

THE RELATIONSHIP BETWEEN CHILD SEXUAL ABUSE AND FEMALE DELINQUENCY AND CRIME: A PROSPECTIVE STUDY

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Child sexual abuse has been hypothesized to be an especially significant factor in the etiology of girls' delinquency and women's crime. This article reports on a prospective study of 206 women who, in the period from 1973 to 1975, were treated in a hospital emergency room in a major city following a report of sexual abuse. Their subsequent juvenile and adult criminal records were compared to a matched comparison group. Child sexual abuse was a statistically significant predictor of certain types of offenses, but other indicators of familial neglect and abuse were significant factors as well.

Keywords: *female delinquency, female crime, sexual abuse*

In recent years, women and girls have accounted for a growing proportion of people arrested and convicted for serious offenses (Greenfeld and Snell 1999), a trend that underscores the need for better understanding of the etiology of female crime and delinquency. Several scholars have posited that explanations of female offending must take into account the victimization women experience both as children and adults, and research suggests that child sexual abuse may indeed play a central role in some girls' pathway to delinquency and subsequent crime. For instance, studies of female delinquents (Lewis et al. 1991; Mouzakis 1981) report that approximately half (48-53 percent) have been sexually abused, and the proportion of women prisoners who report having a history of childhood sexual victimization is two to three times greater than women in the general public (Harlow 1999). The literature on the relationship between sexual abuse and female crime, together with that on the effects of child sexual abuse, provides evidence that helps explain why such victimization may be an important etiological factor

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for various behaviors—such as running away, drug abuse, prostitution, and even violence—that can lead to criminal justice involvement.

Accounts of female offenders' life histories have led to the hypothesis that sexual abuse triggers a woman's criminal career by leading her to run away as a means of escaping the abuse she is experiencing at home (Belknap, Holsinger, and Dunn 1997; Chesney-Lind 1997). Running away may itself result in an arrest and incarceration but can also lead to other forms of offending: Once on the streets, the runaway may turn to prostitution and stealing to survive (Arnold 1991; Chesney-Lind 1989; Chesney-Lind and Rodriguez 1983; Gilfus 1992). Indeed, several retrospective investigations find that substantial proportions of prostitutes have a history of childhood sexual abuse (James and Meyerding 1977; Paperny and Deisher 1983; Silbert and Pines 1981), although more recent research (Nadon, Koverola, and Schludermann 1998) reports no significant difference in the proportion of adolescent prostitutes who have been sexually abused when compared to demographically similar nonprostitutes. McCarthy and Hagan (1992) also found that a history of sexual abuse was not a significant predictor of prostitution once situational variables such as unemployment were controlled for in their study of homeless youth and adolescents living at home. However, sexual abuse was found to be a statistically significant predictor of running away, as it has been in other studies (Ames and Widom 1988; Famularo et al. 1990; Reich and Gutierrez 1979), and at least one study of male and female runaways has found that only females identified sexual abuse as the reason that they ran away (Welsh et al. 1995). Some evidence indicates that sexually abused runaways also appeared to be at greater risk of engaging in prostitution (Simons and Whitbeck 1991) or sex work (Rotheram-Borus et al. 1996) when compared to nonabused runaways and that female runaways who were sexually abused were at greater risk of engaging in other forms of delinquency, although males were not (Janus, Burgess, and McCormack 1987; McCormack, Janus, and Burgess 1986). Widom and Ames (1994), however, reported that none of the sexual abuse victims in their prospective study who had an adult arrest for prostitution had previously been arrested for running away as a juvenile.

As with running away and prostitution, another offense category in which differences between abuse victims and others might be expected is drug offenses because research has generally shown that both adolescents and adults with substance abuse problems report significantly higher rates of child sexual abuse victimization than others (Browne and Finkelhor 1986; Heffernan et al. 2000; Herman 1981; Kang et al. 1999; Kilpatrick et al. 2000; Marcenko, Kemp, and Larson 2000; Polusny and Follette 1995; Singer, Petchers, and Hussey 1989; Wilsnack et al. 1997). Studies of female prisoners (McClellan, Farabee, and Crouch 1997) and a cohort of abused children (Ireland and

Widom 1994) have concluded that there was a relationship between maltreatment in general and drug abuse or arrests for drug offenses.

The relationship between violent offenses and child sexual abuse has received less attention than the other forms of crime discussed above, but prior research on the behavioral consequences of child sexual abuse and evidence from life histories of female offenders suggest that there is reason to investigate the relationship between violent offending and a history of sexual abuse. Several studies have reported that children who are sexually abused are significantly more physically aggressive than children who are not (Cosentino et al. 1993; Dubowitz et al. 1993; Gomes-Schwartz, Horowitz, and Cardarelli 1990; Mannarino et al. 1991), and a meta-analysis of studies of the effects of child sexual abuse found that such victimization accounted for 43 percent of the variance in measures of aggression when comparing abused and nonabused children (Kendall-Tackett, Williams, and Finkelhor 1993).

