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ORIGINAL ARTICLE

Persistent and Transitory Sexualized Behavior Problems in Children

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Abstract
The aim of this longitudinal study was to examine the course of sexualized behavior problems (SBP) over 2 years in a sample comprised of 104 children aged 2–12, including 62 children with histories of child sexual abuse (CSA). Parents completed questionnaires assessing SBP, internalizing and externalizing difficulties at baseline, as well as 2 years later. In more than half (56.7%) of children with clinically significant SBP at baseline, sexualized behaviors persisted and remained at a clinically significant level over time. In children with CSA, 48.4% presented persistent SBP, 27.4% presented transitory SBP, while 19.4% did not present clinically significant SBP at either time. CSA increased the relative risk of persistent SBP 3.29 times, and for each one-unit increase in scores of externalizing difficulties, the odds of persistent SBP increased by 21%. The findings suggest that SBP consequent to CSA, especially when it co-occurs with externalizing difficulties, is likely to remain at levels warranting clinical intervention.

Keywords Sexual behavior problems · Childhood sexual abuse · Risk factors · Internalized behaviors · Externalized behaviors

Introduction

Our understanding of childhood sexuality remains incomplete, but there is a consensus that sexual interest and behaviors manifest early, and over the course of psychosocial development become progressively more private and pave the way for adolescent and adult sexual development [44, 54]. Normative sexual development may include self-exploration and stimulation, looking or trying to look at people when they are nude or undressing, and may also include touching or trying to touch other people's sexual body parts [26, 27]. When they involve other children, these activities, most often take place in the context of play or "chase and kiss" games where curiosity, but where there is also evidence of increasing responsiveness to the reactions of others.

In contrast, sexualized behaviors in children between age 2 and 12 are problematic when they mimic adult sexuality (penetration, attempted penetration, oral sex, etc.) or are performed using force or intimidation [12, 28]. In addition, sexual behaviors are problematic when they pervade typical play situations or interactions with peers, and don't respond to limit setting by parents or teachers or signs of discomfort, pain or fear in other children [66]. Furthermore, the persistence of intrusive and aggressive sexual behavior is of particular concern and indicative of atypical or compromised psychosexual development, but little is known regarding the factors that predict why some children manifest these difficulties temporarily while for others it becomes long term.

There is growing interest in SBP [4, 13, 17, 29] and evidence suggests that SBP is an important problem (for a recent systematic review of 18 studies considered of good quality, see Boisvert et al. [7] especially in the context of child protection services where it affects one in six children [49]. However, there are still significant gaps in our knowledge regarding trajectories of SBP over time. Longitudinal studies of SBP remain rare [21], and have tended to focus on specific high risk populations such as children in institutional or foster care, or have examined whether children with SBP become sexual offenders. Less is known regarding trajectories of SBP in sexually abused children

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and non-abused children from the community [54]. The lack of clarity regarding whether childhood SBP tends to be a transitory phenomenon or whether it endures and becomes persistent, has implications at the level of service provision as it is not clear whether SBP warrant early comprehensive and intensive intervention or are likely to resolve over time without intervention [9, 30, 62]. Furthermore, children with SBP also frequently manifest other difficulties indicative of distress that may be experienced both internally or expressed externally [20, 33, 46, 50, 64]. Internalizing refers to difficulties such as depressive and anxiety symptoms, as well as inhibition where psychological distress is experienced internally rather being expressed in the external world, whereas externalizing difficulties refer to problems expressed outwardly through behaviours such as opposition and aggression [37, 48]. However, the relationship between SBP and psychological distress over time remains poorly understood.

Trajectories of Sexualized Behavior Problems (SBPs)

There is evidence suggesting that SBP persists over time [68, 73] and one study showed that 43% of 46 children referred to child protection services because of SBP still manifested clinically significant SBP 12 months later [52]. In another study of 20 children aged 10–12 with SBP referred by social services and living in care or with foster families [30], 92% of the children in residential care, and 43% of the children in foster care still manifested clinically significant symptoms 12 months later. Two other longitudinal studies have focused on children treated for SBP. First, in a treatment study of 20 children aged 6–12 years with SBP, Bonner et al. [8] observed that 15–17% still manifested SBP 2 years later. Second, in their 10-year follow up study of 135 children treated for SBP, Carpentier et al. [10] found that 2–10% of the children had committed sex offences, which might suggest long-lasting SBP.

