual abuse (χ2=6.85, p=.009). The relationship between childhood sexual abuse and substance use outcomes did not differ across the groups (b's 0.12-1.38, p's .22-.85). Substance use disorder diagnosis was associated with greater odds of being in the CSEC group (ORs 2.95-6.72, p's<.05). *Conclusions:* Substance use and childhood sexual abuse are important risk indicators for exploitation, but should not be used to reduce criminality of CSEC perpetrators.

KEYWORDS

Commercial sexual exploitation; childhood sexual abuse; substance use

Introduction

The commercial sexual exploitation of children (CSEC) is defined as a "range of crimes and activities involving the sexual abuse or exploitation of a child for the financial benefit of any person or in exchange for anything of value (including monetary and non-monetary benefits) given or received by any person" (US Office of Juvenile Justice and Delinquency Prevention, 2014). CSEC is estimated to affect 1,450 to 200,000 children annually in the United States (Estes & Weiner, 2002; Finkelhor et al., 2017; Mitchell et al., 2011), 90% of whom are girls (Havlicek et al., 2016).

Victims of CSEC have higher rates of depression, anxiety, and PTSD (Hershberger et al., 2018; Hossain et al., 2010), as well as alcohol and substance use (Greenbaum et al., 2018; Hershberger et al., 2018; Varma et al., 2015) and trauma (Cole et al., 2016). Youth who are victims of CSEC also demonstrate higher rates of skipping school, sexualized behavior (Varma *et al.*, 2015), criminal activity (Greenbaum et al., 2018), and running away (Cole et al., 2016).

Girls who are victims of CSEC show significantly higher levels substance use (Hershberger et al., 2018). We posit four main, not mutually exclusive, ways that CSEC and substance use could be related. First, substance use could be a risk factor for subsequent CSEC (Reid & Piquero, 2014). Substance use might be used by exploiters as a means to target youth for CSEC and further makes it more difficult for youth to identify and evade the developing risk of victimization. Second, substance use might maintain CSEC or make it more difficult to remove youth from CSEC. Substances might be exchanged for sexual acts, which could maintain CSEC (Lederer & Wetzel, 2013), or substance addiction might deter the victim from accepting help to be removed from an exploitative relationship (Fedina et al., 2019). Third, CSEC could be a risk factor for subsequent substance use, in that substances might be used to cope with traumatic experiences related to CSEC (Lederer & Wetzel, 2013; Reid & Piquero, 2014).

Childhood sexual abuse is frequent among victims of CSEC (Cantón-Cortés & Cantón, 2010; Choi, 2015; Hershberger et al., 2018; Hossain et al., 2010) and has long-lasting effects, including post-traumatic symptoms (Cantón-Cortés & Cantón, 2010; Cole et al., 2016; Hossain et al., 2010), depression and anxiety (Hossain et al., 2010; Lederer & Wetzel, 2013; Nelson et al., 2002), and substance abuse (O'Leary & Gould, 2009). Although the directionality is unknown, we suggest that childhood sexual abuse often precedes CSEC (Saewyc et al., 2013), making girls vulnerable to exploitation (childhood sexual abuse can also follow CSEC exploitation), in part by making individuals less likely to identify danger (Brown et al., 2015), which increases the likelihood of lifetime re-victimization (Widom et al., 2008).

Childhood sexual abuse and substance use are strongly linked (Wilsnack & Vogeltanz, 1997). Childhood sexual abuse increases risk for substance use and escalation of substance use, impedes the treatment of trauma symptoms,

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and can place one at an increased risk for being targeted for subsequent abuse (Simpson & Miller, 2002). Cole and colleagues (2016) found that children who were victims of CSEC were more likely to have school, legal, substance use, and trauma problems than children who had experienced childhood sexual abuse but not CSEC. These findings provide strong rationale to better understand the complex interactions between CSEC, childhood sexual abuse, and substance use in this highly vulnerable group.

Little empirical research has been conducted with victims of CSEC, likely due, in part, to the following: victims of CSEC are difficult to recruit for treatment and research (and often do not view themselves as having been exploited; Jordan et al., 2013); victims of CSEC often elope from treatment, complicating attempts to test effectiveness of treatments empirically (Cole et al., 2016; Hershberger et al., 2018); there are ethical concerns with conducting research in this highly vulnerable group, due to the fact that they have a long history of exploitation, are under the age of legal consent, and have complicated guardianship making legal consent difficult to attain, at best; many times these victims are criminalized, or seen as "prostitutes" (Mitchell et al., 2011), reducing the number of victims who would be open to engage in research; and there are problems with reliable reporting (especially concerning whether or not a girl was exploited; Jordan et al., 2013). These difficulties have led to a dearth of understanding of risk factors for and outcomes related to CSEC in its victims, which limits the ability to effectively identify and treat this extremely vulnerable group.

