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JUVENILE CRIME, AGGRESSION AND DELINQUENCY AFTER SEXUAL ABUSE

A Longitudinal Study

HEATHER Y. SWANSTON, PATRICK N. PARKINSON, BRIAN I. O’TOOLE, ANGELA M. PLUNKETT, SANDRA SHRIMPTON AND R. KIM OATES*

This longitudinal study sought to examine whether sexual abuse is associated with subsequent juvenile offending, aggression and delinquency after controlling for a range of confounding variables. The study group consisted of children with substantiated sexual abuse who presented to hospitals in Sydney, Australia. Nine years after intake, 38 abused young people and 68 non-abused young people were interviewed and assessed. Interviews were also conducted with parents. After adjusting for age, sex, socio-economic status and whether the child was living with biological parents at intake or not, a history of child sexual abuse predicted self-reported criminal behaviour and parents’ rating of the young person’s aggressiveness. This indicates that child sexual abuse is an independent risk factor for offending and delinquent behaviour.

Introduction

The association between child abuse and juvenile offending

There is now considerable evidence that child abuse and neglect play a role in the aetiology of juvenile delinquency. Numerous studies have drawn attention to that link by demonstrating that a significant proportion of juvenile offenders have a substantiated history of child maltreatment (Alfaro 1981; Famularo et al. 1990; Kratcoski and Kratcoski 1982; McCord 1983; Mouzakitis 1981). There is also a link between adolescent maltreatment and juvenile offending (Brezina 1998; Paperny and Deisher 1983). The relationship between child maltreatment and juvenile offending has been demonstrated for all forms of abuse and neglect, although there is evidence that the link between neglect and criminal offending is particularly strong (Brown 1984; Weatherburn and Lind 1998).

While there are methodological problems in many of these studies (Garbarino and Plantz 1986; Howing et al. 1990; Widom 1989a; Zingraff et al. 1993), the relationship between child abuse and juvenile offending has also been established in studies using a

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prospective cohort design and which have controlled for other variables such as for age, race, sex, and socio-economic status (Widom 1989b; Smith and Thornberry 1995).

Using such a prospective design, Widom (1989b) compared a group of adults abused and/or neglected as children with a comparison group not known to have been abused or neglected. Significantly more of the abused/neglected people had adult non-traffic criminal records and arrests for violent crimes than controls. Older subjects were significantly more likely than younger subjects to have a criminal record and similarly, males and blacks were more likely to have records than females and whites. Compared to controls, abused and neglected children began delinquent careers at an earlier age although when temporal patterns of violent offending were examined, abused/neglected children were no different to controls with regard to age at first arrest for a violent crime (Rivera and Widom 1990). Thus age, sex, race and abuse/neglect status each contributed to predicting adult criminal behaviour, although the majority of abused or neglected children did not become criminal or violent offenders (Widom 1989b). In a follow-up study conducted six years later, Maxfield and Widom (1996) found that almost half (49 per cent) of the abused or neglected group had arrests for offences (other than traffic offences) by the age of 32 (see also Widom and Maxfield 2001).

Smith and Thornberry (1995) found a significant effect of child maltreatment after controlling for race, sex, family structure and underclass status (as defined by the unemployment of the household’s primary wage-earner, receipt of welfare benefits or an income below the federally defined poverty line). In this study, the researchers used both official records and self-reports. They found that childhood maltreatment is a significant risk factor for delinquency as revealed by official records, for violent self-reported delinquency and for moderate self-reported delinquency. They found that maltreatment did not appear to be a risk factor for the less serious forms of delinquency. They also found that the strength of the relationship between child maltreatment and juvenile delinquency increases with the seriousness of the maltreatment.

Exposure to domestic violence is also being seen increasingly as a form of child maltreatment (Mullender and Morley 1994; Parkinson and Humphreys 1998). In a large community study, Fergusson and Horwood (1998) found that children who were exposed to domestic violence initiated by their father against their mother were at increased risk of conduct disorder and property crime, as well as anxiety disorder. This was the case after adjusting for a range of other adverse factors including social and economic disadvantage, parental divorce or separation, parental adjustment problems, multiple childhood disadvantages, and a history of child abuse.

However, one study using a prospective cohort design has indicated that the relationship between child maltreatment and juvenile delinquency has been greatly exaggerated. Zingraff et al. (1993) examined a random sample of cases of children notified to authorities in North Carolina for child abuse and neglect. Their study differed from Widom’s in that Widom’s sample of abused and neglected children was derived from court records and these were probably at the most serious end of the spectrum of abuse and neglect cases. Zingraff et al. found that when age, sex, race and family structure were held constant, the relationship between child maltreatment and delinquency was primarily seen in complaints to the juvenile court of status offences. They divided the complaints into three categories: property offences, violent offences and status offences. In comparison with a control group of children randomly selected from the general school
population, a history of maltreatment significantly increased the odds only for status offences and not property offences or offences involving violence. There was a statistically significant relationship between child maltreatment and the overall level of complaints. In comparison with a sample of 177 children from welfare dependent families, they found that child maltreatment did not increase the risk of property or violence complaints. It only increased the risk of status offence complaints. As Howing et al. (1990) observed, such behaviours as running away (which may lead to a status offence complaint) may actually reflect maltreatment rather than delinquency.

Zingraff et al. (1993) also found that while the overall experience of maltreatment placed children at greater risk of complaints, individual types of maltreatment did not. Specifically, sexually abused children were indistinguishable from children in the general school population in their risk of delinquency.

