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# Understanding Sexual Perpetration Against Children: Effects of Attachment Style, Interpersonal Involvement, and Hypersexuality

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Michael H. Miner,<sup>1</sup> Beatrice “Bean” E. Robinson,<sup>1</sup>  
Raymond A. Knight,<sup>2</sup> Dianne Berg,<sup>1</sup>  
Rebecca Swinburne Romine,<sup>1</sup> and Jason Netland<sup>1</sup>

## Abstract

This study explores in an adolescent sample hypotheses about child sexual abuse perpetration drawn from contemporary theories that implicate insecure attachment and adolescent social development. Specifically, three 13- to 18-year-old adolescent male samples (sex offenders with child victims, sex offenders with peer/adult victims, and nonsex delinquent youth) were compared in a cross-sectional design. Participants completed a computer-administered self-report questionnaire and a semistructured attachment style interview. Attachment style was coded by two independent raters blind to study hypotheses and group membership. The results indicated an indirect effect for attachment style. Attachment anxiety affected involvement with peers and interpersonal adequacy. Feelings of interpersonal inadequacy, combined with oversexualization and positive attitudes toward others distinguished sex offenders with child victims from nonsex delinquents and from sex offenders with peer/adult victims. These data provide a preliminary model of sexual abuse perpetration consistent with contemporary theories. Attachment anxiety with a lack of misanthropic attitudes toward others appears to lead to isolation from peers and feelings of interpersonal inadequacy. Individuals with this constellation of factors may turn to children to meet

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<sup>1</sup>University of Minnesota, Minneapolis, MN, USA

<sup>2</sup>Brandeis University, Waltham, MA, USA

## Corresponding Author:

Michael H. Miner, Program in Human Sexuality, University of Minnesota, 1300 So. Second Street,  
Suite 180, Minneapolis, MN 55454, USA

Email: [miner001@umn.edu](mailto:miner001@umn.edu)

their intimacy and sexual needs, both of which seem to be exaggerated compared with other troubled youth.

### **Keywords**

sexual abuse, attachment style, integrated theory, adolescents, perpetrators

Although there has been some convergence about what models best account for the development of sexually coercive behavior against peers and women (Knight & Sims-Knight, 2003, 2004, in press; Malamuth, 2003), etiological models of child sexual abuse have been subjected to far less empirical investigation. Three models—Finkelhor's (1984) four preconditions, Marshall and Barbaree's (1990) integrated theory, and Hall and Hirschman's (1991) quadripartite model—have been the most influential in guiding thinking about the courses of child abuse perpetration, but they have generated little empirical scrutiny.

### *Etiological Models of Child Sexual Abuse*

Finkelhor and colleagues theorized that the child sexual abuser has a combination of individual characteristics such as lack of social and assertive skills and a history of nonsexual deviance; family characteristics, including coming from a family with dysfunctional relationships; and social-environmental characteristics such as social isolation from both male and female peers and antisocial behavior. These early behaviors and experiences are hypothesized to increase the probability of subsequent sexual behavior with children and to reduce the internal and social controls that help one refrain from such behavior (Finkelhor, 1984; Finkelhor & Araji, 1986). Similarly, Hall and Hirschman's (1992) quadripartite theory describes four components (physiological sexual arousal, cognitive justification, affective dyscontrol, and personality problems) that serve as motivational precursors that when present increase the likelihood of offending. Depending on the relative prominence of each component, these precursors have the ability to define the type of offense committed. Thus, the components are hypothesized to not only characterize the type of child molester (incest, situational, and/or fixated offenders) but also provide specific treatment by type recommendations. The major criticism of Hall and Hirschman (1992) is that the authors do not provide an etiological explanation for the development of the four hypothesized components (Ward, 2002). The components involve mechanisms that are, however, somewhat similar to those hypothesized by Finkelhor (1984).

In explaining sexual aggression against both women and children, Marshall and Barbaree (1990) theorized that developmental experiences such as poor parenting and inconsistent, harsh physical discipline in the absence of warmth and accepting support, should result in a failure to develop positive attitudes toward relationships (also see Baker, Beech, & Tyson, 2006; Ward, Hudson, Marshall, & Siegert, 1995). Adolescents with these negative caregiver experiences purportedly pass through puberty with poor

social skills (particularly for meeting intimacy needs), negative attitudes toward peers and authorities, and an inability to separate sexuality and aggression. Furthermore, they speculated that these factors interact with a paternalistic cultural tradition that views women and children as objects for the sexual gratification of males, leading these vulnerable adolescents to sexually abuse female peers or children as a means of boosting their sense of masculinity and self-esteem (Marshall, 1989).

Ward and Siegert (2002) use a theory knitting procedure (Kalmar & Sternberg, 1988) to construct a comprehensive explanation of child sexual abuse for adult sex offenders based on Finkelhor (1984), Hall and Hirschman (1992), and Marshall and Barbaree (1990). The pathways model asserts that these three theories and a broader review of the literature suggest four clusters of problems typically found in adults who sexually abuse children: emotional regulation problems, intimacy/social skill deficits, distorted sexual scripts, and cognitive distortions. Ward and Siegert (2002) assert that adults who sexually abuse children will have varying levels of these four clusters and the differences between offenders will be in how the clusters are manifested (extent of severity of one over another) rather than their presence or absence. This is similar to the structure of Hall and Hirschman (1992) with the major difference being that the pathways model argues that every sexual offense involves all four mechanisms rather than the possibility that just one factor could operate on its own to cause sexual offending. Unlike Hall and Hirschman, Ward and Siegert (2002) outline etiological pathways consistent with Finkelhor (1984) and Marshall and Barbaree (1990) for each of the proposed clusters.

