VICTIME D'EXPLOITATION SEXUELLE À L'ADOLESCENCE, TRAUMA À L'ÂGE ADULTE ?


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Noémie, 15 ans, est de retour en centre de réadaptation depuis une semaine. André, son intervenant précédent, est de nouveau attitré à son dossier et a remarqué des changements importants chez Noémie depuis son dernier placement. Il s'inquiète de son état. Il a l'impression que Noémie s'isole et qu'elle évite fréquemment les discussions sur ce qui s'est passé à l'extérieur du centre de réadaptation. Elle semble constamment en état d'alerte, elle dort peu et semble épuisée.

Prostitution juvénile ou exploitation sexuelle ?

Bien que fictive, la situation de Noémie est complexe et représente un défi important pour les intervenants. Jusqu'à récemment, les comportements de prostitution juvénile étaient perçus comme un trouble du comportement, mettant l'emphase sur la responsabilité des jeunes dans une telle situation. Actuellement, on parle plutôt d'une forme d'exploitation sexuelle, mettant l'emphase sur le contexte de vulnérabilité des jeunes victimes dans lequel ces comportements ont lieu. En ce sens, l'exploitation sexuelle est généralement définie comme tout acte sexuel commis par un ou une mineur (e) dans un contexte où un individu ou un groupe prend avantage d'une situation de pouvoir et implique une compensation quelconque (monétaire, endroit pour dormir,

nourriture, drogues, etc.). Dès lors, il est possible d'imaginer toutes sortes de conséquences psychologiques de l'exploitation sexuelle à l'adolescence.

Des séquelles graves et persistantes

Les professeures Nadine Lanctôt (Université de Sherbrooke), Joan A. Reid (*University of South Florida*) et Catherine Laurier (Université de Sherbrooke) ont rencontré 125 adolescentes nouvellement admises en centre de réadaptation. Les chercheuses les ont suivis jusqu'à leur transition à l'âge adulte pour mieux comprendre les effets traumatiques à long terme de l'exploitation sexuelle. La plupart des adolescentes rencontrées ont rapporté avoir été exposées à d'autres types d'évènements traumatiques au cours de leur enfance (abus physiques, émotionnels, sexuels, négligence). Les résultats indiquent que les abus sexuels vécus avant l'âge de 13 ans ainsi que les symptômes traumatiques déjà présents à l'adolescence contribuent à expliquer les symptômes traumatiques au début de l'âge adulte. Toutefois, un résultat important de leur étude est qu'au-delà de ces traumas vécus à l'enfance, l'exploitation sexuelle à l'adolescence contribue aussi à expliquer une part significative des symptômes traumatiques au début de l'âge adulte. Ces résultats suggèrent que les adolescentes ayant vécu de l'exploitation sexuelle vivraient des évènements traumatiques qui excéderaient leurs moyens pour y faire face et contribueraient au développement de symptômes qui perdureraient jusqu'à l'âge adulte. Ces symptômes sont de l'ordre de l'hypervigilance (constamment avoir peur que quelque chose de grave se produise), de pensées intrusives (revivre les évènements traumatiques, cauchemars), de l'évitement (éviter tout ce qui fait penser aux évènements traumatiques) et de la dissociation (se détacher de son expérience, car trop difficile à supporter).

Les retombées pour l'intervention

Mieux comprendre les symptômes engendrés par l'exploitation sexuelle à l'adolescence permet donc d'aider plus adéquatement les jeunes filles comme Noémie. Les chercheuses recommandent, entre autres, de favoriser les expériences positives en s'assurant d'établir un climat chaleureux, d'établir des relations saines ainsi que des alliances thérapeutiques positives avec les intervenants. En plus de ces recommandations axées sur la promotion d'un environnement sécurisant, il y a lieu de se demander quelles forces chez les adolescentes pourraient être mobilisées pour favoriser leur rétablissement. Par exemple, malgré les difficultés de Noémie, André a noté sa grande persévérance et se demande si cette force pourrait être mise de l'avant dans son plan d'intervention. D'autres études à ce sujet pourront contribuer au développement de pratiques adaptées pour ces jeunes en difficulté.

Child Abuse & Neglect xxx (xxxx) xxxx

Contents lists available at ScienceDirect

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

Research article

Nightmares and flashbacks: The impact of commercial sexual exploitation of children among female adolescents placed in residential care

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ARTICLE INFO

Keywords:
Commercial sexual exploitation of children
Post-traumatic symptoms
Longitudinal study
Residential care
Female adolescents

ABSTRACT

Background: Important unresolved questions remain concerning the specific vulnerabilities and intervention needs of female adolescents who experience commercial sexual exploitation of children (CSEC), when compared to other highly vulnerable female adolescents.
Objective: This study aimed to assess differences in the level of post-traumatic symptoms reported by those who experienced CSEC during adolescence and those who did not.
Participants and setting: The study used longitudinal data collected from 125 French-speaking female adolescents who were placed in residential centers between the ages 12 and 17 years.
Method: Post-traumatic symptoms were assessed at Time 1 and Time 6, while CSEC involvement was assessed at Times 1-5. One-way ANOVAs were performed to inspect differences in the level of post-traumatic symptoms at Time 6 between the participants who reported CSEC during adolescence (n = 70; 56.0%) and those with no history of CSEC (n = 55; 44.0%). Hierarchical regressions examined the effects of CESC while controlling for age, immigration status, child sexual abuse, and post-traumatic symptoms reported at Time 1.
Results: CSEC during adolescence predicted higher levels of general post-traumatic symptoms, anxious arousal, intrusive experiences, defensive avoidance, and dissociation.
Conclusions: CSEC experiences intensify the existing vulnerabilities to traumatic sequelae that characterize female adolescents who are placed in residential care.

