An upbringing to violence?

Identifying the likelihood of violent crime among the 1966 birth cohort in Denmark

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Authors

Mogens Nygaard Christoffersen, Senior Researcher, The Danish National Institute of Social
Research, Herluf Trolles Gade 11, DK-1052 København K, Denmark.
[e-mail: `mc@sfi.dk`]

Brian Francis, Centre for Applied Statistics, Lancaster University, Lancaster, LA1 4YF,
United Kingdom.
[e-mail: `b.francis@lancaster.ac.uk`]

Keith Soothill, Professor of Social Research, Department of Applied Social Science,
Lancaster University, Lancaster, LA1 4YL, United Kingdom.
[e-mail: `k.soothill@lancaster.ac.uk`]

Address for correspondence

Professor Keith Soothill,
Department of Applied Social Science,
Lancaster University,
Lancaster, LA1 4YL,
United Kingdom

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ABSTRACT

Why do some boys develop into troublesome youth who eventually get sentenced for a violent crime? In planning a strategy to fight violent crime it would be useful to know if altering the conditions of children's upbringing and the ways we treat children generally could contribute to a reduction in the incidence of violent behaviour that leads to convictions among adolescents and young men.

In this study information from population-based registers covers various aspects both for children, aged between 15 and 27 years, and their parents: health (mental and physical), education, social networks, family violence, self-destructive behaviour, parental alcohol or drug abuse, and unemployment.

First time convicted offenders tend to be characterized by unstable education and employment records (e.g. not graduating, no vocational training), occasional work, or long-term unemployment. Lack of vocational training, unemployment and a history of casual labouring are among the factors that may degrade and humiliate adolescents and therefore put an extra stress on vulnerable boys; in turn, these factors may provide a basis for an increased risk of violent behaviour and convictions.

Key words: Youth unemployment, vocational training, family violence, alcohol abuse, family separation, teenage motherhood, psychiatric illnesses, children in care, longitudinal study.

Introduction

  Why do some boys develop into troublesome youth who eventually get sentenced for a violent crime? This question forms a constituent part of the research programme, "Risk factors in adolescence", developed by the Danish National Institute of Social Research. In planning a strategy to fight violent crime it would be useful to know if altering the conditions of children's upbringing and the ways we treat children generally could contribute to a reduction in the incidence of violent behaviour that leads to convictions among adolescents and young men.

  Much of the international literature on young offenders has established that for violent offending, early aggressive behaviour, parental disruption, poverty and poor environmental conditions are some of the most important risk factors. Poor school performance, truancy, dropping out of school, and youth unemployment are also seen to be predictors of later criminal behaviour (Farrington, 1999).

  Reviewing research about physical abuse of children reveals an association between previous violence in the family and later violent behaviour. The generational transmission of maltreatment tendencies is commonly seen in cases coming from therapy (Steele, 1997 a) and he sees generational repetition of maltreatment as a consequence of the patterns of interactions between infants and their caregivers (Steele, 1997 b). Rutter and Madge (1976) find also an association between being a violent parent and having themselves been at a disadvantage in adolescence. Some earlier studies (e.g. Coopersmith, 1967) of the formation of children's self-esteem had already recognised that parental treatment which involved respect, acceptance, and engagement seemed to be of great importance. In contrast, violence against children may be conceived as humiliating and degrading where a child's integrity and dignity are intruded on. More specifically, learning disabilities may be a result of posttraumatic stress caused by domestic violence, with a child's ability to concentrate being damaged (McCloskey, L.A and Walker, M, 2000, Zlotnik, 2001):

  Previous analysis of all Danish children born in 1973 (Christoffersen, 2000) has shown that boys suffered from similar disadvantages in terms of parental mental illness, alcoholism, parental unemployment in their families as girls, but that boys were *more* exposed to abuse and neglect than girls - between the ages of 6 and 18 years old, 0.7 percent of girls and 1.3 percent of boys had experienced maltreatment, injuries purposely inflicted by other persons which had led to hospitalisation, (e.g. 'battered child syndrome') and coded E960-E969 according to the ICD-8 classification.