In Ward and Siegert's (2002) critique and theory knitting, a theme develops pertinent to this study. That is, as youths go through adolescence, they can experience obstacles that impede the development of appropriate interpersonal attachments and sexual attitudes, causing them to turn to inappropriate outlets such as children. They also contend that the interpersonal problems are the result of their childhood interactions with their parents and family. These two contentions point to the utility of attachment theory.

### *Attachment Theory*

The etiological processes described in both Marshall and Barbaree (1990) and Ward and Siegert (2002) assert that attachment theory is likely to be an important construct to explaining the causal factors of child sexual abuse perpetration. Attachment is rooted in the degree to which infants can rely on their parents, especially the mother, to meet their needs for security (Ainsworth, Blehar, Waters, & Wall, 1978). Bowlby (1973) described two internal representations of attachment relations that form the basis for a child's expectations about relationships outside the family: (a) whether or not the attachment figure is judged to be the sort of person who generally responds to the child's calls for support and protection and (b) whether or not the child judges himself or herself as the sort of person to whom an attachment figure would respond in a helpful and supportive way.

**Table 1.** Bartholomew Model of Adult Attachment

		Representational Model of Self	
		Positive	Negative
Representational Model of Others	Positive	SECURE Comfortable with intimacy and autonomy	PREOCCUPIED Preoccupied with relationships
	Negative	DISMISSING Dismissing of intimacy	FEARFUL Fearful of intimacy, socially avoidant

The work of Hazan and Shaver (1987) suggests that attachment concepts learned in childhood are replayed in adult romantic relationships. Bartholomew and colleagues (Bartholomew, 1990; Bartholomew & Horowitz, 1991) refined this idea by defining adult attachments using two representational models originally described by Bowlby (1973) and depicted in Table 1. One axis is the individual’s perceptions of the trustworthiness of others (representational model of others), and the other is his or her perceptions of his or her own worthiness for gaining acceptance from others (representational model of self). Beliefs on these two dimensions result in four attachment styles—secure, preoccupied, dismissing, and fearful—that are played out in relationship behaviors along the dimensions of attachment anxiety and attachment avoidance. Whereas secure individuals are comfortable with both intimacy and autonomy, individuals with preoccupied attachment show a need for constant attention and fear rejection and abandonment. The individual with a dismissing style is hypothesized to avoid intimacy because he or she devalues relationships, and strives to maintain autonomy, even when turning to others could be advantageous. The fearful individual purportedly has both an avoidant and an anxious attitude toward interpersonal relationships. In spite of needs for attention, he or she avoids interpersonal involvement because of a fear of abandonment and rejection (Bartholomew & Horowitz, 1991).

There is evidence in adults that insecure attachment (i.e., preoccupied, dismissing, or fearful styles) is associated with negative emotional and relationship experiences (Beech & Mitchell, 2005; Shaver & Clark, 1994; Shaver & Hazan, 1993) and with coercive sexual relationships (Smallbone & Dadds, 2001). There is also evidence that avoidance (e.g., dismissing or fearful styles) is linked to involvement in casual sexual behavior (Brennan & Shaver, 1995; Feeney, Peterson, Gallois, & Terry, 2000; Simpson & Gangestad, 1991). Thus, attachment insecurity in its various forms has shown associations with the factors proposed by both Finkelhor (1984) and Hall and Hirschman (1992) to influence child sexual abuse perpetration.

### *Attachment Theory and Sexual Offending*

The application of attachment theory as a potential explanatory model for sexual aggression has fostered a growing body of research with adult sexual offenders (Baker

et al., 2006; Beech & Mitchell, 2005; Marshall & Marshall, 2000). The preliminary work of Ward, Hudson, and Marshall (1996) revealed that adult child sexual abusers were more likely to have either a fearful or preoccupied attachment style than rapists, violent nonsex offenders, or nonviolent nonsex offenders. Similarly, Lyn and Burton (2004) found that adult sexual offenders were distinguished from nonsexual criminals by the presence of a fearful attachment style. Additionally, they found that offenders against children were more likely than offenders against adults to have insecure attachment. Bumby and Hansen (1997) found that child sexual abusers and rapists had greater overall intimacy deficits than other criminals or normal controls, and that child sexual abusers were particularly fearful of intimacy. There is also evidence that attachment style plays a role in the experience of loneliness and regulation of affect in multiple populations, including sex offenders (Cooper, Shaver, & Collins, 1998; Hudson & Ward, 1997; Weems, Berman, Silverman, & Rodriguez, 2002) and that sex offenders show more attachment anxiety than nonsex offenders (Lyn & Burton, 2005). Sex offending behavior may differ depending on the insecure attachment style of the perpetrator (Smallbone & Dadds, 1998; Ward et al., 1995).