Different types of child maltreatment

One of the problems with research on the relationship between child maltreatment and delinquency is that a composite term ‘child maltreatment’ is used to aggregate a variety of forms of abuse and neglect, and to combine more and less serious forms of maltreatment (Howing et al. 1990).

Differentiation between forms of abuse and neglect may be important not only to examine the patterns of juvenile offending but also in understanding the aetiology of such offending. If all forms of abuse and neglect have criminogenic effects does this mean necessarily that they have the same kinds of criminogenic effects (Howing et al. 1990)? Or are the factors at work quite different between different forms of abuse and even in relation to abusive acts which are classified in the same way? The fact that different forms of maltreatment tend to be reflected in different kinds of criminal behaviour suggests that there may be different kinds of criminogenic effects for various kinds of abuse and neglect. There is some evidence for the proposition that violence begets violence (Widom 1989a; Widom 1989c), although the evidence is somewhat equivocal (Zingraff et al. 1993). Research has inconsistently considered the impact on subsequent delinquency of different dimensions of maltreatment such as exposure to multiple types of maltreatment (Smith and Thornberry 1995). However, there is evidence that the severity of the abuse is reflected in criminal outcome. For example, Fergusson and Lynskey (1998) found that, in 17-18 year olds, the extent of the physical punishment during childhood was significantly related to recurrent property and violent offending.

In sexual abuse, however, there may be other criminogenic factors at work. Sexual abuse is associated with increased risk of hard drug use (Dembo et al. 1987; Johnsen and Harlow 1996) and alcohol abuse (Wilsnack et al. 1997), and these are associated with criminal offending (Baker 1998). These factors may thus mediate the relationship between sexual abuse and subsequent juvenile offending. The criminogenic effects of sexual abuse may therefore be different to the effects of physical abuse or parental rejection.

Even within the one categorization of ‘sexual abuse’ there may be differences in criminogenic effect. The one label of ‘child sexual abuse’ encompasses a wide variety of incidents, occurring in a range of different contexts. Finkelhor and Browne (1986) have characterized the traumagenic dynamics of child sexual abuse as sexualization, betrayal, powerlessness and stigmatization, and the presence of these differs from case to case.
A sense of betrayal is a feature of much intrafamilial abuse as well as in other situations where the perpetrator of abuse is a trusted adult with protective responsibilities toward the child. Those dynamics are not present in abuse by a stranger or acquaintance.

**Child sexual abuse and criminal offending**

Only two previous studies have examined this association. In a further analysis of the data reported by Widom (1989b), Widom and Ames (1994) divided the group of abused and neglected children according to type of abuse and neglect. After controlling for age, race, sex, and approximate socio-economic status, they showed that when the cases involving various forms of abuse and neglect were combined to form a group of cases, more of the cases had adult arrests than a group of non-abused and non-neglected controls. This was particularly the case for property, order and drug offences. They reported that there was little difference between different forms of maltreatment in predicting criminal behaviour. However, more of the neglected group had adult arrests for property, order and violent offences than the other abused groups. In their analysis of the relationship between the type of abuse and sex crimes they found that different forms of abuse led to different patterns of arrests. For males, there were significant links between physical abuse and arrests for violent sex crimes such as rape. There was no significant relationship between child sexual abuse and later violent sex crimes, but victims of child sexual abuse were at increased risk of arrest for prostitution. They also found that early childhood sexual abuse did not increase the likelihood of later delinquent and adult criminal behaviour, compared to other forms of abuse and neglect.

Furthermore, the nature of the sexual abuse was found not to predict adult criminality. That is, the type of abuse (penetrative or not), and the living situation of the perpetrator (in the child’s home or not) were not significantly related to outcome in the children. Those children who were abused by relatives had a somewhat greater percentage of arrests as juveniles and adults than non-relatives. However, these differences did not reach significance.

There are a number of caveats which were stated by the authors (Widom 1989; Widom and Ames 1994). Firstly, only those crimes for which there were official records were examined. It is possible that actual crimes committed by adults abused as children were more frequent and more serious than those included in this study. Secondly, the age range in Widom and Ames’s study was restricted to those children who were younger than 11 years at the time of abuse. Thirdly, cases were taken from the time period 1967–71, hence these cases would have been quite severe—they pre-dated mandatory child abuse reporting laws. Fourthly, cases were also skewed towards lower socio-economic status and multi-problem families. Fifthly, emotional damage from child abuse can manifest itself as depression, anxiety, withdrawal or suicide, so attrition rates in studies of later criminal offending may be hampered by the deaths of some subjects and the diversion of subjects into mental health treatment programmes (Widom 1989b). Last, they noted that children’s outcomes may have been affected by the fact that all cases were substantiated and subject to agency and court intervention and children may also have received treatment for the abuse.

A recent study in Australia does indicate some differences between types of abuse. Stewart, Dennison and Waterson (2002) examined the records of children born in 1983

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who had recorded contact with the statutory child protection authority in Queensland and who had had convictions for juvenile offences. They found that physical abuse and neglect were significant predictive factors but sexual and emotional abuse were not.

Other confounding variables

One of the complexities of studying the association between a traumatic event or series of events during a certain time period and behaviour many years later, is that there may be many intervening factors which have criminogenic effects. It is important therefore to examine these other factors as possible confounding variables.

