Examining Childhood Abuse Patterns and Sensitive Periods in Juvenile Sexual Offenders

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Findings in the sexual aggression literature on the link between childhood sexual abuse and future sexual coercion have been inconsistent. In adult sexual offenders, studies have found that the relation of sexual abuse to sexual coercion is mediated by sexually related deviant cognitions, but this mediation is not found when replicated on juvenile sexual offenders. In this study it is hypothesized that this link will be found in juvenile sexual offenders when their sexual abuse history is stratified into discrete developmental epochs. It is further hypothesized that the age range of 3 to 7 years, when children rapidly acquire inhibition and cognitive flexibility skills, will be the most potent predictor. A sample of 193 juvenile sexual offenders is used to examine whether sexual abuse specifically in this discrete period, as opposed to other periods, predicts subsequent sexual fantasy. The results confirm that sexual abuse correlates with later adolescent sexual fantasy only during the 3- to 7-year epoch.

Keywords: *juvenile sexual offender; sexual coercion; adolescent development; child abuse; sensitive period*

In a variety of populations, sexual abuse has been linked to subsequent psychopathology, including depression, aggression, posttraumatic stress disorder (PTSD), and sexualized behavior (Beitchman, Zucker, Hood, DaCosta, & Akman, 1991; Friedrich et al., 2001; Kendall-Tackett, Williams, & Finkelhor, 1993; Paolucci, Genuis, & Violato, 2001). Sexual abuse also has been found to act as a potential catalyst of the victim–perpetrator cycle in sexual aggression. Although literature on child maltreatment has consistently implicated childhood sexual abuse (CSA) as a risk factor for a broad range of psychopathologies, most people who are sexually abused are resilient to severe outcomes such as future perpetration (Wolfe, 2007), and evidence suggests that the pervasiveness and harmfulness of CSA are much more complex than depicted in current culture (Rind, Tromovitch, & Bauserman, 1998). In this article we define CSA as inappropriate sexual contact between an adult and a minor that, because of the disparity in age and developmental maturity,

is hypothesized to be innately abusive and therefore to increase the risk for maladjustment. Histories of CSA have been reported to be disproportionately high in sexual offenders, and such abuse predicts characteristics of future perpetration in sexual offenders (Burton, 2000, 2003; Burton, Miller, & Shill, 2002; Seto & Lalumière, 2004).

The effects of sexual abuse are neither singular nor consistent (Kendall-Tackett et al., 1993), and current attempts to tease apart the pathways to sexual offending have not found that early sexual abuse fits easily into more complex models of sexual aggression. Knight and Sims-Knight (2003) found in a sample of adult males that the relation of early abuse to subsequent sexual coercion was mediated by the latent trait "sexual fantasy," which includes hypersexuality, sexual preoccupation, and sexual compulsivity. Offenders high in sexual fantasy demonstrated high sexual drive, deficiency inhibiting sexual thoughts, and feelings of being compelled to conduct certain sexual behaviors. When this model was replicated on a sample of juvenile sexual offenders (JSOs), however, Knight and Sims-Knight (2004) and Daversa and Knight (2007) found that sexual fantasy did not mediate the relation between sexual abuse and sexual coercion. Although in both studies sexual abuse significantly predicted sexual coercion, this direct link alone did not advance understanding of how sexual trauma fits into the cause of sexual aggression in adolescents. More scrutinizing research is needed to uncover the mechanisms that link early CSA to later sexual offending.

