Journal of Abnormal Psychology
1999, Vol. 108, No. 2, 267–272

0021-843X/99/$3.00

The Sexual Preferences of Incest Offenders

Michael C. Seto, Martin L. Lalumière, and Michael Kuban
Centre for Addiction and Mental Health

Inclusive fitness theory suggests that discriminative solicitude and inbreeding avoidance are important mechanisms regulating parent–children interactions. From an inclusive fitness perspective, sex with one's biological children is paradoxical. The authors hypothesized that incest can occur when these mechanisms are not activated (e.g., if a father is uninvolved in child rearing) or are overwhelmed by another factor, such as pedophilic interest. They predicted that biological fathers, who presumably have been the most involved in the rearing of their victims, would show greater phallometrically measured pedophilic interest than would other incest offenders against children (e.g., grandfathers, uncles, stepfathers). The prediction was not supported. A testable alternative hypothesis to explain biological father incest is presented and the importance of assessing pedophilic interest among incest offenders is discussed.

Sexual Preferences of Incest Offenders

Phallometric studies of sexual interests have consistently found that nonincestuous child molesters differ from nonoffenders, with child molesters responding relatively more to stimuli depicting children (e.g., Freund & Watson, 1991; Marshall, Barbaree, & Christophe, 1986; Quinsey, Steinman, Bergersen, & Holmes, 1975). In other words, as a group, nonincestuous child molesters are sexually deviant. More deviant responding is associated with having a male victim, having more than one victim, and having younger victims. Follow-up studies have shown that more deviant responding is associated with a greater likelihood of committing a new sexual offense (Hanson & Bussière, 1998).

The sexual preference of incestuous child molesters is less clear. Some studies using visual stimuli found that incestuous child molesters have a more appropriate pattern of sexual arousal than nonincestuous child molesters (Frenzel & Lang, 1989; Freund, Watson, & Dickey, 1991; Marshall et al., 1986; Quinsey, Chaplin, & Carrigan, 1979). Other studies found no difference between the two groups (Abel, Becker, Murphy, & Flanagan, 1981; Langevin & Watson, 1991; Malcolm, Andrews, & Quinsey, 1993; Murphy, Haynes, Stalgaitis, & Flanagan, 1986). Similarly, some studies using audio stimuli have found a difference (Lang, Black, Frenzel, & Checkley, 1988; Marshall et al., 1986), whereas others have not (Abel et al., 1981; Barsetti, Earls, Lalumière, & Bélanger, 1998; Chaplin, Rice, & Harris, 1995; Murphy et al., 1986). Notably, no study has found that incestuous offenders are more deviant than nonincestuous offenders. Except for Langevin and Watson (1991), investigators have not distinguished incest offenders as a function of their genetic relationship to their victims (see Bixler, 1983). This is a distinction that can have important theoretical and practical implications.

From inclusive fitness theory, we could predict differences between biological fathers and other incest offenders for two reasons. First, inclusive fitness theory suggests that there has been selection pressure over time for psychological mechanisms to treat kin preferentially in terms of affection, care, and investment of resources, and to avoid activities that might harm them (see Daly & Wilson, 1988). In other words, over the course of many generations, individuals who did not vary their solicitude toward others as a function of their genetic relatedness would be less likely to pass on their genes to the next generation. It is of interest in this context that the perceived severity of sexual and nonsexual crime is linearly and positively related to the purported genetic relationship between perpetrator and victim (Quinsey, Lalumière, Querée, & McNaughton, in press).

Second, inclusive fitness theory postulates the existence of an inbreeding avoidance mechanism to decrease the possibility of the expression of recessive deleterious genes (see Welham, 1990). A strong candidate was discussed by Westermarck (1891), who suggested that individuals raised together as children would not be sexually attracted to each other in later life. A propinquity-based mechanism would presumably have been effective in ancestral environments because siblings would almost always be raised together. Westermarck's hypothesis could be applied to parent–child incest as well, if we presume that parents in ancestral environments were often involved in the early care of their children.

