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Pathways from child sexual abuse to adolescent sexual problems: the roles of sex-specific abuse reactions and externalizing behaviors

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**PATHWAYS FROM CHILD SEXUAL ABUSE TO ADOLESCENT SEXUAL PROBLEMS: THE ROLES OF
SEX-SPECIFIC ABUSE REACTIONS AND EXTERNALIZING BEHAVIORS**

by

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THESIS

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CHAPTER 1

INTRODUCTION

Adolescents with a history of child sexual abuse (CSA) are at risk for a variety of negative outcomes, including sexual problems, which often manifest as sexual risk behaviors and difficulties with intimate relationships. Youth with a history of CSA tend to engage in more risky sexual behaviors and to initiate intercourse at an earlier age than their non-abused peers (Senn, Carey, & Venable, 2008). Further, survivors of sexual abuse often experience disruptions in normative sexual and romantic relationship development that contribute to later deficits in intimate relationship skills (Brown, Kessel, Lourie, Ford, & Lipsitt, 1997). Indeed, CSA youth appear to be particularly susceptible to experiencing sexual problems and the negative sequelae with which they are associated.

Although there is strong empirical evidence linking CSA to subsequent sexual problems, less is known about the precise mechanisms by which this risk is conferred. Research by Simon and Feiring (2008) suggest that youths' early sex-specific reactions to CSA significantly predict later sexual problems. However, the extent to which these sex-specific abuse reactions versus more general risk factors explain the development of sexual problems among CSA youth has not yet been examined. Externalizing behavior problems, for example, are robust predictors of sexual risk behavior (Zimmer-Gembeck & Helfand, 2008) and are also associated with a history of sexual abuse (Kendall-Tackett, Williams, & Finkelhor, 1993). The extent to which externalizing behaviors versus sex-specific reactions to CSA explain which youth will develop sexual problems remains an important yet unanswered question. Hence, the overarching goal

of this study was to examine the roles of sex-specific abuse reactions and externalizing behaviors in predicting subsequent sexual problems among youth with confirmed cases of CSA.

Child Sexual Abuse: Definition and Incidence

CSA affects approximately 12% to 35% of females and 4% to 9% of males before they reach the age of 18 (Putnam, 2003). According to a national study on child maltreatment by the United States Department of Health and Human Services (2006), there were 78,120 documented cases of CSA nationwide in 2006, which constituted 8.8% of all types of maltreatment that year. CSA occurs in children of all ages, but is most prevalent among children 8 to 15 years old. Furthermore, sexual abuse appears to occur across all races and ethnicities, with white children having the highest rates of victimization (United States Department of Health and Human Services, 2006).

There is considerable variability in the definition of CSA from state to state and within the research literature. This variation is thought to contribute to inconsistencies in the post-abuse outcome literature, which makes it difficult to compare results across studies (Senn et al., 2008). Despite the variation, one common theme in CSA definitions is the presence of an adult coercing a child into any type of sexual activity. Examples range from being forced to watch pornographic materials at the lower end of the severity range to forced penetration by a caregiver at the higher end. Although abuse severity and characteristics may play a role in post-abuse adaptation, any history of CSA appears to be a risk factor for psychosocial problems (Kendall-Tackett et al., 1993). Among these psychosocial difficulties, problems resulting from the disruption of normative sexual development are among the most reliably identified following CSA (Kendall-Tackett et al., 1993).

Child Sexual Abuse, Sexual Development, & CSA-Related Outcomes

Sexual development. Interrelated changes in romantic and sexual development are among the most significant tasks of adolescence (Auslander, Rosenthal, & Blythe, 2006; Furman, Brown, & Feiring, 1999; Laursen & Williams, 1997). Romantic relationships become increasingly common, with roughly half of U.S. 15-year-olds endorsing having been involved in a special romantic relationship within the previous 18 months, and 88% reporting that they had started dating (Carver, Joyner, & Udry, 2003). Along with the onset of romantic relationships comes the emergence of adolescent sexuality.

Similar to participation in romantic relationships, the evidence suggests that sexual activities are quite prevalent within the general adolescent population. According to the 2005 Youth Risk Behavior Surveillance report, which surveyed high school students in grades 9 to 12, 45.7% of females and 47.9% of males have engaged in sexual intercourse (Centers for Disease Control and Prevention, 2006). Furthermore, youth are engaging in other sexual behaviors as well. Data from the National Survey of Family Growth revealed that among adolescents ages 15 to 19, more than half of both males and females had engaged in oral sex with a partner of the opposite sex (Centers for Disease Control and Prevention, 2005). Another study of male youth ages 15 to 19 found that among those who had not had intercourse, 67% had engaged in breast fondling (The Alan Guttmacher Institute, 2002). Yet another study utilizing data from Wave 2 of the National Longitudinal Study of Adolescent Health found that 94% of participants aged 12 to 21 (M age = 16.1) had held hands with their partner, 92% had kissed their partner, 63% had touched under the clothes, and 57% had touched their partner's genitals (O'Sullivan, Cheng, Harris, & Brooks-Gunn, 2007).

Beyond the prevalence rates, it is important to remember that romantic relationships and age-normative sexual behaviors play a significant role in the development of intimate relationship and sexual negotiation skills. During adolescence, youth learn appropriate ways of feeling and behaving within an intimate relationship, including gaining an understanding of and capacity for reciprocity and commitment within their relationships (Auslander et al., 2006). Furthermore, adolescence is the stage during which youth learn how to compromise, solve problems, and share information with their romantic partners in order to get their needs met (Auslander et al., 2006; Furman & Simon, 2006; Simon, Kobielski, & Martin, 2008). Such intimate communication skills are critical, as they are associated with adolescent romantic relationship quality (Simon et al., 2008; Wight et al., 2008) and may play a role in youths' ability to assert themselves during sexual encounters (Brown et al., 1997). Adolescents with a history of sexual abuse, however, may fail to acquire these skills, as their sexual development is often disrupted by their abuse experiences, setting them up for a variety of negative outcomes. Either precocious sexual activity or sexual avoidance may contribute to deficits in romantic relationship skills and to psychosocial difficulties.

Child sexual abuse: Psychosocial outcomes. Adolescents with a history of CSA are at risk for a host of psychosocial problems including psychopathology, difficulties within interpersonal relationships, and sexual risk behaviors, among others (Kendall-Tackett et al., 1993). A history of CSA is associated with a variety of frequently comorbid psychological disorders, including depression, anxiety, and post-traumatic stress (PTS). Research suggests that most survivors of CSA experience symptoms of PTS (Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989), and many also experience symptoms of anxiety and severe depression that may lead to suicidal ideation

(Saunders, Villeponteaux, Lipovsky, Kilpatrick, & Veronen, 1992). In addition to the distress associated with these disorders, such symptoms may also impair social functioning. Specifically, those with a history of CSA often report lower levels of social competence (Cloitre, Miranda, Stovall-McClough, & Han, 2005) and strained romantic relationships, including intimacy problems, which can contribute to sexual difficulties (Feiring, Simon, & Cleland, 2009).

Child sexual abuse and sexual problems. Extant research provides ample evidence that adolescents with a history of CSA often experience more sexual problems and engage in more risky sexual behaviors than their non-abused peers. A recent meta-analysis of CSA studies conducted by Senn and colleagues (2008) found that CSA was related to earlier onset sexual activity, higher numbers of sexual partners, and greater likelihood of contracting a sexually-transmitted infection (STI). Furthermore, the results indicated that the presence of co-occurring depression or PTSD, both of which are common reactions to CSA (Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989; Saunders et al., 1992), significantly increased the reported number of sexual partners. They also found that in non-clinical samples of female adolescents, CSA was related to failure to use birth control, use of alcohol or drugs during sex, more partners, greater likelihood of ever contracting an STI. In at-risk (i.e., pregnant) adolescent females, CSA was also associated with a greater likelihood of trading sex for drugs or money (Senn et al., 2008).

Because adolescents with a history of CSA tend to engage in more risky sexual behaviors and initiate sexual relations at an earlier age (Senn et al., 2008), they are particularly susceptible to the deleterious outcomes that accompany sexual risk. Even without a history of CSA, risk of contracting a STI is greater during adolescence than during any other developmental period, and youth prone to precocious and unprotected sexual behavior are

especially vulnerable (Centers for Disease Control and Prevention, 2009; Weinstock, Berman, & Cates, 2004). Furthermore, CSA youth tend to benefit less from traditional risk-reduction programs than their non-abused peers (Greenberg, 2001), thus furthering their risk status. While the outcomes associated with CSA have been studied extensively, the mechanisms by which this increased risk is conferred are not well understood. The differential effect of prevention programs suggests that there is a factor unique to CSA that lends additional risk, the identification of which is critical to the development of successful interventions.