Histories of sexual abuse have also figured in the backgrounds of aggressive women observed in qualitative studies. Baskin and Sommers's (1998) life history interviews with 170 violent female felons revealed that 36 percent reported having been sexually abused by a member of their immediate family and 26 percent by a member of their extended family. The histories recounted in Artz's (1999) ethnographic study of violent girls in Canada likewise revealed backgrounds that include sexual abuse at home. Self-reports obtained from interviews of adult survivors of child sexual abuse in the present sample revealed extensive reports of physically aggressive behavior (Siegel 2000).

Despite the above findings based on self-reports, evidence of a relationship between child sexual abuse and violent offending is weaker than that for other types of offenses when the dependent measure is official arrests. Retrospective studies of adjudicated delinquents indicate that those who were sexually abused do not have a significantly greater likelihood of arrest (Famularo et al. 1990; Reich and Gutierrez 1979) or of rearrest (Dembo et al. 1991) for violent offenses, and at least one prospective study of maltreated children (Zingraff et al. 1993) also reported that sexual abuse victims were no more likely than nonabused children to be arrested for a violent crime. Widom's (1989a) analysis of violent arrests in a prospective study produced similar results when she examined arrest records for her entire sample of abused and nonabused children. When the analysis was restricted to those subjects who did have matched controls, however, sexual abuse was a statistically significant risk factor for violent offending. In a subsequent reanalysis of Widom's data, McCord (1991) compared the records of female victims and their paired nonvictim controls to determine which of the two had a record of more offending. She found that the proportion of cases where the sexual abuse victim had a more serious record of violent offending than her match was twice what it was for the opposite combination (8 percent vs. 4 percent).

However persuasive the foregoing, prior research on the role of victimization in criminal behavior does have limitations. Virtually all such research has been based on retrospective reports of child sexual abuse. With few exceptions (Famularo et al. 1990; Reich and Gutierrez 1979), histories of abuse were established through self-reports, which may be subject to recall bias or forgetting and, without further validation, risk producing prevalence estimates that are of questionable validity (Williams, Siegel, and Pomeroy 2000). Furthermore, life histories and other studies of female offenders show that child sexual abuse is only one form of victimization they experience (Artz 1999; Baskin and Sommers 1998; Lake 1993; Richie 1996). Many have also been physically abused, neglected, and exposed to violence at home and in their communities, experiences that have also been linked to criminal behavior and aggression (Smith and Thornberry 1995; Widom 1989a). Others have noted that abuse often arises in families characterized by multiple problems. Thus, when examining the relationship between child sexual abuse and subsequent delinquency and crime, other family background factors should be controlled to determine the impact of the sexual abuse net of exposure to other forms of family violence and neglect.

This study, which uses a sample of women sexually abused as children in the 1970s, permits us to address the question of whether sexual abuse victims are at increased risk of arrest relative to other girls and, if so, what the magnitude of that risk is net of other serious family problems. It also examines whether the two groups engage in different types of offenses. The current study includes a larger sample of sexually abused girls than prior prospective studies and, unlike other prospective studies, includes cases that were documented by medical personnel but did not result in official action by child protective services because the abuse was reported prior to the enactment of legislatively mandated reporting to child protective services. It is expected that the sexually abused girls will be more likely to have juvenile and adult arrest histories than a matched comparison sample of nonabused girls and that they will be more likely to have been arrested for running away, drug offenses, and violent offenses.

METHOD

Sample

The sample consists of 411 women, including 206 victims of reported child sexual abuse and a matched comparison group of 205 women with no recorded child sexual abuse history.

In the 1970s, all reported victims of sexual abuse in a major northeastern city were brought to the emergency room of a municipal hospital for medical treatment and collection of forensic evidence. From 1973 to 1975, a sample of 206 girls ranging in age from younger than 1 to 12 years old ($M = 8.3$ years) were examined, and they and/or their family members were interviewed as part of a National Institute of Mental Health study of the consequences of the sexual assault (McCahill, Meyer, and Fischman 1979). The sexually abused girls were predominantly African American (83.5 percent), and most came from low-income families, with 56 percent known to have been receiving public assistance at the time of the abuse. Given the city's policy in effect at that time, which mandated that all reported victims of sexual assault be brought to this particular hospital, girls from a wider range of socioeconomic backgrounds might have been expected in the sample of abused girls because there is little evidence that socioeconomic status is associated with risk of sexual victimization (Finkelhor 1994). However, families from more affluent backgrounds in the city at that time may have been less likely to have revealed abuse to or come into contact with official agencies due to a decision to take their children instead to a private physician for treatment.

Details of the sexual abuse were recorded at the time the incident was reported and documented in both hospital medical records and research interview forms. The abuse experienced by the 206 girls ranged from touching and fondling to intercourse, with penetration occurring in 67 percent of the cases. All of the perpetrators in these cases were males. One-third of the girls were victimized by a member of their immediate or extended family, whereas in the rest of the cases, the offender was classified as either an acquaintance, friend or peer (39 percent), or a stranger or "relative stranger" (i.e., someone she may have seen before but not known) (28 percent). Although this distribution may seem to include fewer girls victimized by a family member than expected, it is likely that such victimizations would be less frequently reported to the authorities and thus underrepresented in this hospital sample. On the other hand, this distribution is more comparable to data on the distribution of child sexual abuse in the general population than the distribution of types of cases in child protective services samples, suggesting that the range of child sexual abuse cases in this sample is more representative of community samples than is a sample of children who had contact with child protective services.