1. Introduction

Commercial sexual exploitation of children (CSEC) constitutes a severe form of child maltreatment and refers to any sexual act performed by a minor in a context where an individual or a group takes advantage of an imbalance of power, and involves monetary or other compensation such as shelter, food or drugs (Hickle & Roe-Sepowitz, 2018; International Labour Organization, n.d.; O'Brien, White, & Rizo, 2017; Reid, 2012, 2013). Among high-school students, it is estimated that 1% to 6% of the girls and 2% of the boys exchange sex for goods or money (Lavoie, Thibodeau, Gagné, & Hébert, 2010; Svedin & Priebe, 2007). Numerous studies indicate that homeless youth are at elevated risk of CSEC, with percentages of exploited youth ranging from 6% to 46% (for review see Reid, 2012). Studies conducted with samples of female adolescents in welfare or juvenile justice care report rates of CSEC ranging from

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https://doi.org/10.1016/j.chiabu.2019.104195
Received 21 February 2019; Received in revised form 12 September 2019; Accepted 16 September 2019

54% to 62% (Hickle & Roe-Sepowitz, 2018; Lanctôt et al., 2018; Reid, 2018).

Despite the alarming rates of CSEC observed among female adolescents in state care, there exists a relative scarcity of research focused on the treatment needs of this specific population (Hickle & Roe-Sepowitz, 2018; Lanctôt et al., 2018). As rightly emphasized by O'Brien et al. (2017), while the child welfare system must provide programs and services for all adolescents who are either at risk of CSEC or involved in CSEC, "this call for action in the face of limited research and understanding creates challenges for service providers who must meet mandates without the necessary information to identify an often hidden population and provide optimal services" (p. 265). Our study aims to fill this knowledge gap by evaluating adjustment difficulties associated with CSEC among a sample of female adolescents placed in residential care. Considering the extensive exposure to interpersonal traumatic experiences commonly experienced by female adolescents in residential care, our study will focus specifically on the unique associations between CESC and post-traumatic symptoms.

2. The deleterious effect of CSEC on post-traumatic symptoms

Psychological manipulation, threats, unsafe relationships, coercion, fear, violence, and safety concerns are common in the context of CSEC (Bounds, Julion, & Delaney, 2015; Cecchet & Thoburn, 2014; Lanctôt et al., 2018; Logan, Walker, & Hunt, 2009; Reid, 2013). Such a deleterious context, in which violence is commonplace, can inflict enduring post-traumatic symptoms among female adolescents involved in CSEC (Cole, Sprang, Lee, & Cohen, 2016; Herman, 2003; Reid, 2012; Surratt, Kurtz, Weaver, & Inciardi, 2005).

Yet, very few studies have been conducted on post-traumatic symptoms among female adolescents with histories of CSEC. Current knowledge on their treatment needs is derived from studies using samples primarily composed of adult sex workers. While the prevalence of post-traumatic stress disorder (PTSD) is about 10% among women from the general population (Olff, 2017), between one-third and one-quarter of the women involved in sex work report potential diagnoses of PTSD (Daalder, Bogaerts, & Bijleveld, 2013; Edwards, Halpern, & Wechsberg, 2006; Roxburgh, Degenhardt, Copeland, & Larance, 2008). Beyond a clinical diagnosis of PTSD, general trauma symptoms are also reported by a large proportion of female sex workers, with some studies reporting rates as high as 93% (Surratt et al., 2005). Daalder et al. (2013), however, noted that histories of child maltreatment may be a significant contributor to the high prevalence of post-traumatic symptoms among sex workers. Similarly, Surratt et al. (2005) recognized that sex workers represented a highly marginalized population and that other precarious conditions and individual vulnerabilities must be considered to better understand the intervention needs of this population. Due to the scarcity of multivariate research designs, the unique effects of CSEC, disentangled from the effects of other adverse experiences, has not been investigated.

Despite the relative lack of empirical studies conducted specifically with samples of female adolescents with histories of CSEC, there is growing evidence of the high prevalence of post-traumatic symptoms among this population. Nevertheless, important limitations hinder our current understanding of the intervention needs among this population. First, available studies commonly use a restrictive definition of CSEC. For example, many studies use a definition of CSEC that only captures sexual acts that involved a monetary compensation (O'Brien et al., 2017) or exclude some types of commercial sexual exploitation such as strip dancing (Cole et al., 2016; Nijhof et al., 2012. Second, other studies lack specificity in the assessment of post-traumatic symptoms (Nijhof et al., 2012). Third, and more importantly, most studies conducted with samples of female adolescents with histories of CSEC do not include a comparison group. Consequently, and as pointed by Hickle and Roe-Sepowitz (2018), it is difficult to estimate if, and to what extent, CSEC increases specific vulnerabilities and creates unique intervention needs when compared with other welfare/justice-involved adolescents without histories of CSEC. This question is particularly important considering that female adolescents involved in CSEC "present with complex but not entirely unique experiences of adversity and intervention needs" (Klatt, Cavner, & Egan, 2014, p. 17). CSEC may constitute one of many forms of victimization that girls in the care of the welfare/justice system have experienced throughout their lives (Hickle & Roe-Sepowitz, 2018; Kerig, 2018). As a result, specific consequences of CSEC remain largely unknown. Hickle and Roe-Sepowitz (2018) observed among a sample of girls in residential care, those who experienced CSEC "presented with additionally complex and challenging needs" (p. 21). However, this study did not assess post-traumatic symptoms.

