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# Persistence of Problematic Sexual Behaviors in Children

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## **BRIEF REPORTS**

## Persistence of Problematic Sexual Behaviors in Children

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The purpose of this study was to identify personal and family predictors and correlates of persistence of problematic sexual behaviors (PSB) in children. Participants were the families of 49 children (ages 4–11 years) referred by Child Protective Services in 4 administrative districts of Quebec. Caregivers completed interviews and questionnaires twice at a 1-year interval. Results showed that 43% of children persisted with PSB. When age was controlled, greater exposure to sexualized behaviors in the family proved both a correlate and a predictor of PSB persistence in children 12 months later. Externalizing problems and somatic complaints emerged as correlates of PSB as well. Maltreatment subtypes did not predict PSB persistence.

Research has shown that some adolescent and adult sexual abusers exhibited problematic sexual behaviors (PSB) at an early age (Burton, 2000; Vizard, Hickey, & McCrory, 2007). These are childhood sexual behaviors that involve body parts (i.e., genitals, anus, buttocks, or breasts) and that are developmentally inappropriate or potentially harmful to the child or others (Association for the Treatment of Sexual Abusers [ATSA], 2006). There is extant concern that if children with PSB are left untreated, their behaviors may persist over time (Burton, 2000; Manocha & Mezey, 1998). Child Protective Services (CPS) have become particularly concerned that the PSB manifested by some children might compromise the safe living environment in a residential facility (Baker, Schneiderman, & Parker, 2001; Farmer & Pollock, 2003). The high prevalence of PSB found in residential facilities, up to one third of the children in their charge, implies that many children are directly affected, as are the many workers who must deal with these behaviors (Baker et al., 2008; Baker et al., 2001; Friedrich et al., 2005). However, distinguishing transient sexual misconduct from more persistent PSB in children may be difficult, as the literature on this specific topic is scarce. Longitudinal studies are needed to confirm the stability of PSB in children, specifically with a view to determine whether these behaviors are indicative of persistent difficulties requiring comprehensive and intensive therapy or whether they are merely a transitory phenomenon that will attenuate with minimum intervention (Friedrich et al., 2005; Santtila, Sandnabba, Wannäs, & Krook, 2005).

In a 10-year follow-up study that tracked 135 children treated (cognitive-behavioral treatment or dynamically oriented treatment) for PSB, from 2% to 10% of children with early PSB committed sex offenses in adolescence and adulthood (Carpentier, Silovsky, & Chaffin, 2006). Two other longitudinal studies have followed children with PSB. In a 2-year posttreatment follow-up of 20 children 6 to 12 years old with PSB, Bonner, Walker, and Berliner (1999) reported that from 15% to 17% of their sample were again reported for PSB in residential facility. In the other study, in a sample of 20 children 10 to 12 years old, Friedrich et al. (2005) observed persistence of PSB 1 year later in 92% of those in a residential treatment center and 43% of those in foster families.

We thank the families and volunteers who participated in the project.

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These researchers suggested, however, that persistence in the residential treatment center might have been due to the initial characteristics of this clientele, especially a greater severity of mental health problems.

These studies provide evidence for the persistence of PSB in school-age children and adolescents, but they all present shortcomings that limit our understanding of the phenomenon. For example, Friedrich et al. (2005) examined only frequency of sexual behaviors in children without evaluating other factors such as reason for admission to residential facility, family context, and children's mental health or other behavioral problems. Similarly, Carpentier et al. (2006) and Bonner et al. (1999) reported no information regarding the characteristics of children who were reported for PSB during follow-up. Finally, as the sample used in the Friedrich et al. (2005) study had a narrow age range (10–12 years), generalizing the results to younger children is questionable.

Although previous longitudinal research has looked at persistence of PSB, estimates of the stability of PSB in children have diverged and little data are available to suggest the specific factors that might predispose children to continue with their PSB. Thus, in the current study, we investigated persistence and change in PSB over a 12-month period among 4- to 11-year-old children. We identified the family and personal characteristics associated with concurrent and persistent PSB. Despite the exploratory nature of the study, we predicted that extensive exposure to family sexuality and sexual abuse would be positively associated with PSB, both concurrently and over time.