  In an earlier study, adolescents who had been victims of violence, interviewed at the age of 25 years old, more frequently suffered from a loss of self-esteem, psychosomatic stress, had more often consulted a doctor or other professionals because of mental problems, and they had more often attempted or contemplated suicide than was the case among their contemporaries (Christoffersen, 1993; 1994; 1996). Similarly, McCord's study (1983) shows that children who had been victims of abuse and neglect were more prone to be involved in crime, alcohol abuse, mental illness, or to die at an early stage of life. Bootsman's review of the literature (1995) found a high likelihood of both depression and aggression among these kinds of victim when grown-up. She found a loss of self-control, self-destructive behaviour, a feeling of emptiness, and vacillating identity among the victims. The psychological aggression and physical punishment had left them with a chronic loss of self-esteem. Kaufman and Zigler (1987) found that about 30 per cent of parents, who themselves had been battered during adolescence, continued to abuse their own children although they emphasise

that most parents with histories of abuse do not maltreat their children, and the mechanisms involved in transmission of abuse may include other environmental and mediating factors (Kaufman and Zigler, 1993).

Considering this body of research, it is a reasonable assumption that children who have been the victims of violence may also have an increased risk of exhibiting violent behaviour. The violence may be seen as a consequence of humiliating or degrading treatment from parents, siblings, schoolmates and significant others. However, there are also more structural factors, such as education or employment, that may be relevant. These considerations are evaluated in this study.

The present study is one of the first attempts to use registers in a nationwide longitudinal study of disadvantage in childhood and their long-term effects on subsequent criminal behaviour (cf. Andersen, 1981; 1986; Andersen & Balvig, 1983; 1984).

Presentation of problem and method

One of the problems in evaluating the long-term effect of violence is that it may be difficult to disentangle the consequences of various kinds of risk factors during adolescence (Bootsman, 1995). A further difficulty is that a conviction for a violent crime is a comparatively rare event. Hence, in order to investigate any harmful effects of disadvantage in adolescence, appropriate research needs to follow a large number of individuals for several years after adolescence. The earlier and potentially stressful life events must be included in the processed data and statistical models. Information collected prospectively for all persons in a birth cohort provides a more satisfactory opportunity to assess the consequences of disadvantage during adolescence than other survey methods (e.g. traditional cross sectional surveys or analyses of aggregated data). A prospective study avoids the serious problem of recall-bias.

The approach used in this longitudinal study is the case cohort method, which is well qualified to analyse relatively rare response reactions. Importantly, the method can also handle relatively rare stress factors (e.g. parental mental illness, family violence, abuse, delinquency).

Data and statistical methods

The present study includes all boys born in Denmark in 1966 (n=43,403) and goes on to consider those who have been convicted of a violent crime according to national criminal registers between the years 1981 and 1993, when the series were aged between 15 (the age of criminal responsibility in Denmark) and 27 years (N=1,936, that is 4.6 per cent of the birth cohort). Although there is much current attention upon immigrants, boys who were born outside Denmark were not included in the study as information about their adolescence and family background was considered likely to be inferior to that known of the native-born population. In so doing we have avoided the danger that the lack of relevant information about foreign workers and their children could have led to a spurious conclusion about influence of nationality.

Good control groups are crucial as they provide a standard of reference and the possibility of generalizing the results. The literature recommends using samples from the general population samples as control groups (Breslow and Day, 1980). In this study the controls (based on years at risk) were constructed using the total birth cohort who had not been convicted of a violent crime during the observation period. Cases and controls did not

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contribute to years at risk after the first conviction of a violent crime or once they had died, or emigrated. Pooling the years of all individuals amounted to 537,010 person-years.