The potency of childhood abuse appears to be moderated by the age at which it occurs, and this developmental aspect of abuse might provide an important avenue to understanding its affects. In a meta-analysis, Kendall-Tacket et al. (1993) found that different symptoms of sexual abuse were more or less prevalent at different age ranges. Sexually inappropriate behavior was more prevalent during the preschool years than other ages, whereas depressive symptoms were more frequent during adolescence than other ages. These findings support a view that how sexual abuse is processed and expressed changes with developmental stages. It is important to note, however, that Kendall-Tackett and colleagues found that the age at which the symptoms were *measured* moderated prevalence. A limitation of the review, noted by the authors, was that it was not clear when the abuse had occurred. Therefore, studying the variation of abusive effects as a function of the age of the abuse may more accurately examine sexually abusive sequelae. Looking at age of abuse in JSOs may reveal how sexual abuse is related to the higher order deficits and deviant sexual cognitions characterized by high sexual fantasy. Although other studies have looked at the effect of duration of sexual abuse (see Beitchman, Zucker, Hood, & DaCosta, 1992), to our knowledge no study to date has looked at the impact of age of abuse in JSOs.

From a developmental perspective, ages 3 to 7 years represent an especially rapid period of advancement of mental representation and flexibility. During this age range, concept of theory of mind (Gopnik & Graf, 1988) and the ability to distinguish complex categories (Gelman, 1988) expand rapidly. Zelazo (2003) provided a comprehensive review of the cognitive developments during this period. Concurrent

with these new-found cognitive skills, the ability to inhibit behavior and actions when appropriate and to exercise effortful control and emotion regulation begins during this age range (Posner & Rothbart, 2000). Children at 3 and 4 years of age have difficulty sorting objects on one dimension and then shifting and sorting them on another dimension. Rather, they perseverate on the first dimension. By 5 years old, however, children are able to complete such a task successfully (Frye, Zelazo, & Palfai, 1995; Zelazo & Reznick, 1991).

The substantial growth of all these skills involves holding and manipulating information in the brain. Such tasks fall under the jurisdiction of the dorsolateral prefrontal cortex (Salmon et al., 1996), and this research suggests that the preschool years may be an important time for the development of this region. What is important about this age range is not that facets of self-regulation are poorly developed but that the process of development is apparently reaching a critical point at which key skills are forming. When heightened cortical activity co-occurs with an adverse environment, the process of pruning synaptic architecture adapts accordingly to these conditions and may set the stage for deficits in functioning later in life (Cicchetti & Cannon, 1999).

Biological evidence supports the hypothesis that this period of rapid psychological progress is in fact reflected in the neurological growth and the functioning of the frontal cortex. Thompson et al. (2000) scanned children from 3 to 15 years old over a period of 4 years. These investigators found that the fastest myelination growth rates for frontal circuitry, important for action planning, occurred between 3 and 6 years of age. The frontal cortex is also important for higher social functioning and action planning. Stroke victims with damage to the frontal cortex typically show significantly decreased inhibition and increased risk taking and inappropriate behavior, a pattern also commonly found in degenerative diseases of the frontal lobes such as Alzheimer's disease.

Although a detailed blueprint of the development of self-regulation does not exist, and we cannot map out the exact ages at which children are most vulnerable to insult in these domains, the overall literature suggests that the 3 to 7 age range constitutes a broad but conceptually sound net that captures the importance of this early childhood period. Biological evidence, detailed most explicitly in animal models, also suggests that chronic traumatic stress during critical periods can permanently affect neuroendocrine functioning, an important mediator of psychopathology. Compared with normally reared controls, rats deprived of maternal contact during the first 10 days of life manifested lifelong differences in the expression of the hippocampal glucocorticoid receptor gene and levels of stress neurotransmitters in the hypothalamic-pituitary-adrenal (HPA) response including arginine-vasopressin (AVP) and its inhibitory-parasympathetic counterpart, oxyctocin (OT) (Liu et al., 1997). The AVP-OT system has been linked to sexual arousal behavior in humans (Becker, 2003; Carmichael, Warburton, Dixen, & Davidson, 1994) and affiliative and monogamous behavior in rats (Uvnas-Moberg, 1998). Studies on children, such

as orphans in Eastern Europe deprived of human contact, provide further evidence that early stress affects HPA functioning in humans (Cicchetti & Rogosh, 2001; Gunnar, Morison, Chisholm, & Schuder, 2001). Although this research has conceptually interesting implications for CSA and sexual perpetration, no studies to date have determined whether abused children have dysregulated AVP-OT systems as adolescents. This literature does demonstrate, however, that early adverse experiences during important times in early childhood can affect functioning later in life through multiple pathways.