Two recent studies compared samples of CSEC female youth with matched samples who were victims of child sexual abuse but without evidence of CSEC. Cole et al. (2016) observed greater levels of trauma symptoms, especially avoidance and hyperarousal, among participants with histories of CSEC compared to participants with histories of child sexual abuse. Shaw, Lewis, Chitiva, and Pangilinan (2017) observed that although rates of PTSD did not differentiate those with histories of CSEC from those with histories of child sexual abuse at admission, those with histories of CSEC were significantly more impaired at discharge across several domains of symptoms, including PTSD. The findings of these studies certainly call for further research to better understand the specific post-traumatic symptoms that CSEC may elicit over time among female adolescents in care of the welfare/justice system.

Scientific knowledge on post-traumatic symptoms among female adolescents who have experienced CSEC is scarce, but emerging. At this stage, most studies were descriptive in nature and used retrospective and cross-sectional methodologies (Choi, 2015). Such research designs are limited because it is unclear whether post-traumatic symptoms are antecedent to or consequences of CSEC – or both. The objective of the present study was to inspect differences in the level of post-traumatic symptoms reported in emerging adulthood between female adolescents with histories of CSEC and those with no reported history of CSEC. The study also aimed to test for the predictive effect of CSEC on post-traumatic symptoms, while considering possible confounding events such as immigration and child sexual abuse, and accounting for the effects of previous post-traumatic symptoms.

3. Methods

3.1. Sample

This study used data gathered in a broader longitudinal study entitled *The Montreal Longitudinal Study on Adolescent Girls in Residential Youth Centers* (Lanctôt & Lemieux, 2012). All the participants had been placed in rehabilitation units in residential care centers in the region of Montreal, in the Canadian province of Quebec. These centers are part of a network of centers operated by the province's child welfare system. Placement in such centers is considered a last resort, when children or adolescents are experiencing serious problems in social adjustment that cannot be addressed properly in the community. These centers provide youth and their families with services focused on psychosocial rehabilitation and social integration.

The longitudinal study was conducted with 182 French-speaking female adolescents between 12 and 18 years of age, who had been placed in residential centers for at least three months between January 2008 and October 2009. After consenting to participate, the participants completed a series of questionnaires that evaluated a wide range of personal, social and behavioral factors. The participants completed the study questionnaires at six points in time. The first time point was when participants were admitted to a new placement (at an average age of 15.1 years). Time 2, 3, 4 and 5 occurred respectively 3, 6, 12 and 18 months after admission and Time 6 occurred almost 4.5 years after admission, when participants were transitioning to adulthood (the average age at the last assessment was 19.4 years). Placement duration varied from one participant to another, with most of the participants being out of care at Time 4 of the study. When participants were out of the residential centers, questionnaires were completed at home or in a private place.

To be included in the final sample of the present study, participants had to have completed the last set of measurements at the sixth time point. In total, 134 of the 182 participants (74%) met this criterion. Nine participants were excluded from the present study because they reported being involved in sexual exploitation, but only at Time 6 as emerging adults. This exclusion was justified by our research design that aimed to assess CSEC as a predictive factor of subsequent post-traumatic symptoms. The final sample was thus composed of 125 participants.

3.2. Procedure

This study was approved by the ethical research committee of the University of Sherbrooke. Participation in the study was voluntary and confidential. The participants consented to participate at each time point of the data collection. After obtaining the consent, an interviewer administered the questionnaire individually. The interviewer was available to assist the participants in completing the questionnaire. The interviewers consisted of university students in psychoeducation trained to intervene with vulnerable youth and trained in research ethics and techniques. Filling out the questionnaires took approximately 90 min.

3.3. Measures

The longitudinal design of the study allowed the evaluation of the effects of CSEC (reported between Time 1 and Time 5) on post-traumatic symptoms assessed in emerging adulthood (Time 6), while controlling for post-traumatic symptoms assessed at admission to the placement (Time 1). In order to control for possible confounding effects, the analyses also considered some adverse conditions that could have impaired participants' pathways such as immigration and child sexual abuse. These control variables were assessed retrospectively. The study design is illustrated in Fig. 1 and descriptive statistics of control variables are presented in Table 1.