Perhaps the most significant of these factors is family functioning. There is extensive evidence of an association between family disruption and juvenile delinquency, although there are numerous explanations for this relationship (Juby and Farrington 2001). Maternal depressive mood, interparental conflict, parental divorce, poor mother-adolescent relationships and poor maternal communication and problem-solving skills have been shown to predict the number of different types of crimes committed by young adults (Klein, et al.; Wright and Cullen 2001). These findings were pre-empted in a meta-analysis by Loeber and Stouthamer-Loeber (1986) where lack of parental supervision, parental rejection of the child and low parental-child involvement were shown to be the strongest predictors of juvenile behaviour problems and delinquency. Weaker predictors were the quality of the parents' marital relationship, parental criminality, lack of parental discipline, mothers' ill health and parental absence. A variety of parental variables, particularly with regard to mothers, are thus predictive of juvenile criminal activity.

Case-control studies have identified specific aspects of family functioning which differ between the general population and delinquents. Bischof et al. (1995) compared a normative population with juvenile populations of sexual offenders, non-sexual violent offenders and non-sexual non-violent offenders. They found that each delinquent group rated their families as less cohesive, less expressive and less independent than did the normative group. Families in the general population were also rated as having a more intellectual-cultural orientation than the violent and non-violent offenders, having a higher active-recreational orientation and having lower levels of control than families of non-violent offenders. There were no significant differences between each of the groups of delinquents.

It may be that the family dysfunction which coexists with the abuse is a stronger predictor of future criminal activity in young people than the abuse itself. Path analysis has shown that neglect rather than abuse mediates the relationship between poverty and being in a single parent family, and criminal behaviour (Weatherburn and Lind 1998).

Another confounding variable in analysing the criminogenic effects of sexual abuse as distinct from other forms of maltreatment, is that different forms of abuse and neglect may be experienced together (McGee et al. 1995; Fleming et al. 1997), or there may be subsequent episodes of abuse or neglect. Abused children may also be exposed to domestic violence (Boney-McCoy and Finkelhor 1996; O'Keefe 1995; McGuigan and Pratt 2001). Children who are abused in one manner may not necessarily be subjected to the same forms of abuse if they experience revictimization. One prospective study followed up a group of abused and neglected children over five years and found a reabuse rate of 16.8 per cent (Levy et al. 1995). The type of index abuse or neglect was
not a significant predictor of reabuse. Therefore, in examining the relationship between any one form of abuse and juvenile offending, it is important to control for the existence of other forms of abuse or neglect.

Method

The present study examined whether sexual abuse is associated with the incidence of subsequent juvenile offending, aggression and delinquency after adjusting for other variables, and to examine, through a logistic regression analysis, what other factors predict juvenile offending.

To answer these questions, we examined the relationship between child sexual abuse and subsequent juvenile offending in a cohort of sexually abused children and young people interviewed nine years after presenting to hospital in Sydney, Australia.

Necessary clearances for the study were obtained from The Children’s Hospital at Westmead’s Ethics Committee, the NSW Department of Juvenile Justice and the NSW Department of Community Services.

Study group

The study group comprised 99 sexually abused children aged 4 to 15 years who presented to Child Protection Units at two children’s hospitals during the three years from 1988 to 1990 in Sydney, Australia. They had all experienced sexual abuse involving physical contact with the offender. Abuse of young people involving sexual exploration between peers and children with developmental delay was excluded. This group was followed up, on average, nine years after intake, when the sexually abused young people were aged between 12 and 25 years.

This study group was part of a larger cohort of 183 children who presented to the Child Protection Units at the hospitals during this period, and on whom intake data was collected. Initially, a group of 84 sexually abused children were followed up after 18 months (Oates et al. 1994) and five years (Swanson et al. 1997) in order to assess the effects of sexual abuse. The present study group consisted of those who did not initially participate in that research. 25 per cent had declined to participate and 75 per cent were not referred by child protection social workers for possible inclusion in the study. The reasons for not referring these families were: poor functioning of the child and family where it was felt that the research would be too stressful (39 per cent), one-off contact, poor rapport or family resistance to further follow-up (32 per cent), social workers’ uncertainty about how to approach the family or resistance to assisting the research team in this way (25 per cent) and concerns about the stress on children who had already experienced a high number of interventions (4 per cent).

There were no sex differences between the first study group and this study group, but the girls in this study group were older. No significant differences were found in family demographics. However, the child protection social workers rated the families in this study group as having poorer family functioning than was the case for the first study group (Lynch et al. 1993).

Upon presentation to the Child Protection Units, characteristics of the abuse were recorded. These were: the age of the child at onset of the abuse, abuse frequency,
abuse duration, number of abusers involved, use of coercion, relationship of the abuser to the child, the presence of physical findings, abuse severity as rated by researchers, the parents' reaction to the disclosure and whether the child was supported and believed. Information about the child's parents was also collected such as separation, divorce or death (i.e. child's history of parental loss), discord, drug or alcohol abuse and psychiatric illness. Where children presented with parents, clinicians rated the family's functioning and the quality of the mother-child relationship on a five-point Likert scale.

The index sexual abuse event was categorized according to the seriousness of the offence in legal terms, based on legal definitions within the Crimes Act 1900 (NSW). The four categories were sexual assault, attempted sexual assault, indecent assault and attempted indecent assault. Sexual assault was defined as vaginal penetration, anal penetration, cunnilingus, fellatio and penetration of the vagina or anus by any part of the body of another person or by an object manipulated by another person. Indecent assault involved touching the breasts or genitalia in a way which did not involve sexual intercourse. An 'attempt' involved action in relation to the child with the intention of committing an offence, but where the offence was not itself completed.