#### METHOD

#### Participants

We selected children 4 to 11 years old from all new cases referred to CPS of the Province of Quebec (Canada) over a period of 1 year (Pauzé, Toupin, Déry, Mercier, & Joly, 2004). The overall sample was composed of 239 Frenchspeaking children (M age = 8.13 years, SD = 2.23), of which 143 were boys (M = 8.30 years, SD = 2.26) and 96 were girls (M = 7.87 years, SD = 2.18). From among these, 77 children were identified with PSB on the basis of the Child Sexual Behavior Inventory results (32%; Table 1). These were then classified according to whether they persisted with or desisted from PSB 1 year later. Due to attrition, the final sample was composed of 49 children (M = 8.28 years, SD = 1.99). A detailed account of the initial sample is available elsewhere (Lévesque, Bigras, & Pauzé, 2010).

#### Procedures

Ethical approval for the study was granted by University of Sherbrooke, Québec, Canada. After informed

TABLE 1 Frequency of PSB According to Selected Items of CSBI Among Children With PSB

	Tin	1e 1	Tin	ne 2
Items	п	%	n	%
Touches/tries to touch mother's or other women's breasts	23	47	15	31
Tries to have sexual intercourse with another child/adult	11	22	6	12
Puts mouth on another child's/adult's sex parts	4	8	2	4
Touches an adult's sex (private) parts	3	6	4	8
Touches animals' sex parts	3	6	2	4
Asks others to engage in sexual acts with him or her	13	27	5	10
Tries to undress other children against their will (opening pants, shirt, etc.)	6	10	1	2
Tries to undress adults against their will (opening pants, shirt, etc.)	2	4	0	0
Puts their mouth on mother's or other women's breasts	3	6	3	6
Touches sex (private) parts when in public places <sup>a</sup>	15	31	6	12
Touches another child's sex (private) parts <sup>a</sup>	9	18	3	6
Puts objects in vagina or rectum <sup>a</sup>	1	2	0	0
Shows sex (private) parts to adults <sup><i>a</i></sup>	5	10	2	4
Shows sex (private) parts to children <sup><math>a</math></sup>	8	16	4	8

*Note:* PSB = Problematic Sexual Behviaor; CSBI = Child Sexual Behavior Inventory.

<sup>a</sup>Items entered only when frequency was once a month or more.

written consent and assent was obtained in the study, the caregiver most in contact with the child in the past year completed all measures at home with an interviewer. In 86% of cases, this caregiver was the natural or adoptive mother of the child. Participants were met by an interviewer upon being taken in charge by CPS (Time 1) and 1 year later (Time 2). The caregivers received \$25 for their participation.

#### Measures

*Child Behavior Checklist (CBCL).* The measure is a widely used standardized instrument for assessing child behavior problems and social competence in the past 6 months. Its 133 items are rated by caregivers on a 3-point scale (Achenbach, 1991). It comprises several subscales covering both externalizing problems (EP: aggressive behaviors and delinquent behaviors) and internalizing problems (anxious and depressed, withdrawal, and somatic complaints). Three other subscales complete the measure: Social, Thought and Attention Problems. The CBCL has shown good internal consistency (alphas from .78 to .97), stability (correlations from .95 to 1.00), and construct validity (Achenbach, 1991). In the present sample, internal consistency for the CBCL scales yielded Cronbach's alpha from .65 to .88

(Time 1 and 2). Higher scores reflect greater behavioral difficulties.