The comparison group of girls was selected from the emergency room records of the same hospital where the victims were examined. Using the hospital's pediatric emergency room archives, records were examined to identify a girl who matched each victim on race, age (within one year), and the date they were seen in the emergency room (within one year). All records

were screened for any report of child sexual abuse because the city policy mandating that all reported victims of sexual abuse be brought to this hospital meant that the emergency room archives would contain documentation of such reports. Girls for whom there was a report of child sexual abuse, who lived outside of the city, or whose record indicated that she was mentally retarded were ineligible for inclusion in the comparison group. Girls selected as matches were seen in the emergency room for a variety of reasons, ranging from respiratory or intestinal illnesses to accidental injuries, such as cuts, dog bites, or a broken bone.

Indicators of a patient's socioeconomic status were not systematically recorded in the medical files, so we were unable to match comparison subjects based on that characteristic. To assess the comparability of the victim and comparison groups on family-of-origin income levels, we compared median family income for the census tract of residence for each girl based on her race, using data from the 1970 U.S. census for the city. A *t* test comparing the median household incomes of the two groups revealed no statistically significant differences, $t(409) = -1.62, p = .11$.

Using the method described above, a match was found for all but one of the victims, resulting in a total sample of 411 girls. Although this procedure ensured that cases of *reported* child sexual abuse were excluded from the comparison group, some women within the comparison group undoubtedly did suffer unreported sexual abuse during their childhood, given the prevalence estimates of unreported childhood victimization of females in the general population. The effect of their inclusion in the comparison group, however, would be to make estimates of differences between the abused subjects and their matched counterparts more, not less, conservative because any differences found might have been greater if the unreported victims in the comparison group were excluded from the analysis and the victims were compared only to those not victimized.

Data Collection

Criminal histories. In 1995, some 20 years after the women were seen in the hospital, official histories of arrests for the entire sample of 411 women were searched for through the city's courts, which maintain records of all arrests and court dispositions. Records of delinquency for the entire period of the girls' childhood and adolescence were obtained from the city's family court, which has jurisdiction over both delinquency and dependency matters. With the exception of running away, status offenses were not routinely recorded at the family court because most were adjudicated in the city's municipal court, and those records were unavailable for the entire period of interest. No status offenses except running away were included in this analysis.

We used the family court's computerized records to collect information on the five most serious charges against an individual for each arrest, as well as the disposition of the case. Any dependency hearings involving the child were also included in the computerized records and coded for use in these analyses. None of the dependency hearings resulted from the sexual abuse the victims experienced.

Adult criminal histories were obtained by a search of the city's computerized court histories, which contain records of all arrests and dispositions in the city. Prior to the search of the criminal records, more than 700 marriage license applications issued to women with the same names as women in this sample were examined in the city's marriage license bureau to determine whether any had in fact been issued to one of the participants. Eighty-five of the applications proved to be for women in this sample. The search of the court records was then carried out by checking for a woman's maiden and married names where both were known. For each woman with an arrest record identified through the search, a copy of the complete court history was obtained; arrests were coded in the same manner as noted above for juvenile arrests.

Measures

Dependent variables. For juvenile outcomes, dichotomous variables (0 = no, 1 = yes) measure whether a person had ever been arrested for any offense, arrested for a violent or property offense, or for running away (three separate variables).¹ For adult outcomes, dichotomous variables measured whether she was ever arrested and ever arrested for a violent, property, or drug offense (three separate variables). Although arrests for prostitution were recorded as well, so few women were arrested for that offense that multivariate analyses for that offense category are not reported here.

Control variables. Because victims and comparison subjects were matched on the basis of age at the time seen at the hospital and race (0 = White, 1 = African American), controlling for those demographic variables was necessary only in cases where they were significantly associated with a given outcome. Thus, tests of association were conducted to determine whether any of the outcomes were associated with those variables and with socioeconomic status as measured by the median family income for a woman's racial group² of the census tract in which she lived at the time of the hospital visit. Demographic variables were then used as controls in multivariate analyses only when they were related at the bivariate level to a particular outcome.

Because data had not been collected on the family background characteristics of the comparison group, complex models could not be tested to determine the independent effect of victimization status on offending patterns among the victims when compared to their matches net of other potentially influential variables. Absent such data, having a dependency hearing is used as an indicator of family violence or dysfunction for both groups.³ At a minimum, dependency hearings indicate that a girl was living in a family where supervision was inadequate or, at worst, where physical abuse or neglect was occurring. Whatever the specific reason for the hearing, dependency can be viewed as a potential risk factor on its own for delinquency. Therefore, a dichotomous (0 = no, 1 = yes) variable measuring whether a girl had a dependency hearing was used as a control variable in multivariate analyses.

In view of the literature hypothesizing that many female runaways are fleeing sexually abusive situations at home, a four-category variable reflecting the relationship between the victim and offender was used to determine whether incest victims were at increased risk of arrest for running away as juveniles (0 = stranger, 1 = acquaintance/peer/friend, 2 = extended family, 3 = nuclear family).