Abuse severity and CSA-related outcomes. Another important factor to consider when examining CSA-related outcomes is the severity of the abuse experience. Previous research suggests that more severe abuse is associated with poorer post-abuse adaptation. Key abuse characteristics thought to constitute greater abuse severity include the following: relationship to offender, penetration, use of force, and long duration or high frequency of abuse (Beitchman et al., 1992; Noll, Trickett, & Putnam, 2003; Senn, Carey, Venable, Coury-Doniger, & Urban, 2007). Abuse that is perpetrated by a parent figure is thought to be especially traumatic (Finkelhor, 1979; Herman, Russell, & Trocki, 1986), presumably due to the sense of betrayal that occurs when children are taken advantage of by the very people who are supposed to care for and protect them (Finkelhor & Browne, 1985). Although much of the literature suggests that greater abuse severity is associated with more negative outcomes (Beitchman et al., 1992; Noll et al., 2003; Senn et al., 2007), findings on the relationship between abuse severity and outcomes has been inconsistent with some studies yielding weak or nonsignificant results. This inconsistency suggests that abuse severity alone is not sufficient to explain the poor outcomes experienced by some victims of CSA.

Sex-Specific Reactions to Child Sexual Abuse

Traumatic sexualization. Although certainly not all adolescents who experience sexual abuse go on to have sexual problems, those that do often exhibit dysfunctional and risky sexual behaviors that preclude adaptive intimate relationship functioning and may pose significant risks to sexual health. One proposed mechanism by which CSA contributes to sexual problems is traumatic sexualization. Traumatic sexualization, which was first proposed by Finkelhor and Browne (1985), is a process by which premature and inappropriate sexual exposure contributes to the formation of odd and intense emotional associations to sexuality. Traumatic sexualization results from the pairing of sexual feelings and behaviors with fearful, negative emotions recalled from abuse experiences. These recalled emotions in turn lead to heightened emotional reactivity in sexual situations and confusion regarding the nature and purpose of sexuality (Finkelhor & Browne, 1985).

Traumatic sexualization may also contaminate future sexual experiences by distorting cognitions regarding sexuality and romantic relationships in ways that exacerbate sexual problems. Adolescents with a history of CSA may learn to view sex as a tool through which one can relate to and manipulate others, rather than a way of expressing intimate feelings to a partner. They may believe that sex should serve to satisfy their partner's needs, rather than being a mutual, loving experience. Sexually-abused youth may come to see themselves as sexual objects, such that the only thing they have to offer their partners is physical fulfillment (Finkelhor & Browne, 1985). These types of distortions may fuel dysfunctional sexual behaviors, as adolescents may acquiesce and engage in sexual activity as a means to gain affections and avoid rejection.

Types of sex-specific abuse reactions. The literature suggests that survivors of CSA may experience two types of sex-specific reactions: *sexual anxiety* and *eroticism*. Sexual anxiety can be described as a fear and avoidance of sex that often manifests as a diminished sexual interest and activity (Finkelhor & Browne, 1985; Simon & Feiring, 2008). In contrast, eroticism can be described as a heightened interest in sex that may manifest as increased sexual activity (Finkelhor & Browne, 1985; Merrill, Guimond, Thomsen, & Milner, 2003; Noll et al., 2003; Simon & Feiring, 2008). As distinct as these two constructs may seem, they are not mutually exclusive and may each contribute uniquely to dysfunctional sexual and romantic relationship functioning.

Sexual anxiety. Sexual anxiety consists of a fear of and aversion to sex that results from associating frightening events and memories with sexual feelings and activities (Finkelhor & Browne, 1985; Simon & Feiring, 2008). It has been linked to higher levels of negative affect during sexual experiences (Meston, Rellini, & Heiman, 2006) and may contribute to discomfort in intimate situations. Hence, sexual anxiety may manifest as an avoidance of sexual activity and romantic relationships (Merrill et al., 2003; Simon & Feiring, 2008).

Sexual abuse that includes the use of force, versus verbal persuasion, is especially likely to result in sexual anxiety because survivors often come to associate the fear and pain that resulted from that physical force with sex (Finkelhor & Browne, 1985). The age at which the abuse took place is also an important factor in the development of sexual anxiety. Children are more likely to experience sexual anxiety in response to CSA than adolescents because they have limited knowledge of sexuality. As such, they are less apt to understand the sexual nature of the

abuse and to recognize the potential implications of such an experience for their future intimate encounters (Finkelhor & Browne, 1985; Simon & Feiring, 2008).

The impact of sexual anxiety on subsequent sexual behavior is difficult to study within a child and adolescent population. The overall proportion of youth who have engaged in sexual behaviors is lower than that of adults, and thus it is difficult to distinguish conscious deferral of sexual activities from fearful sexual avoidance. Consequently, there are very few studies on this topic to date. A study by Simon and Feiring (2008) examining effects of sex-specific abuse reactions on later sexual functioning found that higher levels of sexual anxiety were indeed related to diminished sexual activity. Decreased sexual activity in a young adolescent may not seem problematic; however, avoidance of intimacy at such an important developmental stage may hinder one's ability to establish and maintain healthy romantic relationships later in life (Davila, Stroud, Miller, & Steinberg, 2007). By abstaining from age-normative romantic relationships and sexual activities, adolescents may also fail to acquire intimate relationship negotiation skills, such as sexual refusal, leaving them less prepared to successfully navigate the sexual situations they do encounter.

Eroticism. In contrast to sexual anxiety, eroticism is a preoccupation with sex that involves heightened sexual feelings and typically results in early onset, often unprotected sexual activity with numerous partners (Finkelhor & Browne, 1985; Simon & Feiring, 2008; Wolfe, Gentile, Michienzi, Sas, & Wolfe, 1991). Eroticism may be especially likely to occur when a child is coerced into participating in sexual acts, rather than physically forced, and when the perpetrator attempts to elicit the child's sexual response (Finkelhor & Browne, 1985).

The likelihood of reacting in an eroticized manner may also be linked to the age at which the abuse occurs. Those who experience sexual abuse as adolescents are more likely to respond in an eroticized manner because it corresponds with normative, age-related advances in sexual development (Finkelhor & Browne, 1985; Simon & Feiring, 2008). Unlike children, adolescents have a sexual framework into which aspects of their abuse can be incorporated, which may affect the ways in which they relate to future partners. Through CSA experiences, an adolescent may learn to view sex a tool for manipulating others and gaining affection, rather than a way to express intimate feelings. Further, emerging interest in sexuality and newly developed sexual responsiveness may engender an overly sexualized response to the abuse, which often results in sexual risk behaviors.

Previous research examining the sexual behaviors of youth has shown that adolescents with a history of CSA do indeed exhibit more sexual risk-taking than their non-abused peers. Specifically, they tend to initiate sexual activity at a younger age; have higher numbers of sexual partners, risk for contracting a STI, and risk for teen pregnancy; have lower birth control efficacy; and be more likely to use alcohol or drugs during sex (Houck, Nugent, Lescano, Peters, & Brown, 2009; Noll et al., 2003; Senn et al., 2008). The high rates of sexual risk-taking associated with eroticism may reflect the poor communication and sexual decision-making skills that CSA youth tend to exhibit during sexual encounters (Brown et al., 1997).

Externalizing Behaviors and Sexual Problems

Although sex-specific abuse reactions are common among sexually-abused youth, reactions to CSA are variable, so it is important to consider other factors that may contribute to sexual problems in this population. CSA is a known risk factor for externalizing behaviors

(Kendall-Tackett et al., 1993), which themselves have been reliably linked to sexual risk behaviors in non-abused as well as non-clinical samples (Zimmer-Gembeck & Helfand, 2008). In addition to sexual risk behaviors, youth with externalizing behavior problems tend to engage in normative sexual behaviors at an earlier age. For instance, they tend to begin dating and engaging in sexual intercourse at an earlier age than their peers who do not exhibit problem behaviors (Zimmer-Gembeck & Helfand, 2008).

Research suggests that a mediational model based on Jessor's (1991) Problem Behavior Theory best explains the relationship between externalizing behaviors and subsequent sexual problems (Schofield, Bierman, Heinrichs, Nix, & Conduct Problems Prevention Research Group, 2008). In this model, childhood externalizing behaviors increase the likelihood of engaging in a host of delinquent behaviors in early adolescence, which set the stage for the onset of sexual problems (Elliot & Morse, 1987; Jessor, 1991; Lanctot & Smith, 2001; Whitbeck, Yoder, Hoyt, & Conger, 1999). Indeed, there is ample evidence supporting the relationship between externalizing behaviors in childhood and problematic sexual behavior in adolescence (Caminis, Henrich, Ruchkin, Schwab-Stone, & Martin, 2007; Fergusson, Horwood, & Ridder, 2005). Specifically, youth with a history of externalizing behaviors have been shown to have early onset sexual intercourse, multiple partners, and high rates of teen pregnancy (Ramrakha et al., 2007; Woodward & Fergusson, 1999).

The onset and trajectory of externalizing behaviors may be important in the relationship between externalizing behaviors and sexual problems, as those with earlier onset externalizing behaviors appear to be at increased risk (Zimmer-Gembeck & Helfand, 2008). This is in contrast

to youth whose increase in externalizing behavior problems coincides with adolescence, which may be considered part of typical teenage rebellion.