**Control group**

Abused children were compared with a non-abused control group of 84 children, not known to have been sexually abused and not developmentally delayed. They were selected randomly from schools in the Sydney metropolitan area over the period 1989–91, using probability sampling proportional to size of school (Stern et al. 1995). Controls were similar in age and sex to the abused children. This control group was used in relation to the 84 children followed up initially. The children in the control group were interviewed at intake, at 18 months, and at five years. The existing comparison group was deemed a suitable comparator for the group followed up after nine years.

At the five and nine-year follow-ups, the non-abused young people (or their parents in the case of younger children) were asked if they had experienced child sexual abuse. Eight young people disclosed sexual abuse and were excluded from the final sample for analyses.

**Procedure**

At the nine-year follow-up, young people and their non-offending parent were assessed. They were asked to complete widely used, standardized questionnaires covering behaviour, life events and family functioning.

**Young people's measures**

The Youth Self Report (YSR: Achenbach 1991) for adolescents aged 11 to 18 was used to assess behaviour, with higher scores indicating more behaviour problems. The delinquency sub-scale covers peer relationships, criminal and other anti-social behaviour; the aggressive behaviour subscale covers aspects of mood and acting out behaviour (Achenbach 1991; Achenbach and Edelbrock 1991). A short, self-report questionnaire asked about a
range of criminal behaviours in which the young person may have been taking part. No questions were asked about homicide or sex offences. Apart from the poor reliability of reports denying the commission of such offences, pilot interviews indicated that sexually abused subjects would be reluctant to answer questions on sex offending.

A count of negative life events was obtained via the Life Events Questionnaire, a checklist designed within this project by incorporating items from two other scales (Newcomb et al. 1981; Johnson and McCutcheon 1980). The General Functioning sub-scale of the McMaster Family Assessment Device (Epstein et al. 1983) was used to measure family functioning. This sub-scale assesses the overall functioning of the family and has been reported to have high internal consistency (Cronbach alpha = .92).

**Parents’ measures**

A parent also completed the measure of family functioning and the Child Behaviour Checklist (CBCL: Achenbach and Edelbrock 1991), the parent’s equivalent of the Youth Self-Report.

**Other measures**

At nine-year follow-up, the socio-economic status of the young person was assigned a rating using the ANU2 index (Broom et al. 1977), incorporating information given by the young person on their occupation or, if still dependent on their parents, parental occupation. A three-level division of socio-economic status was used: low, medium or high.

At intake to the study, staff of the Child Protection Unit or researchers on the team, in the case of non-abused young people, asked parents whether the child was living with one or both biological parents.

Six years after presentation for the abuse, records of the Department of Community Services for the State of New South Wales were checked to see if any of the abused and non-abused children had further notifications for abuse and/or neglect, and records of the Department of Juvenile Justice of New South Wales were checked to see if any of the abused and non-abused children had juvenile criminal convictions.

**Outcome measures**

A number of different outcome measures were used because of the limitations in assessing juvenile delinquency by means of any one measure. There are problems in the use of official indicators of delinquency. Children and young people who have been arrested or convicted for offences may be victims of system bias and differential processing (Juby and Farrington 2001). Furthermore, incarcerated juveniles have generally been engaged in more serious offending than other delinquent adolescents (Cernkovich et al. 1985). For these reasons, self-reports of criminal offending are likely to provide a more accurate picture. However, there are problems with reliance upon self-reports alone. Cernkovich et al. (1985) have argued that self-report inventories have a tendency to underestimate serious offences and over-represent minor offences which typically would not call for an official response from a law enforcement authority.
Furthermore, these inventories have a tendency to aggregate high frequency offenders in the same category as less serious offenders, and by asking general questions about "theft", fail to differentiate between minor and serious offences.

Howing et al. (1990) recommended the use of multiple criteria for juvenile delinquency which could include reports from multiple sources. They also argued that the inclusion of status offences as a measure of delinquency only confuses the issue of the link between abuse and delinquency.

Analyses

Abused and non-abused groups were combined for analyses. Bivariate analyses were conducted using t-tests, chi-squared analyses or Fisher’s exact test. Multivariate analyses used multiple logistic regression where the outcome variable was binary and multiple regression for continuous outcome variables. Data were analysed using SPSS for Windows Version 8.0 (Statistical Products and Service Solutions 1998). Subject numbers varied slightly in each analysis owing to various patterns of missing data. Statistical significance was set at p<.05.

The regression models were all adjusted for the young person’s age, socio-economic status, sex, whether they were living with biological parents at intake or not (which was the closest proxy available for family structure) and abuse status. It would be unlikely for the younger children to have had records, however, regression models were adjusted for age as a way of allowing for length of time ‘exposed’ to opportunity for criminal activity. Models were adjusted for the other variables to be consistent with those described in the literature.

In addition to those variables for which the models were adjusted, other potential predictors of outcome were also submitted to the regression models. These were number of negative life events experienced by the young person, parents’ and young person’s ratings of family functioning, neglect and physical abuse. Data on notifications of emotional abuse was excluded because during the time these notifications were made to the Department of Community Services, emotional abuse was sometimes coded as such in the absence of recorded abusive behaviours by parents and without evidence of harm to the child (Monnone et al. 1990). This type of notification appeared to involve a judgment that the family was not coping as well as it could have (for example because of the mother’s mental illness or drug use), and consequently the child or children were at risk of harm. These data therefore did not represent a reliable measure of emotional abuse. Exposure to domestic violence is also associated with juvenile delinquency (Fergusson and Horwood 1998), but this was not a ground for notification at time of study and therefore could not be explored.