Analysis. Analyses were performed separately for delinquent and adult outcomes to see whether sexual abuse status would have the same effect on criminality at different stages of a woman's life. Tests of association between sexual abuse status and the delinquent and criminal outcomes among the full sample were carried out at the bivariate level through McNemar's test, which is similar to the chi-square test but is appropriate for testing association within a 2×2 table when using matched samples (Everitt 1977; Fleiss 1981). In this method, the significance of the association is based on a comparison of the distribution of pairs of subjects and their matches instead of individuals. If the factor on which the pairs differ is unrelated to the outcome, then the outcomes theoretically should be the same for both people forming the pair. Thus, when a subject has no arrest record, neither should her match. The 2×2 table is formed by grouping pairs according to the concordance of outcomes in each pair; the comparison of interest in such cases is between pairs where the outcomes are dissimilar. In this case, the groups of interest are those in which the abused subject has a criminal history and her match does not and those in which the reverse is true. McNemar's test yields a statistic that has a chi-square distribution with one degree of freedom; thus, large values suggest that the outcome is significantly associated with the risk factor. For tables that contain cells with fewer than 10 cases where the outcomes differ between the subject and the match, a one-tailed binomial test was used to determine statistical significance.

TABLE 1: Juvenile and Adult Arrests and Court Outcomes, by Child Sexual Abuse Status (in percentages)

<i>Outcome</i>	<i>Overall (N = 411)</i>	<i>Victims (n = 206)</i>	<i>Matches (n = 205)</i>
<i>Juvenile</i>			
Any arrest	16.8	19.9	13.7
Violent offense	10.0	13.6	6.3
Property offense	7.8	9.2	6.3
Runaway	2.9	5.3	.5
Dependency hearing	12.4	18.0	6.8
<i>Adult</i>			
Any arrest	15.6	20.4	10.7
Violent offense	6.8	9.3	4.4
Property offense	7.3	9.3	5.4
Drug offense	4.6	7.8	1.5
Prostitution	2.0	2.4	1.5

For bivariate relationships that did not involve the matched pairs (i.e., among dependent girls only), statistical independence was tested using the Pearson chi-square statistic, whereas the magnitude of bivariate relationships was measured by Goodman and Kruskal's tau. Fisher's exact test was used to measure the significance of relationships in 2×2 contingency tables where the expected frequency in one or more cells was less than five. Logistic regression was used for all multivariate analyses. Dependent variables were first regressed on child sexual abuse alone; any demographic variables associated with an outcome at the bivariate level were then entered into the equation. In the final step, dependency status was included as a control if it was related to the outcome.

RESULTS

Bivariate Relationships

For descriptive purposes, Table 1 shows percentages of the entire sample and each of the two groups who were arrested as juveniles and adults for various offenses. As juveniles, a larger proportion of victims of child sexual abuse than matches were arrested in every category, and the abused girls were also more likely to have had a dependency hearing. The child sexual abuse victims were more commonly arrested for violent offenses (13.6 percent) than for property offenses (9.2 percent); girls in the comparison group, however, were arrested in equal proportions for violent and property offenses

(6.3 percent in each category). All but one of the girls arrested for running away were in the sexually abused group. The victim-offender relationship was significantly associated with running away: 13.2 percent of the 53 girls victimized by a stranger or relative stranger were arrested for running away compared to none of the 63 girls victimized by a family member, $\chi^2 = 9.186, p = .027$. Among the 69 girls in the sample who were arrested, abuse victims were significantly more likely to have been adjudicated delinquent (31.7 percent vs. 7.1 percent), $\chi^2 = 5.901, p = .015$. In addition, all of the girls who were sent to a juvenile institution ($n = 7$) were abuse victims, $\chi^2 = 7.087, p = .008$.

Nearly twice as many victims (20.4 percent) as matches (10.7 percent) were arrested as adults, and the rate for violent offenses was more than two times greater (9.3 percent vs. 4.4 percent). The largest difference in adult offending, however, is in arrests for drug offenses, in which 7.8 percent of the victims were arrested, whereas only 1.5 percent of the comparison group was. Larger percentages of victims than matches were arrested for property offenses and prostitution as well. The abused women were arrested for violent offenses as often as they were for property offenses, whereas the matches were arrested more often for the latter. In adulthood, neither conviction nor incarceration was significantly associated with abuse status.

The results of McNemar tests for the various offense categories are shown in Table 2. In every arrest category, the number of cases in which a victim was arrested and her match was not exceeds the number for which the reverse is true. However, arrests for violent offenses is the only category where the differences were statistically significant for both juvenile and adult arrests. In addition, cases where a victimized girl had an arrest for running away but her match did not were significantly more common than the reverse. The number of pairs ($n = 33$) in which an abuse victim also had a dependency hearing but her match did not was three times greater than the number in which a match had a dependency hearing but the abuse victim did not ($n = 11$), $\chi^2 = 10.023, p = .002$. Statistically significant differences occurred in the categories of adult arrests in general and for adult drug offenses, for which there were two and five times as many pairs, respectively, where the victim was arrested but her match was not.