Present Study

Many studies examining associations between CSA and sexuality are limited by cross-sectional designs and adult retrospective reports of abuse, which are often unreliable. Hence, the present study aimed to overcome these limitations by examining these relations across three different time points: at abuse discovery (T1), one year post-discovery (T2), and six years post-discovery (T3). The overarching purpose of this study was to examine potential pathways to sexual problems in a sample of adolescents with confirmed cases of CSA. Using longitudinal path analyses, I examined a model in which sexual abuse severity, sex-specific abuse reactions, and externalizing behaviors served as prospective predictors of subsequent sexual problems. This prospective, longitudinal design provides evidence for a predictive relationship, rather than mere correlational information about the relations among variables (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001).

The primary aim of this study was to determine the extent to which sex-specific reactions to sexual abuse (i.e., sexual anxiety and eroticism) and externalizing behaviors predict sexual problems among youth with CSA histories. I proposed a model (see Figure 1) in which the persistence of sexual anxiety, eroticism, and externalizing behaviors from T1 to T2 would predict higher rates of sexual problems at T3. I hypothesized that sex-specific abuse reactions would be more salient than externalizing behaviors in predicting sexual problems at T3. The longitudinal pathways between study variables were examined in the context of abuse severity. Previous research suggests that more severe abuse is associated with more negative outcomes.

Hence, I anticipated that more severe abuse would predict higher levels of sexual problems. The direct effects of abuse severity were expected to be weaker, however, when also accounting for the longitudinal pathways involving sex-specific abuse reactions and externalizing behaviors. Given the importance of age in the development of sex-specific abuse reactions, I also included age as a covariate. I anticipated that participants who were children (i.e., ages 7 to 11) at the time of abuse discovery would exhibit higher levels of T1 and T2 sexual anxiety, while adolescents (i.e., ages 12 to 15) would show higher levels of T1 and T2 eroticism. Furthermore, previous research suggests that a victim's gender may influence subsequent sexual behaviors; however, the findings on this link are inconsistent (Kendall-Tackett et al., 1993; Senn et al., 2008). Consequently, gender was included as a covariate, but no specific hypotheses were proposed.

Specific hypotheses involved direct and indirect pathways from abuse severity, sex-specific abuse reactions, and externalizing behaviors to subsequent sexual problems. First, I hypothesized that higher levels of abuse severity would be related to higher levels of T1 sexual anxiety, eroticism, and externalizing behaviors. Second, I predicted that higher levels of sexual anxiety, eroticism, and externalizing behaviors at T1 would be related to higher levels of these constructs at T2. Third, I hypothesized that higher levels of T2 sexual anxiety, eroticism, and externalizing behaviors would each be related to higher levels of sexual problems at T3. With respect to indirect effects, I hypothesized that the relationship between sexual anxiety, eroticism, and externalizing behaviors at T1 and sexual problems at T3 would be mediated by levels of sexual anxiety, eroticism, and externalizing behaviors at T2.

CHAPTER 2

METHOD

Participants

Participants included 121 adolescents who were part of a larger study examining the long-term sequelae of child sexual abuse (see Simon & Feiring, 2008). Youth were recruited from urban and suburban New Jersey populations. All cases of abuse were confirmed via medical evidence, offender confession, validation by an expert (e.g., child protective services (CPS)), or conviction and had been disclosed within the past eight weeks; the majority (95%) of participants were referred directly by CPS or affiliated medical clinics.

All participants were assessed at three separate time points: abuse discovery (T1), one year post-discovery (T2), and approximately six years post-discovery (T3; $M = 6.2$, $SD = 1.2$; range = 4.3 to 10.1). Of 160 initial participants, 121 completed all three assessments. Participants who completed all assessments did not differ on demographics, abuse characteristics, or adjustment levels from those who did not complete the T3 assessment. At T1, the sample ($N = 160$) ranged in age from 7 to 15 years old ($M = 11.28$, $SD = 2.2$). Of these, 55% were children (i.e., ≤ 11 years; $M = 9.6$, $SD = 1.1$) and 45% were adolescents (i.e., ≥ 12 years; $M = 13.5$, $SD = 1.1$). At T3, 54% of the sample were adolescents ranging in age from 13 to 17 years old, and 46% were young adults aged 18 to 23. Those who completed all three assessments were 76% female; came predominantly from low-income (i.e., \$25,000 or less; 71%), single-parent (70%) families; and were relatively racially and ethnically diverse: African American (39%), white (31%), Hispanic (21%), and other (9%; including Native American and Asian American).

Procedure

All the procedures for this study were approved by the institutional review boards of the academic institutions where the research took place. A certificate of confidentiality protected the data that participants provided from being released without written consent. At each of the three assessment points, when the participant was a minor, written informed assent was obtained from the children and written informed consent was obtained from their parent or guardian. At T3, those participants who were 18 or older provided written informed consent. At each time point, assessments were conducted by a trained clinician in a private office. Abuse-related information was obtained from CPS and law enforcement case records at T1, after the children were interviewed. Participants were reimbursed a total of \$250 for completion of the initial and the two follow-up assessments.

Measures

Abuse severity. Characteristics of CSA incidents were assessed using a checklist that was developed for the original study and includes information on the frequency and duration of the abuse, how the abuse was revealed, type of abusive acts (e.g., penetration), whether force was used, the relationship of the perpetrator to the victim, relevant medical findings, and the method of case confirmation. The most serious abuse act reported was genital penetration (67%), and nearly all perpetrators were known to their victims (97%), with over one third of the sample being abused by a parent figure (35%). The majority of cases reported no use of force (56%), and the duration of abuse was greater than one year for 33% of participants. Time between the end of abuse and abuse discovery ranged from less than two weeks (45%) to more than seven years (22%). Questionnaire data were coded (e.g., 1 = *stranger*, 2 = *familiar person*,

3 = *relative*, 4 = *parent figure*) by project personnel to create a continuous variable indexing abuse severity, with higher scores indicating greater severity (possible range of Abuse Severity raw scores = 0 to 7). Adequate reliability was established across coders ($\alpha = .73$ to 1.0).

Sex-specific abuse reactions. Abuse reactions were measured at T1 and T2 using the Sexual Anxiety and Eroticism scales of the Children's Impact of Traumatic Events Scale–Revised (CITES-R; Wolfe et al., 1991). The Sexual Anxiety scale measures negative thoughts towards sex and general anxiety surrounding sex (e.g., “Thinking about sex upsets me”), and the Eroticism scale measures heightened sexuality (e.g., “I think about sex even when I don’t want to”). Participants were asked to indicate the extent to which they agreed with each statement on a 3-point scale (3 = *very true*, 2 = *somewhat true*, and 1 = *not true*). Higher scores indicate greater levels of the construct (possible range of Sexual Anxiety raw scores = 5 to 15; possible range of Eroticism raw scores = 4 to 12). These subscales showed adequate internal consistency in the present sample (Sexual Anxiety: T1 $\alpha = .82$, T2 $\alpha = .81$; Eroticism: T1 $\alpha = .66$, T2 $\alpha = .65$).

Externalizing behaviors. Externalizing behaviors were measured at T1 and T2 using the Externalizing Behavior Problems scale of the Child Behavior Checklist (CBCL) and the Teacher Report Form (TRF; Achenbach, 1991). The Externalizing score is a composite of the Aggressive Behavior (e.g., “Being cruel” and “Getting into many fights”) and Delinquent (e.g., “Cheating” and “Stealing”) syndrome scales. Parent figures and teachers indicated the extent to which each statement was true of the child on a 3-point scale (2 = *very true or often true*, 1 = *somewhat or sometimes true*, and 0 = *not true (as far as you know)*). Scores on parent and teacher Externalizing Behavior Problem scales showed very good internal consistency (Parent: T1 $\alpha = .93$, T2 $\alpha = .89$; Teacher: T1 $\alpha = .89$, T2 $\alpha = .91$; possible range of Externalizing Behaviors

raw scores = 0 to 66 (Parent), 0 to 68 (Teacher)). The parent- and teacher-reported Externalizing t-scores were averaged to create an overall externalizing behavior score for both time points. If one reporter's score was missing, the other reporter's score was used as the overall externalizing behavior score. Higher scores indicate greater levels of the construct.