These data provide preliminary support for the application of attachment theory to understanding the roots of child sexual abuse. Attachment style affects how and whether men engage in intimate relationships and the degree to which they experience loneliness as a result of their lack of intimate involvement. Bowlby (1973) indicates that the involvement with intimate relationships depends on the degree to which an individual believes that other people are trustworthy, and believes he or she is worthy of support and intimacy. Turning to young children to meet intimacy needs may be related to a desire for interpersonal closeness and a fear of rejection from peers—either because of experience indicating such rejection is likely or the belief that one is not an attractive partner (Marshall, Hudson, & Hodkinson, 1993; Ward et al., 1995). Furthermore, fearful or disorganized attachment style could create conditions that facilitate sexual abuse perpetration. These conditions might include loneliness and isolation, inaccurate and hostile representations of potential partners, lack of empathy, and impulsivity (Baker et al., 2006; Burk & Burkhart, 2003).

Sexualizing intimacy may be the result of poor integration of attachment, care giving, and sexual behavior systems—all of which have common biological mechanisms (Beech & Mitchell, 2005; Smallbone, 2005). In addition to affecting intimacy, disruptive attachment processes may also affect the development of capacities for behavioral restraint (Smallbone, 2006). Thus, child sexual abuse perpetration may be the result of sexualized intimacy needs that increase sexual urges in an individual with limited capacity to restrain them.

The research on adult populations of sexual offenders provides theories and hypotheses relevant for exploring adolescent populations (Rich, 2006). The characteristics found in adult sexual offenders are likely related to developmental processes that have their origins in child and adolescent experiences. Additionally, differential intimacy and attachment style findings among child sexual abusers, rapists, and nonsex criminals suggest that different childhood and adolescent developmental pathways may be involved in specific sexually coercive behaviors (Ward & Beech, 2006; Ward & Siebert, 2002).

In this study consistent with the theories just described, a model of child sexual abuse perpetration was tested that proposes that insecure attachment leads to an individual who turns to younger children to meet their intimacy needs and their desires for interpersonal closeness. They are thought to be motivated to abuse children because they perceive themselves to be unattractive partners likely to elicit peer rejection and/or because their experience with peers leads them to believe that such rejection is likely. We examined this model in three groups of adolescent offenders: sexual offenders with child victims, sexual offenders with peer/adult victims, and nonsexual delinquents. Using a cross-sectional design, we investigated the differences among these adolescent groups in attachment style, social isolation, perceived self-adequacy, and hypersexuality/sexual preoccupation.

## Method

### *Participants*

The participants were 278 adolescent males between the ages of 13 and 18 years recruited from residential and outpatient sex offender specific treatment programs, juvenile probation departments, and juvenile detention centers from urban and rural counties in Minnesota (e.g., Hennepin, Arrowhead, Dodge, Fillmore, and Olmsted counties). Adolescent males were eligible if they were adjudicated delinquent, assigned to sex offender-specific treatment, or under juvenile probation supervision and have a full-scale IQ greater than 79 or were not diagnosed with a cognitive deficit, such as borderline intellectual functioning or mental retardation. None had been in treatment for more than 3 months.

Participants were divided into three groups by the characteristics of their commitment crimes and available histories: sex offenders with child victims ( $n = 107$ ), sex offenders with peer/adult victims ( $n = 49$ ), and nonsex delinquents ( $n = 122$ ). Both juvenile groups who sexually offended were either engaged in sex offender-specific treatment or had been adjudicated delinquent for the commission of a sexual crime. Juveniles who were classified as sexual offenders with child victims had abused victims who were 12 years old or younger and at least 3 years younger than their perpetrator. Juveniles who were classified as sexual offenders with peer/adult victims had abused victims who were no more than 3 years younger or were older than them at the time of commission of their crimes, and no more than one third of their victims met the criteria described above for child victims. Ten peer/adult offenders (20%) had a child victim by history, but none had more than one such victim. Those classified as nonsex delinquents had been adjudicated delinquent or under probation supervision for a nonsexual crime involving a person or property and had no indications in official records or by self-report of rape or child molesting behaviors.

### *Procedures*

Each participant completed a 228-item Likert-type scale or free response item computerized survey, as well as a face-to-face interview with research staff. The order of



administration was determined randomly, with half of the participants completing the interview prior to the computer survey. In addition, research staff reviewed each participant's institutional and clinical record using the *File Review Coding Guide*, a protocol for coding clinical case records based on the Sauk Centre Sex Offender Program File Review Guide (Miner, Siekert, & Ackland, 1997).

**Face-to-Face Interview.** The face-to-face interview was developed from the History of Attachments interview (Bartholomew & Horowitz, 1991). The interview had two parts. Part 1, which lasted approximately an hour, consisted of open-ended questions and probes that were designed to facilitate exploration of childhood and family relationships and dynamics. It was audio-recorded so that coders were able to use the rich qualitative data to code attachment styles of the adolescent participants. Part 2 took about 10 minutes and comprised 21 open-ended questions about friends, free-time activities, and sexual experiences.