In order to fill this gap and overcome the above-stated difficulties, the current study utilized de-identified cross-sectional data collected retrospectively from psychological assessments completed by girls who were referred by the court. This design allowed access to data without difficulties of recruitment; measurement of outcomes at intake, prior to any subsequent elopement; ethical conduct of research without the risk of harming or coercing this vulnerable population; the collection of a large enough sample of girls in order to conduct empirical tests; more certainty in CSEC status; and the comparison with a matched control group of high-risk girls who are not victims of CSEC.

The current study

The present study compared substance use and childhood sexual abuse across girls who are victims of CSEC and a matched high-risk group of girls; examined whether the relationship between childhood sexual abuse and substance use is different across girls who are or are not victims of CSEC; and examined if substance use is associated with increased CSEC odds over and above other known risk factors. Based on the existing literature, we hypothesized that girls who are victims of CSEC will have higher rates of substance use, substance use diagnoses, and childhood sexual abuse than high-risk girls; the relationship between childhood sexual abuse and substance use will be similar across the two groups; and substance use will be associated with increased odds of CSEC, over and above known risk factors, including childhood sexual abuse.

Materials and methods

Participants

These cross-sectional data were retrospectively collected from psychological assessment records of girls who were referred for assessment by probation or the Department of Child Services in a large Midwestern city. Assessments were conducted by an agency that specializes in treating girls who are victims of CSEC and complex trauma. Referral criteria for all girls were history of chronic running away from home or treatment and two or more traumas (e.g. physical abuse, sexual abuse, neglect, etc.). Girls and their guardian provided assent/consent. Girls were dichotomized into either the *CSEC* or *high-risk* group. Girls were placed in the CSEC group if they had self-reported and/or had court documentation of (e.g. probation report, police report) engaging in sexual acts in exchange for goods, including money, food, drugs, and shelter, in which a third party (e.g. a pimp) was benefitting (i.e. one report – either self-report or court documentation, placed girls in this group). Girls in the high-risk group met the criteria for referral for assessment (i.e. chronic running away, two or more traumas), but lacked any self-report or documentation of CSEC.

Materials

Demographics and relevant characteristics

Girls self-reported their age and race, age of first substance use, number of types of substances used in the past year, history of childhood sexual abuse (yes/no), history of witnessing domestic violence (yes/no), and history of being a victim of domestic violence (yes/no).

Substance use diagnoses

Diagnoses were made by a licensed clinician at the time of the assessment based on the Diagnostic and Statistical Manual-IV (DSM-IV; American Psychiatric Association, 2000). Two independent trained coders mapped the recorded DSM-IV substance use symptoms onto DSM-5 (American Psychiatric Association, 2013) criteria; these codes were then compared for inter-rater reliability, where full agreement was found (kappa = 1).

Substance use

Substance use severity was assessed using the Youth Level of Service Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002, 2011), an instrument rated by clinicians based on structural clinical interview of multiple-delinquency-related factors. Only the substance abuse scale (5 items; e.g. substance abuse linked to offenses) was used in the current study. The YLS/CMI has been

validated for use in adolescents referred for psychological assessment (Schmidt et al., 2011) and demonstrates good internal consistency/inter-rater reliability (Schmidt et al., 2005). The reliability in the present sample was good (Cronbach's alpha = 0.71; inter-rater reliability kappa = 0.64).

Procedure

Assessments were conducted between 2014 and 2017. The agency was contracted by the Department of Child Services to complete the assessments, with licensed clinical social workers and a licensed clinical psychologist conducting the assessments. The majority of the assessments were conducted in residential treatment settings (92.6%), with the remaining being conducted in the girls' community placement (e.g. guardian's home; 3.7%) or the juvenile detention center (1.2%). Following Institutional Review Board approval, a clinician at the agency de-identified all assessments. Two trained research assistants not affiliated with the agency then independently coded each de-identified assessment. Approximately 15% of assessments were coded by both research assistants and there was 100% agreement in the coding of study variables.