#### RESULTS

#### Preliminary Analyses

Child Sexual Behavior Inventory (CSBI). This is a 38-item standardized checklist of child sexual behavior in the past 6 months completed by caregivers (Friedrich, 1997). The measure has demonstrated good psychometric properties with children 2 to 12 years old. The internal consistency of the instrument has been shown to be good (alphas from .72 for a normative sample to .93 for a clinical sample), as has been its stability (correlation of .91 after 2 weeks) and construct validity (Friedrich et al., 2001). In the present sample, internal consistency yielded good Cronbach's alpha, .65 (Time 1) and .80 (Time 2). Five additional items serve to assess child exposure to sexuality in the home (co-sleeping, co-bathing, witnessing intercourse, availability of pornography, and family nudity). The scale obtained an alpha coefficient of .52.

Given that the measure covers normal sexual behaviors, we focused on the items most likely to identify PSB as defined by the ATSA (2006). These items were determined by a team of seven professionals. Any child who proved positive to any one of the items was considered to exhibit PSB. Analysis showed the reliability of the 14 items thus selected to be good, with a Cronbach's alpha of .77 (Table 1). The internal consistency of the selected items suggested that the measure possessed good to excellent homogeneity (alphas at Time 1 and Time 2 of .65 and .80, respectively).

*Child sexual abuse.* A semistructured interview was used to explore presence of child sexual abuse. The only element considered in this study was presence of sexual abuse as revealed by respondent. The psychometric characteristics of the instrument were not available at time of writing. The interviewer did not probe for different types of abuse.

*Conflict Tactics Scales (Version 1).* The shortform of Conflict Tactics Scales (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) consists of 10 items on a 5-point scale encompassing physical and verbal aggression. The caregiver must indicate whether she or he or any other adult at home verbally or physically maltreated the child. This instrument has been shown to possess adequate internal consistency, with alphas of .58 and .68 for the Physical Aggression and Verbal Aggression scales, respectively (Straus et al., 1998), and adequate reliability (McGuire & Earls, 1993). In the present sample, internal consistency for scales yielded Cronbach's alpha from .52 to .63 (Time 1 and 2). Measurements were not obtained at Time 2 for 36% of the children. The main reasons for this was the impossibility of reaching the caregivers and children 12 years or older (n=8) were excluded at Time 2 because the CSBI was designed for children younger than age 12. Sample representativeness at Time 2 (n=49) was nonetheless good. Chi-square and *t*-test analyses were conducted to identify any systematic differences between families who remained in the study for both waves and those for whom data were available only at Time 1. No differences emerged on the CBCL scales, the CSBI data or demographic characteristics (gender and age).

Of the 49 children with PSB at Time 1, most (57%) did not manifest PSB at Time 2. We noted a significant difference in mean age between children who persisted with PSB and those who did not, F(1, 48) = 8.13, p < .01. Specifically, children who persisted (M = 7.41, SD = 1.81) were significantly younger than those who desisted (M = 8.97, SD = 1.92). The sample was composed of 65% boys and 35% girls, and gender was not related to persistence of PSB.

# Univariate Analysis of Factors Associated With Persistence of PSB

Chi-square and analysis of variance (ANOVA) analyses were carried out to examine the link between personal and family factors and persistence of PSB. Children who persisted with PSB were more exposed to sexualized behaviors in the family at Time 1 and Time 2, F(1, 48) = 6.50,  $p \le .01$ , and F(1, 48) = 6.26,  $p \le .05$ .

Some psychological difficulties at Time 2 appeared to be associated with persistence of PSB. ANOVAs run between six scales of the CBCL and the PSB persistence variable proved significant: Somatic Complaints scale, F(1, 48) = 8.90, p < .01; Thought Problems, F(1, 48) =4.29, p < .05; Delinquency scale, F(1, 48) = 5.21, p < .05; Aggression scale, F(1, 48) = 11.62,  $p \le .001$ ; Externalizing scale, F(1, 48) = 10.92, p < .01; and Total CBCL scale, F(1, 48) = 7.69, p < .01. In other words, children who persisted with PSB showed significantly more symptomatology on these CBCL scales than did children who desisted after 1 year. We did not evaluate the effects of concurrent maltreatment given that, being under the care of CPS, the children were not supposed to suffer maltreatment during the follow-up period. Chi-squares and ANOVAs run on behavior problems and maltreatment variables at Time 1 did not significantly predict persistence of PSB after 1 year.