Two coders, trained by Kim Bartholomew, rated all the interviews. They each had more than 15 years experience in coding attachment style from the *History of Attachments* interview. The raters were off site (in Vancouver) and blind to group membership and study objectives. Interviews were recorded in digital form, transferred as .wav files onto compact disks, and mailed to the two raters who reviewed the interview audio files and rated attachment style. Each rater independently assessed the coherence of the interview and other aspects of the participant's "present state of mind" to determine their individual rating (Main, 1991, p. 141). In line with current thinking (Fraley & Spieker, 2003a, 2003b; Fraley & Waller, 1998; Griffin & Bartholomew, 1994; Waters & Beauchaine, 2003), attachment style was conceptualized as dimensional, not categorical, and rated dimensionally (1 through 9) on each of four attachment styles—secure, dismissive, preoccupied, or fearful. These independent ratings were averaged together for a final rating after interrater reliability was calculated.

Four trained psychology graduate students conducted the attachment interviews. Training consisted of (a) conducting a simulated interview, (b) conducting an interview with a more experienced research staff, and (c) attending bimonthly meetings with an experienced therapist to review audiotapes of recent interviews to ensure that attachment variables were being elicited and probed and to develop approaches for use with difficult participants and situations. Specific training topics emerged from audiotape review and included eliciting and providing support for emotional responses, probing for in-depth answers, and strategies for participant redirection. Continued feedback from coders helped focus training and revisions on areas most important to assessing attachment. Four groups of variables were collected from the face-to-face interview.

**Attachment style.** Four attachment styles were rated: secure, preoccupied, dismissive, and fearful on a 1 to 9 scale, where 1 indicated that the participant had few characteristics of that attachment style and 9 indicated a high number of characteristics of that attachment style. The score for each of the four attachment styles was the average scale score for the two raters, yielding four attachment style scores per participant. Interrater reliabilities were calculated as the correlation between the independent scores provided by each rater. Because scores were averaged, the reliabilities for each



scale were transformed by the Spearman–Brown prophecy formula to provide the estimated reliabilities for averaged ratings (Roff, 1981). Interrater reliabilities were good: secure = .86; fearful = .82; preoccupied = .84; and dismissing = .86.

Two attachment style dimensions were calculated: (a) attachment anxiety in which positive scores indicated anxiety and negative scores indicated lack of anxiety (anxiety = [preoccupied + fearful] – [secure + dismissing]); and (b) attachment avoidance in which positive scores indicated avoidance and negative scores indicated approach, with high negative scores indicating clinginess (avoidance = [fearful + dismissive] – [secure + preoccupied]) (Bartholomew & Shaver, 1998; Griffin & Bartholomew, 1994).

*Involvement with peers.* This variable was assessed by one item that asked participants to estimate the number of hours spent per week hanging around with friends when no adults were present.

*Support from friends.* This scale was a forced-choice summed composite score (ranging from 3 to 6) of three dichotomously scored items. The items asked participants to indicate which types of people (e.g., parents, siblings, friends) they would go to if they were in trouble, won an award, or needed advice. Responses were scored “1” if respondent did not indicate that they would go to a friend and “2” if they indicated that they would. High scores indicated high levels of support.

*Number of friends.* This domain was assessed by two items asking participants whether they spent time with a particular group of friends in the past year and the number of friends in that group. The number of friends was equal to the number of friends reported. If no group of friends was reported, the number of friends equaled zero.

**Computerized Survey.** The computerized survey consisted of a subset of items from the Denver Youth Survey (Huizinga, Esbensen, & Weiher, 1994), the Cynicism Scale of the Minnesota Multiphasic Personality Inventory–Adolescent version (MMPI-A; Butcher et al., 1992), and a short version of the Multidimensional Inventory of Development, Sex and Aggression (MIDSA; MIDSA Clinical Manual, 2007). Most participants were able to complete the computerized survey, which was written at a fourth-grade reading level, in approximately 1 hour. Research staff were available to answer questions. Validity checks, three lie scales, and a time feature that alerted staff if participants moved through the survey too quickly (all features of the MIDSA) helped ensure data validity and integrity.

The major independent variables were 10 scales from these three inventories. All scale scores and distributions were calculated using data from the 278 adolescent male offenders in our sample. Scale scores were divided into tertiles, if the distribution was significantly skewed.

*Denver Youth Survey.* Three scales from the Denver Youth Survey were used. Self-Esteem was an 11-item Likert-type scale ranging from 0 to 5 (where 0 = *never* and 5 = *very often [almost every day]*) and high scores indicated higher self-esteem. Scale scores were divided into tertiles. This scale included 5 items drawn from Cobb, Brooks, Kasl, and Connelly (1966) and 6 items from Rosenberg (1965). Tiët and Huizinga (2002) found that this scale showed a significant positive association with social adjustment. In the present sample, it had good internal consistency (Cronbach’s  $\alpha = .80$ ).

Perceived Isolation was a 16-item Likert-type scale ranging from 1 to 5 (where 1 = *definitely false* and 5 = *definitely true*). High scores on this scale indicated feelings of isolation in multiple contexts, including school and with peers. Scale scores were divided into tertiles. It also had good internal consistency in the present sample (Cronbach's  $\alpha = .86$ ).

