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Childhood Sexual Abuse and Attachment Insecurity: Associations With Child Psychological Difficulties

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Childhood sexual abuse (CSA) is considered an important public health concern that can derail the developmental course of children. Given that children rely upon their attachment figures when they experience upsetting events, attachment organization may play a critical role in predicting victims' adaptation to CSA. To date, no studies have delineated the unique and interactive contributions of these two risk factors in the prediction of psychopathology. The aims of this study were to examine attachment in CSA victims and a comparison group and to assess the contributions of each risk factor to child psychological difficulties. Participants included 111 children aged 7–13, of whom 43 were CSA victims. Children completed an attachment interview and reported on their depressive symptoms. Their mothers reported on children's externalizing symptoms, internalizing symptoms, dissociation, and sexualized behavior. Our key findings showed that child victims of CSA were more likely to be classified as having insecure and disorganized attachment. Further, insecure attachment was the primary factor associated with higher self-reported depressive symptoms in all children and that CSA was associated with more parent-reported child externalizing problems, sexualizing problems, and dissociation.

Public Policy Relevance Statement
In terms of practice and policy, these findings linking attachment and child reports of distress indicate that it is paramount to broaden trauma-focused models to include attachment in order to improve treatment of child victims of childhood sexual abuse and their families.

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Childhood sexual abuse (CSA) is increasingly recognized as a major public health concern, affecting between 7% and 37% of children, with rates above 50% in contexts of civil unrest, migration, and war (Finkelhor, 1994; Pereda, Guilera, Forns, & Gómez-Benito, 2009). Further, 40–60% of child victims of CSA subsequently develop a range of mental health difficulties (Collin-Vézina, Hébert, & Brabant, 2007; Ensink, Bégin, Normandin, Godbout, & Fonagy, 2017; Hébert, Tremblay, Parent, Daignault, & Piché, 2006), with CSA being a generic risk factor for negative developmental outcomes (Fergusson, McLeod, & Horwood, 2013; Stoltenborgh, Bakermans-Kranenberg, Alink, & van IJzendoorn, 2011). From a developmental psychopathology perspective, it is evident that CSA can derail the developmental course through cascading impacts on regulatory processes as well as cognitive and interpersonal functioning. Negative sequelae remain evident across the life cycle, with 70–75% of CSA victims experiencing mental health problems during their lives (Perez-Fuentes et al., 2013; Trickett, Noll, & Putnam, 2011). At the same time, approximately 25–30% of CSA victims do not develop mental health difficulties, suggesting that other risk and protective factors are involved. Emerging evidence suggests that secure attachment may be a protective factor in the context of CSA in adults (Aspelmeier, Elliott, & Smith, 2007; Limke, Showers, & Zeigler-Hill, 2010; Roche, Runtz, & Hunter, 1999), adolescents (Jardin, Venta, Newlin, Ibarra, & Sharp, 2017), and preschoolers (Charest, Hebert, & Bernier, 2018). Better understanding of psychological processes and qualities that promote resilience may have critical

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implications for improving interventions and facilitating recovery beyond focusing on trauma. However, there is an important gap in knowledge regarding the unique and interactive contributions of CSA and attachment to psychological difficulties in children of this age.

We seek to address the current gap in knowledge regarding the respective contributions and interactions between CSA and attachment in the prediction of psychological adjustment in school-age children.

Attachment and Psychopathology

Insecure attachment is a recognized generic risk factor for psychological difficulties (DeKlyen & Greenberg, 2008; Kerns & Brumariu, 2014), with meta-analytic findings (Madigan, Atkinson, Laurin, & Benoit, 2013) showing that insecurely attached children and adolescents aged 3–18 years are 2.9 times and 2.4 times more at risk of experiencing internalizing and externalizing problems, respectively. In addition, disorganized attachment, a type of insecure attachment characterized by the lack of an organized strategy for dealing with distress, is associated with the highest risk of internalizing and externalizing psychological difficulties. Consistent with this, in school-age children, disorganized attachment is associated with child-reported depression and shyness, parent-reported anxiety symptoms and thought problems (Borelli, David, Crowley, & Mayes, 2010), and somatic symptom disorders and oppositional defiant disorders (Bizzi, Ensink, Borelli, Mora, & Cavanna, 2018). Disorganized attachment is also a likely early risk factor for dissociation (Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997), but there are divergent findings (Haltigan & Roisman, 2015), and the link appears indirect in middle childhood (Borelli et al., 2010).

Attachment theory holds that children develop psychological schemas of self and others, known as internal working models (IWMs) of attachment, based on patterns of parental sensitivity and responsiveness (Bowlby, 1973). When caregivers consistently respond sensitively to infant distress, children develop secure IWMs, where they conceive of themselves as worthy of love and others as responsive to their needs in times of distress (Bowlby, 1973). However, when caregivers do not respond consistently to distress, children develop insecure attachment patterns where they suppress/deactivate or augment/hyperactivate the expression of their emotional needs (Cassidy, 1994). Furthermore, when caregivers fail to respond to distress or respond in ways that provoke fear, disorganized attachment can result because these behaviors undermine the infant's capacity to develop organized patterns of regulating distress (Hesse & Main, 2000; Main & Solomon, 1990). By 16 months of age, these distinct attachment organizations can be observed in the way infants behave when attachment-related distress is activated and have been shown to have important implications for early emotion and physiological regulation (Bernard, Hostinar, & Dozier, 2019).