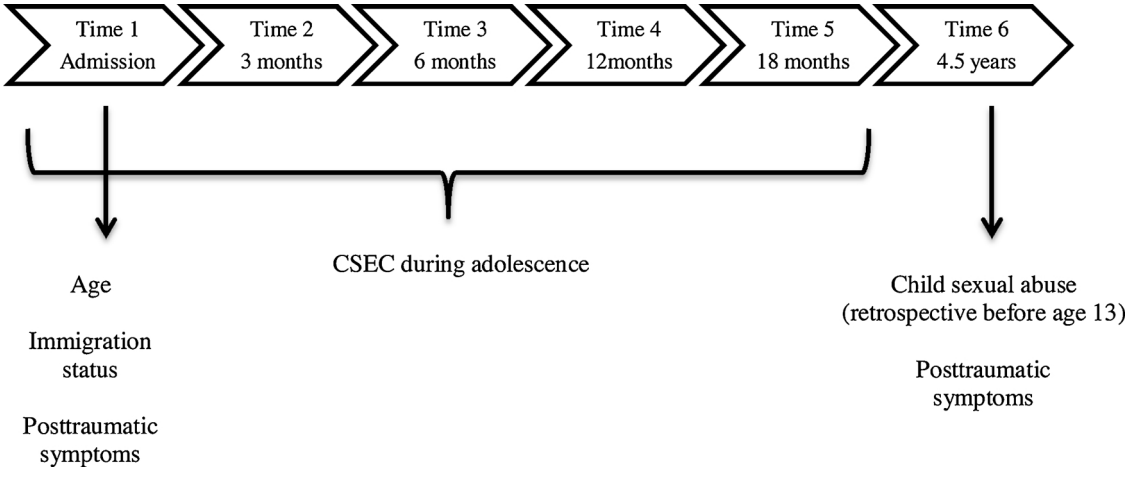

Fig. 1. Timeline of the measurements.

Table 1
Descriptive statistics of control variables by the CSEC experiences during adolescence (n = 125).

	No experience of CSEC during adolescence (n = 55)		Experiences of CSEC during adolescence (n = 70)	
	M/ %	SD	M	SD
Age at Wave 6	19.45	1.38	19.30	1.54
Immigration*	5.5%		18.6%	
Child sexual abuse*	25.5%		44.3%	
Post-traumatic symptoms at admission*	1.10	0.57	1.33	0.50

* $p < 0.05$.

3.3.1. Commercial sexual exploitation of children (CSEC)

This variable was assessed from Time 1 to Time 5 through six items (e.g., having exchange sex for money, drugs, gifts, or promises, and nude dancing in a bar or in a private party) (Le Blanc, 1996). Questions referred to involvement into these behaviors previously or during the last three months. We used a dichotomous variable to report whether or not the participants were ever involved in CSEC during adolescence (between ages 12 and 17).

3.3.2. Post-traumatic symptoms at admission (Time 1)

Trauma-related symptoms were evaluated during their first 2 weeks after admission (Trauma Symptom Checklist for Children – TSCC; 54 items; Briere, 1996). The TSCC is a trauma-specific instrument designed to assess post-traumatic stress and other psychological sequelae of traumatic events, including the effects of child abuse or neglect. For the purpose of the present study, the three scales that related more closely to post-traumatic symptoms (anxious, post-traumatic, and dissociation symptoms) were transposed into an index. The mean score was used, and this score ranged from 0 to 3. The Cronbach's alphas for our sample was 0.92.

3.3.3. Post-traumatic symptoms in emerging adulthood (Time 6)

Trauma related symptoms were evaluated in emerging adulthood, at the sixth time point (Trauma Symptom Inventory™-2 - TSI™-2, 136 items, Briere, 2011). The TSI-2 is a trauma-specific instrument similar to the TSCC but adapted for those over 18 years of age. All symptom items were rated according to their frequency of occurrence in the previous six months, using a four-point scale ranging from "never" to "often". The items of each scale were summed so that higher scores represented higher levels of symptoms. The post-traumatic stress symptom scale (min = 0; max = 120) and its respective indicators (min = 0; max = 30) were assessed. These indicators referred to anxious arousal, intrusive experiences, defensive avoidance, and dissociation. For our sample, the Cronbach's alphas of the summary factor and its indicators ranged from 0.84 to .97.

3.3.4. Child sexual abuse

A sexual abuse questionnaire based on the National Survey on Sexual Abuse by Finkelhor, Hotaling, Lewis, and Smith (1990) was administered at Time 6. Participants retrospectively reported whether or not they had experienced sexual abuse before the age of 13 (i.e. if they were forced to touch someone in a sexual manner, forced to being touched in a sexual manner, or being raped).

3.3.5. Immigration

A single item asked whether or not participants had immigrated or were born in Canada.

3.4. Data analysis

Statistical analyses were conducted using SPSS statistics version 20. First, one-way ANOVAs were performed to inspect differences in the level of post-traumatic symptoms in emerging adulthood between the participants who did ($n = 70$; 56.0%) and did not ($n = 55$; 44.0%) report an experience of CSEC during adolescence. To facilitate the interpretation of the magnitude of the differences, effect sizes (Cohen's d) were calculated, with $d = .20$ considered a small, $d = .50$ a medium, and $d = 0.80$ a large effect (Cohen, 1988). Second, hierarchical regressions were performed to test for the effects of CESC while accounting for the effects of age, immigration status, child sexual abuse, and previous post-traumatic symptoms.

4. Results

4.1. Descriptive results of the participants

According to the official Youth Protection's reports, the study participants were placed in residential care for these reasons: serious behavior problems (45.8%); neglect (22.5%); psychological, physical or sexual abuse (19.3%); abandonment (3.3%); delinquency (0.8%); and family crisis (8.3%). In addition, a high proportion of the study participants reported retrospectively, in a French-language version of the Childhood Trauma Questionnaire (Bernstein et al., 2003), that they had experienced maltreatment as children: 54.8% reported having been victims of emotional abuse, 35.5% of physical abuse, 37.1% of sexual abuse, 71.8% of emotional neglect, and 54.0% of physical neglect. Almost half (46%) of the participants reported they had experienced more than one

Table 2
One-Way Analysis of Variance of Post-traumatic Symptoms reported in Emerging Adulthood by the CSEC experiences during adolescence (n = 125).