Peer Isolation was a 12-item Likert-type scale ranging from 1 to 5 (where 1 = *definitely false* and 5 = *definitely true*). High scores indicated increased levels of peer isolation. The items were a subset of the perceived isolation scale selected to assess the degree to which participants felt isolated from their peers. Scores were divided into tertiles. It achieved good internal consistency in the present sample (Cronbach's  $\alpha = .84$ ).

*MMPI-A*. Cynicism was a 22-item Likert-type scale adapted from the *MMPI-A* (Butcher, et al., 1992), where high scores indicated misanthropic attitudes. This scale operationalized a negative representational model of others (Table 1) described by Bowlby (1973) and Bartholomew (1990). The response categories were modified from a true or false format so that items were rated from 1 to 5 where 1 = *definitely false* and 5 = *definitely true*. It demonstrated good internal consistency in our sample (Cronbach's  $\alpha = .80$ ).

*MIDSA*. Six scales were used from the *MIDSA*. Masculine Adequacy was an 8-item Likert-type scale ranging from 0 to 4, where 0 = *definitely false* and 4 = *definitely true*. High scores indicated high levels of masculine adequacy (confidence in manliness). This *MIDSA* scale measured participants' perceptions of their adequacy in stereotypical male role activities, including physical attributes, sports, and attractiveness to girls. Scores were divided into tertiles. It had adequate internal consistency in our sample (Cronbach's  $\alpha = .75$ ).

Anxiety With Women was a 5-item Likert-type scale ranging from 0 to 4, where 0 = *definitely false* for four of the items, and *never* for one item, and 4 = *definitely true* for four items and *very often (over 50 times)* for one item. High scores indicated high levels of anxiety. This *MIDSA* scale measured participants' expectations of rejection by girls and difficulties interacting with girls. Scores were divided into tertiles. It had an adequate internal consistency in our sample (Cronbach's  $\alpha = .74$ ).

Sexual Compulsivity was a 9-item Likert-type scale composed of items with two metrics: definitely true to definitely false, measured on a 0- to 4-point scale and *never* to *very often*, measured on a 0 to 5 frequency scale. High scores indicated self-reported inability to control sexual urges. Scores were divided into tertiles. It had good internal consistency in our sample (Cronbach's  $\alpha = .79$ ).

Sexual Preoccupation was a 7-item Likert-type scale, ranging from 0 to 5 where 0 = *never*, and 5 = *very often (almost everyday)*. High scores indicated that participants reported that they thought, daydreamed, and dreamed about sex frequently. Scores were divided into tertiles. This scale had excellent internal consistency in this sample (Cronbach's  $\alpha = .89$ ).

Hypersexuality was measured by a 5-item Likert-type scale, ranging from 0 to 4 for four items, where 0 = *definitely false*, and 4 = *definitely true*, and 0 to 7 for one item, where 0 = *never*, and 7 = *more than twice a day*. High scores indicated that participants

reported frequent sexual activity, and/or the need to have sex frequently. It demonstrated marginal internal consistency in this sample (Cronbach's  $\alpha = .66$ ).

Sociosexuality was measured by an 8-item Likert-type scale, ranging from 0 to 4 where 0 indicated that the statement was *definitely false* and 4 indicated it was *definitely true*. High scores indicated a preference for casual, impersonal sexual behavior. It had good internal consistency in this sample (Cronbach's  $\alpha = .82$ ).

## Data Analysis

Data analysis began with a test of the first-order relationships between independent variables (i.e., attachment style, self-esteem, cynicism, perceived isolation, peer isolation, involvement with peers, support from friends, number of friends, masculine adequacy, anxiety with women, sexual compulsivity, sexual preoccupation, hypersexuality, sociosexuality) and group membership (i.e., sex offender with child or peer/adult victims and nonsex delinquents). That is, a series of analyses of variance were run, with Duncan's tests, on each of the independent variables with approximately normal distributions. For those variables whose distributions deviated substantially from normal, first-order differences were tested using Kruskal–Wallis tests. Pairwise comparisons were done using Mann–Whitney  $U$ .

Our first-order analyses found a number of differences between sex offenders with child victims and nonsex delinquents but few differences between sex offenders with peer/adult victims and nonsex delinquents. Thus, sex offenders with child victims were subsequently contrasted with nonsex delinquents using binary logistic regression. Race and age were controlled and independent variables were entered as blocks. Blocks were entered in the following order: (a) attachment style, including the MMPI cynicism scale, which measures misanthropic attitudes and operationalizes a poor representational model of others, (b) social isolation, (c) masculine/social adequacy, (d) hypersexuality, and (e) sexual preoccupation. This hierarchical analysis allowed us to test the developmental hypothesis drawn from Marshall and Barbaree's (1990) integrated theory and Ward and Siegert's (2002) pathways model. Hierarchical analysis allowed us to control for confounding variables and to test the hypothesized direct and indirect associations between our variables. Such a statistical strategy seemed more appropriate to testing the specified model than using more exploratory and atheoretical analyses such as forward or backward stepwise regression.