These findings suggest that a sizable minority of children follow a stable and persistent trajectory of SBP whereas for others, problematic sexual behaviors will be transitory. However, this conclusion is based on a small number of treatment studies of, with the notable exception of Carpentier et al. [10], small samples of children in institutional or foster care. There is a lack of data on children from the community that take into account risk factors for SBP.

SBP and Risk Factors

SBP is considered to be a multidetermined problematic [6, 29], and more likely to occur when parenting is negatively affected by characteristics of the parent such as low education or mental health problems, or in the context of couple violence, difficult life circumstances, or harsh parenting. It has been suggested that parenting difficulties may also increase the risk of SBD through its impact on child attachment [6, 29] especially in the context of CSA [22]. In addition, in the context of the sexual abuse, when parents have little capacity to understand the reactions and behaviors of children and look beyond behavior to the psychological states and feelings that these behaviours may communicate, this appears to contribute to the subsequent SBP [22]. Furthermore, individual factors involving child sexual abuse (CSA), as well as others types of abuse, gender, and internalizing and externalizing behaviors emerge as especially relevant for SBP and will be discussed in turn.

CSA

SBP have consistently been shown to be more frequent in sexually abused children than in other clinicaly-referred children [19, 26, 33, 35, 42, 61]. This finding is consistent with the traumatic exposure theory initially proposed by Friedrich [25] where SBP are considered to result from inappropriate early exposure to sexuality. In line with this, most studies have focused on sexual abuse as the main risk factor for SBP [16, 19, 38, 50]. A number of studies have also investigated associations between SBP and physical and emotional abuse and neglect, but a recent review indicates that the majority of these studies have failed to find a relationship [29] or lacked power to detect significant relationships. In line with this, findings from a recent study point to parental histories of maltreatment, rather than child maltreatment, as a predictor of symptom change in children treated for sexualised behaviour [71]. At the same time, it is evident that sexual abuse is not a necessary or sufficient condition for SBP given that between 30 and 70% of children with SBP have not been sexually abused [31, 38, 39, 64]. Furthermore, nearly 50% of sexually abused children do not present SBP [42]. These findings suggest that in addition to CSA, other factors need to be examined to better understand the risk of persistent SBP [12, 31, 65].

Gender

With regard to gender and SBP, the findings are divergent with some studies suggesting that boys are more at risk of developing SBP [27, 41, 51], while others show the opposite [39, 47, 70] or report no gender differences [31, 32]. However, given the lack of longitudinal studies, little is known about the association between SBP persistence and gender.

Internalizing and Externalizing Difficulties

There is evidence showing that SBP co-occur with externalizing and internalizing difficulties [20, 21, 32, 38, 46, 50, 57, 64]. Based on the strong correlation between SBP and externalizing difficulties found in a large sample of 2311 children,

Friedrich [28] proposed that SBP can be conceptualized as a general tendency towards externalizing. In line with this, SBP frequently occur in the context of a general pattern of disruptive behaviors such as defying rules at home/school and being physically aggressive [12, 64] and the trajectory of SBP appears to be predicted by externalizing difficulties [52, 63]. At the same time, there is also evidence showing that SBP are associated with internalizing symptoms such as depression [35, 65, 66]. Furthermore, internalizing and externalizing difficulties frequently co-occur [37, 48, 53, 60]. This may be in part because they share a common basis or psychopathology factor [11], but also because when distress is expressed behaviourally, this may cause further difficulties for the child that in turn contribute to distress and inner pain. For this reason we considered both types of difficulties in the maintenance of SBP over time.

The Current Study

The overall objective of this study was to examine trajectories of SBP over 2 years and test a mediation model in which CSA is considered to contribute to increased internalized and externalized behaviors, which in turn contributes to maintaining persistent SBP. Specific objectives were (1) to document the percentage of children maintaining clinically significant levels of SBP over time as well as the percentage of children with CSA who present persistent, transitory SBP or no SBP, (2) to examine the role of CSA, gender, internalizing and externalizing behaviors in relation with SBP within an integrative mediational model, and (3) to refine our understanding of the associated variables relative to the risk of belonging to the persistent group by performing logistic regressions to scrutinize for specific predictors of SBP trajectories. Based on previous findings, we hypothesized that sexually abused children would present more persistent SBP, especially if they also exhibit high levels of externalizing and internalizing difficulties. We also hypothesized that both internalizing and externalizing difficulties would mediate the association between CSA and SBP.