Sexual problems. Sexual problems were measured using the Sexual Concerns and Dysfunctional Sexual Behavior subscales of the Trauma Symptom Inventory (TSI; Briere, 1995). The Sexual Concerns subscale assesses the extent to which participants perceive sexual problems in their relationships, unwanted sexual thoughts and feelings, and sexual dissatisfaction. Example items include "Bad thoughts or feelings during sex" and "Sexual thoughts or feelings when you thought you shouldn't have them." The Dysfunctional Sexual Behavior subscale assesses indiscriminant sexual behavior and the use of sex to achieve nonsexual goals. Example items include "Having sex with someone you hardly knew" and "Using sex to get love or attention." Each subscale consists of nine items for which participants rated their experiences from the past 6 months on a 4-point scale that ranged from 0 (*never*) to 3 (*often*). This measure has shown good validity and reliability in samples with a history of CSA (Briere, Elliott, Harris, & Cottman, 1995) and showed adequate internal consistency within this sample (Sexual Concerns $\alpha = .82$; Dysfunctional Sexual Behavior $\alpha = .78$). Due to the high level of correlation between the subscales ($r = .63$), I created a sexual problems summary score by standardizing the scores from the Sexual Concerns and Dysfunctional Sexual Behavior subscales and then averaging the standard scores. Higher scores indicate higher levels of sexual problems (possible range of Sexual Concerns and Dysfunctional Sexual Behavior raw scores = 0 to 27).

CHAPTER 3

RESULTS

Preliminary Analyses

Prior to examining the proposed hypotheses, I screened the data for accuracy, missing data, nonnormality, and the presence of univariate and multivariate outliers. No out of range values were detected, and the means and standard deviations of each variable were plausible. Three variables (i.e., abuse severity, T1 eroticism, and T2 eroticism) were severely positively skewed and were successfully normalized using a log 10 transformation (Tabachnick & Fidel, 2007). The transformed versions of these variables were used for all analyses. No univariate or multivariate outliers were detected.

Missing data were estimated using the full information maximum likelihood method (FIML) in Mplus (Muthén & Muthén, 1998-2010). This method is less biased and more powerful than other approaches to missing data, (e.g., listwise deletion). The maximum likelihood method works by identifying model parameters that maximize the likelihood of each case's observed data. FIML assumes that data are missing at random.

Descriptive Analyses

Bivariate correlations and sample descriptive statistics were conducted to determine the nature of and relations among study variables over time, the results of which are presented in Table 1. Independent sample t-tests (using pairwise exclusion) were conducted to determine whether participants differed on study variables as a function of age group at abuse discovery (i.e., child (ages 7 to 11) or adolescent (ages 12 to 15)) or gender. Results showed that those who were children at the time of abuse discovery experienced significantly higher levels of

sexual anxiety at both T1 and T2 ($t(106) = 6.66, p = .00$ and $t(114) = 4.27, p = .00$). Children and adolescents did not differ by age group on levels of abuse severity, eroticism, externalizing behaviors, or sexual problems. T-tests analyzing differences by gender showed that females experienced significantly higher levels of abuse severity than males ($t(44) = -2.60, p = .01$) and marginally higher levels of T1 sexual anxiety ($t(119) = -1.90, p = .06$). Males exhibited significantly higher levels of T2 eroticism than females ($t(115) = 2.32, p = .02$) and marginally higher levels of T1 eroticism ($t(119) = 1.92, p = .06$). Males and females did not differ significantly on T2 sexual anxiety, T1 or T2 externalizing behaviors, or T3 sexual problems. Due to the significant differences found for age and gender, these variables will be included in the model as covariates.

A one-way analysis of variance (ANOVA) test was conducted to examine whether participants differed on study variables based on their race or ethnicity, the results of which are presented in Table 2. Results showed a significant between group difference on abuse severity ($F(3,110) = 3.12, p = .03$) and T2 sexual anxiety ($F(3,110) = 3.77, p = .01$) and a marginally significant difference on T1 eroticism ($F(3,110) = 2.59, p = .06$). Bonferroni post hoc tests were conducted to determine specifically which groups differed significantly from each other. Results of these post hoc analyses showed that Hispanics experienced significantly greater levels of abuse severity than whites and that, when compared to whites, both African Americans and Hispanics experienced significantly higher levels of T2 sexual anxiety. Whites experienced marginally higher levels of T1 eroticism than Hispanics. Participants did not differ by race or ethnicity on T1 sexual anxiety, T2 eroticism, T1 or T2 externalizing behaviors, or T3 sexual problems. Participants who identified as “other” did not differ from the other racial/ethnic

groups on any study variables. Due to the small numbers of participants in each of the racial/ethnic groups, this variable could not be included as a covariate in the model.

Path Model Analyses

Path analyses were conducted using the Mplus statistical modeling program (Muthén & Muthén, 1998-2006) because it handles missing data with the FIML method and provides confidence intervals for direct and mediated effects. Mediated effects were calculated and tested with the resampling method suggested by MacKinnon, Lockwood, and Williams (2004), which constructs bootstrap confidence intervals for the mediated effects. The data were resampled a total of 5,000 times.

Overall model fit was assessed by two absolute and two incremental fit indices (Hu & Bentler, 1995, 1999). The non-significant normal theory weighted least squares chi square ($\chi^2 = 11.13$, $df = 12$, $p = .52$) and the root mean square error of approximation (RMSEA = 0.00) suggested that the data fit the model well. The incremental fit indicators, the non-normed fit index (TLI = 1.02) and the comparative fit index (CFI = 1.00), also showed good model fit. Table 2 shows all path coefficients (β ; standardized) for the effects leading to each endogenous variable, regardless of significance, and unstandardized regression coefficients, standard errors, p-values, and bootstrap 95% confidence intervals to support inferences for each direct effect. Figure 2 shows the progression of sex-specific abuse reactions and externalizing behaviors over time and how these processes relate to later sexual problems.

Direct effects. To examine the direct pathways from abuse severity, age, and gender to sexual problems through sex-specific abuse reactions and externalizing behaviors, I estimated the following pathways: (a) the covariates of age at abuse discovery, gender, and abuse severity

to sexual anxiety, eroticism, and externalizing behaviors at T1, (b) age, gender, and abuse severity and sexual anxiety, eroticism, and externalizing behaviors at T1 predicting sexual anxiety, eroticism, and externalizing behaviors at T2, and (c) age, gender, and abuse severity and T1 and T2 sexual anxiety, eroticism, and externalizing behaviors predicting sexual problems (see Table 3).

Results showed a significant inverse pathway from T1 sexual anxiety to age, suggesting that the younger the age at abuse discovery, the higher the level of sexual anxiety experienced. There was a significant positive pathway from T1 sexual anxiety to gender, which indicates that female participants experienced higher levels of T1 sexual anxiety than males. There were significant positive pathways from T1 sexual anxiety, eroticism, and externalizing behaviors to T2 sexual anxiety, eroticism, and externalizing behaviors, respectively; hence, T1 levels of these variables significantly predicted levels at T2. The only significant direct effects on T3 sexual problems were T1 sexual anxiety and T2 eroticism. Specifically, there was a significant inverse pathway from T1 sexual anxiety to T3 sexual problems, which suggests that higher levels of sexual anxiety at T1 predicted lower levels of sexual problems at T3. The pathway from T2 eroticism to T3 sexual problems was also significant, such that higher levels of eroticized reactions at T2 predicted higher levels of sexual problems six years post-discovery. The direct effect from T1 externalizing behaviors to T3 sexual problems was marginally significant, such that higher levels of T1 externalizing behaviors predicted higher levels of T3 sexual problems.

Indirect effects. In addition to these direct effects, I was interested in the indirect paths from T1 sexual anxiety, eroticism, and externalizing behaviors to later sexual problems via T2 sexual anxiety, eroticism, and externalizing behaviors. To examine these mediated effects, I

estimated the following pathways: (a) from T1 sexual anxiety to T3 sexual problems through T2 sexual anxiety, (b) from T1 eroticism to T3 sexual problems through T2 eroticism, and (c) from T1 externalizing behaviors to T3 sexual problems through T2 externalizing behaviors. The indirect pathways from T1 sexual anxiety and T1 externalizing behaviors to T3 sexual problems were not significant ($B = 0.04$, $p = .60$; $\beta = 0.03$, 95% CI = -0.11-0.17 and $B = -0.01$, $p = .33$; $\beta = -0.06$, 95% CI = -0.22-0.10). However, the indirect pathway from T1 eroticism to T3 sexual problems was significant ($B = 0.74$, $p = .04$; $\beta = 0.11$, 95% CI = -0.02-0.25), suggesting that the link between T1 eroticism and T3 sexual problems was partially mediated by T2 eroticism levels.

CHAPTER 4

DISCUSSION

The overarching goal of this study was to longitudinally examine the relations among abuse severity, sex-specific abuse reactions, externalizing behaviors, and later sexual problems in a sample of adolescents with confirmed histories of CSA. To my knowledge, this study is the first to examine the contributions of sex-specific reactions to CSA as well as externalizing behaviors, a well-established contributor to sexual risk-taking (Zimmer-Gembeck & Helfand, 2008), to sexual problems later in life. Including all three predictors (i.e., sexual anxiety, eroticism, and externalizing behaviors) in a longitudinal path model affords a look at the relative contributions of each predictor while accounting for the influences of the others and severity of sexual abuse.