Consistent with the discriminative solicitude mechanism, Wilson and Daly (1987) reported data showing that biologically related children are much less likely to be physically abused than are stepchildren. Looking at official Canadian homicide data, an unambiguous measure of maltreatment that is much less vulnerable to reporting bias, Daly and Wilson (1994) found that stepchildren

Michael C. Seto, Martin L. Lalumière, and Michael Kuban, Forensic Program, Centre for Addiction and Mental Health, Toronto, Ontario, Canada.

Michael C. Seto and Martin L. Lalumière are also at the Departments of Psychiatry and Criminology at the University of Toronto, Toronto, Ontario, Canada.

We thank Howard Barbaree, Grant Harris, Vernon Quinsey, and Marnie Rice for their helpful comments on earlier versions of this article.

Correspondence concerning this article should be addressed to Michael C. Seto, Forensic Program, Centre for Addiction and Mental Health, 250 College Street, Toronto, Ontario, Canada, M5T 1R8. Electronic mail may be sent to setom@cs.clarke-inst.on.ca.

were 60 times more likely to be killed than were biologically related children. Similarly, having a stepfather increases a girl's risk of being sexually abused (Finkelhor, Hotaling, Lewis, & Smith, 1990). Of course, most stepfathers do not physically or sexually abuse their stepchildren, but they do pose a greater risk than biological fathers. In humans and many other species, discriminative solicitude varies as a function of genetic relatedness.

There is also support for a "Westermarckian" mechanism, including animal studies and data from individuals raised together in kibbutzim and traditional arranged marriages in Taiwan (see review by van den Berghe, 1979). Recently, Bevc and Silverman (1993) surveyed university students and found that siblings who were separated for more than a year during their first 6 years of life were more likely to have had attempted or to have had intercourse with each other than those who were not. In terms of father–daughter incest, two studies have found that biological fathers who committed incest were less involved in early child-care activities than were nonoffending controls (Parker & Parker, 1986; Williams & Finkelhor, 1995). Parker and Parker (1986) found this effect with stepfathers as well. Williams and Finkelhor (1995) were able to control for other predisposing factors, such as abuse experienced by the perpetrator, low empathy, marital dissatisfaction, and sexual offending as a youth. Interestingly, Williams and Finkelhor included a sample of incestuous and nonincestuous fathers who were in the navy. The absences of navy fathers from home during the early lives of their daughters were not voluntary, thereby ruling out the alternative explanation that a common factor may predispose men both to be absent from home and to commit incest.

Thus, a valid distinction can be made between incestuous biological fathers and stepfathers because the latter are not genetically related and are less involved, on average, in the early care and nurturance of their victims (because they are much less likely to be present from the time of the victims' births). If the evolved mechanisms are based, at least in part, on propinquity, we would expect less solicitude and weaker incest avoidance, on average, for offenders against stepdaughters. Similarly, we would expect less solicitude and weaker incest avoidance for offenders who have a lower degree of genetic relatedness and who do not usually live with the victim, such as uncles with their nieces or grandfathers with their granddaughters.

Father–daughter incest, especially when the father is involved in the early care of the daughter, is therefore difficult to explain. We suggest that the inclusive fitness mechanisms can be disrupted or overwhelmed in these cases of incest. One candidate for this interference is a sexual preference for children (i.e., pedophilic interest). The logic is, ceteris paribus, that a man who has a sexual preference for children will be more likely to victimize his daughter despite the functioning of inclusive fitness mechanisms, compared with men who do not have such a preference.

Few studies examining pedophilic interest have distinguished incest offenders according to genetic relatedness or amount of involvement in early care and rearing. One study found that offenders against daughters and stepdaughters showed more appropriate sexual preferences than extrafamilial child molesters, whereas offenders against other female family members showed intermediate responses (Quinsey et al., 1979). Langevin and Watson (1991) found no difference between biological fathers and stepfathers in their relative sexual arousal to depictions of children.

We assigned a large sample of incest offenders with female victims into one of three groups: biological fathers, stepfathers, and offenders against an extended family member. We compared their sexual responses to children and adults with a group of nonincestuous (i.e., extrafamilial) child molesters and with a group of mixed offenders with both unrelated and related victims. The child molester groups represent, in a sense, different probabilities of the inclusive fitness mechanisms being activated (with biological fathers having the highest probability and extrafamilial child molesters having the lowest). We also included two control groups: a sample of rapists and a group of nonoffending volunteers. We restricted our analysis to offenders against only female victims. We compared incestuous and nonincestuous child molesters to see if they differed in their relative sexual responses to depictions of children. From inclusive fitness theory, we hypothesized that a pedophilic interest may disrupt or overwhelm the inclusive fitness mechanisms of discriminative solicitude and incest avoidance, and therefore predicted that biological fathers would show stronger responses to children than would stepfathers or extended family members.