Six outcome variables were modelled using regression: (1) whether the young person self-reported criminal activity, (2) whether the young person seen at follow-up had an official juvenile criminal record, (3) parents’ reports of the young person’s aggressiveness, (4) young person’s self-reported aggressiveness, (5) parents’ reports of the young person’s delinquency, and (6) young person’s self-reported delinquency. Delinquent and aggressive behaviour sub-scales of the Child Behaviour Checklist and the Youth Self-Report were used to assess outcomes 3–6. Self-reported criminal activity and self-reported delinquency do, of course, measure different things, since delinquency is a wider concept than the commission of criminal offences.
Results

Participants

Of the 99 sexually abused young people, there were four deaths, 49 young people and/or their families agreed to participate, 30 were not able to be located, and 16 were located but declined to participate in the follow up. This resulted in an overall follow-up rate of 52 per cent, or 75 per cent (49/65) for those located after nine years. There were 36 parents who participated and 38 young people. There were no significant differences between participants and those not followed up in terms of the original abuse characteristics.

Of the 84 controls, eight were excluded because the young person reported having experienced child sexual abuse. Two young people were living overseas, five families did not wish to participate and one family was not approached because of current family distress, leaving a control group of 68 parents and/or young people (66 parents and 66 young people), a follow up rate at nine years of 89 per cent.

The young people in the abused and non-abused groups were followed up at comparable ages (p = 0.06): 19.1 years for those abused (SD = 3.4 years) and 18.0 years for those non-abused (SD = 3.0 years). There was a similar sex distribution in the two groups, with males comprising 27 per cent of the abused group and 24 per cent of the non-abused group (p = 0.44). Due to the wide variety of races represented in the sample, ethnicity was unable to be examined. There were similar numbers of young people in each group who identified as Aboriginal, one (2 per cent) abused young person and two (5 per cent) non-abused young people (Fisher’s exact test, p = 0.62).

The overall mean age of the young people was 18.4 years (SD = 3.2) and ranged from 11.4 to 25.15 years. Where known, 46 young people (40 per cent) were in the lowest socio-economic group, 52 (45 per cent) in the middle group and 18 (16 per cent) in the highest group. At intake to the study in 1988–91, six children (5 per cent) were not living with either of their biological parents and 110 (95 per cent) were living with one or both biological parents. Proportions of children receiving notifications for sexual abuse, physical abuse and neglect prior to and subsequent to the index sexual abuse notification have been examined in detail elsewhere (Swanston et al. 2002).

Abused versus non-abused children

Unadjusted (univariate) analyses showed that young people with a history of sexual abuse were 4.69 times as likely to self-report having committed crimes than children in the control group (95 per cent CI: 1.83 to 11.98). Of the abused young people 25 (76 per cent) reported criminal activity compared to 26 (40 per cent) of the non-abused young people.

Significant differences between young people in the sexual abuse and control group in a range of self-reported criminal behaviours since study intake included having stolen anything (p = 0.01), involvement in joyriding or car theft (p < 0.001), break and enter (p = 0.002), intentional damage to property (p = 0.01), drug dealing (p = 0.02), hitting another person (p < 0.001) and shoplifting (p = 0.01) (Table 1). Frequencies are provided (Table 2) for self-reported crimes committed during the last year, however, cell sizes were too small for statistical analyses.
Table 1  Numbers of children self-reporting criminal activity, by gender

<table>
<thead>
<tr>
<th>Crime</th>
<th>Abused children</th>
<th>Non-abused children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>Break &amp; enter</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>In stolen car*</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Property damage</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Drug dealing</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Assault</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Shoplifting</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Other stealing</td>
<td>11</td>
<td>1</td>
</tr>
</tbody>
</table>

p-values are given for comparisons between total abused and non-abused children.
* As passenger or driver.

Table 2  Frequency of self-reported offences in last year

<table>
<thead>
<tr>
<th>Crime</th>
<th>Abused count</th>
<th>Controls count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>Break &amp; enter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>1-2 times</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Assault</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>1-2 times</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>3-5 times</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6-10 times</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11+ times</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>In stolen car**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>1-2 times</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3-5 times</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Property damage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>1-2 times</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11+ times</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Drug dealing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>1-2 times</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>11+ times</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Shoplifting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>1-2 times</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3-5 times</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Other stealing</td>
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<td></td>
</tr>
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<td>5</td>
</tr>
<tr>
<td>1-2 times</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3-5 times</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Two respondents in the abused group did not provide information on assaults.
** As passenger or driver.

Searches of records from the Department of Juvenile Justice for the whole sample showed that significantly more young people in the abused group (13/99 = 13 per cent) had been convicted of crimes as juveniles compared to controls (1/75 = 1 per cent) (Fisher's Exact Test, p = .003). Unadjusted analyses showed that the

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abused children were 11.19 times more likely to have had juvenile convictions than those in the control group (95 per cent CI: 1.43 to 87.57). None of the abused or non-abused young people had records of convictions for homicides or sexual offences, however 10 (5 per cent) of the abused young people were convicted of violent crimes, compared to none of the controls (Fisher’s Exact Test, \( p = .03 \)). When the sample was restricted to records for those seen at nine-year follow-up, the proportions of abused young people (5/49 = 10 per cent) and controls (1/68 = 1 per cent) with convictions were similar (\( p = .05 \)). Numbers of convictions ranged from two to 21 per young person (mean = 6.2, sd = 7.3). The mean age at which the six young people received their first conviction was 14.8 years (sd = 1.1) and ranged from 13.6 to 16.4 years. While these six young people were interviewed, only three provided self-reported criminal data.