Overall, the results provide partial support for study hypotheses and suggest that sex-specific abuse reactions, particularly eroticism, play an important role in predicting subsequent sexual problems in CSA survivors. Contrary to predictions, abuse severity was not related to sex-specific abuse reactions or externalizing behaviors shortly after abuse discovery or one year later. This finding is consistent, however, with results from bivariate correlations that showed no significant relationship between abuse severity and other study variables. Moreover, previous research on links between abuse severity and outcomes has yielded inconsistent results. Some studies have found strong associations between indices of high abuse severity (e.g., force, penetration, parent perpetrator) and poorer psychosocial outcomes (Arata, 2000; Feiring, Simon, & Cleland, 2009; Merrill et al., 2003; Noll et al., 2003), while reviews of the literature suggest that these links are confusing and inconsistent, in part due to methodological

differences across the studies included (Kendall-Tackett et al., 1993). In particular, the ways in which abuse severity is measured varies considerably across studies, with no general consensus on what constitutes more severe abuse, perhaps with the exception of use of penetration (Kendall-Tackett et al., 1993). Although I believe the measure of abuse severity used in this study to be comprehensive, the discrepancy between our definition of abuse severity and that of prior studies may have contributed to the nonsignificant effect of abuse severity on other variables.

Age and gender were also included as covariates in the model. Although they were not directly related to T3 sexual problems, they were each related to levels of T1 sexual anxiety. In particular, females and younger participants experienced higher rates of T1 sexual anxiety. These findings are consistent with results from preliminary analyses that showed very strong associations between T1 and T2 sexual anxiety and younger age and marginally higher levels of T1 sexual anxiety in females versus males. Additionally, previous studies have found links between younger age and levels of sexual anxiety (Simon & Feiring, 2008). The results on gender, however, are less consistent with prior research. Although previous findings on gender differences tend to be mixed (Kendall-Tackett et al., 1993; Senn et al., 2008), there is some evidence to suggest that males may indeed fare worse following sexual abuse than females. For instance, males tend to exhibit higher rates of emotional and behavioral problems and higher rates of suicidal attempts and ideation than females (Garnefski & Diekestra, 1997). It is important to consider that the limited findings for gender in the present study may be due, at least in part, to the relatively small sample size.

Consistent with expectations, initial sex-specific reactions and externalizing behaviors predicted higher levels of these constructs one year post-discovery. Specifically, sexual anxiety and eroticism showed moderate stability from T1 to T2, while externalizing behaviors showed high stability from T1 to T2. Measurements of these constructs at T2 represent change over time. The relatively lower level of stability from T1 to T2 eroticism (as compared to stability of sexual anxiety) reflects a greater increase in eroticized reactions over the year following abuse disclosure. This makes sense in light of observations by Yates (1982) that eroticism is a self-perpetuating process, as eroticized responses to abusers likely yield a rare opportunity for praise and attention. As such, eroticism may be a difficult reaction to stop.

Sex-Specific Abuse Reactions and Sexual Problems

Sexual anxiety and sexual problems. Sexual anxiety is an element of traumatic sexualization that occurs in response to CSA in which negative feelings such as fear and worry become associated with sexual thoughts and activities (Finkelhor & Browne, 1985; Wolfe et al., 1991). Previous research has found links between sexual anxiety and a fear of and aversion to sex in survivors of sexual abuse (Beitchman et al., 1992), which may manifest as an avoidance of sexual activity in both adolescents (Simon & Feiring, 2008) and adults (Merrill et al., 2003). Consequently, sexual anxiety may disrupt adolescent sexual development by discouraging engagement in normative sexual activities and intimate romantic relationships.

Examination of the direct pathways from sexual anxiety to subsequent sexual problems revealed a significant effect of sexual anxiety at T1 on sexual problems six years post-discovery. Specifically, there was an inverse relationship between sexual anxiety at T1 and sexual problems, such that higher levels of sexual anxiety at abuse discovery predicted lower levels of

subsequent sexual problems. Levels of sexual anxiety were relatively consistent from T1 to T2; however, only initial sexually anxious reactions significantly predicted sexual problems at T3. The significant direct effect of T1 sexual anxiety on sexual problems and its bypassing of T2 sexual anxiety is consistent with results from bivariate correlations that showed a significant link between T1 sexual anxiety and sexual problems, but no link between T2 sexual anxiety and T3 sexual problems. Furthermore, examination of the indirect pathway from T1 sexual anxiety to sexual problems through T2 sexual anxiety was nonsignificant. This indicates that T2 sexual anxiety does not mediate the relationship between T1 sexual anxiety and subsequent sexual problems. This finding is inconsistent with hypotheses and suggests that *initial* sexually anxious reactions to CSA, as opposed to the persistence of sexual anxiety over time, are key to predicting decreased levels of subsequent sexual problems.

The inverse direction of the relationship between T1 sexual anxiety and later sexual problems was also contrary to hypotheses. There is some overlap in content between the Sexual Anxiety subscale of the CITES-R (Wolfe et al., 1991) and the Sexual Concerns subscale of the TSI (Briere, 1995). For instance, “Wishing you could stop thinking about sex” from Sexual Anxiety and “I hope I never have to think about sex again” from Sexual Concerns are tapping similar notions. Thus, given the similarities between subscales and the previously established links between aspects of traumatic sexualization and problems with sexual functioning (Feiring et al., 2009; Finkelhor & Browne, 1985), I hypothesized that higher levels of sexual anxiety would predict higher levels of sexual problems.

Possible explanations for this finding are not terribly hard to conceive, however. In fact, an inverse link between sexual anxiety and sexual concerns and a positive link between

eroticism and sexual concerns have been evident in another study using these data (Feiring et al., 2009). Further, despite some similarities between the Sexual Anxiety and Sexual Concerns subscales, the overall tone of the subscales appears to differ in an important way. Similar to the Sexual Anxiety subscale, the Sexual Concerns subscale does indeed reflect distress over sexual thoughts and actions. Unlike Sexual Anxiety, however, the Sexual Concerns subscale seems to involve more preoccupation with sex, albeit negative. The prevailing tone of the Sexual Anxiety subscale, on the other hand, is that of aversion and a desire to have nothing to do with sex.

It is also important to consider that these findings may be reflective, at least in part, of an age-related effect and even an overt avoidance of sexual activity. Descriptive analyses revealed that participants who were children at the time of abuse discovery experienced higher levels of sexual anxiety than adolescents, a finding that was mirrored in the path model results by a significant inverse link from age to T1 sexual anxiety. Those who were children at abuse discovery may also have lower rates of sexual activity due to the sequence of normative sexual development, which may contribute to lower rates of sexual problems. Moreover, those with higher rates of T1 sexual anxiety, irrespective of age, may have actively avoided engaging in sexual experiences. Although, a lack of sexual experience does not preclude the presence of sexual concerns. Certainly some of the items from the Sexual Concerns subscale, such as “Bad thoughts or feelings during sex” require the participant to have engaged in at least some type of advanced sexual activity. Other items, such as “Confusion about your sexual feelings,” however, could apply to those with no sexual experience (beyond their abuse) and who are not involved in a romantic relationship.

Eroticism and sexual problems. Eroticism is a component of traumatic sexualization

that occurs in response to CSA and involves a preoccupation with sex and heightened sexual feelings. Previous research suggests that those who experience eroticized abuse reactions may exhibit higher levels of risky sexual behaviors. Indeed, eroticized abuse reactions have been linked to early onset, often unprotected, sexual activity with numerous partners (Finkelhor & Browne, 1985; Simon & Feiring, 2008; Wolfe et al., 1991). Given the tendency for CSA survivors to benefit less from traditional risk-reduction programs (Greenberg, 2001), youth with eroticized reactions may be particularly vulnerable to the negative outcomes associated with sexual risk-taking behaviors.

Results showed a significant positive link between T2 eroticized abuse reactions and subsequent sexual problems, such that higher levels of T2 eroticism predicted higher levels of sexual problems at T3. This finding is consistent with study hypotheses and previous research (Simon & Feiring, 2008) suggesting that eroticized reactions involve confusion over the role of sex in intimate relationships, such that sex may be used as a tool for achieving nonsexual goals, rather than a way to express intimate feelings (Feiring et al., 2009; Finkelhor & Browne, 1985). Moreover, the link between eroticism and sexual problems supports findings from a previous study in which eroticized reactions predicted higher rates of later sexual risk-taking, dysfunctional sexual behaviors, and sexual concerns (Feiring et al., 2009).

Examination of the indirect pathway from T1 eroticism to T3 sexual problems showed that, consistent with expectations, the relationship between T1 eroticism and later sexual problems is partially mediated by T2 eroticism. This finding suggests that the link between sexual abuse and later sexual problems is best explained by the persistence of eroticized abuse reactions over time. In other words, eroticized reactions at the time of abuse discovery do not

themselves predict later sexual problems. Rather, it is those whose eroticized reactions continue or even worsen throughout the year following abuse discovery that run the highest risk for developing sexual problems.

The importance of ongoing eroticized CSA reactions in predicting sexual problems is consistent with Yates's (1982) clinical observations of such reactions in sexually-abused children. He noted that, for some children, responding in an eroticized manner to their abusers may afford them special privileges and attention that they would not ordinarily receive. Furthermore, it is important to consider that sexual abuse often co-occurs with other forms of maltreatment (United States Department of Health and Human Services, 2006), such as physical abuse or neglect, thus creating circumstances in which a child may be desperate for any type of praise or attention.