Method

Participants

Participants were omitted from this study if there were technical problems during the phallometric testing procedure (n = 27), if there was evidence from their responses of faking, as described by Freund, Watson, and Rienzo in 1988 (n = 148), or if they were actively psychotic or judged to be borderline or lower in intellectual functioning (n = 38). This resulted in 733 participants for this study, divided into the following groups: 70 offenders with only biological daughters as victims (biological incest), 87 incest offenders with only extended family members as victims, for example, nieces, cousins, granddaughters (extended incest), 73 offenders with only stepdaughters as victims (legal incest), 254 extrafamilial child molesters (extrafamilial), 64 offenders with both related and unrelated victims (mixed), 84 offenders against adult females (rapists), and a group of 101 heterosexual controls from the community who reported that they had not committed any sexual offenses (controls).

Offenders were classified into the biological or legal incest group if they had only biological daughters or stepdaughters, respectively, as victims; offenders were classified into the extended incest group if they had only female extended family members as victims; offenders in the extrafamilial group had only unrelated female victims; and offenders in the mixed group had both related and unrelated female victims. Child molester classifications were based on collateral information (e.g., police synopsis, lawyer's letter) and self-report if the offender admitted to more victims than were officially recorded. Rapists did not have any victims under the age of 14, based on self-report and collateral information. Nonoffender controls reported no sexual offenses.

Control participants were recruited through advertisements posted around the campus of a community college and were paid $15 an hour for their participation. Men in the other groups participated in the phallometric testing as part of their clinical assessment in the Sexology Department of the Clarke Institute of Psychiatry. Data from many of these participants have been reported before (e.g., Freund & Watson, 1991, Freund et al., 1991). Child molesters with any male victims were excluded from this study.

Materials and Apparatus

Film clips depicted nude individuals of both sexes from four age categories walking toward the camera: very young children (5–8 years old),

Table 1
Biographic Characteristics

Characteristic	Biological	Extended	Legal	Extrafamilial	Mixed	Rapists	Controls
Age (years)	39.8	35.0	38.4	35.4	41.5	28.2	28.1
	(7.0)	(13.7)	(9.3)	(11.6)	(11.5)	(7.2)	(6.3)
Education[a]	3.6	3.2	3.2	3.3	3.1	3.5	3.9
	(1.3)	(0.9)	(1.1)	(1.1)	(1.0)	(1.1)	(0.9)
% married[b]	100.0	62.1	98.7	69.8	94.7	64.1	71.0

Note. Standard deviations are in parentheses.
[a] Mean scores, although education was measured on an ordinal scale: 1 = *no formal education;* 2 = *less than Grade 8;* 3 = *some high school;* 4 = *high school graduation;* 5 = *some college/university;* 6 = *university degree.* [b] Including common-law relationships, defined as cohabitation for more than 1 year.

prepubescent children (8–11 years old), pubescent children (12–13 years old), and physically mature targets (see Freund & Watson, 1991). Sexually neutral film clips of landscape scenes were also shown. Clips depicting individuals were accompanied by audiotapes describing the targets as involved in nonsexual activities such as swimming. These audiotaped narratives emphasized characteristic features of the targets' body shape. Clips depicting landscapes were accompanied by narratives describing the scenery. Film clips were presented using a commercially available film projector whereas audiotapes were presented using a commercially available audiotape player and headphones. Penile responses were recorded using a penile volume sensor, pressure-to-voltage transducer, and a scoring program written in SPSS syntax (SPSS Inc., 1990).