Data analysis plan

All analyses were conducted in SPSS 25.0 (IBM Corp, 2017). First, we compared CSEC and high-risk groups on a number of sample characteristics, diagnoses, and substance use variables using independent t-tests and Chi-square analyses. Second, we conducted moderated regression analyses using the PROCESS macro (Hayes, 2012) to examine how the relationship between childhood sexual abuse and substance use is moderated by CSEC status. Third, we conducted logistic regression analyses to examine the association between different substance use variables (diagnoses, number of substances used, level of use, etc.) and the odds of being in the CSEC group, over and above traditional risk factors (domestic violence, childhood sexual abuse) and sample characteristics (age, race).

Results

Descriptive statistics (Table 1)

Data from 80 girls aged 12 – 17 (mean age 15.37 (SD = 1.29) were studied; 38 girls were classified as CSEC and 42 were classified as high-risk. CSEC and high-risk girls did not differ on race, age at the time of evaluation, age of first substance use, number of DSM-based substance use disorder symptoms, domestic violence, or opioid use disorder diagnosis, although there was a notable, but small, trend with age. CSEC girls reported higher substance use (t= −2.76, p=.007), greater number of substances used in the past year (t= −2.84, p=.006), and were more likely than high-risk girls to have experienced childhood sexual abuse ($\chi2$ = 6.85, p=.009) and to be diagnosed with any substance use diagnosis ($\chi2$ = 11.32, p=.001). Over 88% of the CSEC group reported being a victim of childhood sexual abuse (as compared to 63.2% of the high-risk group).

Substance use and childhood sexual abuse across CSEC and high-risk groups (Table 1)

Eighty-one percent of the CSEC group met criteria for a substance use disorder (as compared to 44.7% of the high-risk group). CSEC girls were significantly more likely to report using 3+ ($\chi2$ = 11.06, p=.001) substances in the last year, which corresponded with the time when they were identified for evaluation. CSEC girls had higher likelihoods of alcohol, cannabis, stimulant, and other use disorders than high-risk girls ($\chi2$'s = 4.36-9.74, p's<.05); however, CSEC and high-risk groups had similar likelihood of having an opioid use disorder ($\chi2$ = 1.10, p=.29). CSEC girls had highest rates of cannabis use disorder (78.6% as compared to 44.7% of high-risk girls), followed by alcohol use disorder (31% as compared to 7.9% of high-risk girls), stimulant use disorder (16.7% as compared to 2.6% of the high-risk girls), opioid use disorder (11.9% as compared to 5.3% of the high-risk girls), and other substance use disorder (11.9% as compared to 0% of the high-risk girls).

Table 1. Sample demographics and differences across CSEC and high-risk groups.

	Range	Total sample (N = 80) Mean (SD)	CSEC (N = 38) Mean (SD)	High Risk (N = 42) Mean (SD)	t	p
Age	12-17	15.37	15.62 (1.01)	15.11 (1.50)	−1.81	.07
YLSI substance use	0-2	1.34 (0.67)	1.54 (0.56)	1.12 (0.73)	−2.76	.007
Age of first substance use	4-17	12.22 (2.36)	12.61 (2.31)	11.74 (2.38)	−1.52	.13
N substances used in last year	1-5	1.99 (1.26)	2.34 (1.48)	1.53 (0.72)	−2.84	.006
N DSM substance use disorder symptoms	0-5	0.62 (1.31)	0.83 (1.36)	0.38 (1.23)	−1.53	.13
			N (%)	N (%)	χ^2	p
White		41 (62.1%)	21 (61.8%)	20 (62.5%)	0.004	.95
Victim of domestic violence		47 (58.8%)	24 (57.1%)	23 (60.5%)	0.94	.76
Victim of childhood sexual abuse (excluding CSEC)		61 (76.3%)	37 (88.1%)	24 (63.2%)	6.85	.009
2+ substances used in last year		38 (47.5%)	24 (57.1%)	14 (36.8%)	3.30	.07
3+ substances used in last year		17 (21.3%)	15 (35.7%)	2 (5.3%)	11.06	.001
Any SUD diagnosis		51 (63.8%)	24 (81%)	17 (44.7%)	11.32	.001
Opioid use disorder diagnosis		7 (8.6%)	5 (11.9%)	2 (5.3%)	1.10	.29
Alcohol use disorder diagnosis		16 (20%)	13 (31%)	3 (7.9%)	6.63	.01
Cannabis use disorder diagnosis		50 (62.5%)	33 (78.6%)	17 (44.7%)	9.74	.002
Stimulant use disorder diagnosis		8 (10%)	7 (16.7%)	1 (2.6%)	4.36	.04
Other SUD diagnosis (e.g. sedatives)		5 (6.3%)	5 (11.9%)	0	4.83	.03

Table 2. Moderation of the relationship between childhood sexual abuse and substance use across CSEC and high-risk groups.