By middle childhood, children's attachment states of mind become evident in their discourse about themselves and relationships with attachment figures and can be coded using measures like the Child Attachment Interview (CAI; Shmueli-Goetz, Target, Fonagy, & Datta, 2008). The prevalence of different types of attachment in middle childhood is broadly similar to that found in infants, with 66% of children manifesting secure attachment representations, 30% having organized-insecure representations, and 4% having disorganized attachment (see Privizzini, 2017, for a review). The association between attachment and psychological difficulties peaks in middle childhood (Madigan et al., 2013) and is especially evident when children self-report on their distress symptoms. This suggests that attachment is particularly important during the middle childhood period of significant cognitive and emotional maturation (Kerns, 2008), during which children confront dramatic social and emotional challenges associated with the entry into school and become increasingly independent from parents. Furthermore, abilities that are closely related to attachment and develop in attachment relationships, such as the capacity to mentalize about self and others, have been shown to facilitate emotional (Ensink, Bégin, Normandin, & Fonagy, 2016) and physiological regulation (Borelli et al., 2018) in this age range. During this period, the role of parents also shifts—while attachment figures continue to function both as *secure bases* and *safe havens* in time of distress, it is the psychological availability of the attachment figure (Bosmans & Kerns, 2015) and their capacity to mentalize with the child that becomes paramount (Ensink et al., 2016).

Sexual Abuse, Attachment, and Psychopathology

A handful of studies have examined attachment in preschool-aged victims of CSA as well as adolescent psychiatric patients who have experienced CSA. We first review research describing attachment in children and adolescents who have experienced CSA. Next, we consider arguments and evidence as to why attachment may be protective in the context of CSA.

Preschool-aged victims of CSA perpetrated by family members manifest more signs of disorganized attachment compared to nonabused children when completing attachment-activating story stems (Fresno, Spencer, Ramos, & Pierrehumbert, 2014). However, other evidence suggests that more than half (57%) of preschool-aged children with severe CSA involving penetration are securely attached (Charest et al., 2018). This suggests that we cannot assume that CSA is necessarily associated with the predominance of insecure or disorganized attachment as it is among children who have experienced physical abuse and neglect. Further, adolescent victims of CSA receiving outpatient psychiatric treatment are more likely to present disorganized attachment than nonabused adolescents with and without psychiatric difficulties (van Hoof, van Lang, Speekenbrink, van IJzendoorn, & Vermeiren, 2015).

In addition to the simple associations between CSA exposure and insecure or disorganized attachment and children's psychopathology, there are compelling reasons to believe that these risk factors may interact in the prediction of clinical distress. Child survivors of CSA with insecure and disorganized attachment relationships may be at higher risk of psychological maladjustment because their IWMs or social–cognitive patterns associated with attachment insecurity—perceptions of the self as unlovable and of others as unavailable in times of need—may predispose them to develop pathological reactions when they experience traumatic events (Sharp, Fonagy, & Allen, 2012). Consistent with this, one study found that social–cognitive deficits explained the longitudinal association between insecure attachment and posttraumatic stress disorder symptoms in adolescents (Venta, Hatkevich, Mel-

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lick, Vanwoerden, & Sharp, 2017). In addition to these internal psychological processes that may increase the risk that youth exposed to CSA will develop pathological reactions to the trauma, the current interpersonal environments of youth may also vary significantly as a function of their attachment relationships with caregivers. Based on their longitudinal multigenerational research, Trickett et al. (2011) argue that attachment is particularly important for adjustment in the context of CSA because the child's attachment system and need for comfort and security are activated consequent to CSA, resulting in the child needing more from his or her attachment figures. For instance, if and when the child discloses CSA to caregivers, the parents of a secure child may be more likely to react by helping their child understand their reactions and increasing their psychological and physical availability to the child. This type of reaction could help the child mentalize and bolster the gradual emotional processing that could prevent pathology from developing. In contrast, parents of insecure children may react by dismissing or minimizing the event or its purported emotional impact on the child; alternatively, parents of insecure children may become overwhelmed or frightened. Both of these types of reactions may decrease the degree to which the parent can serve as an available support for the child, leaving him or her more vulnerable to the development of psychopathology.