#### Predictors and Correlates of PSB Persistence

We ran two logistic regression analyses on all the characteristics that discriminated the groups significantly (p < .05) to determine the best predictors and correlates of PSB persistence in children 1 year later. The first logistic regression gauged the predictive power of the variables at Time 1. Given that some variables could also concurrently influence persistence of PSB, we planned a second logistic regression assessing these factors at Time 2. As age, a key personal factor to consider, could not be controlled at the sampling stage, it was subsequently controlled statistically.

Factors predicting persistence of PSB 1 year later. We ran a logistic regression analysis to examine how family and personal factors predicted PSB persistence 1 year later. A first block of variables included the controlled variable (age) and a second block included family sexuality at Time 1. Block 1 results (Table 2) showed that the change in the amount of information explained by the model was significant after age was added, Block  $\chi^2(1, N = 49) = 7.66, p < .01$ . Younger children (B = -0.44, p < .01) were 1.56 times as likely to belong to the PSB persistent group. Block 2 results indicated a significant improvement with the addition of family sexuality as a predictor, Block  $\chi^2(1, N=49) =$ 4.85, p < .05. Then, including family sexuality in the model has significantly improved our ability to predict whether children persisted or not.

The model obtained explained 30% of the variance in the persistence of PSB in children under the care of CPS. Children exposed to extensive sexuality in the family (B=0.59, p < .05) were more likely to belong to the PSB persistent group, and the odds ratio was 1.80. Younger children (B = -0.42, p < .05), for their part, were 1.52 times as likely to belong to the PSB persistent group. The model correctly classified 75.5% of the cases

TABLE 2 Summary of Hierarchical Logistic Regression Analysis Predicting Persistence of PSB Using Antecedent Factors

	95% CI for Exp b					
Variable	В	SE	Lower	Odds Ratio	Upper	β
Step 1						
Age	-0.44	0.17	0.46	0.64	0.90	88**
Step 2						
Age	-0.42	0.18	0.46	0.66	0.94	83*
Family sexuality	0.59	0.28	1.04	1.80	3.12	.74*

*Note:*  $R^2 = .15$  (Cox & Snell), .19 (Nagelkerke) for Step 1;  $\Delta R^2 = .08$  (Cox & Snell), .11 (Nagelkerke) for Step 2. Model  $\chi^2(2) = 12.51$ . N = 49. PSB = problematic sexual behavior.

 $p \le .05. p \le .01.$ 

TABLE 3 Classification Table for Hierarchical Logistic Regression Model of PSB Persistence Using Antecedent Factors

	Pred		
Observed	PSB Persistence	PSB Desistance	% Correct
PSB Persistence	15	6	71.4
PSB Desistance Overall (%)	6	22	78.6 75.5

*Note:* PSB = problematic sexual behavior.

via the predictor (Table 3); in other words, the predictive power of the model was good.

Concurrent factors associated with persistence of PSB. We ran another logistic regression analysis to examine how concurrent family and personal factors related to PSB persistence at Time 2. A first block of variables included the controlled variable (age), and a second block included family sexuality, somatic complaints, thought problems, and EP. Block 1 results (Table 4) showed that the change in the amount of information explained by the model was significant after age was added, Block  $\chi^2(1, N = 49) = 7.66, p < .01$ . Younger children (B = -0.44,  $p \le .01$ ), for their part, were 1.56 times as likely to belong to the PSB persistent group. Block 2 results indicated a significant improvement with the addition of family sexuality, somatic complaints, thought problems and EP as correlates, Block  $\chi^2(4,$ N = 49 = 40.56, p < .001. Then, including these variables in the model has siginificantly improved our ability to predict whether children persisted or not.