The potential risk factors included in the analysis were derived from previous studies. Statistics cover different measures of health (e.g. admittance of children and parents to hospital, psychiatric admissions), family aspects (e.g. family separation, placement of children outside the home, family violence), education (e.g. parental vocational training), employment of parents, parental self-destructive behaviour (e.g. criminal convictions, alcohol and drug abuse according to hospitals-admissions). The 12 population-based registers used in the database are shown in Table 1; 31 variables, expected to be of relevance according to the research literature and which could be derived from the registers, are listed later in Table 2.

Table 1: Information selected from the population-based registers used in the Danish cohort study.

Population statistics	gender, age, marital status, address	1980-91
Medical register on vital statistics	cause of death, suicide	1979-93
Unemployment statistics	branch of trade, unemployment	1976-79
Education statistics	grades	1980-93
Educational classification module	schooling, vocational training	1993
Social assistance act statistics	children in care	1976-93
Integrated Database for Labour Market Research	Occupation, unemployment	1980-92
Crime statistics	violation, adjudication, imprisonment	1980-93
Income compensation benefits	social benefit, duration	1984-93
Fertility research	no. of siblings, parity, link to parents	1980-91
National inpatient register	ICD-8 diagnoses (somatic)	1979-93
National psychiatric register	ICD-8 diagnoses (psychiatric)	1979-93

For the purposes of this study a conviction for violence includes a wide variety of offences with varying gravity. These offences include murder, manslaughter, violence against the person, assault and battery, duress, and threats. However, the definition of violent crime in this study did not include manslaughter in connection with a traffic accident, nor rape as the latter is categorised as a sexual offence in the national registers.

When the cohort was aged between 15 and 27 years of age, around 45 per thousand (that is 1,936 out of 43,403 persons) were convicted of their first violent offence. The main focus of the paper is to compare these case-events with the person-years of the total birth cohort who were not so convicted.

The purpose of the present project is to illuminate the situation preceding the first time conviction of a violent crime. The appropriate statistical method has been developed by Allison (1982) combined with the logistic regression analysis improved by Hosmer and Lemeshow (1989) and Breslow and Day (1980, 1987). Breslow (1992) describes the discrete time Cox model used in this study.

The available event history data is divided into discrete time units of calendar years, so the time intervals are very large and hence the use of continuous-time methods is inappropriate. The data will therefore be analysed by discrete-time methods, which allow us to estimate parameters in the model treating each individual history as a set of independent observations. We can benefit by earlier findings where it has been shown that maximum

likelihood estimators of parameters can be obtained by treating all the time units for all individuals as though they were independent (Allison, 1982).

An individual's event history is thus broken up into a set of discrete time units in which an event either did or did not occur. Each individual is observed until time t_i, at which point an event occurs or the observation is censored either because of emigration, death, or the individual is lost for observation for other reasons. A popular choice of model for data of this type is the logistic regression model given below:

$$\log \frac{p_{it}}{1 - p_{it}} = \alpha_t + \boldsymbol{\beta} \mathbf{x_{it}}$$

In the notation for the model it is assumed that we examine n independent individuals (i=1,2,3…n). Furthermore, we assume that individual i is followed up to time t_i, with time taking only positive integer values (t=1,2,3…t_i). The observed explanatory variables $\mathbf{x_{it}}$ are time dependent, and may take on different values at different discrete times; the vector $\boldsymbol{\beta}$ is a set of unknown parameters to be estimated from the model, and p_{it} expresses the conditional probability that an event occurs at time t, given the covariates $\mathbf{x_{it}}$ and given also that it has not already occurred. Finally, for each calendar year t a constant α_t is estimated - since all individuals are born in 1966 this constant also represents the effect of age in the model. Maximum likelihood estimators for the regression models are then calculated on the basis of pooling all the time units over all individuals.

The purpose of the present analysis is to locate relevant risk factors and describe both the strength (odds ratio) of different risk factors and the overall exposure of risk factors (P) among the controls in this birth cohort.