There is evidence that chronic sexual abuse in childhood can change the biology of the brain and limit functioning in humans. Bremner et al. (2003) compared women who had experienced sexual abuse as children and subsequently developed PTSD (possibly indicative of a more severe abusive experience) with women who had a history of childhood sexual abuse but no PTSD and with women who had neither PTSD nor a history of childhood sexual abuse. The hippocampal region of the abused women with PTSD had significantly reduced functioning and a significant reduction in volume compared with the abused non-PTSD women and the control group. Victims of early trauma showed more abnormal electroencephalographic patterns than the general population both as children and adults (Teicher, Ito, Glod, & Andersen, 1997). Although it is not known whether early chronic stress would directly affect brain development and cause a subsequent deficit in functioning, it nonetheless is important to explore whether sexual abuse during the 3- to 7-year developmental period may have more serious consequences for subsequent sexual behavior and cognitions than abuse at other periods. In the present study 193 JSOs were administered a computerized form of the Multidimensional Assessment of Sex and Aggression (the MASA), which assesses the temporal and severity parameters of abuse. The severity, duration, and frequency of sexual abuse, as well as the number of abusive perpetrators, were assessed in each of several developmental epochs. In addition, various components of sexual fantasy were assessed as part of this detailed, life-course, contingency-based inventory. It was hypothesized that sexual abuse during ages 3 to 7 would be more strongly related to high sexual fantasy than abuse during other discrete periods.

Method

The primary data collection for this study was carried out over a 3-year period (1996-1999) and was funded by grants from the National Institute of Justice and the National Institute of Mental Health. The human subjects' procedures were reviewed and approved by the institutional review board (IRB) at Brandeis University. In addition, at each separate institution in which participants were tested, IRBs approved both the procedures and informed consent forms, which were modified for the special needs of each institution without losing the core requirements of prior reviews.

Participants

The 193 JSOs in the present study were sampled from different inpatient treatment facilities in the states of Maine, Massachusetts, and Minnesota. All juveniles had been adjudicated for at least one serious sexual crime against a victim of any age. A serious sexual crime was defined as an assault that was sexually motivated and involved physical contact with the victim. The mean age of the sample was 15.17 years (SD = .25, range = 11-22). The sample was ethnically diverse (Caucasian = 56.2%, African-American = 16.4%, Hispanic = 6.4%, Asian = 4%, Native American = 3.6%). The average period of confinement was 1 to 2 years.

Measures

The MASA. The MASA is a contingency-based inventory, administered by a computer, that assesses multiple domains relevant to the development and course of sexually coercive behavior. The overall strategy for creating and validating the MASA has been described in the clinical manual for the Multidimensional Inventory of Development, Sex, and Aggression (*MIDSA Clinical Manual*, 2008). The MIDSA is the recently revised clinical version of the MASA. The MASA has been validated in studies of both juvenile and adult offenders (e.g., Daversa & Knight, 2007; Johnson & Knight, 2000; Knight, 2004; Knight & Cerce, 1999; Knight & Sims-Knight, 2003, 2004; Zakireh, Ronis, & Knight, 2008).

The MASA scales have shown adequate to high test–retest reliabilities (86% of the a priori scales equaled or exceeded .70, and 57% of the scales equaled or exceeded .80) and internal consistencies (94% of the scales had alphas >.70, and 80% had alphas ≥.80) (see Knight, Prentky, & Cerce, 1994). Samples of juveniles who have taken the MASA have shown comparably high test–retest reliability and internal consistency as adult samples, and both groups have shown high agreement in responding across MASA domains (Knight, 2004; Knight & Cerce, 1999). With the exception of the scales assessing sexual deviance, drive, fantasy, sadism, and offense planning, which were not adequately described in the archival files, MASA scales have had moderate to high correlations with companion scales derived independently from archival records (Knight et al., 1994).