Methodology

Participants

The current study focused on a sample of 104 children aged between 3 and 12 years old ($M = 7.88$, $SD = 2.05$). The majority of participants were girls (65%, $n = 68$) and were Caucasian French Canadian (94%). Family revenue was distributed as follows: 22% earned less than $15,000 per annum, 30% earned $15–35,000, 23% earned $35–60,000 and 25% earned more than $60,000. A total of 62 children (59.6%) were victims of CSA. The majority of respondents/caregivers were the biological mother (96.2%), for 1.9%, it was the adoptive mother, and for the other 2% it was another female caregiver. With regard to the marital status of the parents, 31.1% were married at the time of the study, 33% were living with a partner, 18.4% were single and 17.4% were divorced or separated.

Procedure

All participants were recruited as part of a larger study examining psychosocial difficulties in the context of CSA ($N = 378$ children aged between 2 and 13 years, $M = 6.06$; $SD = 2.53$). Study information sheets were sent to professionals and posted in health, school and social services. Professionals agreed to refer families to the study when they suspected CSA. Furthermore, information sheets invited parents to participate in the study in the context of CSA. Data is reported here for children who completed the first assessment (time 1) and participated in the follow up assessment 2 years later at the Child and Adolescent Psychology Clinic of University Laval. To examine whether the children who participated in the longitudinal study differed from participants who only completed time 1 assessments, Chi square and t test analyses were performed. There were no significant differences in terms of gender ($\chi^2 = 3.04$, $p = .081$), CSA status ($\chi^2 = 1.78$, $p = .182$), SBP [$t(367) = 0.447$, $p = .655$)], internalizing difficulties [$t(361) = 1.157$, $p = .248$)] or externalizing difficulties [$t(361) = 0.447$, $p = .655$)] at T1. However, children who participated in the current study were on average younger at T1 ($M = 65.82$ months) as compared to children who only participated in the correlational study [$M = 75.40$ months; $t(376) = 2.762$, $p = .006$)]. This is likely due to the fact that older children, for example children 10 years and older at the time 1 assessment, may no longer have meet age criteria for participation in the study at time 2.

Measures

Sexualized Behavior Problems, SBP: (Child Sexual Behavior Inventory) (CSBI)

The CSBI [27] is a 38-item parent report inventory developed to assess the frequency during the past six months of sexual behavior in children aged 2–12, on a four-point scale (0 = never exhibits the behavior, 1 = exhibits the behavior less than once a month, 2 = 1–3 times a month, or 3 = at least once a week). It yields a total CSBI score, a Developmentally Related Sexual Behavior Score, and a Sexual Abuse Specific Items Score, with norms by age and gender. T scores above 65 on the total CSBI or on the Sexual Abuse Specific Items Subscale indicate clinically significant SPB [27]. This cut-off was used in the current study to

identify three groups of children: asymptomatic (T scores of ≤ 65), transitory SBP (T scores > 65 at T1 only) and persistent SBP (T scores > 65 at T1 and T2). The instrument has well-established psychometric properties [33, 34]. Cronbach's alphas were satisfactory in the current study (total score = 0.90 at T1 and 0.84 at T2; Sexual Abuse Specific Items Subscale = 0.84 at T1 and 0.79 at T2).

Child Internalizing and Externalizing Behavior Issues: The Child Behavior Checklist (CBCL-Parent Report)

Child internalizing and externalizing behavior problems were evaluated with the CBCL for children aged 2–3 and 4–18 years [2]. The CBCL is a 118 item parent report questionnaire developed to assess a broad range of internalizing and externalizing issues during the past 6 months, using a three-point scale (0 = absent, 1 = sometimes present, 2 = often present). Raw scores are transformed into standardized *T*-scores, and scores above 65 are considered indicative of clinically significant difficulties [2]. The CBCL (parent report) is widely used and has been shown to have good psychometric properties in a number of studies [3]. The test–retest reliability has been shown to be strong, with mean correlations of .89 between the different sub-scales. Cronbach's alphas indicated satisfactory internal consistency in the current study (α ranged between 0.87 and 0.92).