The model obtained explained 84% of the variance in PSB persistence in children under the care of CPS 1 year

TABLE 4 Summary of Hierarchical Logistic Regression Analysis Predicting Persistence of PSB Using Concurrent Factors

			95% CI for Exp b			
Variable	В	SE B	Lower	Odds Ratio	Upper	β
Step 1						
Age	-0.44	0.17	0.46	0.64	0.90	88**
Step 2						
Age	-2.28	1.06	0.01	0.10	0.81	-4.53*
Family Sexuality	2.28	0.94	1.56	9.78	61.44	2.57*
Somatic Complaints	0.49	0.24	1.01	1.63	2.63	3.78*
Thought Problems	0.16	0.14	0.90	1.17	1.53	1.54
EP	0.47	0.19	1.11	1.60	2.30	4.20**

*Note:*  $R^2 = .15$  (Cox & Snell), .19 (Nagelkerke) for Step 1;  $\Delta R^2 = .48$  (Cox & Snell), .64 (Nagelkerke) for Step 2. Model  $\chi^2(5) = 48.21$ . N = 49. PSB = problematic sexual behavior; EP = externalizing problems.

 $p \le .05. p \le .01.$ 

TABLE 5 Classification Table for Hierarchical Logistic Regression Model of PSB Persistence Using Concurrent Factors

Observed	Pred		
	PSB Persistence	PSB Desistance	% Correct
PSB Persistence	19	2	90.5
PSB Desistance Overall (%)	3	25	89.3 89.8

*Note:* PSB = problematic sexual behavior.

later. Children exposed to extensive sexualized behaviors in the family (B = 2.28,  $p \le .05$ ), those with EP (B = 0.47,  $p \le .01$ ), and those with somatic problems (B = 0.49, p < .05), were more likely to belong to the PSB persistent group. The odds ratios were 9.78, 1.60, and 1.63, respectively. Younger children (B = -2.28, p < .05), for their part, were 10 times as likely to belong to the PSB persistent group. Finally, the model correctly classified 89.8% of the cases via the four correlates (Table 5).

#### DISCUSSION

In this study, we used a longitudinal design to assess personal and family predictors and correlates of PSB persistence in children. The results enhance our understanding of the contribution of greater exposure to sexualized behaviors as both a predictor and correlate. Our results also highlight personal correlates in children who persist with PSB after 12 months; namely, psychological difficulties such as thought problems, somatic complaints, and EP.

The results show that PSB are stable over time for almost half of our sample. Of interest, the proportion of children 4 to 11 years of age in our sample who persisted with PSB after 1 year (43%) is lower than the average percentage of persisters (75%) reported by Friedrich et al. (2005). The use by Friedrich et al. of a less restrictive definition of PSB than the one used in our study might in part explain this difference. Also, the age of the sample in the Friedrich et al. study might suggest that children older than 10 years of age who engage in PSB are more likely to persist with these behaviors. However, our results, which emerged from a sample younger than Friedrich et al.'s, suggest that younger children are the ones most likely to persist with PSB. Other researchers suggest also that younger children tend to show more PSB and generally more sexual behaviors that older children do (Bonner et al., 1999; Friedrich, Davies, Feher, & Wright, 2003).

The presence of thought problems, such as problems with reality testing and odd and obsessive/compulsive behaviors, was found to be associated with PSB persistence but did not predict it. The specific influence and nature of thought problems warrants further scrutiny in children with persistent PSB. Future studies might explore whether the obsessive thoughts and compulsive actions of PSB children are related to sexual matters. Surprisingly, somatic complaints, such as feeling dizzy or lightheaded, overtired without good reason, and physical problems without a known medical cause, proved correlated to PSB persistence. These complaints have been reported in children who manifest various other difficulties, including suicidal ideation, attempted suicide, internalizing disorders, posttraumatic stress disorder, and maltreatment, especially sexual abuse (Ginsburg, Riddle, & Davies, 2006; Haugaard, 2004; Hensley & Varela, 2008; Hukkanen, Sourander, & Bergroth, 2003; Van Tilburg et al., 2010), but not in children with PSB. Regarding maltreatment, our results suggest that it does not predict the persistence of PSB. Maltreatment could have an immediate impact on the manifestation of PSB (Bonner et al., 1999; Pithers, Gray, Busconi, & Houchens, 1998a, 1998b), but it does not appear to explain PSB persistence. We believe that one of the consequences of maltreatment in more severely victimized children comes in the form of somatic complaints, the latter influencing the persistence of PSB.