The individual risk factors are divided into three types for the purposes of the study. Risk factors of type I identify the presence of that factor in the previous year and at no other time. So, for example, the father being unemployed more than 21 weeks when the subject was aged 17 will act as a risk factor when the subject is 18 – the following calendar year. Risk factors of type II, in contrast, act on the following year and all subsequent years, and are considered to be indicative of a change of state of the subject. So, if the father has been sentenced when the subject was aged 15, then this places the subject in the "criminal father" category from 16 onwards. Finally, the type III risk factors are those that are taken to be indicative of a lifestyle throughout the risk period. So, a mother convicted of violence is taken to be indicative of violent maternal behaviour throughout the life of the subject, and this becomes a risk factor for all years in the study period.

Results

1. Single predictors of violent crime convictions

The first analysis, presented in Table 2, examines each of the 31 risk variables one at a time. Of these risk variables, there were nine which increased the risk of committing a violent offence four times or more compared to those who were not exposed to the mentioned risk factors (these are highlighted in bold in Table 2). These nine variables can be grouped as those directly involving the father (e.g. mother battered), those directly involving the mother (e.g. convicted of a sexual crime), and those directly involving the case (e.g. child's previous history of being in care; child battered or neglected; child is a drug addict; child attempted

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suicide; child attempted to hospital because of psychiatric disorder; child not graduated, child unemployed >21 weeks).

Table 2. Risk factors prior to first time conviction of a violent crime. Boys born in 1966 followed from age 14 to 27.

Individual risk factors one by one:

Risk-factor	Type	No of cases	% of cases	P % of controls	Odds Ratio	95% limits
Father is psychotic	III	16	0.8	0.47	2.0	1.2-3.3
Mother is psychotic	*III*	*8*	*0.4*	*0.39*	*1.1*	*Ns 0.6-2.3*
Father is neurotic	*III*	*41*	*2.1*	*1.42*	*1.4*	*Ns 1.0-1.8*
Mother is neurotic	III	50	2.6	2.19	1.5	1.1-2.0
Father has personality disorder	III	18	0.9	0.38	2.1	1.3-3.4
Mother has personality disorder	III	27	1.4	0.54	2.1	1.5-3.1
Father drug abuse	III	8	0.4	0.10	3.1	1.5-6.2
Mother drug abuse	III	8	0.4	0.16	2.4	1.2-4.9
Father alcohol abuse	III	113	5.8	2.96	2.1	1.7-2.6
Mother alcohol abuse	III	77	4.0	1.49	2.5	2.0-3.1
Father convicted for violence	III	76	3.9	1.14	3.7	2.9-4.6
Mother convicted for violence	III	8	0.4	0.16	3.8	1.9-7.7
Father convicted for sex-crime	III	15	0.8	0.43	2.6	1.6-4.3
Mother convicted for sex-crime	**III**	**2**	**0.1**	**0.02**	**7.3**	**1.8-29.8**
Father has been sentenced	II	133	6.9	2.57	2.8	2.3-3.3
Mother has been sentenced	II	14	0.7	0.31	2.4	1.4-4.0
Mother battered	**II**	**28**	**1.4**	**0.36**	**5.9**	**4.0-8.5**
Subject in care	**II**	**428**	**22.1**	**5.21**	**5.7**	**5.1-6.3**
Subject psychiatric disorder	**II**	**38**	**2.0**	**0.28**	**8.1**	**5.9-11.3**
Subject attempted suicide	**II**	**30**	**1.5**	**0.21**	**5.7**	**4.0-8.2**
Subject battered or neglected	**III**	**76**	**3.9**	**0.88**	**4.8**	**3.8-6.1**
Family separation	II	386	19.9	13.08	1.6	1.4-1.8
Mother was a teenager	III	287	14.8	8.25	2.0	1.7-2.2
Father has no vocational training	III	1102	56.9	46.35	1.6	1.4-1.7
Mother no vocational training	III	1334	68.9	57.52	1.6	1.5-1.8
Father unemployed >21 weeks	I	206	10.6	6.10	1.9	1.6-2.1
Mother unemployed >21 weeks	I	291	15.0	8.93	1.8	1.6-2.0
Subject is a drug addict	**II**	**7**	**0.4**	**0.03**	**9.5**	**4.4-20.1**
Subject not graduated	**II**	**1895**	**97.9**	**87.00**	**7.1**	**5.2-9.6**
Subject got no vocational training	II	1169	60.4	37.98	2.4	2.2-2.7
Subject unemployed >21 weeks	**I**	**580**	**30.0**	**9.14**	**4.3**	**3.9-4.8**