Epoch-related scale construction. In the developmental section of the juvenile version of the MASA, respondents were first asked to identify from a list of 32 possibilities all of the people with whom they had had any sexual contact. Using this list the program then asked a series of contingency-based questions to determine the beginning and ending of the sexual experiences with each identified person, the age of the identified person (if a minor) at the initiation of the sexual behavior, the frequency of the sexual behavior, the level of force used in the sexual encounters, what

acts were involved, and whether the act or acts were consensual, manipulated or forced by the respondent, or perpetrated on the respondent. Age discrepancy (perpetrator ≥5 years older than the respondent) and reported force or manipulation by the identified person on the respondent were used to identify instances of CSA.

Using data on the beginning and end of the sexual abuse experienced by juveniles across all perpetrators (the MASA uses "birthdays" as milestones for the participants when prompting their abuse histories), we calculated the number of years of abuse for four mutually exclusive time periods or epochs: from birth (age 0) until the 3rd birthday, from the 3rd birthday until the 7th birthday, from the 7th birthday until the 11th birthday, and from the 11th birthday until the 17th birthday. The fourth epoch, 11 to 17, was designed to capture sexual abuse up until the present, excluding participants who were 18 years of age or older because of changing legal definitions. Four dimensions of sexual abuse were assessed in the MASA: frequency of abuse, duration of abuse, abuse force, and number of perpetrators. These dimensions were calculated for each epoch. The frequency, duration, and force variables specifically were created by summing or taking the maximum of the abuse scores across perpetrators within an epoch. If the time period of abuse overlapped with two or more epochs, each epoch would then have the same maximum score.

Descriptive statistics revealed that all abuse variables for the 3-7, 7-11, and 11-17 epochs were within normal limits for skewness and kurtosis. Most sexual abuse variables for the 0-3 epoch, however, were abnormally positively skewed and leptokurtic.

Sexual fantasy outcome measures. As indicated earlier, sexual fantasy is a latent variable that was found by Knight and Sims-Knight (2003, 2004) to predict sexual coercion in both offender and community samples. Sexual fantasy comprises three components: sexual compulsivity, which measures the degree to which one is able to control or inhibit sexual urges and behavior (e.g., "I have to fight sexual urges"); sexual preoccupation, which measures the degree to which one thinks or fantasizes about sex (e.g., "While working at a job, my mind will wander to thoughts about sex"); and hypersexuality, the strength of sexual drive or the frequency of sexual activity (e.g., "Indicate how often in the past 6 months you had a sexual experience"). These three sexual fantasy components were within the normal range for skewness and kurtosis, and all had adequate internal consistencies, α = .85, .90, and .69 for compulsivity, preoccupation, and hypersexuality, respectively.

Procedure

All juvenile offenders in the present study were administered a computerized form of the MASA (Knight et al., 1994; Knight & Cerce, 1999). The selection of the juvenile participants involved a simple two-step process. Potential volunteers were identified and approached by on-site personnel, and parental or legal guardian permission was obtained for juveniles before the testing team entered the facility. A list

of all the juveniles and parents who were approached at each institution was not available to us. All interested participants were convened in groups of 7 to 12 youths and informed in more detail about the nature of the study and about the Writ of Confidentiality that the research team had been awarded from the National Institute of Mental Health. The youths were also informed that they would be paid for their participation ($18). The research team also made a strong plea for honesty and the potential future benefits of adequate assessment for other offenders. Only a randomly assigned research identification number was used. A master list linked the research numbers to names to provide a link to supplemental information that was abstracted from their criminal records and for purposes of payment. After the information abstraction and payment, the master list was destroyed.