Procedure

The data presented here are drawn from the clinical records of the Sexology Department. Each participant signed a consent form before the test session began. The test session consisted of three blocks of nine trials, each trial lasting 28 s. The nine trials consisted of one trial for each age–sex category and one neutral landscape scene, presented in a fixed pseudorandom order for every participant. Film clips of different individuals from the same age–sex category were simultaneously presented on three screens during each trial. The next stimulus was not presented until the participant had returned to within 1.0 ml of his baseline volume. Individuals were monitored by a video camera trained on their upper body during the testing, to inhibit faking tactics such as looking away or tampering with the sensor. Participants who did not comply with the testing procedures were not included in the data set. The entire session took approximately an hour. We analyzed data from female stimuli only.

Results

Biographic Characteristics

There was a significant overall group difference in age, $F(6, 726) = 22.65$, $p < .0001$, and education level, $F(6, 695) = 6.23$, $p < .0001$ (see Table 1). Not surprisingly, all of the biological incest offenders and most of the legal incest and mixed offenders were married. Information on socioeconomic status was unavailable for many participants. Both age, $r(731) = .23$, $p < .001$, and education, $r(731) = -.16$, $p < .001$, were significantly correlated with relative responding to children, probably because the child molester groups tended to be older and less educated than the rapists or controls and responded relatively more to children (see below). The results reported here did not change in direction or significance when age and education were statistically controlled in the analyses.

History of Sexual Offending

Excluding mixed offenders, who had at least two victims by definition, there was a significant difference between groups in the proportion who had multiple victims, $\chi^2(3, N = 484) = 40.05$, $p < .0001$ (see Table 2). Looking at only the incestuous child molesters, stepfathers were much less likely to have multiple victims; there was also a significant difference between all of the child molester groups in terms of the proportion who had a prepubescent victim, $\chi^2(4, N = 548) = 9.76$, $p < .05$. Victims were categorized as prepubescent if they were 11 years old or younger. Having more than one victim, $r(546) = .14$, $p < .005$, and having a prepubescent victim, $r(546) = .14$, $p < .005$, were both significantly related to relative responding to children among the child molesters, but the pattern of results for child molesters did not change in direction or significance when these variables were statistically controlled in the analyses.

Phallometric Responding

Consistent with previous studies from this laboratory, changes in penile volume were measured by the largest deviation from baseline (i.e., peak response) and the total area under the plotted response curve for each stimulus presentation (e.g., Freund & Blanchard, 1989; Freund & Watson, 1991). Both measures were converted to standard scores within each subject and averaged. These scores were used to calculate a pedophilic index, defined as the average response to stimuli depicting young and prepubescent children minus the average response to stimuli depicting adults. A differential index calculated from standard scores takes into account individual differences in responsivity, and it is the most psychometrically appropriate measure of pedophilic interest, based

Table 2
Victim History

Offender group	*n*	% had multiple victims	% had prepubescent victim
Biological incest	70	27.1	85.7
Extended incest	73	39.7	89.0
Legal incest	87	14.9	80.5
Extrafamilial	254	50.8	75.6
Mixed	64	100.0	85.9

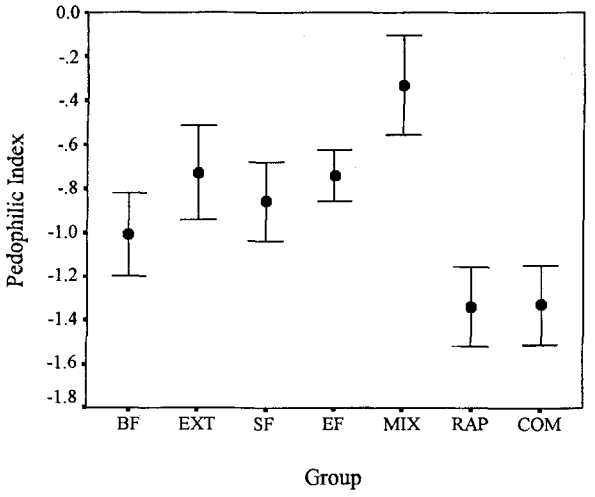

Figure 1. Pedophilic index. BF = biological fathers; EXT = extended family members; SF = stepfathers; EF = extrafamilial child molesters; MIX = mixed child molesters; RAP = rapists; COM = controls recruited from the community. The 95% confidence intervals for the group means are shown by error bars.

on discriminant and predictive validity studies (e.g., Harris, Rice, Quinsey, Chaplin, & Earls, 1992; Rice, Quinsey, & Harris, 1991). Positive scores indicate a preference for young and prepubescent children, whereas negative scores indicate a preference for adults.