When one imagines such a scenario, it seems plausible, as proposed by Finkelhor and Browne's (1985) theory of traumatic sexualization, that a child could come to view sex as a means to achieving special treatment or manipulating others. Through repeated experiences, these types of cognitive distortions about the nature and purpose of physical intimacy gradually become ingrained into the way in which a child approaches the world. Consequently, it may be increasingly easier to rely on such methods for interacting with others, while in turn the eroticized reaction becomes increasingly difficult to extinguish (Yates, 1982).

Externalizing Behaviors and Sexual Problems

Given the well-established link between externalizing behaviors and later sexual risk (Zimmer-Gembeck & Helfand, 2008) and the propensity for CSA survivors to exhibit externalizing behavior problems (Kendall-Tackett et al., 1993), I believed it was important to

study the potential relations between these variables in the context of sex-specific abuse reactions. Examination of these pathways showed only a marginally significant relationship between T1 externalizing behavior problems and sexual problems six years post-discovery and no link between T2 externalizing behaviors and sexual problems. There were also no significant indirect effects of externalizing behaviors on later sexual problems. This pattern of results is similar to the predictive pathways between sexual anxiety and sexual problems. The marginal significance of this pathway suggests that, although there is some connection between externalizing behaviors exhibited immediately following abuse disclosure, the sex-specific abuse reactions are more salient predictors of the development of sexual problems than more general measures of distress. These results are consistent with predictions that sex-specific reactions to sexual abuse would play a more significant role than externalizing behaviors in predicting sexual problems in CSA survivors.

It is also important to consider, however, that participants' reported externalizing behaviors may not necessarily reflect a reaction to the abuse itself and may indeed have been present prior to the abuse, presumably unlike eroticism and sexual anxiety. Should this be the case, the marginally significant link between T1 externalizing behaviors and sexual problems in the absence of significant relations with T2 externalizing problems is consistent with prior research that has shown early-onset externalizing behavior problems to be especially important in predicting subsequent sexual risk (Schofield et al., 2008; Zimmer-Gembeck & Helfand, 2008). Furthermore, the high stability of externalizing behaviors from T1 to T2 indicates that change in levels of externalizing behaviors over the year following abuse discovery were not predictive of later sexual problems. Hence, participants with high levels of externalizing behaviors remained

high, which supports the notion that these externalizing problems may have been present prior to the abuse.

Limitations

Despite the prospective, longitudinal design and the relatively ethnically and racially diverse sample, there are some limitations to the present study that warrant mention. First, this study relied on self-report, which may be subject to bias and vary based on the accuracy of participant memory. Furthermore, most participants in this study were from low-income, single-parent families, and all had substantiated cases of sexual abuse. These results, therefore, may not generalize well to individuals from higher income, two-parent households, or to those with unreported or unconfirmed cases of abuse.

It is also important to acknowledge that the within-group design of the study prohibits the comparison of these findings against participants with no history of abuse or those who have experienced different types of maltreatment. Moreover, given the nonexperimental study design and the fact that not all study variables were assessed at all three time points, I was unable to determine the causal direction of these relationships. Specifically, it was not possible to examine the extent to which sexual anxiety, eroticism, and externalizing behaviors contribute to changes in sexual problems over time, as sexual problems were assessed only at T3. Finally, the relatively small sample size precluded the examination of potential racial and ethnic differences and may have attenuated findings for gender differences in the relations among abuse severity, sex-specific abuse reactions, externalizing behaviors, and subsequent sexual problems.

Another potential limitation of the study is content overlap across two of the measures. Specifically, the measure used to assess externalizing behaviors, the TRF and CBCL (4-18; Achenbach, 1991), does include items that address sexual problems. It is important to note, however, that out of both forms, only one item addressing sexual content is included in the calculation of the externalizing behavior score: "Thinks about sex too much." Hence, the impact of this overlap on associations with sexual problems six years later is likely negligible.

Future Directions

Despite the limitations, the results of this study offer new insight into the ways in which CSA conveys increased risk for experiencing sexual problems later in life and suggest directions for future research. One area that warrants further investigation is in the relationship between initial sexual anxiety and later sexual problems. The nonsignificant pathway between T2 sexual anxiety and sexual problems suggests that those initial reactions may be key to the development of sexual difficulties later in life. However, the extent to which the inverse pathway between T1 sexual anxiety and sexual problems may be due to age-related effects and sexual avoidance is unclear. Thus, future studies examining the intercorrelations of sexual anxiety and various types of sexual activity over time and their ability to predict subsequent sexual problems are warranted. This would enable researchers to determine whether it is indeed a lack of sexual problems or whether it is a lack of sexual experience that is driving lower levels of subsequent sexual problems.

Future studies would also benefit from larger sample sizes, which would enable a more thorough examination of gender and racial/ethnic differences in the predictive pathways among these variables. Furthermore, studies that include comparison samples of non-abused

participants and participants with varying types of abuse are warranted. These comparisons would allow researchers to determine whether these associations are unique to those with a history of sexual abuse. Furthermore, a study that examined the predictive pathways from sex-specific abuse reactions and externalizing behaviors to later sexual problems that included participants with early- versus late-onset externalizing problems would be useful in clarifying the associations among these variables.

Summary and Clinical Implications

Results from this study suggest that youth who experience sex-specific reactions to sexual abuse may be at risk for developing sexual problems later in life. This appears to be particularly true for those who experience high levels of initial sexual anxiety and those whose eroticized reactions persist throughout the first year post-discovery. Although results suggest that externalizing behaviors exhibited immediately following abuse discovery may have some utility in predicting sexual problems, they highlight the importance of sex-specific abuse reactions in best explaining the development of sexual difficulties following sexual abuse. These findings are consistent with previous research that suggests that survivors of sexual abuse tend to initiate sexual activities at a younger age and engage in more sexual-risk behaviors than those without a history of abuse (Senn et al., 2008). In addition to conferring increased sexual risk, the presence of sexual problems reflects a disruption in the development of normative sexual behaviors and intimate relationship skills that are essential parts of adolescent development.

These findings have important implications for intervention efforts among CSA survivors. Given that this population typically benefits less from traditional prevention

programs, understanding the mechanisms by which a history of CSA contributes to sexual problems later in life is crucial for the development more effective risk-reduction programs. Knowledge of these predictive mechanisms will enable clinicians to screen for and identify those who may be particularly at risk for developing problems surrounding their sexuality and intimate relationship functioning and provides specific targets for interventions. These findings suggest that CSA victims who exhibit sexually anxious and eroticized reactions immediately following abuse discovery and those who continue to show eroticized behaviors throughout the following year are at heightened risk for developing sexual problems later in life.

Effective risk-reduction programs for these youth should include repeated assessments of sex-specific abuse reactions, beginning at abuse discovery. Further, interventions should target the cognitive distortions underlying these aspects of traumatic sexualization, such as the perception that sex is a tool to be used for gaining affections (Finkelhor & Browne, 1985). Given that sexual problems encompass risks to sexual health and difficulties with intimate relationships, effective interventions must address both of these domains. Treatments that challenge and restructure cognitive distortions surrounding intimacy and facilitate the development of healthy romantic relationship functioning should both reduce sexual risk and enhance the quality of intimate relationships among survivors of child sexual abuse.

APPENDIX A

TABLES AND FIGURES

Table 1

Descriptive Statistics and Correlations among Study Variables

Variable	1	2	3	4	5	6	7	8	9
1. Age	--								
2. Abuse severity	.24*** <i>n</i> = 121	--							
3. T1 sexual anxiety	-.59*** <i>n</i> = 121	-.05 <i>n</i> = 121	--						
4. T2 sexual anxiety	-.47*** <i>n</i> = 118	.03 <i>n</i> = 118	.58*** <i>n</i> = 118	--					
5. T1 eroticism	-.03 <i>n</i> = 121	-.11 <i>n</i> = 121	.12 <i>n</i> = 121	.11 <i>n</i> = 118	--				
6. T2 eroticism	-.08 <i>n</i> = 117	-.12 <i>n</i> = 117	.04 <i>n</i> = 117	.15 <i>n</i> = 117	.34*** <i>n</i> = 117	--			
7. T1 externalizing	.04 <i>n</i> = 118	-.04 <i>n</i> = 118	.07 <i>n</i> = 118	.01 <i>n</i> = 118	.08 <i>n</i> = 118	.04 <i>n</i> = 117	--		
8. T2 externalizing	.15 <i>n</i> = 117	.10 <i>n</i> = 117	.02 <i>n</i> = 117	-.11 <i>n</i> = 117	.03 <i>n</i> = 117	.02 <i>n</i> = 116	.59*** <i>n</i> = 117	--	
9. Sexual problems	.17* <i>n</i> = 117	.01 <i>n</i> = 117	-.24*** <i>n</i> = 117	-.06 <i>n</i> = 117	.04 <i>n</i> = 117	.33*** <i>n</i> = 116	.12 <i>n</i> = 117	.02 <i>n</i> = 116	--
<i>M</i>	11.28	0.47	2.13	1.81	0.13	0.09	55.60	56.24	0.00
<i>SD</i>	2.21	0.21	0.68	0.71	0.14	0.12	9.75	9.55	0.90

Note. T1 = Time 1, T2 = Time 2, externalizing = externalizing behaviors. Number of participants included in each comparison is listed below the correlation coefficient (pairwise exclusion). Abuse severity, T1 and T2 eroticism were Log 10 transformed for analyses.