Child Sexual Abuse (CSA)

According to Canadian law, CSA refers to any sexual act between a child under 16 years of age and a person 5 or more years older, or in a position of authority. Using this legal definition, a semi-structured interview along with consultation of medical and social work records and discussion with other professionals (when available) was used to evaluate the presence of sexual abuse (yes or no). Characteristics of the CSA were assessed, including the age at which the child was abused, frequency of abuse, the gender of the aggressor, the relationship to the abuser (i.e., perpetrated by a parental figure or not), and the type of abuse (i.e., with penetration or not).

Statistical Plan

Objective 1: Descriptive Statistics

Descriptive analyses were performed on CSBI scores to document the percentage of children with initially high levels of SBP (above the established cut-off considered indicative of clinically significant levels) who maintained clinically significant levels of SBP over time (i.e., persistent SBP), the percentage of children where SBP decreased to clinically non-significant levels over time (i.e., transitory SBP), and children without clinically significant SBP at either time (i.e., asymptomatic), in the overall sample in within CSA victims. Chi square tests were then conducted to compare the three groups (i.e., asymptomatic, transitory, and persistent) on CSA and gender. A repeated measure 3 (groups) by 2 (time) MANOVA was computed to compare the scores on sexualized behaviors, internalizing and externalizing problems among the three groups over time, as well as the interaction between group and time. Effect sizes were computed using Cramer's V for Chi square tests and partial eta-squared for MANOVA. Effect size magnitude was estimated based on Cohen [14] guidelines, where $\eta^2 > 0.01$; $\phi_c > 0.10$ are considered *small*, $\eta^2 > 0.09$; $\phi_c > 0.30$ are considered *medium*, and $\eta^2 > 0.25$; $\phi_c > 0.50$ are *large* effects.

Objective 2: Mediation Model

Path analysis using M*plus* version 7.0 [58] was used to confirm the proposed model in which sexual abuse, internalizing and externalizing behaviors predict a continuous score of SBP ranging from 0 = asymptomatic, 1 = transitory, to 2 = persistent. Path analysis is a statistical technique that allows for testing both direct and indirect relationships among variables that may be correlated [43]. M*plus* accounts for missing data using the full information maximum likelihood estimation [58]. As recommended by McDonald and Ho [56], the overall fit of the model was tested by jointly considering the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the Chi square statistic. A non-significant Chi square value, a CFI value of 0.90 or higher, and a RMSEA value below 0.06 are indicators of good fit. To examine the role of internalizing and externalizing behaviors in the relationship between sexual abuse and SBP, we computed direct effects (i.e., path coefficient from sexual abuse to SBP) as well as indirect effects (i.e., the product of the path coefficients from sexual abuse to internalizing/externalizing behaviors, and from internalizing/externalizing behaviors to SBP).

Bootstrap confidence intervals (95%) were computed to examine the significance of the hypothesized indirect effects [55]. This bias-corrected method is based on a distribution for the product of coefficients and generates confidence limits for the true value of the coefficient for indirect effects. When zero is not in the confidence interval, the indirect effect is considered significant. We also computed the proportion of the total effect that is mediated through internalized and externalized behaviors (indirect effect/total effect).

Objective 3: Detailing Risk Factors Related to Persistent SBP

Finally, to detail the impacts of each risk factor in the prediction of persistent SBP, as compared to asymptomatic and transitory SBP, hierarchical logistic regressions were used

including CSA and gender in Step 1, and externalizing and internalizing behaviors in Step 2.

Results

Objective 1: Descriptive Analyses

Prevalence of Asymptomatic, Transitory and Persistent SBP

The prevalence of children in the asymptomatic, transitory and persistent SBP groups, as well as associations with gender and sexual abuse are summarized in Table 1. Means and standard deviations of internalizing and externalizing difficulties are also presented. Two children (1 sexually abused and 1 non-abused) exhibited SBP above the clinical cut-off only at T2 and were thus not included in the three groups. Results show that among the 60 children who had clinically significant SBP at T1, 56.7% remained symptomatic, while 43.3% no longer evidenced clinically significant SBP 2 years later.