Indeed, attachment security appears to be partially protective against the negative impact of sexual trauma on psychological adjustment in adults (Aspelmeier et al., 2007). Along similar lines, attachment insecurity accounts for the association between sexual trauma and later adjustment difficulties (Limke et al., 2010; Roche et al., 1999). Similar findings emerge from studies of preschool children, with findings showing that the more securely attached CSA victims are to their parents, the less internalizing and externalizing problems they manifest (Zephyr, Cyr, Hébert, Bernier, & Beaudoin, 2015), while disorganized attachment partially mediates the relation between CSA and internalizing and externalizing behavior problems 1 year later (Charest et al., 2018). Furthermore, in adolescents receiving inpatient psychiatric treatment, attachment security moderates the association between CSA and trauma symptoms (Jardin et al., 2017), such that adolescents with both insecure attachment and CSA exposure show significantly greater trauma symptoms. These studies provide evidence suggesting that CSA and attachment may have interactive associations with children's adjustment, but to date, few studies have explored these links in preadolescent-aged youth and with respect to CSA in particular.

Current Investigation

In an attempt to build the current knowledge base regarding attachment, CSA, and children's adjustment, we explore a set of research questions within a sample of CSA-exposed school-age children and a comparison group. The primary aim of this study was to examine the association between attachment and CSA in middle childhood. The second aim was to examine the unique and interactive contributions of attachment and CSA in the prediction of child-reported depressive symptoms, as well as parent-reported externalizing symptoms, sexualized behavior, and dissociation in children during this age period. Based on previous findings with preschoolers (Fresno et al., 2014), we predicted that CSA victims would be more likely than comparison children to have insecure attachment. Further, based on previous findings with adolescents (Jardin et al., 2017), we anticipated that CSA and insecure attachment, as well as their interaction, would be associated with increased risk of psychological difficulties. To attempt to isolate the unique associations between these two risk factors and children's adjustment, in all analyses, we controlled for potentially confounding indices of psychosocial adversity.

Method

The protocol for this study was approved by the university ethics board of University of Laval. Parents provided informed consent and children provided informed assent prior to participating in this study; the consent/assent procedures involved informing youth and parents that they could refuse to participate in any portion of the study. All participants were recruited as part of a larger study examining psychosocial difficulties in the context of CSA. Sexually abused children ($n = 43$) and their mothers were referred to the university clinic by doctors, social services, or mental health practitioners working at community health services and hospitals in the city and surrounding regions. The community comparison group ($n = 68$) was recruited through advertisements at Community Health Services and schools through pamphlets soliciting participation in a study on the impact of CSA as part of a comparison group. The comparison group was selected to broadly match the sociodemographic, age (within 6 months), and gender characteristics of the abused group.

The demographic features of the resulting sample are described in Table 1. More than half (61.3%) of the participants were female, and the average age of the participants was 9.53 years (114.36 months; *SD:* 1.45 years, 17.4 months), ranging between 7 and 12 years. Reflecting the sociodemographics of the region, most participants were Caucasian (98%). Assessments took place at a university child and adolescent consultation service. Parents received a modest stipend to cover transport costs, and children were invited to choose a toy or small gift.

Of the 44 children with CSA, 23% had vaginal or anal penetration with a penis or object and 5% had experienced violent sexual abuse. In terms of frequency, 46% experienced CSA on two or three occasions, 36% experienced CSA on four or more occasions, and 18.2% experienced CSA on one occasion. Of the children exposed to CSA perpetrated by family members, 64% self-denounced the abuse and 50% were exposed to CSA before 36 months of age. Approximately half (54%) first experienced CSA before 48 months of age. Furthermore, approximately half (55%) of the children denounced the CSA; in the remainder of cases, parents (mother: 19%, father: 3%) or other family members (23%) denounced the abuse. Finally, approximately half had experienced intrafamilial CSA; the majority (60%) had been abused by their fathers, 22% by a sibling, and 18% by a stepparent. Of the children who had experienced extrafamilial CSA, the majority had been abused by an acquaintance (67%) or by a member of the extended family (33%).

Measures

Children's abuse history. Information regarding CSA was based on medical and social work reports and information

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Table 1. *Sample Characteristics as a Function of Abuse History and Zero-Order Correlations of Key Variables Across Entire Sample*

Variable	No CSA		Extrafamilial CSA		Intrafamilial CSA		Whole sample			Zero-order correlations					
	M	*SD*	*M*	*SD*	*M*	*SD*		*M*	*SD*	1	2	3	4	5	6
Demographics and covariates															
Age in months	114.35	16.02	116.73	22.05	111.95	16.69	1. Age in months	9.53	1.45	—	.02	–.05	–.07	–.11	–.15
Percent >$25,000	68	—	59	—	48	—	2. Internalizing	59.43	10.59		—	.68***	.49***	.63***	.12
Stress levels	43.40	42.49	71.49	72.80	56.04	46.16	3. Externalizing	57.13	12.61			—	.52***	.71***	.24*
Percent male	41	—	36	—	33	—	4. CSBI	61.13	19.94				—	.36**	.14
Percent Caucasian	91	—	96	—	86	—	5. Dissociation	4.27	4.87					—	.17
CSA characteristics							6. CDI	8.16	5.34						—
Age of first abuse	—	—	57.19	33.72	44.31	25.89									
Frequency of abuse	—	—	3.5	1.92	4.71	1.7									
Percent male perpetrator	—	—	96	—	95	—									
Clinical symptoms															
CBCL Internalizing	55.94	9.97	64	9.15	70.45	23.02									
CBCL Externalizing	53.06	11.34	61.82	12.04	65.8	11.61									
CSBI	56.96	17.1	65.76	22.25	70.45	23.02									
Dissociation	2.63	4.34	6.91	4.42	6.95	4.8									
CDI	7.6	4.14	9.32	6.09	10.5	7.05									