## Results

Table 2 provides the ANOVA univariate results for potential predictor variables with approximate normal distributions. Post hoc Duncan's tests ( $p < .05$ ) explored differences between groups with overall significant  $F$ s. The results of these comparisons are indicated in the table by superscripts. Sex offenders with child victims differed from nonsex delinquents on 5 of the 7 predictor variables: attachment anxiety, cynicism, involvement with friends, hypersexuality, and sociosexuality. Sex offenders with peer

**Table 2.** ANOVA Analysis of Means and Standard Deviations for Variables with Approximately Normal Distributions

Variables	Sex Offender, Child Victim		Sex Offender, Peer/Adult Victim		Nonsex Delinquent		<i>p</i>	<i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>		
Attachment Style								
Anxiety dimension	0.90 <sup>a</sup>	3.1	-0.02 <sup>a,b</sup>	3.3	-0.92 <sup>b</sup>	3.3	<.001	4.1
Avoidance dimension	-0.04	3.5	0.63	3.3	0.41	3.5	n.s.	—
Cynicism	50.8 <sup>a</sup>	11.0	48.3 <sup>a</sup>	14.1	54.9 <sup>b</sup>	9.6	.001	3.5
Number of Friends	10.9	30.5	29.7	102.2	18.7	43.3	n.s.	—
Involvement with Friends	21.6 <sup>a</sup>	28.6	21.4 <sup>a</sup>	29.1	32.1 <sup>b</sup>	31.3	.016	2.6
Hypersexuality	9.3 <sup>a</sup>	3.9	8.1 <sup>b</sup>	4.0	6.6 <sup>c</sup>	3.2	<.001	5.5
Sociosexuality	14.4 <sup>a</sup>	6.7	16.6 <sup>b</sup>	6.7	16.4 <sup>b</sup>	6.9	.047	2.3

Note: All scales are scored so that higher scores indicate more of the attribute (i.e., higher positive scores indicate higher levels of anxiety, avoidance, cynicism, number of friends, involvement with friends, hypersexuality, and sociosexuality). Means with different superscripts are significantly different from each other.

or adult victims differed from nonsex delinquents on 3 of the 7 predictor variables: cynicism, involvement with friends, and hypersexuality. Sex offenders with child victims differed from sex offenders with peer and adult victims on only 2 of the 7 predictor variables: hypersexuality and sociosexuality. On two variables, cynicism and involvement with friends, sex offenders with child victims and those with peer and adult victims were similar to each other but different from nonsex delinquents—both had significantly lower scores than nonsex delinquents,  $F_{2,272} = 7.33, p = .001$ .

Table 3 presents the results of nonparametric Kruskal–Wallis analyses for potential predictor variables whose distributions varied considerably from normal. In these cases, the variables were recoded into tertiles. Post hoc Mann–Whitney *U* analyses ( $p < .05$ ) between groups are once again reported using superscripts. For 5 of the 7 variables, sex offenders with child victims differed significantly from nonsex delinquents. There were only two significant differences between sex offenders with peer or adult victims and nonsex delinquents: anxiety with women and sexual compulsivity. Sex offenders with child victims differed from sex offenders with peer and adult victims on only 2 of the 7 predictor variables: masculine adequacy and anxiety with women. On only one variable, sexual compulsivity, sex offenders with child victims and those with peer and adult victims were similar to each other but different from nonsex delinquents—both had significantly higher scores than nonsex delinquents.

We next built a model that best distinguished between sex offenders with child victims and nonsex delinquents. Those variables that showed significant univariate

**Table 3.** Results of Kruskal–Wallis Analyses for Variables Transformed Into Tertiles

Variables	Sex Offender, Child Victim, Mean Rank	Sex Offender, Peer/ Adult Victim, Mean Rank	Nonsex Delinquent, Mean Rank	<i>p</i>
Self-Esteem	134.0	138.7	141.2	n.s.
Perceived Isolation	146.7	138.0	130.3	n.s.
Peer Isolation	152.4 <sup>a</sup>	140.3 <sup>a,b</sup>	124.4 <sup>b</sup>	.018
Masculine Adequacy	112.3 <sup>a</sup>	145.1 <sup>b</sup>	158.0 <sup>b</sup>	<.001
Anxiety With Women	174.4 <sup>a</sup>	137.0 <sup>b</sup>	106.2 <sup>c</sup>	<.001
Sexual Compulsivity	150.6 <sup>a</sup>	152.3 <sup>a</sup>	121.3 <sup>b</sup>	.005
Sexual Preoccupation	153.3 <sup>a</sup>	143.5 <sup>a,b</sup>	122.4 <sup>b</sup>	.007

Note: All scales are scored so that higher scores indicate more of that attribute (i.e., higher scores indicate higher levels of self esteem, perceived isolation, peer isolation, masculine adequacy, anxiety with women, sexual compulsivity, and sexual preoccupation). Ranks with different superscripts are significantly different from each other.

differences between these two groups were entered into a hierarchical logistic regression analysis to test hypotheses about attachment style, social isolation, and social adequacy. The first block included race and age, which were distributed differently in these two groups. This controlled for the effects of these group differences, which were the results of sampling and recruitment. The results of this analysis are shown in Table 4. Table 4 displays the odds ratio (OR) and 95% confidence interval estimated from the regression coefficient during the block in which the variable was entered. This reflects each variable’s independent contribution to group classification controlling for variables entered into the equation in previous blocks. The table also displays ORs and 95% confidence intervals associated with the final model, after all significant blocks have been added. These associations reflect the contribution of each variable after controlling for all other variables in the model.