**Characteristics of abuse and self-reported criminal behaviour**

The relationship between characteristics of the abuse and self-reported offending behaviour was explored. None of the characteristics of the index sexual abuse were significantly related to outcome. The characteristics of the abuse which were tested were: the child’s age at onset; frequency, duration, severity as rated by researchers; use of violence; relationship of the abuser to the child and whether the abuser was living in the child’s home; whether physical signs consistent with sexual abuse were observed; whether there was more than one abuser; use of coercion in the form of persuasion, bribes, verbal threats or physical force; parental reaction to disclosure; further contact with the abuser since intake; intimidation by the abuser since intake; self-reported reabuse; the legal category of the index sexual abuse; and mother’s history of her own childhood sexual abuse.

**Other intake variables**

Certain intake data were only available for the abused group. However no significant relationships were found between these variables and self-reported criminal activity. These variables were mother’s marital status, clinician’s ratings of the mother-child relationship, clinician’s ratings of family functioning, history of parental discord, parental history of psychiatric problems, parental alcohol abuse, history of parental ill health, and whether parents were employed or not.

**Regression models**

It should be noted that sex, socio-economic status and whether the child was living with biological parents at intake or not were not significant predictors in any of the regression models below. Other incidents of sexual abuse, physical abuse or neglect occurring prior to, or subsequent to, the index sexual abuse event were not significant predictors of any of the outcomes when submitted to the regression models below. Therefore, they were not in the final models presented here. However, this result should be interpreted cautiously owing to small sample sizes. Details of the models are described in Table 3.
Table 3  Regression models for the six outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Age</th>
<th>Sex</th>
<th>SES¹</th>
<th>Biological parents²</th>
<th>Abuse status</th>
<th>Other variables³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-reported criminal activity</td>
<td>β = .08</td>
<td>OR = 1.01 (95%)</td>
<td>Wald = 3.69</td>
<td>OR = .51 (95%)</td>
<td>OR = 2.29 (95%)</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>(SE = .08); p = .32</td>
<td>CI = .59 to 1.72; p = .16</td>
<td>CI = .18 to 1.45; CI = 1.32 to 3.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Official records (convictions only)</td>
<td>β = .38</td>
<td>OR = 1.16 (95%)</td>
<td>Wald = .41</td>
<td>OR = 2.10 (95%)</td>
<td>OR = 1.64 (95%)</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>(SE = .28); p = .13</td>
<td>CI = .53 to 4.11; p = .82</td>
<td>CI = .66 to 6.68; CI = .46 to 5.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent’s rating of aggression</td>
<td>β = -.06</td>
<td>β = .39</td>
<td>NS</td>
<td>β = 6.18</td>
<td>β = -5.72</td>
<td>Young person’s rating of family functioning: β = 4.28 (SE = 1.79); p = .02</td>
</tr>
<tr>
<td></td>
<td>(SE = .61); p = .92</td>
<td>(SE = 1.90); p = .84</td>
<td>(SE = 6.36); p = .34</td>
<td>(SE = 2.06); p = .008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young person’s rating of aggression</td>
<td>β = -1.43</td>
<td>β = .88</td>
<td>NS</td>
<td>β = 6.34</td>
<td>β = .39</td>
<td>Negative life events: β = 1.03 (SE = .41); p = .02</td>
</tr>
<tr>
<td></td>
<td>(SE = .69); p = .04</td>
<td>(SE = 2.15); p = .69</td>
<td>(SE = 7.19); p = .38</td>
<td>(SE = 2.58); p = .88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent’s rating of delinquency</td>
<td>β = .31</td>
<td>β = .05</td>
<td>NS</td>
<td>β = -.26</td>
<td>β = -.22</td>
<td>Negative life events: β = .76 (SE = .27); p = .01</td>
</tr>
<tr>
<td></td>
<td>(SE = .48); p = .52</td>
<td>(SE = 1.62); p = .98</td>
<td>(SE = 5.42); p = .96</td>
<td>(SE = 1.95); p = .25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young person’s rating of delinquency</td>
<td>β = .13</td>
<td>β = -1.61</td>
<td>NS</td>
<td>β = -13.10</td>
<td>β = 1.67</td>
<td>Parent’s rating of family functioning: β = 4.86 (SE = 1.63); p = .005</td>
</tr>
<tr>
<td></td>
<td>(SE = .72); p = .85</td>
<td>(SE = 2.51); p = .52</td>
<td>(SE = 8.31); p = .12</td>
<td>(SE = 2.93); p = .57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ SES = Socio-economic status.
² Biological parents = living with biological parents at intake or not.
³ Only variables that were significant after adjustment.
(1) *Self-reported criminal behaviour*
After adjusting for age, sex, socio-economic status and whether the child was living with biological parents at intake or not, sexual abuse was a significant predictor of self-reported juvenile criminal activity. Sexually abused young people were 2.29 times more likely to report having committed crimes than their non-abused peers.

(2) *Official records of convictions*
None of the variables were significant predictors of whether the young people had convictions or not. In other words, after accounting for age, sex, socio-economic status and whether the child was living with biological parents at intake or not, sexual abuse was not predictive of having a juvenile criminal record.