Of the 62 sexually abused children, 48.4% presented persistent SBP, 27.4% presented transitory SBP, and 19.4% were asymptomatic (see Table 2). Chi square analyses (see Table 2) showed that the rates of CSA involving a parental figure and penetration were significantly more elevated in children with persistent SBP than in children from the other groups. These results are indicative of large effect sizes. With regard to gender, there were similar rates of persistent SBP in sexually abused girls (54.8%, $n = 23/42$) and boys (50.0%, $n = 10/20$), χ^2 ($dl = 3$) = 1.03, $p = .795$, $\phi_c = 0.129$.

Group Comparisons

A repeated measures 3 (groups) by 2 (time) MANOVA was performed to compare the three groups (asymptomatic, transitory, and persistent) with regard to SBP, as well as internalizing and externalizing behaviors at T1 and T2 (see results in Table 2). Results show a significant effect of Group, $F(6, 194) = 32.47$, $p < .001$, ($\eta^2_{partial} = 0.501$) and Time, $F(6, 97) = 19.66$, $p < .001$, ($\eta^2_{partial} = 0.378$), as well as a Group*Time interaction, $F(6, 194) = 7.08$, $p < .001$, ($\eta^2_{partial} = 0.180$). While the significant effect of Time indicates a general tendency for internalizing, externalizing and sexualized behaviors to decrease over time, the significant interaction Group*Time confirm that changes over Time are significantly different among the three groups (all $p < .05$; post-hoc tests with Bonferroni correction, see Table 2).

As expected, the group of children with persistent SBP had stable mean scores of externalizing difficulties above the clinical threshold at both assessment times, but only at Time 1 for internalizing difficulties. In children with transitory SBP, results show significant decreases from T1 and T2

Table 1 Descriptive by gender and CSA status

	Girls (65%, $n = 67$)				Boys (35%, $n = 35$)			
SBP status	No CSA ($n = 26$)		CSA ($n = 41$)		No CSA ($n = 15$)		CSA ($n = 20$)	
Asymptomatic	80.8% ($n = 21$)		17.1% ($n = 7$)		60% ($n = 9$)		25% ($n = 5$)	
transitory	11.5% ($n = 3$)		29.3% ($n = 12$)		40% ($n = 6$)		25% ($n = 5$)	
Persistent	7.7% ($n = 2$)		53.7% ($n = 22$)		–		50% ($n = 10$)	
	T1 M(*SD*)	T2 M(*SD*)	T1 M(*SD*)	T2 M(*SD*)	T1 M(*SD*)	T2 M(*SD*)	T1 M(*SD*)	T2 M(*SD*)
Internalizing	51.19 (9.069)	50.50 (8.603)	65.65 (8.605)	62.76 (7.663)	52.00 (7.685)	48.44 (6.772)	59.90 (9.014)	63.20 (11.400)
Externalizing	53.77 (12.770)	49.58 (10.557)	67.90 (10.357)	63.79 (8.686)	50.56 (8.763)	46.69 (8.592)	63.15 (10.404)	64.15 (12.487)

Table 2 CSA, sexualized behaviors, internalizing and externalizing behaviors by groups

	Asymptomatic $n=42$	Transitory $n=26$	Persistent $n=34$	χ^2	ϕ_c
	n (% within asymptomatic)	*n* (% within transitory)	*n* (% within persistent)		
Sex (girl)	28 (66.7)	15 (57.7)	24 (70.6)	1.12	0.105
CSA (yes)	12 (28.6)	17 (65.4)	32 (94.1)	35.09***	0.586
By parental figure (yes)	1 (2.4)	5 (20.8)	13 (36.1)	14.65***	0.379
With penetration (yes)	6 (14.3)	8 (33.3)	15 (41.7)	7.51***	0.271
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*F*	η^2
CSBI					
T1	49.31 (6.27)	78.27 (15.36)	92.68 (18.40)	53.14***	0.349
T2	48.67 (6.95)	54.23 (8.23)	82.56 (18.19)		
CBCL					
Internalizing					
T1	53.45 (9.98)	62.88 (9.32)	63.44 (8.85)	3.94*	0.038
T2	52.21 (8.78)	55.88 (9.61)	65.74 (8.05)		
Externalizing					
T1	51.33 (10.46)	63.38 (10.79)	70.97 (8.05)	17.62***	0.151
T2	49.33 (8.42)	56.54 (11.31)	69.03 (8.56)		

F value and effect size (η^2) presented for the interaction Group*Time effect for each variable