Note. CSA = childhood sexual abuse; CBCL = Child Behavior Checklist; CSBI = Child Sexualized Behavior Inventory; CDI = Children's Depression Inventory.

from police inquiries, including statements of admission by the abuser. Parents of comparison group children were interviewed about the child's developmental history and traumatic life events to ensure children in the comparison group did not have CSA histories. We classified children into three groupings (no CSA history, extrafamilial CSA history, and intrafamilial CSA history), wherein intrafamilial abuse referred to abuse by members of the immediate family such as a father, father-figure (including the mother's partner), a sibling or a grandparent. This designation of extrafamilial versus intrafamilial CSA was only employed in a set of preliminary analyses in which we provide descriptive information regarding abuse disclosure as a function of type of CSA and attachment.

Child attachment. The CAI (Shmueli-Goetz, Target, Datta, & Fonagy, 2004) is a semistructured interview assessing children's attachment representations of their current relationships with their primary caregivers. The interview is similar in format, scope, and theoretical underpinnings to that employed in the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985), but all of these elements of assessing attachment representations are developmentally scaled for measurement in middle childhood (ages 7–12). Children are asked to describe their relationships with their primary caregivers and to support their descriptions by providing examples of concrete relationship episodes. Trained CAI coders rate the CAI using both verbatim transcripts of CAI narratives and videotapes using 10 nine-point scales capturing different aspects of security (e.g., emotional openness, preoccupied anger, idealization, narrative coherence). Based on these scales, coders assign children to one of four attachment categories with respect to each parent: secure, dismissing, preoccupied, and disorganized. In prior studies, most children with two caregivers receive the same classification for both (e.g., Shmueli-Goetz et al., 2008).

The CAI demonstrates concurrent validity in community, clinical, and CSA samples (Borelli, Somers, West, Coffey, De Los Reyes, et al., 2016; Borelli, Somers, West, Coffey, & Shmueli-Goetz, 2016; Ensink et al., 2016; Ensink et al., 2017; Ensink et al., 2015; Scott, Briskman, Woolgar, Humayun, & O'Connor, 2011; Shmueli-Goetz et al., 2008; Target, Fonagy, & Shmueli-Goetz, 2003; Venta, Shmueli-Goetz, & Sharp, 2014), and interrater reliability among expert and "naive" coders is acceptable (e.g., Shmueli-Goetz et al., 2008; see Privizzini, 2017, for a review). In this study, the first author trained two students to code 30 transcripts. The remainder of the transcripts were double coded, and where there was coder disagreement, the first author recoded the transcript and a consensus decision was reached after clarifying and examining reasons for lack of agreement (four-way classification: $\kappa = .91$, $p < .001$).

Children's depressive symptoms. Children completed the Children's Depression Inventory (CDI; Kovacs, 1992), an assessment of depressive symptoms in school-age children. On this 27-item, psychometrically strong measure (Romano & Nelson, 1988), children select which of a series of statements describe them best over the past 2 weeks (e.g., I am sad once in a while, I am sad many times, I am sad all of the time); higher scores signify more severe symptoms. The CDI includes items indexing recent depressive symptoms in behavioral, cognitive, affective, and physiological domains. Internal consistency was good, $\alpha = .86$.

Children's behavior difficulties. The Child Behavior Checklist (CBCL) is a 118-item questionnaire used to assess a broad range of internalizing and externalizing difficulties (Achenbach, 1991). In the present study, we used the parent report internalizing and externalizing scale for children aged 6–18 years (Achenbach & Rescorla, 2001). Parents rate behavior on a 3-point scale as 0 (*absent*), 1 (*occurs sometimes*), or 2 (*occurs often*) for items such as, "breaks rules at home, school, or elsewhere." The CBCL has been demonstrated to have good psychometric properties (Achenbach & Rescorla, 2001). Cronbach's alphas indicated satisfactory internal consistency in the current study (α ranged between .87 and .92).

Children's dissociative symptoms. The Child Dissociative Checklist (CDC) is a 20-item questionnaire developed by Putnam (1990) as a parent-report measure of dissociative symptoms during the past 12 months, created for children aged 5–12 years. Dissociative symptoms are rated on a 3-point Likert scale; total scores of 12 or above are considered indicative of clinically significant dissociative symptoms. For example, parents are asked to rate items such as "Child goes into a daze or trance-like state at times or often appears 'spaced-out'" and "Teachers may report that he or she 'daydreams' frequently in school." The CDC demonstrates internal consistency across all studied populations studied (i.e., control, sexually abused, dissociative disorder, multiple personality disorder) with Cronbach's alphas ranging from .64 to .91 and .95 for the sample as a whole. It is also considered to have high discriminant validity and good test–retest reliability (Putnam, Helmers, & Trickett, 1993).