* $p < .10$, *** $p < .001$, two-tailed.

Table 2

Results of One-Way ANOVAs and Bonferroni-Corrected Pairwise Comparisons of Study Variables

Variable	African American <i>n</i> = 46		Hispanic <i>n</i> = 23		White <i>n</i> = 35		Other <i>n</i> = 10		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Abuse severity ¹	0.47 ^{ab}	0.20	0.54 ^a	0.21	0.39 ^b	0.22	0.53 ^{ab}	0.19	3.12 [*]
T1 sexual anxiety	2.15	0.63	2.32	0.69	1.97	0.65	1.99	0.73	1.54
T2 sexual anxiety	1.96 ^a	0.66	1.99 ^a	0.78	1.49 ^b	0.64	1.76	0.77	3.77 [*]
T1 eroticism ¹	0.13 ^{ab}	0.14	0.06 ^a	0.10	0.15 ^b	0.13	0.17	0.17	2.59 ⁺
T2 eroticism ¹	0.09	0.12	0.06	0.11	0.11	0.13	0.08	0.10	0.96
T1 externalizing bxs.	55.82	11.14	57.11	9.37	53.26	8.94	57.00	6.62	0.90
T2 externalizing bxs.	54.93	10.87	55.52	9.58	56.93	8.22	59.00	6.44	0.65
Sexual problems	0.09	0.91	-0.14	0.78	-0.05	0.90	-0.05	1.09	0.37

Note. Means that share the same superscripts do not differ significantly. ANOVA = analysis of variance, bxs. = behaviors.

¹Log 10 transformations were used for these variables.

⁺*p* < .10, ^{*}*p* < .05.

Table 3

Model Results for Pathways to Sexual Problems through Sexual Anxiety, Eroticism, and Externalizing Behaviors

Variable	B	(SE)	β	p	95% CIL	95% CIU
Time 1 sexual anxiety on						
Abuse severity ^a (range = 0-6)	0.12	(0.26)	0.04	.64	-0.57	0.76
Gender (0 = male, 1 = female)	0.32	(0.11)	0.21	.01	0.03	0.63
Age at abuse discovery (range = 7-15)	-0.19	(0.02)	-0.61	.00	-0.24	-0.12
Time 1 eroticism ^a on						
Abuse severity ^a (range = 0-6)	-0.04	(0.06)	-0.07	.49	-0.20	0.11
Gender (0 = male, 1 = female)	-0.05	(0.03)	-0.16	.10	-0.12	0.03
Age at abuse discovery (range = 7-15)	0.00	(0.01)	0.00	.99	-0.02	0.02
Time 1 externalizing behaviors on						
Abuse severity ^a (range = 0-6)	-1.44	(5.45)	-0.03	.79	-15.50	13.12
Gender (0 = male, 1 = female)	-1.71	(2.51)	-0.08	.50	-8.28	5.01
Age at abuse discovery (range = 7-15)	0.26	(0.40)	0.06	.52	-0.83	1.30
Time 2 sexual anxiety on						
Time 1 sexual anxiety (range = 1-3)	0.48	(0.10)	0.46	.00	0.20	0.73
Abuse severity ^a (range = 0-6)	0.37	(0.24)	0.11	.13	-0.27	0.98
Gender (0 = male, 1 = female)	-0.04	(0.14)	-0.03	.77	-0.43	0.33
Age at abuse discovery (range = 7-15)	-0.07	(0.03)	-0.22	.03	-0.15	0.02
Time 2 eroticism ^a on						
Time 1 eroticism ^a (range = 1-2.75)	0.27	(0.10)	0.31	.00	0.04	0.51
Abuse severity ^a (range = 0-6)	-0.02	(0.05)	-0.03	.69	-0.15	0.10
Gender (0 = male, 1 = female)	-0.04	(0.03)	-0.15	.17	-0.12	0.03
Age at abuse discovery (range = 7-15)	0.00	(0.00)	-0.06	.46	-0.01	0.01
Time 2 externalizing behaviors on						
Time 1 externalizing behaviors (range = 32-87)	0.58	(0.08)	0.59	.00	0.37	0.79
Abuse severity ^a (range = 0-6)	3.84	(3.43)	0.09	.26	-5.29	12.41
Gender (0 = male, 1 = female)	0.75	(1.96)	0.03	.70	-4.22	5.79
Age at abuse discovery (range = 7-15)	0.44	(0.32)	0.10	.17	-0.37	1.28
Time 3 sexual problems on						
Time 2 sexual anxiety (range = 1-3)	0.08	(0.15)	0.06	.59	-0.30	0.46
Time 2 eroticism ^a (range = 1-3)	2.77	(0.71)	0.36	.00	0.83	4.68
Time 2 externalizing behaviors (range = 32-85)	-0.01	(0.01)	-0.10	.31	-0.04	0.02
Time 1 sexual anxiety (range = 1-3)	-0.34	(0.16)	-0.25	.03	-0.76	0.07
Time 1 eroticism ^a (range = 1-2.75)	-0.42	(0.65)	-0.06	.52	-2.20	1.20
Time 1 externalizing behaviors (range = 32-87)	0.02	(0.01)	0.19	.06	-0.01	0.04
Abuse severity ^a (range = 0-6)	0.08	(0.33)	0.02	.80	-0.81	0.86
Gender (0 = male, 1 = female)	0.09	(0.20)	0.04	.66	-0.43	0.61
Age at abuse discovery (range = 7-15)	0.03	(0.04)	0.08	.45	-0.07	0.15

Note. ^aLog 10 transformations were used for analysis of these variables. Observed ranges for nontransformed variables in parentheses.

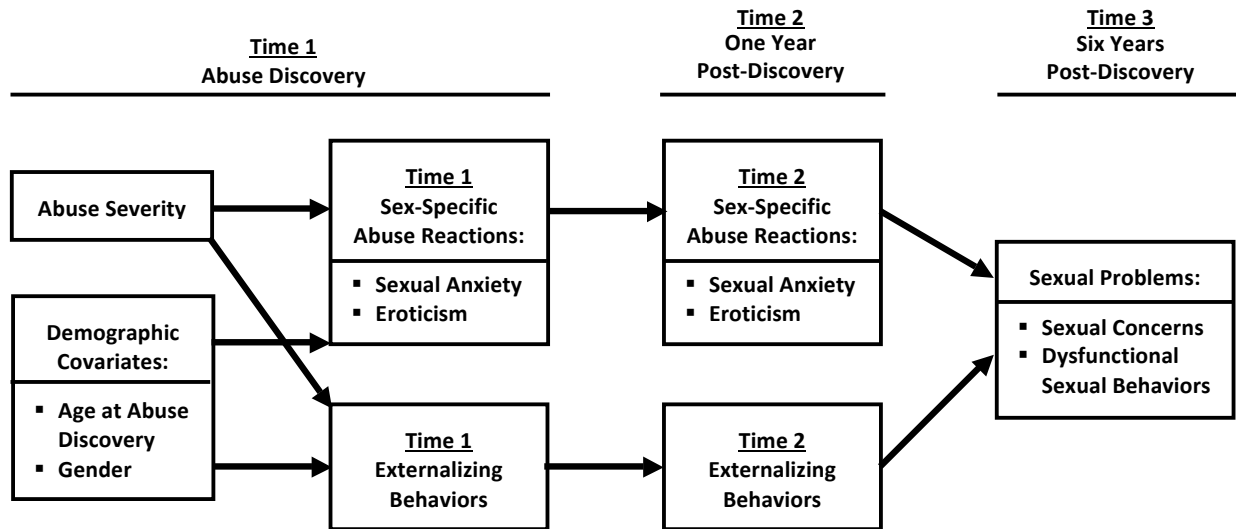


Figure 1. Conceptual model of the predictive pathways through sexual anxiety, eroticism, and externalizing behaviors to sexual problems following child sexual abuse.