Note: Types of variables: "I" *risk factor the previous year."* II" *risk factor all the following years.* " III" *risk factor for all the years under investigation.*

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Risk factors in bold are those where the risk is four times more likely compared to those who were not exposed to such a risk factor.
Risk factors italicised are not significant.

In terms of prevalence, these 31 risk factors varied from the very unusual (e.g. in two (or 0.10%) of the cases – and only 0.02% of the controls - the mother had been convicted for a sexual crime) to the more routine (e.g. for 1102 (or 56.9%) of the cases and 46.4% of the controls) the father had no vocational training; for 1334 (or 68.9%) of the cases (compared with 57.5% of the controls) the mother had no vocational training and, for 1169 (or 60.4%) of the cases (compared with 38.0% of the controls), the subject had no vocational training. The most prevalent significant variable was 'Subject not graduated' which was the situation for 98.0% compared with 87.0% of the controls in this particular birth cohort.

Are the risk factors to subsequent violence primarily related to paternal, maternal, or individual characteristics? There is no simple answer. The father contributes some risk factors – so, for example, 3.9% of the cases had a father who had been convicted of violence (compared with 0.4% who had a mother convicted of violence); sometimes the mother rather than the father seems to have the more troubled background – so, for example, amongst the violent cases, 15.0% of their mothers had been unemployed more than 21 weeks the previous year but only 10.6% of their fathers had been similarly long term unemployed; while, finally, sometimes both mothers and fathers seem to provide an unsettling background for the child – so, for example, there were eight mothers and eight fathers involved in drug abuse in families with a boy convicted of a violent crime.

Even when the present study includes all adolescents and young men convicted of a violent crime during a period of 14 years the analysis did not quite escape the problem of multicollinearity. Results showed that parental suicidal behaviour were highly correlated both with alcoholism and being sentenced. Unfortunately the number of cases did not allow us to disentangle these variables. Thus it was decided to omit parental suicidal behaviour from the study as there were fewer cases with this characteristic.

Focusing on prevalence is important for it helps to remind that statistical significance may have little or no relevance to practical application. An example may clarify this point. While 'Mother convicted for sexual crime' has the impressive odds-ratio score of 7.3 (that is, such cases are over seven times more likely than the remainder to be subsequently convicted of a violent offence), there are only two such cases among the 1,936 persons in the birth cohort so convicted. However elegant the explanation for this apparent link with subsequent violent crime, there were still 1,934 persons convicted who did not have this problem in their background. In contrast, the concerns surrounding fathers, mothers and the cases themselves having no vocational training affected many more people – the odds-ratios are much lower but the impact of such variables is much more widespread.

Focusing on single risk factors one by one is both hazardous and potentially misleading. Firstly, their impact may be limited as just stated but, secondly, the significant variables may correlate highly with each other. So, for example, the 15 fathers convicted for a sexual crime among the cases will also be among the 133 cases which have been sentenced. Which of the two variables has the more powerful influence? The answer emerges in building a statistical model taking the remaining risk factors into account. Statistically, this fits a logistic regression with multiple risk factors – the effect of any risk factor is thus controlled for the effect of the others. However, before moving on to this task, we need to consider

briefly under this heading of 'Prevalence' the variables that one might perhaps have expected to reveal statistically significant differences between cases and controls, but failed to do so.