Unlike previous studies from this laboratory, we retained participants who minimally responded, consistent with the discriminant validity findings of Harris et al. (1992). The pattern of results did not change when low responders were excluded from the analysis.

We conducted an analysis of variance with four planned comparisons: (a) the child molesters were compared with the rapists and controls; (b) incest offenders were compared with nonincest offenders against children; and (c) the linear as well as (d) quadratic trends across the three incest offender groups, arranged according to genetic relatedness (biological fathers > other genetic relatives > stepfathers). Absolute t values are reported below.

The mean pedophilic indices are presented in Figure 1. A higher value on the y-axis indicates greater relative response to children. There was a significant overall difference between the groups, $F(6, 726) = 13.24, p < .0001$. Planned comparisons showed that child molesters, as a group, were different from nonchild molesters, $t(726) = 7.52, p < .001$, and that incest offenders, as a group, were different from the extrafamilial and mixed child molesters combined together, $t(726) = 3.75$, $p < .001$. There was no linear, $t(726) = 1.02$, *ns*, or quadratic trend, $t(726) = 1.62$, *ns*, in mean indices across the incest offender groups, arranged according to average genetic relatedness. An examination of the 95% confidence intervals for the group means showed that all of the child molester groups had significantly higher pedophilic indices than either rapists or controls, with biological incest offenders being the least deviant group and mixed offenders being the most deviant group. Among the incest offenders, biological fathers were less deviant than men who victimized extended family members, but they did not differ from stepfathers. Neither stepfathers nor offenders against an extended family member differed from offenders with unrelated victims.

The standardized responses to children and adults (after subtracting the "response" to neutral stimuli) are presented in Figure 2. Higher values on the y-axis indicate larger erectile responses. There were significant differences between groups in their responses to children, $F(6, 726) = 8.27, p < .0001$, as well as to adults, $F(6, 726) = 6.11, p < .0001$. As suggested by the analysis of pedophilic indices, child molesters responded more to child stimuli than did nonchild molesters, $t(726) = 2.76$, $p < .01$, whereas nonchild molesters responded more to adult stimuli than did child molesters, $t(726) = 5.30$, $p < .001$. Incestuous child molesters responded less than nonincestuous child molesters to child stimuli, $t(726) = 4.67$, $p < .001$, but did not differ in their responses to adult stimuli, $t(726) = .57$, *ns*. Among the incestuous child molesters, extended family members responded more to child stimuli than did the biological fathers and stepfathers, $t(726) = 3.54$, $p < .001$, but did not differ in their responses to adult stimuli, $t(726) = 1.73$, *ns*.

We also examined the identification of sexual deviance from phallometric responding (see Table 3). We selected two different criteria; men were considered sexually deviant (a) if they had a pedophilic index greater than $-.051$, the value at the 90th percentile of the community control group, and (b) if they had a pedophilic index greater than $-.584$, the value at the 80th percentile in the community control group (see Lalumière & Quinsey, 1993, for details about this analytic approach). As shown in Table 3, the mixed offenders had the largest proportion of sexually deviant (pedophilic) men. Biological fathers had the lowest proportion among the child molester groups. These values are much lower than those found in studies that included child molesters with male victims or examined responses to male stimuli (Freund & Blanchard, 1989). It should also be noted that the cutoffs used in this study were not obtained using the same methods reported by Freund and Watson (1991).

Finally, if our hypothesis that biological incest offenders are likely to be sexually deviant is correct, we would expect them to be likely to offend against children other than their daughters.