	No experience of CSEC during adolescence (n = 55)		Experiences of CSEC during adolescence (n = 70)		
	M	SD	M	SD	Cohen's *d*
Post-traumatic index***	28.95	23.85	49.37	26.18	0.812
Anxious arousal***	8.18	5.91	12.67	6.79	0.700
Intrusive experiences***	7.38	7.24	13.13	8.05	0.747
Defensive avoidance***	9.58	9.08	16.47	8.73	0.776
Dissociation***	3.80	3.98	7.10	6.28	0.613

*** $p < 0.001$.

form of maltreatment. The average time spent in placement was 2.79 years and this duration varied across participants (s.d. = 3.11). In average, participants experienced 3.81 different out of home placements (s.d. = 3.14) and the mean age at first placement was 13.18 years old (s.d. = 3.20). Most of the participants were natives of Canada and 12.8% reported having immigrated.

Our analyses indicated that there was no attrition bias observed in regard to CSEC and trauma-related symptoms. Participants who did not participate at Time 6 reported similar rates of CSEC during adolescence as compared to participants who completed Time 6 ($X^2 = 0.953$; $p = 0.329$) and similar levels of post-traumatic symptoms were observed in admission to the placement between these two groups ($t = -0.008$; $p = 0.994$).

4.2. Differences in trauma-related symptoms reported in emerging adulthood between participants with and without CSEC experiences during adolescence

For all symptoms, significant differences were found between the participants with and without CSEC experiences, with CSEC predicting elevated rates of symptoms. Table 2 presents an overview of the means and standard errors of each group of participants, and the observed effect sizes. A strong effect size was found in the post-traumatic stress index ($d = 0.81$). The effect sizes slightly diminished but remained relatively elevated when looking at specific symptoms. More precisely, participants who reported experiences of CSEC, as compared to those without such experiences, reported much greater symptoms of anxiety (anxious arousal, $d = 0.70$) and more intrusive sensory memories of a previous traumatic event through nightmares and flashbacks (intrusive experiences, $d = 0.75$). Additionally, these participants reported many attempts to suppress or avoid thoughts or memories associated with a traumatic event (defensive avoidance, $d = 0.78$). A smaller difference was found for dissociation ($d = 0.61$). Nonetheless, compared to participants reporting no CSEC, participants with CSEC still reported considerably more symptoms of dissociation, referring to disengagement, depersonalization, and derealization.

4.3. The effects of CSEC experiences on trauma-related symptoms reported in emerging adulthood while controlling for possible confounding effects

Hierarchical regressions (Table 3) tested for the specific effect of CSEC on post-traumatic symptoms reported in emerging adulthood, while controlling for the effects of demographic variables (age and immigration status), child sexual abuse, and level of post-traumatic symptoms reported by the participants at their admission to the placement (nearly five years before the dependent variables' assessment). Beyond the high level of constraints imposed by this set of control variables, results show that experiences of CSEC during adolescence still predicted higher levels of post-traumatic symptoms in emerging adulthood. The effect of CSEC was

Table 3
Summary of Multiple Linear Regression Analyses for Variables Predicting Post-traumatic symptoms in Emerging Adulthood (n = 125).

Variables	Post-traumatic index *β*	Anxious Arousal *β*	Intrusive experiences *β*	Defensive avoidance *β*	Dissociation *β*
Block 1					
Age	−0.196**	−0.134	−0.255***	−0.143	−0.167*
Immigration status	0.032	0.074	0.045	−0.001	0.002
Child sexual abuse	0.216**	0.201*	0.217**	0.212*	0.122
Post-traumatic Symptoms at admission	0.305***	0.297***	0.289***	0.263**	0.244**
R^2 Block 1	29.4%	23.6%	30.8%	24.0%	16.7%
Block 2					
CSEC during adolescence	0.267***	0.237**	0.243**	0.258**	0.210*
R^2 Block 2	6.5%	5.1%	5.4%	6.1%	4.0%
Δ Variance improvement (CSEC)	22.1%	21.6%	17.5%	25.4%	24.0%
F Full model	13.319***	9.602***	13.462***	10.211***	6.214***

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

positive and significant for the general index of post-traumatic symptoms ($\beta = 0.267$; $p = 0.001$) as well as for anxious arousal ($\beta = 0.237$; $p < 0.01$), intrusive experiences ($\beta = 0.243$; $p < 0.01$), defensive avoidance ($\beta = 0.258$; $p < 0.01$), and dissociation ($\beta = 0.210$; $p < 0.05$). CSEC significantly improved the explained variance from 4% to 6.5%. This represented an improvement in total explained variance from 17.5% to 25.4% in comparison to the variance explained solely by age, immigration, child sexual abuse, and post-traumatic symptoms at admission (e.g., for post-traumatic index 6.5%/29.4% = 22.1%).

While previous post-traumatic symptoms was the strongest predictor (with the highest observed *β)* of all post-traumatic symptoms reported in emerging adulthood, CSEC was also a significant predictor. Coefficients related to child sexual abuse were slightly lower than the ones observed for CSEC. Having been a victim of sexual abuse during childhood predicted higher post-traumatic symptoms in emerging adulthood, with the exception of dissociation symptoms. Finally, while immigration status did not predict trauma-related symptoms in emerging adulthood, age was significant, with the youngest participants being more at risk to present elevated manifestations of intrusive experiences and dissociation.

5. Discussion

There are currently significant gaps in the CSEC literature concerning the specific vulnerabilities and intervention needs of female adolescents with histories of CSEC compared to other highly vulnerable female adolescents who have not experienced CSEC (Cole et al., 2016; Hickle & Roe-Sepowitz, 2018; Klatt et al., 2014; Shaw et al., 2017). The results of the current study provided new insight to these questions. First, it is impossible to overlook the high prevalence of CSEC among the study sample. Our results align with the findings from other studies conducted elsewhere, more than half of the study sample comprised of female adolescence in residential care reported involvement in CSEC.