CSA child sexual abuse, *CSBI* total scores on the Child Sexual Behavior Inventory, *CBCL* scores on the Child Behavior Checklist

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

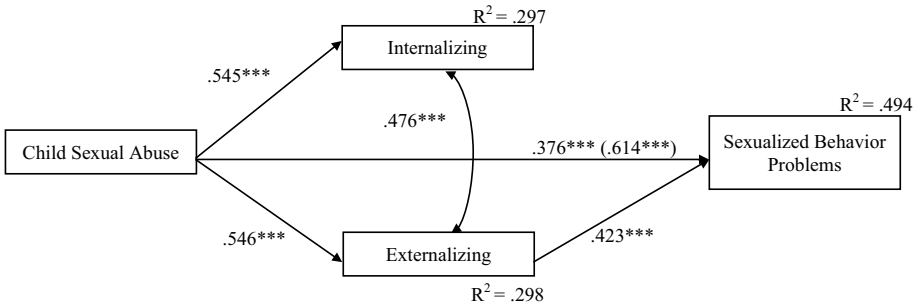

Fig. 1 Integrative model of the relationship between sexual abuse, internalizing behaviors, externalizing behaviors, and sexualized behavior problems (scored: 0 = asymptomatic, 1 = transitory, 2 = persistent). Note: standardized coefficients are presented. ***$p<.001$

in SBP ($p<.001$), externalizing ($p<.001$) and internalizing difficulties ($p=.002$). In the asymptomatic group, results show stable (low and non-clinically significant) levels of SBP ($p=.792$), externalizing ($p=.130$) and internalizing difficulties ($p=.419$) from T1 to T2.

Objective 2: Mediation Model

The mediational model showed a good fit to the data ($\chi^2(1)=0.446$, $p=.50$, CFI = 1.00, RMSEA = 0.01 with 90% CI [0.00, 0.20]). The direct path between sexual abuse and SBP (scored 0 = asymptomatic, 1 = transitory, and 2 = persistent) from CSA to SBP was significant (see Fig. 1, in brackets). When adding externalizing and internalizing behaviors in the model, the strength of the direct association between CSA and SBP decreased but remained significant, suggesting partial mediation (see Fig. 1). The examination of indirect effects revealed that the product coefficient for the path from CSA to SBP via externalizing behavior, was significant (95% bootstrap CI 0.24, 0.65). The proportion of the effect of CSA on SBP via externalizing behaviors was 38%, confirming a significant mediation effect. The relationship between internalizing behaviors and SBP, while considering the effect of CSA and externalizing behaviors, was non-significant. Results showed that CSA was related to both internalizing and externalizing behaviors at T1, and that internalizing and externalizing behaviors were inter-correlated. The model

Table 3 Hierarchical logistic regression analysis for variables predicting the risk of being classified in the group with persistent sexual behavior problems

	B	SE B	OR (95% CI)	Wald	*p*	R^2	% Correct
VS asymptomatic group (*N* = 76; 34 in persistent, 42 in asymptomatic groups)							
Step 1						.54	81.6
CSA	3.78	0.82	43.71 (8.76–218.09)	21.22***	.00		
Sex	−0.63	0.65	0.54 (0.15–1.93)	0.91	.34		
Step 2						.76	86.8
Internalizing T1	−0.03	0.05	0.97 (0.88–1.07)	0.43	.51		
Externalizing T1	0.20	0.06	1.21 (1.09–1.36)	13.01***	.00		
VS transitory group (*N* = 60; 34 in persistent, 26 in transitory groups)							
Step 1						.18	68.3
CSA	2.07	0.85	7.94 (1.52–41.60)	6.01**	.01		
Sex	−0.32	0.59	0.73 (0.23–2.34)	0.28	.59		
Step 2						.33	71.7
Internalizing T1	−0.07	0.04	0.93 (0.85–1.01)	3.01	.08		
Externalizing T1	0.09	0.04	1.10 (1.02–1.18)	5.83**	.02		

CSA (0 = no, 1 = yes), sex (0 = girl, 1 = boy), R^2 = Nagelkerke R squared

**$p < .01$; ***$p < .001$

was estimated controlling for the potential effect of children' age. The model explained 49.4% of the variance in SBP.[1]