After controlling for race and age, attachment anxiety and cynicism added significantly to the model distinguishing between adolescent sex offenders with child victims and nonsex delinquents,  $\chi^2 = 12.34, df = 1, p = .002$ . The OR associated with attachment anxiety was significant, whereas the OR associated with cynicism approached significance. When the model was complete, the OR associated with attachment anxiety was no longer significant and was of slightly smaller magnitude. The OR associated with cynicism, however, became significant, although its magnitude changed less than attachment anxiety indicating an indirect effect for attachment anxiety, but a direct effect for cynicism. The addition of a block of involvement/isolation variables also added significantly to the predictive model,  $\chi^2 = 8.06, df = 1, p = .018$ , with this contribution related to peer isolation, OR = 1.60,  $p = .049$ , more than involvement with friends, OR = 0.99,  $p = .053$ . Neither of these variables was significant in the final model. Adequacy, which included masculine adequacy, the belief that one can relate to females and that one is good at stereotypical masculine activities, and anxiety with women added significantly to predicting child sexual abuse perpetration,  $\chi^2 = 16.11, df = 1, p < .001$ . This association appears related to anxiety with women, OR = 2.55,

**Table 4.** Hierarchical Regression Model for Classification of Sex Offenders With Child Victims Versus Nonsex Delinquents

Factor	Initial OR (95% CI) <sup>a</sup>	Initial <i>p</i> Value	Final OR (95% CI) <sup>b</sup>	Final <i>p</i> Value
<b>Block 1</b>				
Race	7.05 (3.52-14.11)	<.001	5.63 (2.62-12.09)	<.001
Age	0.53 (0.42-0.68)	<.001	0.52 (0.40-0.68)	<.001
<b>Block 2</b>				
Anxiety Dimension	1.16 (1.05-1.30)	.005	—	n.s.
Cynicism	0.97 (0.94-1.00)	.053	0.94 (0.90-0.97)	.001
<b>Block 3</b>				
Involvement With Friends	0.99 (0.98-1.00)	.053	—	n.s.
Peer Isolation	1.60 (1.00-2.55)	.049	—	n.s.
<b>Block 4</b>				
Anxiety With Women	2.55 (1.53-4.24)	<.001	2.70 (1.64-4.45)	<.001
Masculine Adequacy	0.79 (0.46-1.35)	.383	—	n.s.
<b>Block 5</b>				
Hypersexuality	1.17 (1.04-1.33)	.010	1.14 (1.01-1.29)	.034
<b>Block 6</b>				
Sexual Preoccupation	1.79 (1.01-3.17)	.047	1.74 (1.04-2.94)	.036

Note: OR = odds ratio.

a. Indicates the relative odds of being classified as a sex offender with child victim at first entry into the model.

b. Indicates the relative odds of being classified as a sex offender with child victim in the final model.

$p < .001$ , and not with masculine adequacy,  $OR = 0.79, p = .363$ . This adequacy block appeared to account for the effects of social isolation, because the contribution of peer isolation became nonsignificant with the addition of this block. The variables of hypersexuality,  $\chi^2 = 6.96, df = 1, p = .008$ , and sexual preoccupation,  $\chi^2 = 4.15, df = 1, p = .042$ , also added significantly to the model and were retained in the final model. Sexual compulsivity did not add significantly to the model after accounting for hypersexuality and sexual preoccupation. Because this block was not significant, it is not described in Table 4.

In the final model, there were significant direct associations between sex offending against child victims and cynicism, anxiety with women, hypersexuality, and sexual preoccupation. Those with lower cynicism scores, higher anxiety with women, higher hypersexuality, and more sexual preoccupation were more likely to be sex offenders with child victims than nonsex delinquents.

## Discussion

This study represents our initial attempt to validate in an adolescent sample the developmental and dispositional factors that increase the probability that someone will sexually abuse a child. Our investigation was guided by attachment theory, which has

been described as a framework for understanding the developmental hypotheses of sexual offending behavior (Burk & Burkart, 2003; Marshall et al., 1993; Rich, 2006; Ward & Beech, 2006; Ward et al., 1995).

Our analyses indicated that in adolescence, attachment anxiety has an indirect effect on sexual abuse perpetration, in that the effects of attachment anxiety were accounted for by isolation from peers and difficulty relating to girls or women. Additionally, sexual perpetration against children was negatively related to a cynical, misanthropic view of others. These results provide evidence that those who turn to children to meet their intimacy needs do so not only because of a desire for interpersonal closeness but also because of a fear of rejection (Ward et al., 1995).

The child sexual abuse perpetrator was distinguished from those who assaulted peers or women in that he generally felt greater masculine inadequacy and had less of an impersonal attitude toward sexuality. It appears that those who turn to children for sexual need gratification may be alienated from opposite gender peers to an even greater extent than those who use coercion to get sexual gratification from peers, as evidenced by significantly higher anxiety with women scores. Additionally, the perpetrator of child sexual abuse appears to view sex as a means for gaining intimacy and not as an impersonal activity to gain status. This is contrary to Marshall (1989), who suggested that sexual abuse perpetration may be related to devaluing intimate relationships and using sex to boost one's sense of masculinity and self-esteem.