After informed consent statements had been explained and signed both by the offender and a member of the research team, the participant was seated at a computer, which provided a tutorial on how to answer the MASA, a check that the participant understood the directions, and a brief fourth grade level reading test. The version of the MASA administered was written for a fourth grade reading level. For those offenders who had difficulty reading and/or comprehending the questions, a member of the research team read the inventory to them in a private room.
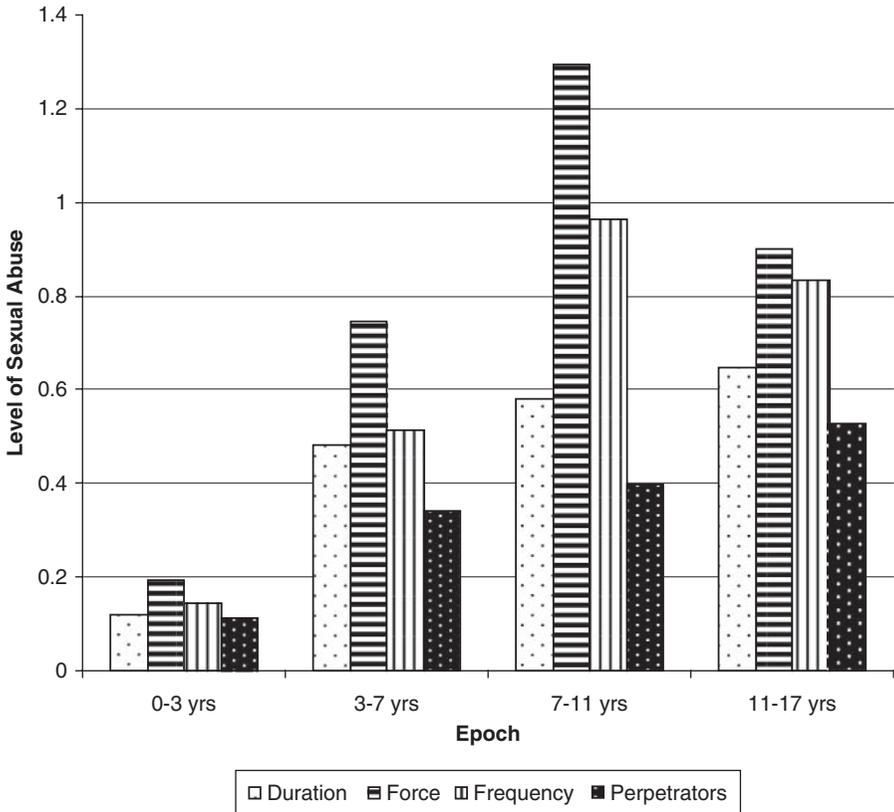
Analyses

Differences in abuse levels across the four epochs were first examined as a potential confound. Then the relation between abuse variables and sexual fantasy was examined by individual correlations. Finally, structural equation modeling was used to compare the relation in each epoch between sexual abuse and sexual fantasy. Four identical structural equation models were constructed, one for each epoch. In each model, the latent variable sexual abuse comprised the four dimensions and sexual fantasy comprised sexual compulsivity, sexual preoccupation, and hypersexuality as in the Knight and Sims-Knight (2003) model. Each model tested the relation of sexual abuse to sexual fantasy.

Results

Descriptive Statistics

For each sexual abuse variable (frequency, duration, force, and number of perpetrators), a four-way repeated-measures analysis of variance (ANOVA) was run to test whether there were any significant differences in the levels of sexual abuse being reported for each epoch. For each test, Greenhouse-Geisser and Huynh-Feldt values were above .75, so sphericity was assumed. For each ANOVA, there was a significant main effect of epoch (see Figure 1). Newman-Keuls post hoc

Figure 1
Levels of Sexual Abuse by Developmental Epoch

analyses, tested at the $\alpha = .05$ level for each of the sexual abuse variables, showed that Epoch 1 (0-3) levels of abuse were always significantly lower than the other three epochs; Epoch 2 (3-7) levels of abuse, with the exception of duration, were significantly lower than either Epoch 3, 4, or both; and Epoch 3 (7-11) and Epoch 4 (11-17) levels of abuse significantly differed from each other in force of sexual abuse and number of sexually abusive perpetrators. For each test, a linear function was the best fit: duration, $F(1, 192) = 26.45$, $p < .001$; force, $F(1, 192) = 46.95$, $p < .001$; frequency, $F(1, 192) = 36.97$, $p < .001$, perpetrators, $F(1, 192) = 26.53$, $p < .001$.