The results of the logistic regression analyses aimed at predicting PSB persistence when age is controlled suggest greater exposure to sexualized behaviors in the family environment to be a key determinant of PSB persistence in maltreated children. These results confirm those of past studies that found extensive family sexuality to be associated with PSB in young children (Bonner et al., 1999; Lévesque et al., 2010). Through processes of direct experience or through social learning, greater exposure to sexualized behaviors in the family may influence younger children's perceptions of what constitutes appropriate sexual behavior as these children have not yet internalized social rules of sexual behavior.

Our results also suggest caregiver-reported EP to be a correlate of PSB persistence. In this regard, Silovsky, Niec, Bard, and Hecht (2007) had previously suggested that PSB in children were similar to EP in that they involved disinhibition, social-rule breaking, and a component of aggression toward self or others. The trajectory of PSB, also, might be analogous to that of EP (Côté, Tremblay, Nagin, Zoccolillo, & Vitaro, 2002). Given the many parallels with EP, a long-term trajectory of PSB could be possible as well for some children. Consequently, more research is needed to explore the trajectory of PSB in childhood and adolescence in order to shed light on the profile of children likely to persist with PSB over several years (Lévesque et al., 2010).

#### Limitations

Our study presents certain limitations that need to be considered in interpreting the findings. First, measurements

were not completed 1 year later for 36% of the children. This said, children accounted for at both times of measurement did not differ from those lost at Time 2 in terms of initial clinical severity or demographic characteristics. Second, information on child behaviors was provided by caregivers only. Future studies would stand to gain from the addition of other informants in this regard. Third, given that persistence was assessed in children referred by CPS and that some of these children could have received treatment, it is not clear if treatment was a factor in the abatement of PSB in children after 1 year or whether it would have occurred anyway. It is also possible that some children changed living environment, which could have had an impact on the family sexuality variable. Further, the alpha for the scale used to measure family sexuality was relatively weak. Last, we have no information if some children have received some form of mental health services from CPS in which the issue of PSB might have been addressed.

#### Implications for Research, Policy, and Practice

Within the context of these limitations, the study yielded several important findings. We found a significant proportion (43%) of children who persisted with PSB over a 12-month period. Although many children desisted from PSB after 1 year, we do not know if the desistance rate will rise going forward or not. Future studies should definitely follow the progression of PSB over a longer period.

A major contribution of our study is to provide a better indication of the children with PSB for whom an intervention would be a priority in CPS, specifically those who live in a sexualized family environment and those who present EP and somatic complaints. Identifying children at risk for persistent PSB would avert more victimization at an early stage on other children. Our study has the merit of revealing greater exposure to sexualized behaviors in the family environment to be a predictor of PSB persistence and identifying concurrent factors associated with persistent PSB after 1 year, namely, somatic complaints and EP. The influence of somatic complaints on PSB persistence needs to be further investigated as well. Finally, it might be worthwhile to assess children referred to CPS and mental health services for PSB as a matter of routine protocol.

Further studies should also help guide the design of intervention models for different subtypes of children with persistent PSB. We believe that for many children with persistent PSB, a short intervention is sufficient to remediate these difficulties. However, for others, an intensive and structured treatment must be considered (ATSA, 2006). Finally, future studies need to examine the direction of the association between CPS and PSB. Receiving services from CPS may be a potentiating factor associated with the development of PSB in children under the care of these services. On the other hand, children may be placed in the charge of CPS for engaging in PSB. Consequently, the exact reasons for placing children in the care of CPS need to be specified.

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