Objective 3: Detailing Risk Factors Related to Persistent SBP

Hierarchical logistic regressions were performed to document the relative risk and odds ratios associated with each factor when comparing persistent SBP to (1) transitory SBP and (2) children without SBP. As shown in Table 3, results indicated that sexually abused children had a 1.44 times higher risk of having persistent SBP than transitory SBP (relative risk: [17/26]/[12/42] = 0.65/0.286 = 1.44). The addition of externalizing and internalizing difficulties to the model (Step 2) resulted in a slightly higher correct classification and explained variance (see Table 3). The results indicate that each one-point increase in externalizing scores at T1 increased the odds of developing persistent SBP, as compared to transitory SBP by 10%. Gender and internalizing behaviors were not significant predictors in this model.

Furthermore, sexually abused children had a 3.29 times higher risk of having persistent SBP rather than non-clinical levels of SBP, (relative risk: [32/34]/[12/42] = 0.94/0.286 = 3.29). Adding externalizing and internalizing difficulties to the model (Step 2) resulted in a slightly higher correct classification rate and increased explained variance. The results show that for every one-point increase in externalizing scores at T1, the risk of manifesting persistent SBP increased by 22%. Again, gender and internalizing difficulties were not significant risk factors of being in the persistent SBP group.

Discussion

The aims of this longitudinal study were first to document the percentage of children maintaining clinically significant levels of SBP over time as well as the percentage of children with CSA who present persistent, transitory SBP or no SBP. The second aim was to examine trajectories of SBP and associated internalizing and externalizing symptoms over time, and to determine whether CSA, gender, internalizing and externalizing behaviors were associated with distinct SBP trajectories. In the group of children with clinically significant SBP at baseline, more than half (56,7%) presented with persistent sexualized behaviors which remained at a clinically significant level 2 years later. In the group of children with CSA, 48.4% presented persistent SBP, 27.4% presented transitory SBP, while 19.4% did not present clinically significant SBP at either time.

The findings of the present study show that within the same sample, the evolution or trajectory of SBP can vary significantly from one subgroup of children to another. This makes an important new contribution and goes beyond previous research that have focused on overall

[1] Because continuous outcomes variables are recommended in linear path analysis [69], the model was also re-estimated with a continuous SBP outcome variable taking into account both the mean score of the child's CSBI at T1 and T2, and the number of time he/she reached clinical cutoff: [*M*(CSBI score T1 + CSBI score T2)*number of time above cutoff]. The total of this continuous variable ranged between 0 and 222. Results confirmed that the model hold, with similar adjustment fit indices, path coefficients and explained percentage of variances.

trends, for SBP to either persist [30, 45, 59, 73] or decline [10].

Our attempts to explain this variability indicate that CSA involving penetration and intra-familial abuse where the paternal figure is the perpetrator, are major risk factors of persistent SBP in children. These findings are in line with Finkelhor and Browne's [24] model of sexual traumatization whereby some sexually abused children learn to use inappropriate sexual behaviors. They are also consistent with recent models stating that, along with chronic sexual avoidance in adults, SBP are one of the typical consequences of CSA in children, adolescents and adults [1]. In addition, our results indicated that the presence of externalizing behaviors also increased the risk of persistent SBP. We found evidence supporting the hypothesis that externalization partially mediated the association between CSA and chronic SBP and also that, even when controlling for CSA, externalizing difficulties made an independent contribution to persistent SBP. This indicates that the role of CSA and externalization in SBP dynamics is important but complex. Friedrich's [28] proposal that SBP are a specific facet of more general externalizing difficulties is not fully compatible with the present evidence of both partial mediation and independent, additive effects.

Limitations and Further Studies

While this study has a number of strengths, including its longitudinal design and the innovative aspect of examining whether there are distinct trajectories in children with SBP, some limitations need to be considered when interpreting the findings. The longitudinal follow-up of at-risk populations constitutes a methodological challenge, but the current results need to be replicated with larger samples to increase statistical power. Moreover, the follow-up interval of 2 years can be considered relatively short. In addition, while the sample size of the current study is sufficient to detect large effect when using Cohen's [15] criteria, a sample of 795 would be required to detect small effects with high statistical power. Furthermore, future research is needed to replicate the results of this study with more ethnically and socio-demographically diverse samples. Further studies should also examine other risk factors that have been found to relate to SBP, but that were not examined here, such as other types of child maltreatment (e.g., physical abuse, [4]), disturbed parent–child relationships [39], parental conflict [33, 38, 64], incarceration of parents [33, 38], parental support [18] and parent and child reflective functioning [22]. While the caregiver report of child SBP is the best measure of SBP available, the reliance only on caregiver report measures may be a source of common method variance [4].