Role of dependency status in delinquency and adult criminality. If dependency was associated with an increased risk of delinquency or crime, the differences observed between those sexually abused and the comparison group may have been attributable to the higher rates of dependency among the former because they were significantly more likely than the comparison group to have had a dependency hearing. Bivariate analysis showed that girls who came before the court for dependency hearings in fact were more likely to have a juvenile arrest record and were also more likely to be arrested for all

TABLE 2: Distribution of Pairs of Victims (V) and Matches (M) with Dissimilar Arrest Histories and Court Outcomes

Offense	Number of Pairs		McNemar's χ^2	p
	V Yes, M No ^a	M Yes, V No		
Juvenile				
Any arrest	36	23	2.441	.118
Violent offense	27	12	5.026	.025
Property offense	16	10	— ^b	.164 ^b
Runaway	11	1	— ^b	.003 ^b
Adult				
Any arrest	39	19	6.224	.013
Violent offense	19	9	— ^b	.045 ^b
Property offense	19	11	— ^b	.100 ^b
Drug offense	15	3	— ^b	.004 ^b
Prostitution	5	3	— ^b	.363 ^b

a. "Yes" indicates that a subject had an arrest for a given offense category, and "No" indicates that she did not. Pairs with similar outcomes (V Yes, M Yes; V No, M No) are not shown.

b. Significance based on one-tailed binomial test due to cells with 10 or fewer cases. Therefore, chi-square values are not shown. In the case of adult property offenses, the cells with counts of fewer than 10 cases occurred where the outcomes were similar and thus are not shown.

TABLE 3: Percentage Arrested, by Dependency Status

Offense	Dependency Hearing		χ^2	p	τ^a
	Yes (n = 51)	No (n = 360)			
Juvenile					
Any arrest	39.2	13.6	20.964	.000	.051
Runaway	23.5	.0	87.253	.000	.212
Violent offense	19.6	8.6	6.016	.014	.015
Property offense	23.5	5.6	20.101	.000	.049
Drug offense	2.0	.8	— ^b	.416 ^b	.001
Adult					
Any arrest	27.5	13.9	6.250	.012	.015
Violent offense	11.8	6.1	2.211	.14	.005
Property offense	13.7	6.4	— ^b	.064 ^b	.009
Drug offense	2.0	5.0	— ^b	.288 ^b	.002

a. Goodman and Kruskal's tau.

b. Significance based on Fisher's exact test (one-tailed) due to cells with expected frequencies of less than five. In these cases, chi-square values are not shown.

categories of offenses as juveniles, except drug offenses (Table 3). Arrest rates for those who had dependency hearings were even higher than those for the sexual abuse group. Nearly 4 out of 10 (39.2 percent) of the dependent

girls were arrested as juveniles, and 1 in 5 (19.6 percent) was arrested for a violent offense. The strongest relationship between dependency and any arrest category was for running away: Not surprisingly, all of the runaways had dependency hearings, and nearly 1 out of 4 of the dependent girls was arrested for running away.

Although a larger percentage of dependent girls were arrested as adults for all types of offenses except drug offenses than those who had not had a dependency hearing, the only category in which the association between dependency and an adult arrest outcome is statistically significant is arrests in general, for which the percentage of dependent girls with adult arrests (27.5 percent) was approximately twice what it was for those who did not have a dependency hearing (13.9 percent). The strength of this association, however, was weak ($\tau = .015$).

Multivariate Analysis

Juvenile offenses. Arrests for violent crimes and running away were the two delinquent offense categories for which statistically significant differences were found between the victims and matches at the bivariate level. Logistic regression equations in which being arrested for a violent offense was the dependent variable were estimated to determine whether sexual abuse status would still be a significant risk factor, controlling for dependency and for race, which was significantly associated with this outcome, $\chi^2(1, n = 411) = 5.975, p = .015$. Multivariate logistic regression equations could not be estimated with running away as a dependent variable because all but one of the runaways were sexually abused and all had dependency hearings, which meant that some cells in the resultant cross classification of variables have counts of zero, thereby making them unsuitable for estimation of coefficients using logistic regression (Hosmer and Lemeshow 1989). However, a three-way cross tabulation (Runaway \times Abuse Status \times Dependency) indicated that the sexual abuse victims were not significantly more likely than the girls in the comparison group to be arrested for running away, controlling for dependency status, $\chi^2 = 2.880, p = .09$. Running away was also significantly related to victim-offender relationship, but analysis of the adjusted standardized residuals revealed that the association was a function of a greater than expected number of runaways who had been victimized by a stranger, $\chi^2 = 9.186, p = .027$. None of the girls who were victimized by a member of either her extended or nuclear family was arrested for running away.