In an analysis there is a tendency to focus upon the significant results of which in this study there were many but, equally important, one needs to examine the results, which were more unexpected in a different direction. In this study there were several such examples. These are italicised in Table 2 showing results that were *not* statistically significant. Among the many other variables considered, there were no statistically significant effects of maternal psychosis, paternal neurotic disorder and the subsequent conviction of their sons. In contrast, however, significant associations were found for paternal psychosis, parental drug abuse although this was a similar rare risk factor. So what is the explanation? There are several possibilities. Firstly, perhaps the level of significance demanded in this study may be too stringent or the numbers of cases involved in the study too few. Secondly, the measures of the variables may be different from those in other studies where statistical significance emerges. In this study the responses are those recorded on official registers and these are likely to be the more serious ones or repetitive activity which attracts the attention of social control agents; however, there is a danger in assuming this too readily. On the one hand, self-report studies may reveal the events – of which some may be very subjectively experienced – which may make an important impact but not be recorded in official statistics; on the other hand, official statistics are 'socially constructed'. As Kitsuse and Cicourel (1963) powerfully pointed out in their classic paper, official statistics tell us more about the organisations collecting the statistics rather than the individuals included in the analysis. We return to this issue in the 'Discussion' section.

2. Multiple predictors in logistic regression analysing individual cases from the 1966-birth cohort

We now proceed towards a multivariate analysis, which considers all risk factors in a single model. A stepwise logistic regression was performed which included risk factors if they were significant at the 5 % level. The stepwise method included first the most informative risk factors and then stepwise including the second most informative risk factor with the former risk factors taken into account. If the subsequent risk factors added new significant information the new risk factors are included in the final model as well. The final model then includes risk factors, which separately and together are highly predictive in order to predict the outcome variable: first time violent offenders. The final outcome of the stepwise regression model is fascinating. Table 3 shows that there are 14 variables that remain statistically significant within the model. The odds-ratios now change and range from 6.0 for 'Child not graduated' to 1.2 for 'Father has no vocational training'. However, all the variables contribute to the model independently in some way. The 14 significant variables in the final stepwise model are listed in terms of the strength of the odds ratio in Table 3.

Table 3.
Risk factors identified in the stepwise regression displayed in the order of odds-ratio scores. Boys born in 1966 (age 14 to 27 years old).

Risk factor	Type	No. among cases	P % of the controls	Odds Ratio	95% limits	AF %
Subject not graduated	II	1895	87.00	6.0	4.4-8.2	81.3
Subject battered or neglected	III	76	0.88	2.7	2.1-3.4	1.5
Subject in care	II	428	5.21	2.4	2.1-2.7	6.8
Subject unemployed >21 weeks	I	580	9.14	2.3	2.0-2.6	10.6
Subject psychiatric disorder	II	38	0.28	1.9	1.3-2.7	0.3
Mother battered	III	28	0.36	1.7	1.1-2.5	0.3
Father convicted for violence	III	76	1.14	1.7	1.3-2.2	0.8
Subject attempted suicide	II	30	0.21	1.6	1.1-2.3	0.3
Subject got no vocational training	II	1169	37.98	1.6	1.5-1.8	18.6
Mother alcohol abuse	III	77	1.49	1.4	1.1-1.7	0.6
Father has been sentenced	II	133	2.57	1.4	1.2-1.7	1.0
Mother was a teenager	II	287	8.25	1.4	1.2-1.6	3.2
Family separation	II	386	13.08	1.2	1.1-1.4	2.5
Father has no vocational training	III	1334	57.52	1.2	1.1-1.3	10.3

Note:" I" risk factor the previous year." II" risk factor all the following years." III" risk factor for all the years under investigation. Test of the model: Hosmer and Lemeshow (P=0.45).

In order to evaluate the risk-factor contribution to the number of convicted persons, attributable fractions (A.F.) are calculated for each risk factor in the final model according to Greenland and Drescher (1993). A.F. express the reduction in incidence of convicted violence that would be achieved if the population had not been exposed at all compared with the current exposure pattern. The relevance of a potential risk factor is decided upon by examining the size of the incidence in the case-group (Breslow and Day, 1980; 1987). This information is thus presented in Table 3 along with the odds ratio. It is important to note that a number of risk factors which had been expected to be relevant, turned out to be too infrequent to be included in the final model.