Smallbone (2006) argued that attachment conceptualizations of sexual offending emphasize problems in developing behavioral restraint rather than the development of more specific disorders of sexual function, such as stable deviant sexual preferences. Our data lend support to this conceptualization. The multivariate analysis yielded a model of sexual abuse perpetration in which anxious attachment in adolescence influenced the experience of isolation from peers, which in turn contributed to expectations of rejection from opposite gender peers as shown by anxiety toward women. This expectation of rejection by peers was coupled with a relatively high sex drive and a preoccupation with sexual thoughts and fantasies. We also found sex offenders with child victims had higher scores on a measure of sexual compulsivity, or lack of sexual behavioral restraint, than nonsex delinquents.

Although the major focus of this research was on identifying the factors that predicted sexual abuse of children, our design included a sample of adolescents whose crimes were against peers or adults. Consistent with previous research (Seto & Lalumière, 2005; van Wijk et al., 2005), our data suggest that youth who assault peers or adults were not substantially different from other delinquent youth on most of the measures examined in this study. We found only four first-order differences between these two groups of offenders. Youth who assaulted peers or adults had higher levels of anxiety with women, less involvement with friends, and higher levels of sexual compulsivity than nonsex delinquents. They also showed lower levels of cynicism, possibly demonstrating less of a general misanthropic attitude than delinquent youth. Thus, our data reflect a conceptualization of rape as perpetrated by adolescents who find their sexual behavior difficult to control, who feel anxious and alienated from opposite



gender peers, but who do not have as cynical an attitude toward interpersonal relationships as delinquents. These findings share common elements with developmental and evolutionary theories of sexual assault (Knight & Sims-Knight, 2003, 2004; Lussier, Leclerc, Cale, & Proulx, 2007; Malamuth, 1998; Quinsey & Lalumière, 1995; Thornhill & Palmer, 2000). That is, perpetrators appear to be individuals who are at a competitive disadvantage due to their inability to relate to opposite gender peers, but are also individuals who value interpersonal relationships more than delinquents. These adolescents appear to experience their sexual needs as out of control, as indicated by higher scores on the sexual compulsivity and hypersexuality scales. In these factors, the offenders against peers or adults did not differ from those with child victims.

Our study had a number of limitations. First, this cross-sectional study of three groups of adolescents enabled us to identify correlates of sexual offending, not etiological factors. Our findings about attachment anxiety and indications of social isolation are consistent with those in adult samples (Jamieson & Marshall, 2000; Marsa et al., 2004; Smallbone & Dadds, 1998; Ward et al., 1996). This consistency of findings, especially in light of research that suggests important distinctions between adolescent offending and adult offending (Långström, 2001; Parks & Bard, 2006; Reitzel & Carbonell, 2006; Waite et al., 2005; Zimring, Piquero, & Jennings, 2007) would indicate that we have identified factors that influence onset of sexual abuse behaviors regardless of age or factors associated with early onset sexual abuse behaviors (Ward, 2002). Second, we recruited a convenience sample of adolescent offenders from multiple settings and collected data from those who agreed to participate. This creates potential bias that we cannot measure. On the other hand, because our adolescent samples were recruited in the same way, which is from inpatient and outpatient treatment programs and juvenile probation and detention centers, it is unlikely that the differences we found among the three groups were related to volunteer bias. Third, we were unable to recruit comparable numbers of sexual offenders with peer or adult victims. The smaller sample size limits the power of comparisons between this group and the other offender groups such that we have sufficient power to detect medium effects ( $1 - \beta = .83$ ), but not to detect small effects ( $1 - \beta = .22$ ). Finally, our analyses did not take into consideration the multiple pathways described by Ward and Siegert (2002). The goal of this research was, however, to explore underlying, developmental factors that predispose one to commit sexual abuse of a child. Thus, our study included factors that Ward and Siegert (2002) describe as underlying their offense pathways.

In spite of the above limitations, these data provide a starting point for understanding the unique risk factors for child sexual abuse perpetration. This study is consistent with the theory knitting procedures of Ward and Siegert (2002) and unlike previous studies with adolescent samples; it builds on well-defined theories of sexual abuse perpetration. We generated a model of child sexual abuse perpetration in an adolescent sample that indicated that attachment provides a framework through which other experiences are filtered and, consistent with Ward's (2002) critique of Marshall and Barbaree's (1990) integrated theory, the sexual abuse perpetrator with child victims does not appear to devalue intimate relationships, nor does he seem to have an

impersonal attitude toward sexuality. It appears that sexual abuse of children is related to a need for interpersonal involvement, inadequacy in heterosocial interactions, and high levels of sex drive and preoccupation.

As noted above, this study provides a starting point. Our model was built by comparing adolescent sexual offenders with child victims to nonsexual delinquents. That is, we have identified factors that indicate that child sexual abuse perpetration is different from other externalizing problems of adolescents. It is, however, possible that these findings are consistent with the conclusion that child sexual abuse perpetration is another form of an internalizing problem. Thus, further cross-sectional research could include samples of adolescents with internalizing problems and nonproblematic youth. Additionally, longitudinal research is necessary to build on these findings and further explicate the degree to which child sexual abuse perpetration, and possibly the development of pedophilia, is related to factors of interpersonal and social development and, thus, to issues of inadequacy.

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