Table 4 displays the results of the multivariate analysis of the two categories for which both sexual abuse and dependency were significantly associated with the outcome: juvenile arrests for violent offenses and adult arrests for any offense. In both cases, the relative odds of arrest for the sexual abuse

TABLE 4: Multivariate Logistic Regression Models, Controlling for Dependency Status (N = 411)

<i>Variable</i>	<i>b</i>	<i>SE</i>	<i>Exp (b)</i>	<i>b</i>	<i>SE</i>	<i>Exp (b)</i>	<i>b</i>	<i>SE</i>	<i>Exp (b)</i>
Dependent variable: juvenile violent offense arrest									
Victim status (yes = 1)	.843*	.351	2.322	.866*	.354	2.377	.747*	.361	2.110
Race (African American = 1)				2.168*	1.021	8.744	2.234*	1.023	9.340
Dependency (yes = 1)							.874*	.418	2.397
Constant	-2.692***	.287		-4.703***	1.037		-4.841***	1.043	
-2 log likelihood	260.634			251.517			247.529		
Model χ^2	6.145 ₍₁₎ *			15.261 ₍₂₎ ***			19.250 ₍₃₎ ***		
Goodness of fit	410.933			450.957			394.298		
Dependent variable: adult arrest for any offense									
Victim status (yes = 1)	.756**	.284	2.130	.671*	.289	1.955			
Dependency (yes = 1)				.701*	.356	2.015			
Constant	-2.118***	.226		-2.180***	.229				
-2 log likelihood	348.121			344.510					
Model χ^2	7.394 ₍₁₎ **			11.005 ₍₂₎ **					
Goodness of fit	410.999			412.234					

* $p < .05$. ** $p < .01$. *** $p < .001$.

victims were estimated first, followed by inclusion of dependency as a control variable. In the case of juvenile arrests for violent offenses, race was also entered as a control because it was significantly associated with violent offending at the bivariate level.

With respect to juvenile offending, sexual victimization made a statistically significant independent contribution to an increased likelihood of arrest, controlling for race and dependency status: The odds of an arrest for a violent offense for girls who were sexually abused were 2.1 times greater than that for matches. Dependent girls were also significantly more likely to be arrested, with dependency increasing the odds of arrest by a factor of nearly 2.4. Race increased the risk of such arrests more than either victimization or dependency, with African American girls facing a risk of arrest more than nine times (9.34) greater than that of White girls. Because only 1 of the 41 girls arrested for a violent crime was White, the equation was also estimated separately for the African American subjects. In this analysis, sexual abuse significantly increased the odds of arrest, but dependency did not: The odds of arrest for abuse victims were 2.64 times greater than nonvictims.

The dependent variable in the second equation in Table 4 is adult arrest for any offense. The odds that a woman who was sexually abused as a child would be arrested as an adult, controlling for a history of dependency, were increased by 1.955 for women who had been victimized as girls relative to their matched counterparts. Dependency also significantly increased the odds of adult arrest, by a factor of 2.015. Thus, the odds of adult arrest for women with a history of both sexual victimization and dependency were nearly four times greater than those for women who had no history of either event.

DISCUSSION

The findings from this study with respect to the prevalence of arrests among victims of child sexual abuse are consistent with other prospective research (Smith and Thornberry 1995; Widom 1989a, 1989b; Zingraff et al. 1993) in that most of the girls who were sexually abused, like their nonabused peers, did not have an official record of delinquency or adult criminality. In fact, contrary to expectations, victimization status was not associated with juvenile arrests in general. The hypothesized relationship was confirmed, however, for adult offending: Sexual abuse victims were significantly more likely to have been arrested as adults than their matched counterparts even after controlling for a childhood history characterized by family problems serious enough to have resulted in a dependency hearing.

Expectations about the participation of those known to have suffered sexual abuse in childhood and the matched comparison group in different types of offending were, for the most part, confirmed. In keeping with the findings of earlier research (Ames and Widom 1988; McCormack, Janus, and Burgess 1986), we found that sexually abused girls were more likely to become run-aways than were their matched comparisons, although this relationship appears to have been associated with the increased likelihood that those who were sexually abused were also significantly more likely to have been declared dependents of the court. Although it had been hypothesized that they would also have been more likely to have been arrested for drug offenses as juveniles, in fact equal and, notably, small numbers of victims and matches were arrested as juveniles for such offenses. In adulthood, however, the child sexual assault victims were more likely to be arrested for drug offenses. Contrary to several other studies (Dembo et al. 1991; Famularo et al. 1990; Reich and Gutierrez 1979; Zingraff et al. 1993), we found that the sexual abuse victims in this sample were also significantly more likely to have been arrested for violent crimes throughout their lives.

The offense categories in which abuse victims were at greater risk as juveniles and adults represent quite distinct types of behavior. Although violent offenses are associated with aggression, running away has been referred to as an "escape" offense (Reich and Gutierrez 1979). Drug offenses may be symptomatic as well of escape or avoidance behavior. Both escape and aggression, however, may simply be different ways of responding to the same problem. The aggressiveness inherent in violent offenses may be an attempt to reassert a sense of power believed to have been lost as a result of the victimization (Finkelhor and Browne 1985) or simply a misplaced expression of anger (Moore 1991). Indeed, several studies of the short-term consequences of child sexual abuse have found abused children to be significantly more aggressive than nonabused children (Kendall-Tackett, Williams, and Finkelhor 1993). Running away, on the other hand, can be conceived of as a survival technique for victims of abuse in the home (Arnold 1991; Gilfus 1992), and some have theorized that sexual abuse victims are more likely than others to be substance abusers because of a need to distance themselves emotionally from the pain of their experiences (Polusny and Follette 1995). Each behavior thus may be conceived of as an adaptive response to the abuse.