The variables in Table 3 can be grouped in terms of those involving the father (i.e. 'Father has been sentenced'; 'Father convicted of violence', 'Father has no vocational training'), those involving the mother (i.e. 'Mother alcohol abuse', 'Mother battered', 'Mother was a teenager'), those involving the family in general (i.e. 'Family separation') and those directly involving the subject (i.e. 'Subject in care', 'Subject battered or neglected', 'Subject attempted suicide', 'Subject psychiatric disorder', 'Subject not graduated', 'Subject got no vocational training' and 'Subject unemployed >21 weeks'). All are important as risk factors in terms of the likelihood of being subsequently convicted of a violent crime. However, crucially, some significant variables are very rare (so, for example, the incidence of 'Subject psychiatric disorder' among the controls was only 0.3%) and some involve the vast majority of the population (so, for example, there are 87% among controls where the 'Subject [has] not graduated'). The issue becomes one of how one might usefully interpret these results in terms of effecting possible change. This issue is confronted in the next section.

DISCUSSION

The results are unequivocal in showing the impact of a variety of factors upon the likelihood of identifying a future first conviction of a violent crime. In brief, it may be concluded with confidence that violent adolescents or young men are more often coming from families suffering from the following disadvantages: 1) diminishing social networks (teenage parenthood, family break up, and children's placement outside the home); 2) violence in the family and paternal criminality; 3) a mother's alcohol abuse; 4) a father's lack of vocational training while controlling for other risk factors. According to a previous study, it is mostly from these kinds of family that victims of physical abuse or neglect are also recruited (Christoffersen, 2000). These are familiar risk variables, but they only relate to a minority of cases - although official registers will not identify the full extent of a problem.

Structural factors, such as lack of education and unemployment - which are much more widespread - are less often commented upon in studies of this kind. However, the advantage of using a birth cohort and analysing by the case-cohort method is that one can begin to identify the scale of the problem in relation to structural factors that may lead to social exclusion. The present study recognises that among the most significant characteristics of violent offenders are their remote chances of employment. Only a small proportion of the violent offenders had graduated, only a few had had vocational training and most of them had been unemployed more than 21 weeks during the year prior to the first-time conviction for a violent crime.

Lack of vocational education and unemployment, solely or together with other critical life events, helps to explain many social problems, including violent behaviour, from adolescence onwards. They are among the several damaging factors that may degrade and humiliate adolescents and therefore put an extra stress on vulnerable boys. While this study has endorsed the view that domestic violence and abuse in its various forms are damaging, the dangers emanating from more structural factors, such as the lack of appropriate education and employment, are even more widespread. It seems likely that many of the offenders identified in this study have been perhaps trapped in a downward spiral. So, for example, those with a lack of education may be more vulnerable when there are redundancies, for they will tend to be among the first to be sacked. Furthermore, applicants for jobs who have been unemployed for a longer period may well be stigmatised and suffer from lack of job training. In a period of relatively high unemployment these processes may keep persons in lasting unemployment (Pedersen, 1994).

The claims of this study need some caveats. The present study cannot throw light on violent offenders who have not been convicted, whilst also recognising that some of the included cases may have been falsely accused. The limitations of studies based on official records - in this case, national registers of criminal convictions - are well known (Kitsuse and Cicourel, 1963). However, within these limitations, a study using a complete birth cohort and population-based registers begins to be compelling in its message that both structural and family factors are important in making a contribution towards future violence. It is always tempting to see family factors as crucial – indeed, perhaps they are for some – but it can be argued that the damage from adverse structural factors is certainly more widespread. In fact, while the cause of family crises will be diffuse, adverse structural changes within society may play a part. In conclusion, the message of this paper is that the wider social and economic context remains the battleground in understanding crime – in this study, violent crime – and that the casualties of crime are both the victims and the perpetrators.

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