Variable	*b*	*t*	*p*	95% CI LL	95% CI UL	ΔR^2 due to interaction
Outcome: YLS/CMI Substance use						
White	0.39	2.35	.02	0.06	0.73	
Age	0.16	2.13	.03	0.01	0.32	
CSEC	0.19	0.29	.77	−1.14	1.52	
Childhood Sexual Abuse	0.15	0.59	.56	−0.35	0.65	
CSEC x Childhood Sexual Abuse	0.12	0.18	.85	−1.26	1.51	.0004
Outcome: Number of substance used						
White	0.66	2.14	.04	.04	1.27	
Age	0.05	0.38	.71	−0.23	0.33	
CSEC	−0.41	−0.44	.66	−2.27	1.45	
Childhood Sexual Abuse	−0.07	−0.14	.89	−1.04	0.91	
CSEC x Childhood Sexual Abuse	1.19	1.22	.22	−0.77	3.16	.02
Outcome: Number of DSM substance use disorder symptoms						
White	0.57	1.75	.08	-.08	1.21	
Age	0.06	0.41	.68	−0.21	0.32	
CSEC	0.15	0.15	.88	−1.81	2.10	
Childhood Sexual Abuse	0.40	0.86	.39	−0.53	1.33	
CSEC x Childhood Sexual Abuse	0.36	0.35	.73	−1.70	2.42	.002

Relationship between childhood sexual abuse and substance use across CSEC status (Table 2)

The relationship between childhood sexual abuse and substance use outcomes, including YLS/CMI ($b = 0.12$, $p = .85$), number of substances used ($b = 1.19$, $p = .22$), and number of DSM substance use disorder symptoms ($b = 0.36$, $p = .73$), did not differ across groups.

Association between substance use and CSEC over and above known risk factors (Table 3)

Childhood sexual abuse was associated with greater odds of being in the CSEC group (ranging from 5.33 to 10.67 greater odds of being in the CSEC group if the individual reported a history of childhood sexual abuse), whereas race, age, and the experience of domestic violence was unrelated to increased odds of being in the CSEC group (*p's*>.30). Using 3 or more substances in the last year (*Wald* = 4.27, $p = .04$) was associated with a 5.88 greater odds of being in the CSEC group. Having any substance use disorder diagnosis (*Wald* = 4.29, $p = .04$) was associated with a 3.59 greater odds of being in the CSEC group. Having an alcohol use disorder (*Wald* = 4.63, $p = .03$) was associated with a 6.72 greater odds of being in the CSEC group. Although not reaching statistical significance, greater number of substances used in the past year (*Wald* = 3.44, $p = 06$) was associated with a 1.71 greater odds of being in the CSEC group and having a cannabis use disorder (*Wald* = 3.33, $p = .07$) was associated with a 2.95 greater odds of being in the CSEC group.

Discussion

Childhood sexual abuse and substance use are common in girls who are victims of CSEC. The relationship between childhood sexual abuse and substance use is similar across girls who are victims of CSEC and a matched group of high-risk girls. Substance use imparts unique associations with CSEC over and above known CSEC risk factors. Given the tendency for this population to be blamed for their exploitation and there is a strong movement to de-criminalize victims of CSEC (e.g. Dempsey, 2015), substance use and childhood sexual abuse are to be viewed as important risk indicators for exploitation, but should not be used to reduce the criminality of perpetrators of CSEC. These findings are some of the first to examine the interplay between CSEC, childhood sexual abuse, and substance use in this highly vulnerable group.

Childhood sexual abuse is very common in this sample – with almost 90% of girls who were victims of CSEC having experienced childhood sexual abuse (compared to approximately 60% of the high-risk group) and the experience being associated with significantly higher and astounding odds (5.3 to 10.7 greater odds) of being in the CSEC group. Of course, in cross-sectional data like these, causal direction cannot be determined. However, childhood sexual abuse likely occurs prior to CSEC and could be a very strong predictor of risk for victimization in the form of CSEC. Data concerning the relative timing of childhood sexual abuse and CSEC were not available within the current assessments; the current study suggests viability of examining these relationships prospectively.