Even more importantly, the study findings indicate that CSEC experiences intensify the existing vulnerabilities to traumatic sequelae that characterize female adolescents placed in residential care. More specifically, the results highlight the deleterious effects of CSEC on post-traumatic symptoms among female adolescents transitioning into adulthood. Aligning with the conclusions of recent enlightening studies cited above, the present study provided new empirical evidence related to two key points. First, our multivariate analytical strategy attested to the additive effects of CSEC on post-traumatic symptoms, over and above the effects of prior adverse experiences such as child sexual abuse and immigration. Second, our longitudinal design showed the predictive effect of CSEC on future post-traumatic symptoms, while controlling for prior post-traumatic symptoms.

The higher level of post-traumatic symptoms among female adolescents with histories of CSEC measured during emerging adulthood supports concerns regarding the urgent intervention needs of these highly vulnerable youth. Our results are similar to findings of Nijhof et al. (2012) and Shaw et al. (2017), which indicated that at the critical time of discharge, adolescents with histories of CSEC presented a more deteriorated symptom profile when compared to other welfare/justice involved youth without histories of CSEC. Notably, female adolescents with CSEC experiences reported more post-traumatic symptoms at their admission to the residential placement when compared with those with no CSEC experiences, and that the gap between these two groups persisted almost five years later. These results provide additional empirical evidence regarding the specific and enduring deleterious effects of CSEC on post-traumatic symptoms. The persistence of post-traumatic symptoms over the five-year study period also raises the possibility that treatment services provided at the residential facilities were not adequate to address trauma-related symptoms and clinicians were offering treatment strategies that were not beneficial for complex trauma (Reid & Loughran, 2019). Understanding the psychological impacts of CSEC-related trauma is essential to identifying a fitting course of treatment. These study results highlight the urgency of providing with specific intervention programs for female adolescents with histories of CSEC that foster recovery and well-being.

The traumatic sequelae of CSEC were manifested through different symptoms. For instance, the occurrence of CSEC predicted elevated levels of intrusive sensory memories, nightmares and flashbacks (intrusive experiences) and of attempts to suppress or avoid thoughts or memories associated with a traumatic event (defensive avoidance). These results support previous studies (Reid, 2018; Thompson et al., 2016), suggesting that exploited youth may try to “escape” a situation causing emotional pain by resorting to their available personal resources. These symptoms may be a tangible sign that their memories are still too burdensome and easily triggered by current events, and thus exceed their personal coping capacities. Furthermore, the occurrence of CSEC also predicted more symptoms of anxiety and dissociation. As suggested by Roe-Sepowitz (2012), these results may indicate a difficulty to cope with prior traumatic experiences.

Our results demonstrated that age was negatively associated with some post-traumatic symptoms indicating that younger adolescents experienced higher levels of symptoms, specifically intrusive experiences and dissociation. This finding concurs with research by Roe-Sepowitz (2012) which compared post-traumatic symptoms of those with adolescent versus adult entry into commercial sexual activity and found that adolescent entry was related to higher levels of dissociative symptoms. Prior research has found that dissociative symptoms are associated with intolerable experiences during childhood that cannot be integrated into the consciousness and therefore continue to disturb the individual for many years (Schimmenti & Caretti, 2016). Understanding that younger adolescents who experience CSEC may have greater vulnerability to certain post-traumatic symptoms, such as dissociation, is critical to providing optimal individualized treatment.

Relatedly, more research is needed to better understand factors that can promote resilience among those who have experienced CSEC. In particular, research on sense of agency merits more attention. Qualitative research by Dodsworth (2014), stated that women who felt a stronger sense of agency (i.e., more control) over adverse situations including, child abuse and neglect, reported fewer negative consequences and presented with more personal coping strategies in the face of adversity. Additional research should also further investigate the mechanisms that are involved in the relation between child sexual abuse and CSEC. Gaining a better

understanding of these mechanisms will help identify either risk factors that contribute to the continuity of the cycle of sexual exploitation or protective factors that may contribute to its discontinuation. Due to low rates of immigration within our sample, our study could not evaluate in a more comprehensive manner the impact of immigration status. This limitation is particularity worth noting when considering the increasing number of migrant children at risk for CSEC (Walji, 2018). Further research on this topic is needed.

This study provided new insights for the advancement of knowledge but did have some limitations. First, there was the potential for recall biases to occur, wherein recent memories and events naturally have a stronger effect on how individuals respond to questionnaires than older memories. Additionally, all forms of child maltreatment, such as adolescent sexual abuse (occurring after the age of 13), were not controlled for and therefore, could account for some portion of post-traumatic symptoms. Other study limitations were related to the CSEC measure. Our measure did not precisely situate the occurrence of CSEC in time, so CSEC could have occurred within a period of time that was more or less close to the moment when the post-traumatic symptoms were assessed. Also, CSEC was measured with a dichotomous measure. More details on the age of onset, frequency, duration, and the context of CSEC would certainly have enriched the analysis. Additionally, at each time point, our measure captured CSEC during the previous three months. Since the number of months between time points was greater than three months at Time 4 and Time 5 of our study, it is possible that some CSEC experiences were missed. Finally, the measure, which included sex exchanges for money, drugs, gifts, or promises, could have incorporated some incidents of sexual exploitation that may not have been decidedly commercial.