Children's sexualized behavior. The Child Sexualized Behavior Inventory (CSBI; Friedrich et al., 2001) is a 35-item parent report behavior checklist assessing sexual behavior in children between 2 and 12 years old during the previous 6 months. It covers nine domains, including boundary issues, sexual interest, exhibitionism, sexual intrusiveness, gender role behavior, sexual knowledge, self-stimulation, voyeuristic behavior, and sexual anxiety. Each item is rated on a 4-point scale from 0 (*never*) to 4 (*at least once a week*). The CSBI has been demonstrated to have good psychometric properties, including item-total correlations and test–retest reliability (Friedrich et al., 2001). Total scores are converted to *t* scores, with *t* scores above 65 considered indicative of clinically significant problems (Friedrich et al., 2001). Cronbach's alphas were satisfactory in the current study, $\alpha = .90$.

Covariates

Stressful events. Children completed the Life Events Record (Coddington, 1972), which asks participants to respond by stating whether a series of negative and positive life events (e.g., *death of a close friend, outstanding personal achievement*) have occurred in the past year (i.e., by providing a yes/no response). There are different versions of this questionnaire for assessing stressful life events exposure in different age groups of children; the version developed for elementary-aged children contains 35 items and was initially validated among a large sample ($N = 887$). Scoring this measure involves using "life change units," previously assigned to each event by panels of experts, that signify the amount of life change that is required to adjust to the event, which is designed to account for the fact that some events require greater reorganization than others (e.g., *beginning another school year* = 27 life change events vs. *birth of a baby brother or sister* = 50 life change events). In Coddington's original validity study of this measure, the average number of life events during a year for elementary-aged children was 2.63 and the average number of life change units was 102.80.

Data-Analytic Plan

Objective 1. Descriptive analyses were performed to examine the distribution of all key study variables and their interrelations. Because our examination of the descriptive statistics revealed similar attachment patterns across the extrafamilial and intrafamilial CSA groups and because of our desire to increase the cell size in analyses, we collapsed these two into an overall CSA-exposed group for subsequent analyses.

Objective 2. To examine the associations between attachment and CSA history, we conducted two Pearson chi-square analyses. We first examined associations between CSA and attachment as a two-level variable (secure vs. insecure). We followed this up by examining associations between CSA and attachment as a three-level variable (secure, insecure, and disorganized).

Objective 3. To examine both main and interactive effects of attachment and CSA history on children's psychological adjustment, we conducted multivariate analyses of covariance (MANCOVAs) —the use of this analysis enabled us to control for confounds and to include all dependent measures in a single analysis, while protecting against multicollinearity. MANCOVAs generate overall *F* statistics for the contribution of each independent variable and covariate to the broad set of dependent variables. In addition, we followed these MANCOVAs with Roy-Bargmann step-down analyses, which enabled us to ascertain the specific contributions of each predictor variable to each dependent variable after controlling for the other dependent variable. To yield the largest possible cell sizes, all analyses were conducted using the two-level attachment variable (secure, insecure) and the two-level CSA variables (no CSA, CSA).

Results

Objective 1: Providing Descriptive Statistics and Preliminary Analyses

Descriptive statistics for all key study variables are reported in Table 1. Preliminary analyses indicated that all the clinical measures were positively intercorrelated. Children's age and gender were not significantly associated with the clinical dependent variables in the study (see Table 1) and therefore were not used as covariates in analyses.

Analyses of variance revealed that there were CSA, $F(5, 109) = 3.22$, $p = .04$, and attachment-related, $F(5, 109) = 6.68$, $p = .002$, group differences related to family income. Parents of children in the comparison group reported significantly higher family income

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than parents of children in the intrafamilial CSA group ($p = .02$) and children classified as disorganized had lower family income than children with secure ($p = .001$) and insecure-organized attachment ($p = .02$). For this reason, family income was used as a covariate in subsequent analyses.

In terms of children's stress exposure, there were no significant differences in terms of abuse group, $F(5, 109) = 2.66$, $p = .08$. However, children classified as secure reported significantly lower stressful life events than children classified as either insecure-organized ($p = .03$) or disorganized ($p = .01$).

A chi-square showed that the two-level attachment classification variable (secure vs. insecure) was significantly associated with whether children denounced the abuse, $\chi^2(1) = 5.96$, $p = .02$; insecure children were more likely to denounce the CSA themselves (58% insecure vs. 17% secure). In addition, results of a chi-square indicated that the three-level attachment variable was also significantly associated with children denouncing, $\chi^2(2) = 7.87$, $p = .02$, with the pattern of findings suggesting that children with disorganized attachment (83%) denounced more than children with insecure-organized attachment (52%), who denounced more than children with secure attachment (17%).

Objective 2: Testing Hypothesis Regarding Association Between CSA and Attachment

First, we examined whether CSA was associated with children's attachment classifications as a two-level variable (secure vs. insecure). A Pearson chi-square indicated that children's abuse history was significantly associated with their attachment classification, $\chi^2(2) = 14.27$, $p = .001$; children with CSA were more likely to be classified as insecure than nonabused children.