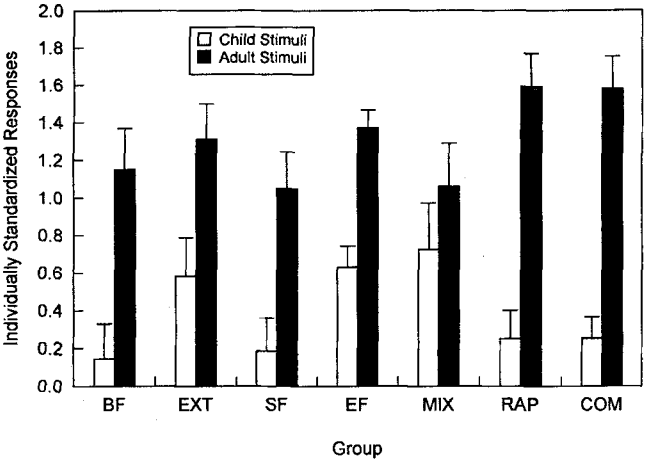

Figure 2. Standardized responses to female children and female adults. BF = biological fathers; EXT = extended family members; SF = stepfathers; EF = extrafamilial child molesters; MIX = mixed child molesters; RAP = rapists; COM = controls recruited from the community. The 95% confidence intervals for the means are shown by error bars.

Table 3
Proportions Across Groups Identified as Sexually Deviant

Group	*n*	90% cutoff	80% cutoff
Biological incest	70	14.3	28.6
Extended incest	73	19.2	47.9
Legal incest	87	16.1	33.3
Extrafamilial	254	23.2	40.6
Mixed	64	35.9	56.3
Rapists	84	4.8	17.9
Controls	101	9.9	19.8

Examining biological fathers with only daughters as victims would restrict the analysis. We therefore compared the groups of child molesters again after reassigning the group of mixed child molesters (offenders with both related and unrelated victims) according to their genetic relationships with related victims. Of the 64 mixed child molesters, 25 had offended against a biological daughter, 14 had offended against an extended family member, and 25 had offended against a stepdaughter. As before, there was a significant overall difference between groups in their relative responding to children, $F(5, 727) = 12.96$, $p < .0001$. The child molesters responded relatively more than nonchild molesters, $t(727) = 7.50$, $p < .001$. Unlike the original analysis, incest offenders did not differ from nonincest offenders against children, $t(727) = .09$, *ns*. Across the three incest offender groups, there was no linear trend, $t(727) = .06$, *ns*, but, unlike the original analysis, there was a significant quadratic trend, with extended incest offenders responding relatively more to children, $t(727) = 2.65$, $p < .01$. Examining the 95% confidence intervals, all of the child molester groups had higher pedophilic indices than did the rapists or community controls.

Discussion

Incestuous child molesters showed relatively less sexual interest in children than did nonincestuous child molesters. However, as a group, incest offenders were still sexually deviant because they significantly differed from the rapists and controls. These results add to the set of findings showing deviant sexual interest in both incestuous and nonincestuous child molesters. Because a nontrivial proportion of incest offenders were individually identified as sexually deviant, using conservative cutoff scores, and because relative responding to children is associated with a greater likelihood of sexual reoffense among child molesters (Hanson & Bussière, 1998), we recommend that the sexual preferences of incest offenders should be routinely assessed using phallometric testing.

Biological fathers are usually combined with stepfathers and other incest offenders (such as uncles or grandfathers) and then compared with extrafamilial child molesters. To the extent that the incest group contained a high proportion of biological fathers, the possibility that a study would find a significant difference between incestuous and nonincestuous child molesters would be increased. Differences in sample composition could explain, at least in part, the heterogeneity of previous findings.

The second research question addressed the presence of pedophilic interest as a function of genetic relatedness and amount of contact with victims (the former being a proxy measure of the latter). Among incest offenders, biological fathers have the closest genetic relationship and, on average, can be presumed to have the highest amount of early contact with their victims. Because of inclusive fitness considerations, it is generally not in the genetic interest of biological fathers to have sexual contact with their daughters. We hypothesized that pedophilic interest might disrupt or overwhelm inclusive fitness mechanisms, and therefore we predicted that biological incest offenders should be more sexually interested in children than should offenders with lesser degrees of genetic relatedness and less contact with their victims. This prediction was not supported: Biological fathers were less sexually interested in children than men who offended against extended family members and did not differ from stepfathers.

How then can we explain incestuous behavior committed by biological fathers? One possibility is that none or few of the biological fathers in this study had the presumed early contact with their victims, and therefore their inclusive fitness mechanisms were not activated. If this is correct, there is no need to postulate pedophilic interest as a disruptive factor. Future studies should directly assess the degree of early involvement in the care of daughter victims as a function of the degree of pedophilic interest.