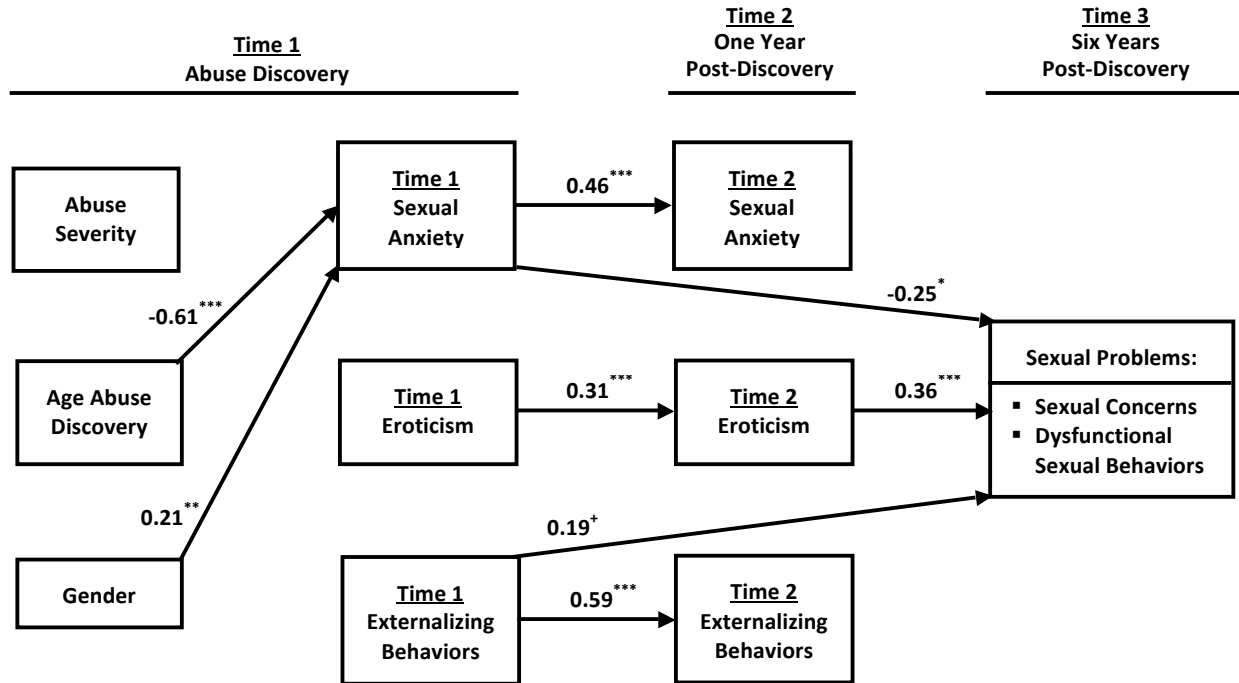


Figure 2. Path model results for predictive pathways from sex-specific abuse reactions and externalizing behaviors to subsequent sexual problems. This figure shows significant pathways with standardized path coefficients.

⁺ $p < .10$, $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$.

APPENDIX B**MEASURES**

Children's Impact of Traumatic Events Scale—Revised (CITES-R; Wolfe et al., 1991)

Sex-Specific Abuse Reactions—Self-report

The following instructions are read to the child prior to administration of the questionnaire:

I am going to ask you several questions about what happened between you and (perpetrator). I am NOT going to ask you to describe what happened; instead, I want to know YOUR thoughts and feelings about what happened. I will read a sentence and you can tell me whether or not it is very true, somewhat true, or not true. There are no right or wrong answers to the questions I will be asking. Some of the questions may cause you to remember things that were unpleasant. If you feel very uncomfortable answering any question, let me know, and I can move on to another question.

Eroticism:

- I think about sex even when I don't want to
- I have more sexual feelings than my friends
- I like to look at naked people
- I have sexual feelings seeing people kiss

Sexual Anxiety:

- Thinking about sex upsets me
- I get frightened when I think about sex
- Sex is dirty
- I hope I never have to think about sex again
- I wish there was no such thing as sex

Child Behavior Checklist Ages 4-18 (CBCL; Achenbach, 1991)

Externalizing Behavior Problems—Parent-report

Instructions: Instructions: Below is a list of items that describe children and youth. For each item that describes your child **now or within the past 6 months**, please circle the **2** if the item is **very true or often true** of your child. Circle the **1** if the item is **somewhat or sometimes true** of your child. If the item is **not true** of your child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to your child.

Rule-Breaking Behavior

- Doesn't seem to feel guilty after misbehaving
- Hangs around with others who get in trouble
- Lying or cheating
- Prefers being with older kids
- Runs away from home
- Sets fires
- Sexual problems
- Steals at home
- Steals outside the home
- Swearing or obscene language
- Thinks about sex too much
- Truancy, skips school
- Uses alcohol or drugs for nonmedical purposes
- Vandalism

Aggressive Behavior

- Argues a lot
- Cruelty, bullying, or meanness to others
- Demands a lot of attention
- Destroys his/her own things
- Destroys things belonging to his/her family or others
- Disobedient at home
- Disobedient at school
- Gets in many fights
- Physically attacks people
- Screams a lot
- Stubborn, sullen, or irritable
- Sudden changes in mood or feelings
- Sulks a lot
- Suspicious
- Teases a lot
- Temper tantrums or hot temper
- Threatens people
- Unusually loud

Teacher Report Form Ages 4-18 (TRF; Achenbach, 1991)

Externalizing Behavior Problems—Teacher-report

Instructions: Instructions: Below is a list of items that describe children and youth. For each item that describes the child **now or within the past 6 months**, please circle the **2** if the item is **very true or often true** of the child. Circle the **1** if the item is **somewhat or sometimes true** of the child. If the item is **not true** of the child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to the child.

Rule-Breaking Behavior

- Doesn't seem to feel guilty after misbehaving
- Hangs around with others who get in trouble
- Lying or cheating
- Prefers being with older kids
- Steals
- Swearing or obscene language
- Thinks about sex too much
- Tardy
- Truancy, skips school
- Uses alcohol or drugs for nonmedical purposes

Aggressive Behavior

- Argues a lot
- Defiant
- Cruelty, bullying, or meanness to others
- Demands a lot of attention
- Destroys his/her own things
- Destroys things belonging to his/her family or others
- Disobedient at school
- Gets in many fights
- Physically attacks people
- Screams a lot
- Explosive
- Frustrated
- Stubborn
- Sudden changes in mood or feelings
- Sulks a lot
- Suspicious
- Teases a lot
- Temper tantrums or hot temper
- Threatens people
- Unusually loud

Trauma Symptom Inventory (TSI; Briere, 1995)**Sexual Problems—Self-report**

Instructions: In the last 6 months, how often have you experienced:
(On a scale of 0-3, 0 =“never” and 3 =“often”)

Sexual Concerns:

- Not being satisfied with your sex life
- Bad thoughts or feelings during sex
- Confusion about your sexual feelings
- Sexual thoughts or feelings when you thought you shouldn't have them
- Problems in your sexual relations with another person
- Wishing you could stop thinking about sex
- Sexual problems
- Feeling ashamed about your sexual feelings or behavior
- Wishing you didn't have any sexual feelings

Dysfunctional Sexual Behavior:

- Having sex with someone you hardly knew
- Getting into trouble because of sex
- Having sex or being sexual to keep from feeling lonely or sad
- Flirting or “coming on” to someone to get attention
- Using sex to feel powerful or important
- Acting “sexy” even though you didn't really want sex
- Using sex to get love or attention
- Wanting to have sex with someone who you knew was bad for you
- Having sex that had to be kept a secret from other people

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ABSTRACT**PATHWAYS FROM CHILD SEXUAL ABUSE TO ADOLESCENT SEXUAL PROBLEMS: THE ROLES OF
SEX-SPECIFIC ABUSE REACTIONS AND EXTERNALIZING BEHAVIORS**

by

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Potential pathways from child sexual abuse (CSA) to later sexual problems were examined in a prospective longitudinal study of 121 ethnically diverse adolescents with confirmed cases of CSA. Participants were assessed at abuse discovery, when they were 7 to 15 years old, and again one and six years later. Initial sexually anxious abuse reactions predicted lower levels of subsequent sexual problems, while the persistence of eroticized reactions predicted higher levels. Externalizing behaviors immediately following abuse discovery were marginally significant predictors of later sexual problems. Abuse severity was not predictive of sexual problems. Overall, results from this study highlight the importance of sex-specific abuse reactions in predicting subsequent sexual difficulties in adolescent survivors of sexual abuse. Interventions that target cognitive distortions surrounding intimacy and facilitate healthy romantic relationship functioning may be effective in preventing and alleviating sexual problems among CSA youth.

AUTOBIOGRAPHICAL STATEMENT

I began my doctoral education at Wayne State University in 2008, prior to which I earned a bachelor's degree in psychology, with high honors, from the University of Michigan. During my undergraduate training, under the mentorship of Dr. Edward Chang, I developed a passion for clinical psychology and research. In my graduate research training with Dr. Valerie Simon, I have refined my interests, which include adolescent psychopathology, relationships, and risk-taking behaviors. In collaboration with Dr. Simon, I am currently studying various aspects of psychosocial functioning and sexual risk behaviors in adolescent survivors of child sexual abuse. I plan to continue this line of research for my doctoral dissertation, which will examine physiological and cognitive indices of traumatic sexualization and their relations to sexual risk-taking behaviors among sexually-abused youth.