Next, we also found significant associations between CSA and attachment as a three-level variable (secure, insecure-organized, and disorganized), $\chi^2(2) = 14.75$, $p = .001$; children with CSA were significantly more likely to be insecure-organized ($p = .001$) and disorganized ($p = .01$) than nonabused children (see Figure 1 and Table 2).

Summary of results. Consistent with hypotheses, child victims of CSA were more likely to have insecure attachment and disorganized attachment compared to nonabused children.

Table 2. *Frequency (Percentage) of Children in Each Abuse and Attachment Grouping*

Variable	No sexual abuse, *n* (%)	CSA, *n* (%)	Total number
Secure	44 (65)	12 (28)	56
Insecure	21 (31)	25 (58)	46
Disorganized	3 (4)	6 (14)	9
Total number	68 (100)	43 (100)	

Note. CSA = childhood sexual abuse.

Objective 3: CSA and Attachment in Predicting Children's Psychological Symptoms

To address the high intercorrelations of the clinical dependent measures, we conducted a MANCOVA in which all dependent measures were included (internalizing, externalizing, dissociation, sexualized behavior, and child-reported depression). We included as covariates family income and children's exposures to general life stressors due to the documented associations between overall adversity and risk constructs (CSA and attachment) within our sample.

We conducted a MANCOVA using CSA and the two-level attachment variable (secure vs. insecure), controlling for family income, $F(5, 109) = 1.09$, $p = .37$, and children's stress exposure, $F(5, 109) = 2.05$, $p = .08$. The results showed that CSA, $F(1, 109) = 6.60$, $p < .001$, $\eta^2 = 0.26$, and attachment, $F(2, 109) = 3.13$, $p = .01$, $\eta^2 = 0.14$, were main effects. Furthermore, the interaction between attachment and abuse, $F(3, 109) = 3.19$, $p = .01$, $\eta^2 = 0.14$, was a significant predictor in the model. Roy-Bargmann step-down analyses revealed that insecure children reported significantly more depressive symptoms than secure children on the CDI. Furthermore, CSA history was associated with greater parent-report child internalizing and externalizing symptoms, as well as higher dissociation scores. The interaction between the attachment and CSA was uniquely associated with parent-reported internalizing symptoms, $p = .01$ (see Figures 2–4). Specifically, parents of children with secure attachments and CSA reported higher child internalizing; further, parents of nonabused children with insecure attachments reported higher child internalizing symptoms.

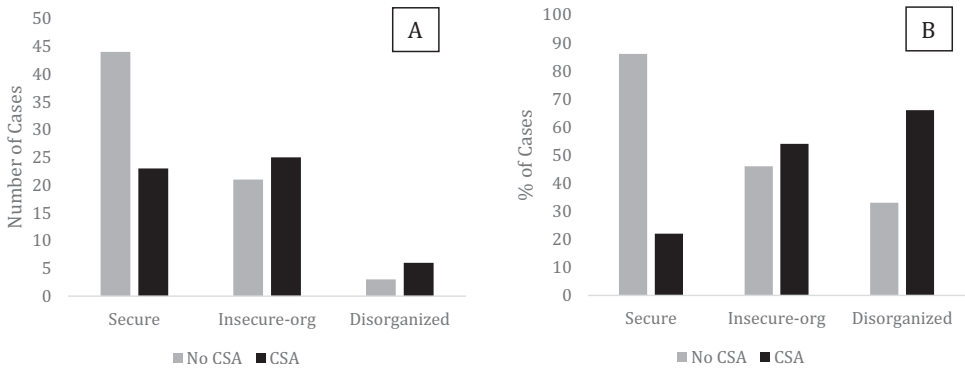

Figure 1. Association between attachment and children's experiences of sexual abuse in terms of raw number (A) and percentage of each attachment group (B). Insecure-org = insecure-organized (dismissing and preoccupied attachment); CSA = childhood sexual abuse.

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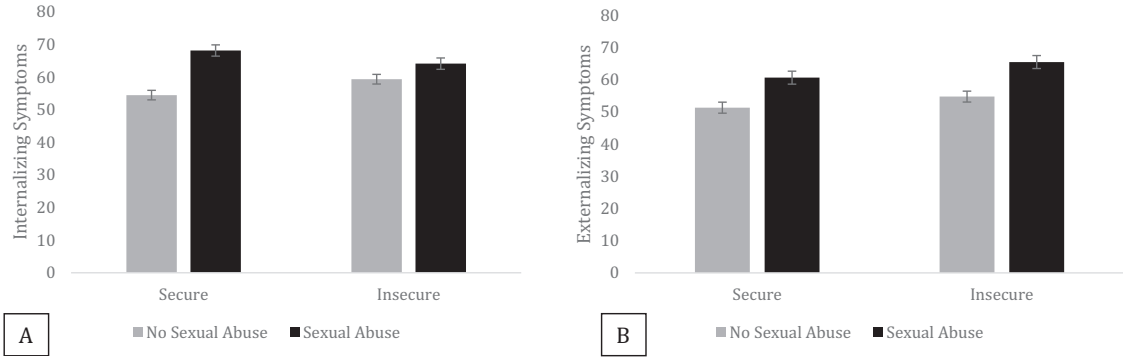

Figure 2. Attachment × Sexual Abuse History as a predictor of children's internalizing (A) and externalizing behavior problems (B). Insecure-org = insecure-organized (dismissing and preoccupied attachment); CSA = childhood sexual abuse. Some of the subgroups contain a small number of participants (for instance, there are only nine disorganized children in the sample [three without CSA, six with CSA]).