Whether or not CSEC is causal factor or a risk indicator is yet to be determined, as childhood sexual abuse could both precede or follow CSEC victimization, or simply be associated with CSEC due to prediction by a third factor (e.g. substance use). However, data do suggest that individuals with childhood trauma history are less able to identify danger (Brown et al., 2015), which might suggest one potentially testable causal mechanism linking childhood sexual abuse and risk for CSEC victimization. Although the experience of childhood sexual abuse is avoidable to some extent, when already experienced, it is not a modifiable risk factor, potentially limiting treatment implications of this finding. However, if found to be causal through a modifiable risk factor such as threat identification, a module could be developed and tested to increase ability to identify and avoid threat as a way of decreasing risk among the highly vulnerable group of individuals who have experienced childhood sexual abuse. Such a proposal would not

Table 3. Increased odds of CSEC associated with substance use over and above known risks.

	Variable	Wald	*p*	Odds Ratio	95% CI LL	95% CI UL	Nagelkerke R^2	χ^2
Step 1	White	.410	.52	.646	.170	2.46	0.07	3.29
	Age	1.04	.31	1.369	.748	2.50		
Step 2	Childhood sexual abuse	4.20	.040	10.666	1.11	102.64	0.22	8.54
	Domestic violence	.023	.88	.907	.26	3.23		
Step 3	YLSI substance use	2.59	.11	2.260	.84	6.10	0.28	2.80
Step 1	White	1.360	.243	.470	.132	1.671	0.07	3.29
	Age	1.712	.191	1.439	.834	2.482		
Step 2	Childhood sexual abuse	3.924	.048	5.798	1.019	32.999	0.22	8.54
	Domestic violence	.134	.714	1.252	.376	4.173		
Step 3	N substances used in last year	3.439	.064	1.709	.970	3.012	0.26	4.16
Step 1	White	.434	.510	.670	.203	2.206	0.07	3.29
	Age	2.070	.150	1.440	.876	2.366		
Step 2	Childhood sexual abuse	5.037	.025	6.890	1.277	37.174	0.22	8.54
	Domestic violence	.043	.837	.887	.284	2.774		
Step 3	DSM SUD symptoms	1.670	.196	1.402	.840	2.341	0.25	1.95
Step 1	White	.593	.441	.622	.185	2.085	0.07	3.29
	Age	1.850	.174	1.417	.858	2.341		
Step 2	Childhood sexual abuse	4.209	.040	5.832	1.082	31.442	0.22	8.54
	Domestic violence	.009	.926	.946	.294	3.049		
Step 3	3 + types of substances	4.273	.039	5.879	1.096	31.536	0.31	5.37
Step 1	White	.247	.619	.744	.232	2.387	0.07	3.29
	Age	1.156	.282	1.329	.791	2.232		
Step 2	Childhood sexual abuse	3.544	.060	5.330	.934	30.434	0.22	8.54
	Domestic violence	.005	.945	1.042	.321	3.383		
Step 3	SUD diagnosis	4.288	.038	3.592	1.071	12.049	.29	4.41
Step 1	White	.384	.536	.688	.211	2.246	0.07	3.29
	Age	2.883	.090	1.583	.932	2.691		
Step 2	Childhood sexual abuse	5.670	.017	8.101	1.448	45.324	0.22	8.54
	Domestic violence	.049	.825	.876	.271	2.831		
Step 3	Alcohol use disorder diagnosis	4.628	.031	6.717	1.185	38.090	0.31	5.91
Step 1	White	.130	.718	.810	.258	2.545	0.07	3.29
	Age	1.331	.249	1.354	.809	2.265		
Step 2	Childhood sexual abuse	4.040	.044	5.882	1.045	33.107	0.22	8.54
	Domestic violence	.011	.918	.941	.297	2.982		
Step 3	Cannabis use disorder diagnosis	3.329	.068	2.945	.923	9.396	0.27	3.37

only affect CSEC risk, but also risk for re-victimization in other forms, such as rape (Fergusson et al., 1997).