Another possibility is that biological fathers have limited access to their preferred sexual partners and subsequently resort to targets lower on their sexual preference gradient (i.e., an arrangement of potential targets arranged according to the amount of sexual interest they elicit). It has been found that men tend to adjust their mating behavior as a function of access to partners (e.g., Landolt, Lalumière, & Quinsey, 1995). Thus, men who prefer adult females as sexual partners but who lack opportunity (e.g., because they are not sufficiently attractive to adult females) may be more likely to have sexual contact with less preferred partners, such as prepubescent females. Nonoffending men do show some sexual arousal to prepubertal females (Freund, McKnight, Langevin, & Cibiri, 1972) and some report sexual fantasies involving children (Smiljanich & Briere, 1996). This relative deprivation hypothesis could be tested with self-report measures of access to sexual partners that have been recently developed (see Lalumière, Chalmers, Quinsey, & Seto, 1996; Lalumière & Quinsey, 1996; Landolt et al., 1995).

There were at least two limitations to the present study. First, the assignment of offenders to groups was based on self-report, with collateral information available only for the offenders. It is possible that some participants lied because we could not assure their anonymity and confidentiality because of mandatory reporting requirements. Participants may have offended against unidentified child victims that could have changed their group assignment (e.g., some of the community controls may have had sexual contact with children). However, there is no a priori reason to believe that some offender groups are more likely to lie than others. Another limitation, as mentioned earlier, is that we did not directly assess early parental care and involvement. Future studies could more directly assess parental involvement either through retrospective self-report or collateral reports. This would allow us to more directly test the relationship between parental involvement in early care among incest offenders and pedophilic interest.

References

Abel, G. G., Becker, J. V., Murphy, W. D., & Flanagan, B. (1981). Identifying dangerous child molesters. In R. B. Stuart (Ed.), *Violent behavior: Social learning approaches to prediction, management, and treatment* (pp. 116–137). New York: Brunner/Mazel.

Barsetti, I., Earls, C. M., Lalumière, M. L., & Bélanger, N. (1998). The differentiation of intrafamilial and extrafamilial heterosexual child molesters. *Journal of Interpersonal Violence, 13,* 275–286.

Bevc, I., & Silverman, I. (1993). Early proximity and intimacy between siblings and incestuous behavior: A test of the Westermarck theory. *Ethology and Sociobiology, 14,* 171–181.

Bixler, R. H. (1983). The multiple meanings of "incest." *Journal of Sex Research, 19,* 197–201.

Chaplin, T. C., Rice, M. E., & Harris, G. T. (1995). Salient victim suffering and the sexual responses of child molesters. *Journal of Consulting and Clinical Psychology, 63,* 249–255.

Daly, M., & Wilson, M. (1988). *Homicide.* New York: Aldine de Gruyter.

Daly, M., & Wilson, M. (1994). Some differential attributes of lethal assaults on small children by stepfathers versus genetic fathers. *Ethology and Sociobiology, 15,* 207–217.

Finkelhor, D., Hotaling, G., Lewis, I. A., & Smith, C. (1990). Sexual abuse in a national sample of adult men and women: Prevalence, characteristics, and risk factors. *Child Abuse and Neglect, 14,* 19–28.

Frenzel, R. R., & Lang, R. A. (1989). Identifying sexual preferences in intrafamilial and extrafamilial child sexual abusers. *Annals of Sex Research, 2,* 255–275.

Freund, K., & Blanchard, R. (1989). Phallometric diagnosis of pedophilia. *Journal of Consulting and Clinical Psychology, 57,* 100–105.

Freund, K., McKnight, C. K., Langevin, R., & Cibiri, S. (1972). The female child as a surrogate object. *Archives of Sexual Behavior, 2,* 119–133.

Freund, K., & Watson, R. (1991). Assessment of the sensitivity and specificity of a phallometric test: An update of phallometric diagnosis of pedophilia. *Psychological Assessment, 3,* 254–260.

Freund, K., Watson, R., & Dickey, R. (1991). Sex offenders against female children perpetrated by men who are not pedophiles. *Journal of Sex Research, 28,* 409–423.

Freund, K., Watson, R., & Rienzo, D. (1988). Signs of feigning in the phallometric test. *Behaviour Research and Therapy, 26,* 105–112.

Hanson, R. K., & Bussière, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66,* 348–362.