Summary of findings. Child-reported depressive symptoms were only associated with insecure attachment and not with CSA history. Results based on parent reports of child difficulties show that CSA alone was not associated with increased risk for psychological problems, but insecure attachment was associated with more psychopathology, and CSA and attachment interacted such that secure children with CSA exposure had higher of some types of psychopathology.

Discussion

The primary objectives of this study were to provide new data on the association between CSA and attachment in school-age children, as well as to examine the way they interact to contribute to child psychological difficulties.

To better characterize the sample, we first examined whether attachment was associated with disclosure given the absence of knowledge regarding attachment and CSA disclosure. The findings were unexpected in that children with secure attachment were less likely to self-disclose CSA than children with insecure or disorganized attachment, suggesting that they may be at a disadvantage when confronted with abusive behaviors that are incompatible with their IWM of others and the basic assumptions that people can be trusted. Children with insecure and disorganized attachment may in some ways be better prepared to disclose abusive experiences. These findings draw attention to the unexpected implications of attachment for disclosure of CSA, adding to previous research on reasons associated with disclosure and nondisclosure of CSA (Schaeffer, Leventhal, & Asnes, 2011).

With regard to the association between CSA and attachment, the findings indicate that as hypothesized, school-age children with histories of CSA were significantly more likely to have insecure and disorganized attachment than children without CSA. This is consistent with findings that preschoolers with CSA scored higher on dimensional measures of disorganization and hyperactivated attachment (Fresno et al., 2014) and that disorganized attachment on the AAI is more common in adolescent inpatients with CSA (van Hoof et al., 2015). Thus, the findings of our study extend knowledge regarding attachment in school-age children in the context of CSA by showing that both children with CSA manifest more disorganized and insecure attachment than nonabused peers.

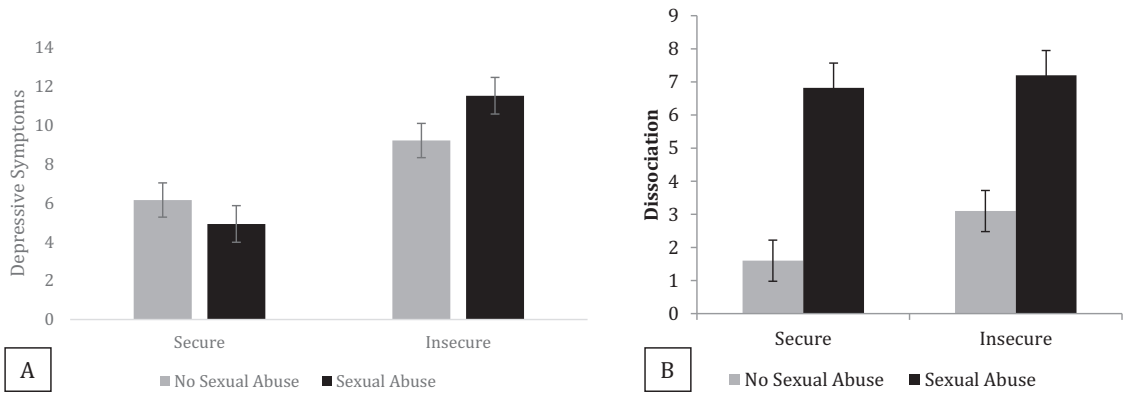

Figure 3. Attachment × Sexual Abuse History as a predictor of children's depression (A) and dissociation (B). Insecure-org = insecure-organized (dismissing and preoccupied attachment); CSA = childhood sexual abuse. Some of the subgroups contain a small number of participants (for instance, there are only nine disorganized children in the sample [three without CSA, six with CSA]).

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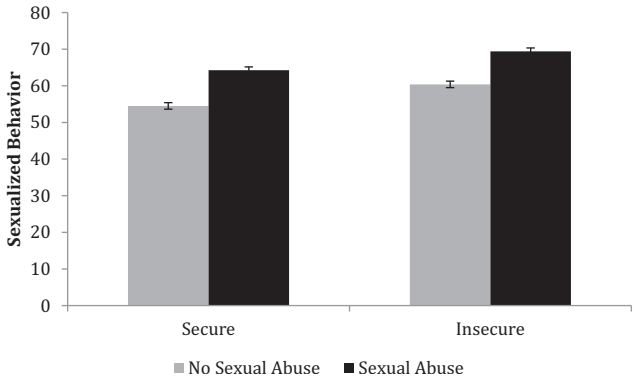

Figure 4. Attachment × Sexual Abuse History as a predictor of children's sexualized behavior. Insecure-org = insecure-organized (dismissing and preoccupied attachment); CSA = childhood sexual abuse. Some of the subgroups contain a small number of participants (for instance, there are only nine disorganized children in the sample [three without CSA, six with CSA]).