We found that the relationship between childhood sexual abuse and substance use did not vary by whether the girls were or were not a victim of CSEC. It is possible that, due to the limited sample size, moderator analyses were underpowered to detect significant effects. At the same time, results may also indicate a similar relationship between childhood sexual abuse and substance use, regardless of CSEC. This suggests that interventions designed to reduce the influence of childhood sexual abuse on subsequent substance might be similarly viable in victims of CSEC, although this should be tested empirically.

Substance use (using multiple different dimensions and definitions) was significantly related with CSEC status, over and above the experience of childhood sexual abuse, suggesting that it is a unique risk indicator of CSEC. Substance use is abundant in this high-risk group, with approximately 80% of the CSEC group (as compared to 45% of the high-risk group) meeting criteria for a substance use disorder (with cannabis use disorder being present in almost all the girls in the CSEC group who had a substance use disorder). Although both groups started using substances around the same age, the age is quite young (~12 years old), and those in the CSEC group reported using a greater number of substances. Substance use could be a risk factor for CSEC victimization (Reid & Piquero, 2014), as a complicating factor to extraction and treatment following CSEC (Lederer & Wetzel, 2013), or as a coping mechanism related to CSEC exploitation (Lederer & Wetzel, 2013; Reid & Piquero, 2014) (or it could be functioning in all three of these ways). Substance use can impede trauma-based treatments, including those related to childhood sexual abuse or those related to exploitation (Schafer & Najavits, 2007); thus, even if substance use turns out not to be causal in CSEC victimization, addressing it in treatment should be a high priority. If it is determined to play some causal role in CSEC victimization, substance use is a modifiable risk factor of great import.

The current study is just the beginning in determining the complex interplay between substance use, childhood sexual abuse, and CSEC. The next steps will be to determine how best to intervene with youth who are victims of CSEC. Some interesting questions that will need to be answered include: **1)** *Which modifiable risk factors are most important to address in reducing risk for CSEC and CSEC re-victimization?* **2)** *Which modifiable risk factors should clinicians treat as primary when treating CSEC victims?* and **3)** *How best do we address these modifiable risk factors in this highly vulnerable group?* Despite the logistic and ethical concerns in conducting research with this group, we view this work as extremely important and worthwhile. Although

there are effective treatments for many of these behavioral symptoms and disorders, given the uniqueness of this sample it can't be assumed that treatments designed to treat sexual abuse in adults or substance use within the context of PTSD would be effective or safe to use with victims of CSEC. The challenges in this group are many, the research is scarce, and the impact is potentially large. Overcoming existing barriers is an important research agenda.

Limitations

There are some limitations to the current study to note. First, the present study is limited in its cross-sectional design and small sample size. It is possible there were important differences between the CSEC and high-risk group that we could not detect due to a limited sample, but this also increased our confidence in significant differences that were detected. It is possible that some girls in the high-risk group were victims of CSEC and did not report this at the time of assessment, although unlikely that girls in the CSEC group belonged to the high-risk group. The present findings are specific to high risk girls that present with chronic elopement history and extensive trauma history, although given group differences were still detected in such a high-risk sample, CSEC specific factors found in the present study could be strong red flags for CSEC in many populations of girls. Additionally, the present sample was largely comprised of White and Black girls that identified as heterosexual and there could be important risk differences based on race or sexual orientation. In light of some limitations of the present study, we hope that our study prompts increased research in girls that are victims of CSEC.

Conclusions

In conclusion, substance use and childhood sexual abuse are extremely common in girls who are victims of CSEC. Research is lacking concerning the exact interplay between these factors, which limits attempts to prevent and treat CSEC, negative consequences of CSEC, and CSEC re-victimization. Given the tendency for this population to be blamed for their exploitation, de-criminalizing CSEC victims is key (e.g. Dempsey, 2015); as such, substance use and childhood sexual abuse are to be viewed as important risk indicators for exploitation, but should not be used to reduce the criminality of perpetrators of CSEC.

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Informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). Informed consent was obtained from all patients for being included in the study.

Declaration of interest

Authors Melissa Cyders, Taylor Hunton, and Alexandra Hershberger declare they have no conflicts of interest.

Notes on contributor

M. Cyders designed the study and completed primary writing of the manuscript. T. Hunton conducted literature summaries, contributed to the writing, and provided editorial support. A. Hershberger conducted the statistical analysis and supported development of the study design. All authors contributed to and approved the final manuscript.

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