Practical Implications

The findings of the present study have important clinical implications for practitioners assessing sexually abused children and children with SBP. Based on the findings, we can conclude that when children present with SBP, especially when this occurs in conjunction with high levels of externalizing and internalizing difficulties, early intervention and routine follow-up over a 2-year period is called for. This recommendation is most important in light of the present finding that in more than 50% of children who presented with SBP at a clinically significant level at any one time, SBP remained at a clinically significant level 2 years later. The finding that SBP is more likely to be maintained in the context of high levels externalizing and internalizing difficulties suggest that children and parents need help to recognize, accept and regulate children's distress. When children do not receive understanding, support and help from adults to make sense of their experiences, and do not have the words or opportunities to communicate their distress in the context of safe relationships, this likely increases the risk of expressing distress behaviorally in the form of SBP or externalizing difficulties [22]. At the same time many parents who have themselves experienced childhood maltreatment and have had few experiences of being understood and opportunities to develop the capacity to understand emotions and also behaviors in terms of underlying psychological experience, likely need help before they will be able to provide understanding of this type to their children. Sexualizing difficulties may be particularly challenging for parents to respond to, but parental responses of rejection and punishment likely contribute to a cascade of distress and externalizing behaviors that maintain sexualizing behaviors. Furthermore, at an individual level, psychological processes such as dissociation and mentalizing difficulties have also been shown to maintain and increase externalizing and sexualizing [23]. In sum, parents and children likely need support and intervention to understand emotional distress and sexualized behaviors and so that children can develop the capacity to communicate distress in words and seek help when needed and so that parents can provide understanding and support.

Available evidence suggests that trauma focused therapy may be effective for reducing posttraumatic stress, anxiety, depression, dissociation, and SBP, particularly for sexually abused children [5, 40]. Short-term outpatient cognitive behavioral therapy with psycho-education [12], as well as family-focused models including correcting misinformation for both the caregivers and the child [36], have also been shown to be effective and may reduce revictimization in the long term by helping children develop abuse-prevention skills and privacy and boundary rules [72]. Finally, longer term trauma-based psychotherapy may be needed to support children who present with SBP, especially those with risk

factors associated with persistent SBP such as more severe abuse and externalizing difficulties [67], to provide them a safe relationship of trust that can facilitate regaining control over SBP.

Summary

There are still considerable gaps in our knowledge of sexualized behaviours in children who have histories of sexual abuse as well as those without such histories, and even less is known regarding whether these difficulties tend to be maintained as part of an atypical or abnormal psychosexual development. The aim of this longitudinal study was to examine the course of SBPs over 2 years in a sample of 104 children aged 2–12, including 62 children with histories of CSA. Parents completed questionnaires assessing SBP, internalizing and externalizing difficulties at baseline, as well as 2 years later. The findings show that in 57% of children with clinically significant SBP at baseline, sexualized behaviors persisted and remained at a clinically significant level 2 years later. Focusing specifically on children with histories of CSA, the findings indicate that 48.4% presented persistent SBP, and a further 27.4% presented transitory SBP, and 19.4% did not present clinically significant SBP at either time. CSA increased the relative risk of persistent SBP 3.29 times. Furthermore, for each one-unit increase in scores of externalizing difficulties, the odds of persistent SBP increased by 21%. A key finding of the study is that the combination of sexual abuse, elevated SBP and externalizing difficulties at time 1 is associated with increased risk of maintaining high levels of SBP over time. More than 50% of sexually abused children maintained clinically significant SBP over 2 years, indicating that these difficulties frequently would not resolve without intervention. Persistent SBP were associated with high levels of externalizing and also internalizing difficulties, indicative of considerable distress and suggest that early intervention is called for when children manifest SBP. Evaluating underlying distress and externalizing difficulties, helping children address past experiences of abuse and develop the capacity to verbalize distress in the context of supportive therapeutic relationships are to be prioritized for children with SBP and their parents.

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