Correlations

As shown in Tables 1 to 4, correlations between the sexual abuse epoch variables and the sexual fantasy variables reveal a general pattern of ages 3-7 having the strongest relation to the components of sexual fantasy. This was not perfectly consistent, however, and in some cases the difference in magnitude between epochs or the level of significance was marginal.

Table 1
Intercorrelations Between Epoch Sexual Abuse
Frequency and Sexual Fantasy

	1	2	3	4	5	6	7
1. Epoch 1	–	.25**	.14*	.06	.08	.08	−.001
2. Epoch 2		–	.57**	.30**	.17**	.24**	.12*
3. Epoch 3			–	.48**	.13*	.23**	.09
4. Epoch 4				–	.15**	.19**	.09*
5. Compulsivity					–	.75**	.77**
6. Preoccupation						–	.62**
7. Hypersexuality							–

*$p < .05$. **$p < .01$.

Table 2
Intercorrelations Between Epoch Sexual
Abuse Duration and Sexual Fantasy

	1	2	3	4	5	6	7
1. Epoch 1	–	.62**	.30**	.05	.16*	.12	.11
2. Epoch 2		–	.56**	.22**	.19**	.16*	.11
3. Epoch 3			–	.49**	.11	.13	.13
4. Epoch 4				–	.03	.09	.11
5. Compulsivity					–	.75**	.77**
6. Preoccupation						–	.62**
7. Hypersexuality							–

*$p < .05$. **$p < .01$.

Table 3
Intercorrelations Between Epoch Sexual
Abuse Force and Sexual Fantasy

	1	2	3	4	5	6	7
1. Epoch 1	–	.36**	.24**	.03	.12	.08	.08
2. Epoch 2		–	.70**	.11	.19**	.15*	.14[a]
3. Epoch 3			–	.29**	.13	.12	.09
4. Epoch 4				–	.05	.08	.12
5. Compulsivity					–	.75**	.77**
6. Preoccupation						–	.62**
7. Hypersexuality							–

$*p < .05.$ $**p < .01.$ [a]$= p < .10$

Table 4
Intercorrelations Between Epoch Number
of Sexual Abuse Perpetrators and Sexual Fantasy

|	1	2	3	4	5	6	7
1. Epoch 1	–	.53**	.34**	.04	.08	.05	.07
2. Epoch 2		–	.65**	.20**	.15*	.13	.12
3. Epoch 3			–	.37**	.10	.09	.09
4. Epoch 4				–	.06	.03	.07
5. Compulsivity					–	.75**	.77**
6. Preoccupation						–	.62**
7. Hypersexuality							–

$*p < .05.$ $**p < .01.$

Path Analysis

The 0-3 model was the only model of the four with a significant chi-square value (CFI = .92, RMSEA = .116, $p < .001$). Of the other three models, CFI fit index values were acceptable. The 11-17 epoch model had a RMSEA value below .05, an excellent fit, whereas the 3-7 and 7-11 epochs had RMSEA values between .05 and .08, a high moderate fit (3-7, CFI = .99, RMSEA = .052; 7-11, CFI = .99, RMSEA = .058; 11-17, CFI = 1.0, RMSEA = .000). As shown in Figure 2, only in the 3-7 model was sexual abuse a significant predictor of sexual fantasy (standardized $\beta = .20, p < .02$).