The pattern of arrests for violent and property offenses for the victims in this sample was decidedly "unfeminine." Although girls are most commonly arrested for property crimes and status offenses, such as running away, and women typically are arrested for larceny and other property crimes (Chesney-Lind 1997), the number of victims in this sample arrested as juveniles for violent crimes was nearly one and a half times greater than the number arrested for property crimes. As adults, equal numbers were arrested for

each type of crime. This ratio of arrests is much more similar to that for men than for women reported in the UCR (U.S. Department of Justice 2001).

A partial explanation for the victims' higher participation in violent crime than that found in national arrest statistics may be found in the demographic composition of this sample, which is not representative of the general population. Low-income, inner-city African American women, who constitute 86 percent of this sample, have higher rates of arrest for violent offenses than other women, comparable in some cases to rates to White men. As Simpson (1991) has pointed out, "black females, especially those in the 'underclass,' engage in what might be considered anomalous behavior for their gender (i.e., violent crimes) but not for their race" (p. 116). Laub and McDermott (1985) reported that their analysis of data from the National Crime Survey for the period from 1973 to 1981 revealed that African American girls age 12 to 17 were arrested for serious crimes at substantially higher rates than White girls and were close to those for White males. Baskin and Sommers's (1998) analysis of New York City data revealed that Black females' arrest rates for robbery and assault exceeded those of White males.

If higher violent crime arrest rates for African American females were the sole explanation of differences between the pattern of offenses for abuse victims when compared to national data for females, then the matched comparison group should display similar divergence from the typical female patterns. However, the pattern of arrests for the comparison women was distinctly different from that for the victims. As juveniles, women within the comparison group were as likely to be arrested for property offenses as for violent offenses. As adults, a slightly larger percentage of comparison women were arrested for property crimes than for violent crimes. Therefore, the overrepresentation of African American women in this sample cannot completely explain the observed differences in their rates of arrest when compared to national data. The findings suggest a need to further explore the role of child sexual abuse in the violent offending of African American women. These findings also point to a need for additional investigation into the violent arrest patterns of female survivors of sexual abuse to determine whether these results would be replicated for other samples of low-income, inner-city, African American women and for samples representative of a broader spectrum of abuse victims, particularly because similar patterns among sexual abuse victims have not been found in other prospective studies (Rivera and Widom 1990; Widom and Ames 1994; Zingraff et al. 1993, 1994).

Studies of community samples have consistently shown an association between drug abuse and a history of childhood sexual victimization; estimates of the prevalence of substance abuse among female survivors in such surveys range from 14 percent to 31 percent, compared to 3 percent to 12 percent of nonabused females (Polusny and Follette 1995). Given the con-

sistency of this finding, it was somewhat surprising to find that the abused victims in this study were no more likely than the nonabused matches to be arrested for drug offenses as juveniles, although they were as adults. Nevertheless, these findings are consistent with Ireland and Widom's (1994) analysis of drug offending, which uncovered a similar pattern wherein the females in their sample of maltreated children were significantly more likely than the matched controls to be arrested for a drug and/or alcohol offense as adults but not as juveniles. In their analyses, this relationship was not specific to sexual abuse but to maltreatment in general.

One possible explanation of the difference between juvenile and adult arrests for drug offenses could be related to the period during which the majority of the women in this sample were at risk of juvenile arrest because it preceded the increased efforts directed at enforcement of drug laws that began in the 1980s. That in turn could have meant that the probability of an arrest for a drug offense was relatively low. Furthermore, a considerable amount of research indicates that criminal activity precedes serious drug use (Anglin and Hser 1987; Blumstein et al. 1986), which could indicate that involvement with drugs becomes serious enough to result in an arrest only as a woman ages and that a girl could incur a juvenile record without any evidence of drug offending.

In view of findings about the temporal ordering of drug use and criminal behavior, the increased risk of substance abuse among sexually abused women may not represent a mediating factor in the link between child abuse and crime, but it may prove to have a moderator effect that would explain differences in the type and severity of offending behavior found between the two groups of women in this study. Further investigation of this relationship is warranted.

Running away has frequently been conceptualized as an attempt by an abuse victim to escape from an abusive environment, whether maltreatment takes the form of physical, emotional, or sexual abuse, and empirical findings indicate that many runaways indeed do have histories of abuse (Welsh et al. 1995). Once on the street, runaways may be at greater risk of involvement in more serious forms of behavior (Chesney-Lind 1989), be introduced to drugs, or resort to prostitution either as a survival technique or because of exploitation by others they meet on the street. These hypothetical sequences cannot be confirmed from available arrest data. However, if the first part of the sequence were true for these women, it would be expected that victims of incest would have a greater likelihood of arrest for running away. In this sample, that is not the case. In fact, none of the women abused by a member of her nuclear or extended family was arrested for running away. Instead, nearly two-thirds (63.6 percent) of the runaways were abused by a stranger, whereas the balance was abused by an acquaintance.

The difficulty in understanding the full meaning or impact of arrests for running away in this sample is compounded by the fact that all of the runaways had dependency hearings. For some women, the dependency hearing may have resulted in placement in a foster home. In such cases, their arrests for running away may have resulted from attempts to run from abusive environments in their foster homes. Thus, the running away would have been precipitated by the removal from her family that resulted from the dependency hearing. However, it is also possible that a girl's running-away behavior prompted a dependency hearing because a report that a child has run away could alert the court to a family problem that then becomes the subject of a hearing.