(3) *Parents’ rating of young person’s aggressiveness*
In the presence of the other variables, child sexual abuse history and the young person’s rating of family functioning predicted the parents’ rating of the young person’s aggressiveness. Sexually abused young people were significantly more likely to have higher ratings of aggression; and young people who rated their families as more dysfunctional were rated as more aggressive by their parents.

(4) *Young person’s rating of aggressiveness*
After adjustment, sexual abuse was not a significant predictor of the young person’s rating of their own aggressiveness. However, the age of the young person, the number of negative life events they had experienced in the last year and the young person’s rating of family functioning were significant predictors of aggressiveness. The younger the child, the more they rated themselves as aggressive. The more negative life events and the higher the rating of family dysfunction, the greater the aggression score.

(5) *Parents’ rating of young person’s delinquency*
After adjusting for the other variables, child sexual abuse history did not predict the parents’ rating of delinquency. However, the number of negative life events experienced by the young person in the last year, as well as the parents’ rating of family functioning were both significant predictors of parents’ delinquency ratings. Experiencing more negative life events and rating families as more dysfunctional were significantly associated with higher ratings of delinquency.

(6) *Young person’s rating of delinquency*
After adjustment, sexual abuse was not a significant predictor of this outcome. However, number of negative life events was a significant predictor of young people’s ratings of delinquency, with greater numbers of these life events being associated with higher self-ratings of delinquency.

**Discussion**

This study provides an examination of the link between sexual abuse and juvenile crime, aggression and delinquency using six different measures and after adjusting for four variables (age, sex, socio-economic status and whether the child was living with biological parents at intake or not). It explored whether sexual abuse predicts subsequent criminal activity, aggression or delinquency in the presence of these and a range of other variables which may have criminogenic effects. These other variables included other incidents of sexual abuse, physical abuse or neglect occurring prior to, or subsequent to, the index sexual abuse event, the parents’ and young people’s ratings of family functioning, and negative life events in the past year.
In the presence of the four adjustment variables, a history of child sexual abuse predicted self-reported criminal behaviour and parents' rating of the young person's aggressiveness, but not official records of convictions, parents' or young people's rating of delinquency, or young people's rating of aggressiveness.

The association between child sexual abuse and self-reported criminal behaviour may indicate more about the number and range of offences than their seriousness, because serious and less serious offences are combined in the one report (Cernkovich et al. 1985). Some offences here would no doubt not attract the intervention of the authorities or would be dealt with by informal caution. However there are many factors which mediate between criminal behaviour and a conviction for an offence. Even with the limitations of this data, the types of self-reported offences committed give a picture of seriousness, and the official records also provide independent evidence of offences which attracted official intervention.

The self-reports were shown to be an under-reporting since three interviewees who did not disclose any offences in fact had criminal records. Questions were not asked about homicides or sex offending as a result of the reluctance of interviewees to discuss such issues in the pilot study, but official records indicate that there were no convictions for homicide or sex offences in this cohort. We were unable to examine the issue of frequency of offences. We used three self-reported offences in 12 months as our measure of frequency but could not analyse this because of the small cell sizes.

While sexual abuse is the only factor which predicted self-reported criminal behaviour in this cohort, other factors were also significant predictors of aggression and delinquency. Parents' and young people's ratings of delinquency were both associated with negative life events in the last year. The parents' rating of family functioning was also a significant predictor of delinquency. The young person's rating of family functioning predicted both the parents' and the young person's rating of aggressiveness. The link between poor family functioning and criminal activity has been well documented (Bischof et al. 1995; Fergusson and Horwood 1998; Klein et al. 1997; Loeber and Stouthamer-Loeber 1986) and was certainly reinforced by the results of this study.

It may seem surprising that a history of child sexual abuse should be the only predictor of self-reported criminal behaviour in the presence of the four adjustment variables, but that other factors should predict delinquency rather than sexual abuse. The delinquency sub-scale of the Youth Self Report covered peer relationships, criminal and other anti-social behaviour over the last six months. One might expect therefore that similar factors would predict the two outcome measures. However, the measures of delinquency are more useful as cross-sectional measures than longitudinal measures. The young people's reports of criminal offending recalled incidents and behaviours from the time of intake into the study, or ten years old, whichever occurred later. The responses to questions asked both of parents and young people about behaviours would be most likely to be flavoured by more recent experiences and events. Thus negative life events in the past year and present family functioning would have greater significance in relation to behavioural issues or concerns at the time of interview.

A history of child sexual abuse is clearly associated with self-reported criminal behaviour over the nine-year period investigated by this study, and should be seen as an independent risk factor for criminal offending, but may not be as significant as family functioning and recent negative life events in explaining acute episodes or periods of delinquency.
Characteristics of the abuse

The hypothesis that some types of sexual abuse experiences may be more criminogenic than others is not borne out by this study. This is consistent with the findings of Widom and Ames (1994), although they found that children abused by relatives had more juvenile and adult arrests than those abused by non-relatives. Fifteen different factors associated with the index event and its aftermath were explored, and no association was found with the extent of self-reported offending.

Comparison with juvenile offending in the general population

The number of self-reported offences and convictions was significantly higher in the abused group than the control group. These data may usefully be compared with a recent study of self-reported offending among secondary school students in New South Wales (Baker 1998). In this study, fewer of the non-abused young people, and more of the abused young people, committed the various crimes than the young people in the general population of secondary students.