To conclude, the study findings call for the development of immediate initiatives to sensitize and train front line residential care workers to appropriately identify youth involved in CSEC and to provide them with optimal services. But concretely, this call for action faces some important challenges. First, within a living-group context of intervention such as residential care, treating post-traumatic symptoms may be beyond the front-line workers' mandate and expertise. Second, promising practices in the field of CSEC – which are documented and adapted to the context of residential care – are nearly nonexistent, as reported in a systematic review of interventions that foster healing among sexually exploited youth (Moynihan, Pitcher, & Saewyc, 2018). Third, interventions must be carefully planned not to induce deleterious effects on youth not involved in CSEC. One way to overcome these challenges may be by establishing a warm and safe climate within the residential care context (Harder, Knorth, & Kalverboer, 2013; Lanctôt, Lemieux, & Mathys, 2016). Also, establishing healthy relationships and forming strong working alliances can help make those who have experienced CSEC feel safer emotionally, by providing relationships in which they feel supported and respected (Ayotte, Lanctôt, & Tourigny, 2017). These guidelines align with the secure base model developed by Schofield and Beek (2014). This model has been developed to provide a positive and relational framework for therapeutic caregiving, which helps youth to move toward greater security and builds resilience.

Funding

This work was supported by the Canada Research Chair on Adolescent Delinquency and the Social Sciences and Humanities Research Council of Canada (435-3012-0812).

Declaration of Competing Interest

None.

References

Ayotte, M. H., Lanctôt, N., & Tourigny, M. (2017). The association between the working alliance with adolescent girls in residential care and their trauma-related symptoms in emerging adulthood. *Child & Youth Care Forum, 46*(4), 601–620.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., ... Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 27*(2), 169–190.

Bounds, D., Julion, W. A., & Delaney, K. R. (2015). Commercial sexual exploitation of children and state child welfare systems. *Policy, Politics & Nursing Practice, 16*(1–2), 17–26.

Briere, J. (1996). *Trauma symptom checklist for children. Professional manual.* Odessa, FL: Psychological assessment resources Inc.

Briere, J. (2011). *Trauma sympton Inventory-2 (TSI-2) manual.* Odessa, FL: Psychological Assessment Resources.

Cecchet, S. J., & Thoburn, J. (2014). The psychological experience of child and adolescent sex trafficking in the United States: Trauma and resilience in survivors. *Psychological Trauma Theory Research Practice and Policy, 6*(5), 482.

Choi, K. R. (2015). Risk factors for domestic minor sex trafficking in the United States: A literature review. *Journal of Forensic Nursing, 11*(2), 66–76.

Cohen, J. (1988). *Statistical Power analysis for the behavioral sciences (2e éd.).* Hillsdale, NJ: Erlbaum.

Cole, J., Sprang, G., Lee, R., & Cohen, J. (2016). The trauma of commercial sexual exploitation of youth: A comparison of CSE victims to sexual abuse victims in a clinical sample. *Journal of Interpersonal Violence, 31*(1), 122–146.

Daalder, A. L., Bogaerts, S., & Bijleveld, C. C. J. H. (2013). The severity of childhood abuse and neglect in relationship to post-traumatic stress disorder among female sex workers in the Netherlands. *Journal of Aggression, Maltreatment & Trauma, 22*(9), 935–949. https://doi.org/10.1080/10926771.2013.834017.

Dodsworth, J. (2014). Sexual exploitation, selling and swapping sex: Victimhood and agency. *Child Abuse Review, 23*(3), 185–199.

Edwards, J. M., Halpern, C. T., & Wechsberg, W. M. (2006). Correlates of exchanging sex for drugs or money among women who use crack cocaine. *AIDS Education and Prevention, 18*(5), 420–429.

Finkelhor, D., Hotaling, G., Lewis, I., & Smith, C. (1990). Sexual abuse in a national survey of adult men and women: Prevalence, characteristics, and risk factors. *Child Abuse & Neglect, 14*(1), 19–28.

Harder, A. T., Knorth, E. J., & Kalverboer, M. E. (2013). A secure base? The adolescent–staff relationship in secure residential youth care. *Child & Family Social Work, 18*(3), 305–317.

Herman, J. L. (2003). Introduction: Hidden in plain sight: Clinical observations on prostitution. In M. Farley (Ed.). *Prostitution, trafficking, and traumatic stress* (pp. 1–13). New York: the Haworth Press Inc.

Hickle, K., & Roe-Sepowitz, D. (2018). Adversity and intervention needs among girls in residential care with experiences of commercial sexual exploitation. *Children and Youth Services Review, 93*, 17–23.

International Labour Organization (ILO; n.d.). Commercial sexual exploitation of children and adolescents: The ILO's response. Geneva, Switzerland: International Programme on the Elimination of Child Labour (IPEC). Retrieved January 24, 2019 from http://www.ilo.org/ipec/areas/CSEC/lang–en/index.htm.

Kerig, P. K. (2018). Polyvictimization and girls' involvement in the juvenile justice system: Investigating gender-differentiated patterns of risk, recidivism, and resilience. *Journal of Interpersonal Violence, 33*(5), 789–809.

Klatt, T., Cavner, D., & Egan, V. (2014). Rationalising predictors of child sexual exploitation and sex-trading. *Child Abuse & Neglect, 38*(2), 252–260.