Discussion

Of the four structural equation models used to examine the relation between sexual abuse and sexual fantasy, only 3-7 yielded a significant relation between the

Figure 2
Path Analyses of Sexual Abuse Predicting Sexual Fantasy by Epoch
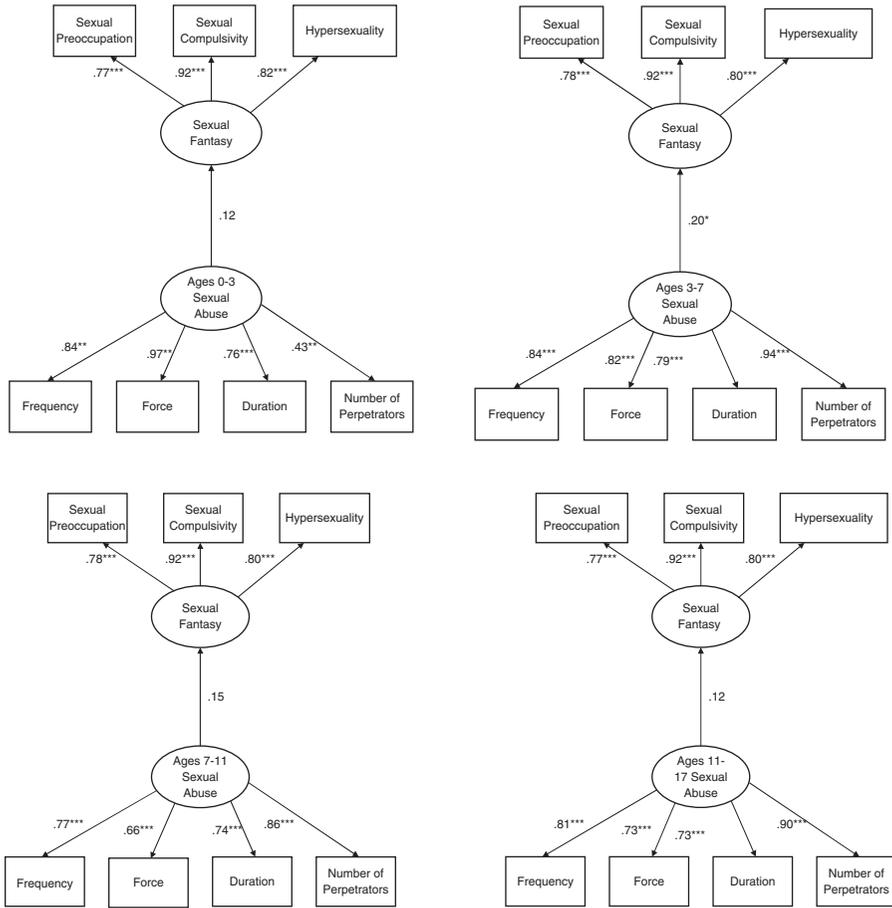
*p < .05. ** p < .01. *** p < .001.

latent traits of sexual abuse and sexual fantasy. This relation did not have a large effect size, but given the nature of the noise surrounding the variables large effect sizes were not expected.

The results of this study help resolve the inconsistent findings about the role that sexual abuse plays in different sexual offender populations. The results suggest a relation between childhood sexual abuse and sexual fantasy in adolescent sex offenders that is moderated by the age the abuse occurred. Furthermore, that 3 to 7 years was the only age range where sexual abuse predicted sexual fantasy was

expected given the developmental importance of the 3 to 7 age range and the impulsive/poor inhibitory nature of sexual fantasy. Ages 3 to 7 may be a sensitive period where sexual abuse can do the most damage and place an individual at higher risk for exhibiting sexually coercive behavior later in life.

These results are not incompatible with Burton and colleagues' (2002) finding that continuous sexual abuse was more related to severe perpetration than discrete periods, because duration in a general sense was examined in the Burton study, whereas in the present study we contrasted specific discrete periods and did not look at continuous abuse. It would appear that both age and length of sexual abuse contribute to attitudes and behaviors in sexual offenders.