In Baker’s study, 39.3 per cent had ever assaulted another person outside sport, compared with 52 per cent of the abused group in this study, 38.6 per cent had committed malicious damage to property, compared with 45 per cent of the abused group in this study 15.0 per cent had stolen goods worth $20 or more from a shop compared with 58 per cent of the abused group who had ever shoplifted in this study, 9.4 per cent had committed break and enter compared with 26 per cent of the abused group in this study and 6.8 per cent had stolen a motor vehicle, compared with 36 per cent of the abused group in this study who had ever been in a stolen car either as passenger or driver. While the questions in each study are not directly comparable, very similar categorizations were used, and the comparisons demonstrate the high levels of self-reported offending among the abused group compared to the general population of adolescents in New South Wales. In Baker’s study, predictors of criminal activity included level of supervision of the young person and family structure. Lower levels of supervision increased the risk of criminal activity. There was also an increased risk if the child or young person was not living with both the biological parents.

Juvenile offending and gender

Hoyt and Scherer (1998) have argued that female juvenile delinquency has been little researched in comparison with male offending, and there is especially a paucity of research on the relationship between sexual abuse and adolescent offending by females. In a study of adolescents who self-reported child sexual abuse, Chandy et al. (1996) found that sexually abused boys are at higher risk of delinquency than girls, while girls are more likely to demonstrate internalizing behaviours. Our study did not indicate a gender difference in any of the measures of aggressive, delinquent or offending behaviour. This is surprising, because in the general population, adolescent boys are much more likely to commit offences than girls.

This is illustrated again by Baker’s study (1998) of self-reported offences. Males outnumbered females by a factor of nearly two for participation in assault, and by a factor of about one and a half for malicious damage. Males also significantly outnumbered
females for receiving stolen goods and shoplifting, although the differences between boys and girls in shoplifting was less marked in the later years of school. The differences between males and females were particularly marked in relation to break and enter offences and participation in motor vehicle theft. These figures from a general population study of secondary school students in New South Wales underlines the significance of the finding in this study that gender was not a significant predictor of offending in the abused group.

The finding in this study needs to be treated with caution because of the small number of boys in the abused group in this study who provided self-report information. Nonetheless, it suggests that childhood sexual abuse should be seen as a particularly significant risk factor for offending behaviour of girls according to their own self-reports.

**Self-reports and criminal offences**

The finding that childhood sexual abuse was not predictive of having a juvenile criminal record is consistent with the findings of Stewart *et al.* (2002). That study reported only on convictions for juvenile offences, however, whereas this study looked at a number of different measures of delinquency and offending behaviour. The findings of this study that sexual abuse predicts self-reported offences but not convictions may indicate that sexual abuse is associated with less serious offences and which are less likely to be prosecuted (Cernkovich *et al.* 1985), or alternatively it may be that self-reports are simply a better indicator of levels of offending behaviour than reliance on convictions rates with adolescent girls because of system bias and differential processing factors (Juby and Farrington 2001).

**Strengths and limitations of the study**

This study had the advantage that we were able to use six different measures to assess aspects of delinquent or criminal behaviour, and did not include data on status offences, since such issues are dealt with in Australia under child welfare laws. We were also able to use as our measure of child sexual abuse, cases in which the abuse was confirmed by clinicians in a hospital setting. Smith and Thornberry (1995) have drawn attention to the limitations of official records of child maltreatment as the basis for assessing the risk of adolescent offending, since the families about whom there are official records may be those more likely to come to the attention of official agencies, and therefore are an unrepresentative sample of families in which child abuse occurs. Retrospective self-reports of child maltreatment are also problematic (Garbarino and Plantz 1986). Professional confirmation of maltreatment is necessary to distinguish the child’s recollection and perception of inadequate parenting from episodes of abusive behaviour (Zingraff *et al.* 1993).

The sample of children in this study was part of a larger cohort of 183 children initially seen at Child Protection Units in the two hospitals between 1988 and 1990, and for which intake data was collected. While there were some differences between this group and the 84 children who initially participated in the research, the main difference at intake, clinicians’ rating of family functioning, was found not to have a significant relationship with the outcome measures.
It was unfortunate that, owing to small numbers in each of the cells, regression models were unable to be adjusted for ethnicity. This was also the case for accommodation placements directed by the Department of Community Services. Other work suggests that children placed at older ages and experiencing more placement changes have higher rates of criminal activity as juveniles and adults, particularly for violent crimes (Widom 1991).

A number of other variables assessed at intake were not available for the non-abused group so they were not able to be submitted to the regression models—an analysis of the abused group alone was not possible owing to small sample sizes. These included parental discord, parental psychiatric history, parental drug and/or alcohol abuse, social workers’ ratings of the mother-child relationship, and treatment for the abuse.

Conclusions

This study demonstrates that a history of child sexual abuse is a predictor of self-reported criminal behaviour and parents’ reports of aggressive behaviour even after controlling for a range of confounding variables. No other study has been able to examine so many variables which may have criminogenic effects, and so many outcome measures of criminal behaviour, delinquency and aggression. Family functioning and negative life events are also important predictors of delinquent and aggressive behaviours.

This research demonstrates the significance of sexual abuse as a criminogenic factor for both boys and girls. Early intervention is therefore important. However, it cannot focus only on the experience of abuse. There is also clearly a need for intervention to involve making a complete assessment of the family environment.

References


STATISTICAL PRODUCTS and SERVICE SOLUTIONS (1998), SPSS Version 8.0 for Windows. Chicago, IL: SPSS.


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