Harris, G. T., Rice, M. E., Quinsey, V. L., Chaplin, T. C., & Earls, C. (1992). Maximizing the discriminant validity of phallometric assessment data. *Psychological Assessment, 4,* 502–511.

Lalumière, M. L., Chalmers, L., Quinsey, V. L., & Seto, M. C. (1996). A test of the mate deprivation hypothesis of sexual coercion. *Ethology and Sociobiology, 17,* 299–318.

Lalumière, M. L., & Quinsey, V. L. (1993). The sensitivity of phallometric measures with rapists. *Annals of Sex Research, 6,* 123–138.

Lalumière, M. L., & Quinsey, V. L. (1996). Sexual deviance, antisociality, mating effort, and the use of sexually coercive behaviors. *Personality and Individual Differences, 21,* 33–48.

Landolt, M. A., Lalumière, M. L., & Quinsey, V. L. (1995). Sex differences and intra-sex variation in human mating tactics: An evolutionary approach. *Ethology and Sociobiology, 16,* 3–23.

Lang, R. A., Black, E. L., Frenzel, R. R., & Checkley, K. L. (1988). Aggression and erotic attraction toward children in incestuous and pedophilic men. *Annals of Sex Research, 1,* 417–441.

Langevin, R., & Watson, R. (1991). A comparison of incestuous biological and stepfathers. *Annals of Sex Research, 4,* 141–150.

Malcolm, P. B., Andrews, D. A., & Quinsey, V. L. (1993). Discriminant and predictive validity of phallometrically measured sexual age and gender preference. *Journal of Interpersonal Violence, 8,* 486–501.

Marshall, W. L., Barbaree, H. E., & Christophe, D. (1986). Sexual offenders against female children: Sexual preferences for age of victims and type of behavior. *Canadian Journal of Behavioural Science, 18,* 424–439.

Murphy, W. D., Haynes, M. R., Stalgaitis, S. J., & Flanagan, B. (1986). Differential sexual responding among four groups of sexual offenders against children. *Journal of Psychopathology and Behavioral Assessment, 8,* 339–353.

Parker, H., & Parker, S. (1986). Father–daughter sexual abuse: An emerging perspective. *American Journal of Orthopsychiatry, 56,* 531–549.

Quinsey, V. L., Chaplin, T. C., & Carrigan, W. F. (1979). Sexual preferences among incestuous and nonincestuous child molesters. *Behavior Therapy, 10,* 562–565.

Quinsey, V. L., Lalumière, M. L., Querée, M., & McNaughton, J. (in press). Perceived crime severity and kin relatedness. *Human Nature.*

Quinsey, V. L., Steinman, C. M., Bergersen, S. G., & Holmes, T. F. (1975). Penile circumference, skin conductance, and ranking responses of child molesters and "normals" to sexual and nonsexual visual stimuli. *Behavior Therapy, 6,* 213–219.

Rice, M. E., Quinsey, V. L., & Harris, G. T. (1991). Sexual recidivism among child molesters released from a maximum security psychiatric institution. *Journal of Consulting and Clinical Psychology, 59,* 381–386.

Smiljanich, K., & Briere, J. (1996). Self-reported sexual interest in children: Sex differences and psychosocial correlates in a university sample. *Violence and Victims, 11,* 39–50.

SPSS Inc. (1990). *SPSS reference guide.* Chicago, IL: Author.

van den Berghe, P. L. (1979). *Human family systems: An evolutionary view.* New York: Elsevier.

Welham, C. V. J. (1990). Incest: An evolutionary model. *Ethology and Sociobiology, 11,* 97–111.

Westermarck, E. A. (1891). *The history of human marriage.* London: MacMillan.

Williams, L. M., & Finkelhor, D. (1995). Paternal caregiving and incest: Test of a biosocial model. *American Journal of Orthopsychiatry, 65,* 101–113.

Wilson, M., & Daly, M. (1987). Risk of maltreatment of children living with stepparents. In R. J. Gelles & J. B. Lancaster (Eds.), *Child abuse and neglect: Biosocial dimensions* (pp. 215–232), New York: Aldine de Gruyter.

Received July 10, 1997
Revision received August 24, 1998
Accepted August 24, 1998 ■