Lanctôt, N., & Lemieux, A. (2012). Expression et régulation de la colère : Les effets d'un programme cognitif-comportemental appliqué à des adolescentes hébergées en centre de réadaptation. *Revue de Psychoéducation, 41*(2), 209–229.

Lanctôt, N., Lemieux, A., & Mathys, C. (2016). The value of a safe, connected social climate for adolescent girls in residential care. *Residential Treatment for Children & Youth, 33*(3–4), 247–269.

Lanctôt, N., Couture, S., Couvrette, A., Laurier, C., Lemieux, A., M.-Tremblay, L., & Turcotte, M. (2018). *La face cachée de la prostitution: une étude des conséquences de la prostitution sur le développement et le bien-être des filles et des femmes.* Québec: Rapport de recherche: programme actions concertées du Fond de recherche Québécois – Société et Culture, Québec.

Lavoie, F., Thibodeau, C., Gagné, M.-H., & Hébert, M. (2010). Buying and selling sex in Québec adolescents: A study of risk and protective factors. *Archives of Sexual Behavior, 39*(5), 1147–1160.

Le Blanc (1996). *Manuel sur des mesures de l'adaptation sociale et personnelle pour les adolescents québécois* (3rd ed.). Montréal, QC: Université de Montréal.

Logan, T. K., Walker, R., & Hunt, G. (2009). Understanding human trafficking in the United States. *Trauma, Violence & Abuse, 10*(1), 3–30.

Moynihan, M., Pitcher, C., & Saewyc, E. (2018). Interventions that foster healing among sexually exploited children and adolescents: A systematic review. *Journal of Child Sexual Abuse,* 1–21.

Nijhof, K. S., Scholte, R. H., Burk, W. J., Engels, R. C., Van Dam, C., & Veerman, J. W. (2012). Sexual behavior and treatment improvement of institutionalized girls. *Residential Treatment for Children & Youth, 29*(3), 250–264.

O'Brien, J. E., White, K., & Rizo, C. F. (2017). Domestic minor sex trafficking among child welfare–Involved youth: An exploratory study of correlates. *Child Maltreatment, 22*(3), 265–274.

Olff, M. (2017). Sex and gender differences in post-traumatic stress disorder: An update. *European Journal of Psychotraumatology, 8*(Suppl. 4), 1351204.

Reid, J. A. (2012). *A girl's path to prostitution: Linking caregiver adversity to child susceptibility.* El Paso, TX: LFB Scholarly Publishing.

Reid, J. A. (2013). *Doors wide shut: Barriers to the successful delivery of victim services for domestically trafficked minors in a Southern US metropolitan Area. Human sex trafficking.* Routledge154–173.

Reid, J. A. (2018). System failure! Is the department of children and families (DCF) facilitating sex trafficking of foster girls? In A. G. Nichols, T. Edmond, & E. C. Heil (Eds.). *Social work practice with survivors of sex trafficking and commercial sexual exploitation* (pp. 298–315). Columbia University Press.

Reid, J. A., & Loughran, T. A. (2019). A latent class typology of justice-involved youth victims and exploration of trauma-related psychological symptoms. *Justice Quarterly,* 1–15. https://doi.org/10.1080/07418825.2019.1595700.

Roe-Sepowitz, D. E. (2012). Juvenile entry into prostitution: The role of emotional abuse. *Violence Against Women, 18*(5), 562–579. https://doi.org/10.1177/1077801212453140.

Roxburgh, A., Degenhardt, L., Copeland, J., & Larance, B. (2008). Drug dependence and associated risks among female street-based sex workers in the greater Sydney area, Australia. *Substance Use & Misuse, 43*(8–9), 1202–1217. https://doi.org/10.1080/10826080801914410.

Schimmenti, A., & Caretti, V. (2016). Linking the overwhelming with the unbearable: Developmental trauma, dissociation, and the disconnected self. *Psychoanalytic Psychology, 33*(1), 106–128. https://doi.org/10.1037/a0038019.

Schofield, G., & Beek, M. (2014). *The secure base model: Promoting attachment and resilience in foster care and adoption.* London, England: British Association for Adoption and Fostering.

Shaw, J. A., Lewis, J. E., Chitiva, H. A., & Pangilinan, A. R. (2017). Adolescent victims of commercial sexual exploitation versus sexually abused adolescents. *The Journal of the American Academy of Psychiatry and the Law, 45*(3), 325–331.

Surratt, H. L., Kurtz, S. P., Weaver, J. C., & Inciardi, J. A. (2005). The connections of mental health problems, violent life experiences, and the social milieu of the "stroll" with the HIV risk behaviors of female street sex workers. *Journal of Psychology & Human Sexuality, 17*(1–2), 23–44. https://doi.org/10.1300/J056v17n01_03.

Svedin, C. G., & Priebe, G. (2007). Selling sex in a population-based study of high school seniors in Sweden: Demographic and psychosocial correlates. *Archives of Sexual Behavior, 36*(1), 21–32.

Thompson, R., Lewis, T., Neilson, E. C., English, D. J., Litrownik, A. J., Margolis, B., ... Dubowitz, H. (2016). Child maltreatment and risky sexual behavior: Indirect effects through trauma symptoms and substance use. *Child Maltreatment, 22*(1), 69–78. https://doi.org/10.1177/1077559516674595.

Walji, N. (2018). *Growing number of refuges arriving in Canada as unaccompanied minors* (2018, December 30) Retrieved fromCBC Newshttps://www.cbc.ca/news/canada/refugee-shelter-matthew-house-youth-unaccompanied-transition-1.4922946.