The fact that all of the runaways had dependency hearings and all but one were sexually abused makes it extremely difficult to determine the independent contribution of sexual victimization to the risk of running away in this sample. Future investigations of the role that running away plays as a pathway to delinquency for girls should be undertaken, using longitudinal designs that can take into account both the precipitating reasons for running away and the sequencing of delinquent acts. In addition, a sampling procedure that identified a larger number of girls who were being abused by a family member than was the case in this sample would facilitate a more in-depth exploration of the relationship among abuse, running away, and delinquency.

The findings about the role of dependency hearings, which reflect some type of family breakdown, underscore the importance of other family variables in understanding the factors that affect the likelihood of delinquency. Having a dependency hearing showed stronger associations with virtually all forms of delinquent behavior than did sexual abuse status, although the abuse was still a significant risk factor in violent offending, controlling for having had a dependency hearing.

The finding that the victims were more likely than the matched comparison girls to have had a dependency hearing and to have been arrested for certain offenses suggests the possibility that "child maltreatment and juvenile misconduct are products of a common family environment" (Alfaro 1981:214). Inasmuch as none of the dependency hearings resulted from the specific sexual victimization incident reported during the first phase of this research, the fact that the abuse victims were significantly more likely to have been the subject of a dependency hearing than the girls in the comparison group suggests that some underlying family dynamic may have played a role in the risk of victimization for some.

Although the findings of the current research add to the growing literature about the relationship between sexual abuse of girls and delinquency, some limitations should be noted. As mentioned earlier, the demographic composition of this sample is not representative of the general population, which

limits the generalizability of these findings. Due to their greater probability of being a subject of a dependency hearing, the victims in this sample were more likely than the comparison group to have been involved with the formal system of child protection, which could in turn have led to a greater likelihood that the sexual abuse they experienced would be reported. Thus, they may not be representative of the population of girls who experience sexual abuse. Similarly, their greater involvement with the social service system may have subjected them to more police surveillance, but absent first-hand observation, there is no way to confirm or disprove this hypothetical situation. In addition, although reliance on official arrest histories enabled us to analyze differences in more serious delinquent offenses, the limitations on the availability of some court records prohibited analysis of any differences in status offending, other than running away. The official data used came only from the records of the city where the girls resided in the 1970s. If one group of girls was more likely than the other to have moved, a risk of bias in the analysis exists. Because their sexual abuse status is the only way in which the two groups are known to have differed, there is scant reason to assume that they would have differential rates of emigration from the city, unless one assumes that the abuse might have caused the victims to relocate. However, there was little evidence of widespread relocation out of the city resulting from the abuse found during the follow-up interviews conducted during the 1990s.

An additional concern is related to the possibility of differential rates of mortality between the victims of child sexual abuse and those not victimized, which in turn would affect the number of women susceptible to arrest. Two diverging hypotheses could be posited. First, if those in the comparison group were seen in the emergency room for serious illnesses, then they might have been at higher risk of early mortality. However, virtually all of the girls were seen for relatively minor injuries, such as cuts or dog bites, or for ordinary childhood illnesses, such as stomachaches, sore throats, or ear infections. Their records suggested, in fact, that their families used the emergency room for their primary medical care rather than going to a doctor. On the other hand, a plausible argument could be made that the victims of child sexual abuse would be at higher risk of premature mortality because their victimization put them at risk for behaviors such as drug abuse or prostitution that could have serious adverse health consequences leading to early mortality. Future analyses will examine mortality rates in the two groups.

Despite these limitations, the research does contribute important information about a group (i.e. low-income, inner-city, predominately African American women) that, although overrepresented in the both the juvenile and adult justice systems, has been relatively underrepresented in the research on the relationship between abuse and delinquency. The fact that a majority of the girls who suffered abuse in this sample were not arrested as juveniles or

adults should of course be taken as an encouraging finding that points to the need to explore in more depth those factors that may insulate victims from the negative consequences of abuse. Nonetheless, the child sexual abuse victims' histories of arrests for more serious (i.e., violent) offenses than their non-abused counterparts is a troubling outcome, one that underscores the need to find ways to mitigate the adverse consequences of abuse.

NOTES

1. The number of girls with juvenile arrests for drug offenses ($n = 4$) or prostitution ($n = 2$) was so small that these variables were not used as outcome measures.

2. The 1970 U.S. census contains a special survey of the city's "Negro population" at that time. In many cases, the median family income for African American families residing in a given tract differed substantially from that for the overall population of the tract. Therefore, the figures used for coding income levels for African American subjects came from the special survey, whereas the median income level for the overall population in a given census tract was used for all others.

3. Cases for which a dependency hearing was held were checked by reviewing the subjects' court files. This review indicated that in fact these girls were living in families in which there was abuse (other than the sexual abuse that the subject had reported) or neglect or in which the parent(s) or guardian(s) felt they simply could not control the daughter. In no cases were dependency hearings the result of sexual abuse, either for victims or matches.

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