The second objective was to examine associations between CSA, attachment, and child psychological difficulties self-reported by children as well as parents. We first discuss findings based on children's self-reports, which is likely the most reliable indicator at this developmental stage. Securely attached children reported significantly lower depressive symptoms than insecurely attached children. Our findings were only partly consistent with our initial hypotheses in which we anticipated that child-reported depressive symptoms would be associated with both CSA and insecure attachment (Sharp et al., 2012; Trickett et al., 2011). In fact, our findings extend evidence from prior studies identifying that secure attachment is uniquely associated with lower child-reported depressive symptoms (e.g., Borelli et al., 2010; Brumariu & Kerns, 2010; Kerns & Brumariu, 2014, for reviews). They are also in line with the meta-analytic findings suggesting that attachment is particularly important during middle childhood and most evident when children self-report distress (Madigan et al., 2013). Secure attachment may be important for children's sense of self, helping them face the challenges of middle childhood, rendering them less likely to become distressed when they face adverse experiences. In sum, these findings based on child self-reports are consistent with prior work with community samples. However, whereas in prior studies of CSA-exposed preschoolers and adolescents, secure attachment was a mediator or moderator of adjustment (Jardin et al., 2017; Zephyr et al., 2015), in the present study, only attachment and not CSA was associated with child-reported distress symptoms. This finding extends previous work by indicating that for children of this age, attachment is of fundamental importance.

The findings with parent-reported child psychological difficulties revealed a somewhat different pattern, indicating that CSA and the interaction between CSA and attachment were associated with an increased risk of child psychological difficulties. Parents of children with CSA reported that they had more internalizing, externalizing, and dissociation symptoms. Furthermore, CSA and attachment interacted such that parents of insecure children without CSA perceived them as having significantly more internalizing symptoms, while parents of secure children with CSA perceived higher child internalizing symptoms. The finding that nonabused children with insecure attachments had more internalizing difficulties is consistent with what was found using the child-report measures of distress. The findings that parents of children with secure attachments and CSA observed more internalizing difficulties were contrary to our hypothesis and not consistent with child reports. In terms of possible explanations for these findings, it may be that parents of secure children become vigilant to child distress in the wake of abuse, thus overreporting. Alternatively, it may be that secure children with CSA show short-term symptom spikes closer to the abuse that attenuate over time, whereas insecure children show longer term problems.

Finally, the discrepancy in findings involving parent versus child reports of children's distress are noteworthy; we believe that both provide important and complementary information regarding children's psychological adjustment.

Implications for Practice and Policy

Our key findings show that insecure attachment was the primary factor associated with child reports of depressive symptoms in children with CSA as well as nonabused children and that CSA is associated with more parent-reported child internalizing and externalizing problems, as well as dissociation. In terms of practice and policy, the findings linking attachment and child reports of distress indicate that it is paramount to broaden trauma-focused models to include attachment in order to improve treatment of child victims of CSA and their families. There is evidence suggesting that IWMs remain malleable during middle childhood (Ahmed, Bittencourt-Hewitt, & Sebastian, 2015), making it a potentially fertile period to intervene with both children and parents. The rapidly developing cognitive and mentalizing capacities of children of this age make it possible to more directly intervene regarding perceptions of self and others associated with particular IWMs that may be nonoptimal.

Limitations and Future Directions

The study has a number of strengths, including the use of an interview measure to evaluate attachment and the focus on a difficult-to-recruit but important clinical population. Further strengths include the use of a comparison group, as well as the inclusion of both children with intrafamilial CSA and extrafamilial CSA. Although the sample was comparable in size to that of other studies of attachment in school-age children, it was small considering that we were interested in different types of insecure attachment, and thus we lacked power to detect differences, a problem plaguing attachment researchers interested in less common forms of attachment (Cassidy & Berlin, 1994). In addition, CSA-exposed children are also more likely to experience other forms of psychosocial adversity; to address for this potential confound in the associations examined in this study, we controlled for children's stress exposure, but we acknowledge that this cannot completely address the potential influence of co-occurring risk factors on children's adjustment. Further, the children in this study experienced a range of types and levels of CSA seen in a community sample, but this may be different from the experiences of children put into the care of child protective services, who may have experienced severe, chronic CSA together with neglect, physical

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abuse, and emotional abuse. Given that the children in our sample were referred by health services rather than child protective services, it was not possible to control for possible co-occurring abuse and neglect, as this information could not be reliably collected from parents or children. We were not able to examine the role of children's disclosure of CSA or parents' reactions to children's disclosure on outcomes, which is also an area in need of additional investigation. Further research is needed to examine attachment in different samples of children with CSA. Finally, the cross-sectional nature of the study limits the extent to which a temporal developmental sequence can be inferred.

Keywords: sexual abuse; child attachment; depressive symptoms; externalizing; dissociation; sexual behaviors

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