Limitations

Although the independent variables examined in this study occurred chronologically before the outcome measures, one must nevertheless remain cautious about making causal inferences. The retrospective and self-report nature of the recalled abuse, the selective nature of the sample, the lack of direct neuropsychological or physiological measures, and the relatively weak statistical findings mean that any causal inferences must remain at best tentative.

As with most self-report studies, even though all the participants were ensured anonymity in their responses on the MASA, the accuracy of their responses, especially of their account of their childhood abuse history, must be treated with caution. In particular, the ability of the participants to describe accurately sexual abuse in the first 5 years of life warrants future investigation in the form of comparison with caregiver and case history reports of childhood abuse. In addition, because the average age of the participants was approximately 15 years, the fourth epoch, 11 to 17 years of age, would not have captured all of the abuse possible in this epoch because of the temporal constriction (although the ANOVA showed higher reports of sexual abuse during this age range than the 3-7 age range). Again, research is needed to determine whether this pattern of abuse is confirmed.

Retrospective data are vulnerable to a host of potential distortions, including memory failures and biased reporting of stressful experiences, especially if viewed through the lens of later adjustment problems (e.g., Widom, Raphael, & DuMont, 2004). The present study had the advantage that the distance from the retrospective report to the abusive experience was either short or nonexistent, and the computerized inventory asked about particular events, not attitudes or feelings about events, thereby increasing the likelihood of more accurate recall and reporting (Henry, Moffitt, Caspi, Langley, & Silva, 1994).

The current study examined a crucial, yet unanswered question about sexual aggression that could not be answered using a prospective strategy. It would not have been possible to get close enough to participants to measure the type of rich temporal data needed on the nature of their abuse without ethically intervening and

confounding prediction to future outcomes. Consistent with this notion, it has been argued that self-reports may be most useful at assessing enduring affective dispositions (Grove & Tellegen, 1991). There is also evidence that in some instances, as when youth report their early abuse experiences (Eckenrode, Izzo, & Smith, in press), self-report may provide superior evidence for predicting outcomes when compared with both caseworker and parental reports.

Because data were collected exclusively from JSOs, a highly specialized sample, one should not generalize these results to all adolescents. Juveniles in the sample examined had already exhibited abnormal or unacceptable sexual behavior and were selected because of this difficulty. Factors, both dispositional and developmental, that covary with this selection process could have affected the results. Moreover, the youths were viewing their abusive experiences from the lens of their own abusing behavior. It is not clear from this study whether a relation between abuse time period and sexual fantasy would be found in community controls. This is an essential future study.

Finally, as stated earlier, a significant but weak association was found between sexual abuse during ages 3 to 7 and sexual fantasy in adolescence. This relation is diluted further by the fact that individual correlations showed that not all dimensions of sexual abuse during ages 3 to 7 correlated with sexual fantasy, and dimensions of sexual abuse in other epochs did correlate with sexual fantasy. Because of the amount of variance unaccounted for by sexual abuse, future research should examine how other factors may predict this construct. Moreover, it has been demonstrated that the effects of sexual abuse may be moderated by specific genetic predispositions (Beaver, 2008). It is critical that these results be replicated with assessments of appropriate genetic markers.

Given that the range of abilities developing during ages 3 to 7 is broad, it is logical to assume that chronic stress in general is related to long-term self-dysregulation. In this study, we have focused on sexual abuse because of Knight and Sims-Knight's (2003) findings linking sexual abuse and sexual fantasy and because sexual abuse is a type of maltreatment particularly relevant to the victim perpetrator cycle. Examining whether age of abuse, and specifically ages 3 to 7, amplifies the link between other forms of maltreatment and later negative outcomes is an important future direction for research. It is doubtful that simply abuse patterns are what discriminate JSOs from other juveniles and other offender types. It is probable that in addition to facing environmental and biological risk factors, JSOs lack protective factors to buffer against risk in early experience, such as emotional support and social competence, compared with community juveniles. Mapping the complex relations between these risk and protective factors should be a high priority for researchers in sexual aggression.

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