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Social and Parenting Factors Affecting Criminal-Offence Rates

Findings from the Newcastle Thousand Family Study (1947–1980)

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A rare opportunity to study deprivation and criminality across generations arose from the follow-up of the families who participated in the Newcastle Thousand Family Survey. The data on these families had been preserved and it was possible, using criminal records, to examine longitudinally whether children who grew up in 'deprived' rather than 'non-deprived' families were more at risk of offending during later childhood and beyond. The results of this study suggest that this is indeed so.

The thousand family survey

The study commenced in 1947 when the families of all the 1142 infants, from 1132 families, born in the city between 1 May and 30 June, were enrolled in an observer study of the incidence and types of illness in the first year of life. (Spence *et al*, 1954; Miller *et al*, 1960, 1974).

Throughout the school years, 1952–1962, records of growth were collected, and school behaviour and achievement were documented. After 1962, the systematic visiting of all the families ceased, but certain items of data, such as selective education, entry to employment, and contact with the law, were collected. At the end of the first, fifth, tenth, and fifteenth years, there were extensive analyses of the data on all families remaining in the study. The data from the 15-year analysis form the basis of the third volume written about the survey (Miller *et al*, 1974), and of the present work.

Following Sir Keith Joseph's 'Cycle of Deprivation' Speech in 1972, it was suggested that the records of the Thousand Family Study might be used as a basis for a study of the 'transmission' of deprivation. A follow-up study was conducted between 1979 and 1981 (the findings of which are now in preparation), and as part of that study, the authors of this paper were granted access to the relevant criminal records for data relating to the 847 families still in the study in 1952. The reason for focusing on the 847 families was that, during the first 5 years, extensive social data had been collected, upon which our definition of deprivation depended. For this reason, these families constituted the baseline cohort for this study. Only any further attrition from this cohort is of consequence to the findings reported in this paper.

The 1979–1981 study

Criteria of deprivation

Data on family deprivation relating to the 'Red Spots'* first 5 years of life were collected and have been described elsewhere (Miller *et al*, 1960). In the current follow-up study, six categories of family deprivation – details of which are reported elsewhere (Kolvin *et al*, 1983) – were employed. All children were given a score of 0 or 1 in each category and their scores were added to give a total deprivation rating as shown in Table I. Definitions of these criteria are available in previous publications (Kolvin *et al*, 1983; Miller *et al*, 1985).

Sub-samples of the families were then isolated for special study, with three main objectives: firstly, to compare a sample representative of *all* the deprived families with a sample in which there was no evidence of deprivation; secondly, in order to observe the effects of severe deprivation by identifying a multiply deprived group; thirdly, by categorising families by type of deprivation, to examine the effect of each type separately. The following shows how the sub-groups were defined and what percentage of the trial cohort fell into each. It is to be noted that there is an overlap which was unavoidable – mutually exclusive groups could not have satisfied the objectives listed above.

(a) Not deprived; families in which there was no evidence of deprivation (57%).
(b) Deprived group; families deprived in at least one respect (43%).
(c) Multiply deprived; families deprived in at least three respects (14%).

Hypotheses

The main hypotheses under investigation were that:

(i) Underprivileged family environments are associated with criminal behaviour during the school years and thereafter.
(ii) Specific criteria of deprivation are associated with different patterns of criminality so that certain indices of social and family deprivation will have more harmful influences than others.
(iii) The greater the number of criteria of deprivation in a family, the greater the risk of offending.

*Because all documents pertaining to the above study were identified by a small red legal seal, the index children became widely and popularly called 'Red Spots' and the term is useful for descriptive purposes.

TABLE I

Numbers of families studied in 1952 and 1957 when their children were 5 and 10 years of age with deprivation according to the specified criteria at the 5th year

	Year/total n			
	1952/847		*1957/812*	
	n	*Percentage*	n	*Percentage*
(a) Degree of deprivation				
(i) Not deprived	482	57	477	59
(ii) Any deprivation (one or more criteria)	365	43	335	41
(iii) One or two criteria	249	29	229	28
(iv) Multiple deprivation (three or more criteria)	116	14	106	13
	(iii) and (iv) are included in (ii)			
(b) Type of deprivation				
(i) Marital instability	123	15	112	14
(ii) Parental illness	103	12	88	11
(iii) Poor domestic and physical care of the children and homes	107	13	98	12
(iv) Social dependency	148	17	130	16
(v) Overcrowding	158	19	148	18
(vi) Poor mothering ability	129	15	120	15

The present study

In 1952, as stated above, 847 of the original families remained in the survey. The main loss between 1947 and 1952 had been by removal from the city. In addition, 45 children had died and 11 had contracted out of the survey, but remained in the city. The nature of the study at that time precluded any attempt to retain links with those families who had moved from the city. A further 35 families moved by 1957, leaving 812 at the time of the 10th year of analysis.

In the subsequent study, during 1979–1981, of the transmission of deprivation in a random stratified sample of 296 index children (Red Spots), 96% of those who were alive were traced; any criminal records theoretically were accessible. It is to be noted that in this follow-up, efforts were also made to trace families from this cohort who had moved from the city between 1952 and 1962, as, if the full sample of 847 Red Spots as adults is used, without correction for losses, as the base population, then prevalence rates for offences are likely to be underestimated. Furthermore, in the follow-up study, more Red Spots were lost to the base population from deprived families than from other families (Kolvin *et al*, 1983). Eventually, as we had deprivation data on our 847 families, it seemed sensible to use them as the base population when studying rates of offending and apply the appropriate correction factor. The latter was achieved by using as a notional denominator, when calculating offence rates, the 812 Red Spots still living in Newcastle in 1957. This is equivalent to 4% attrition, subject to the uneven distribution noted above. The details of the 812 families when the Red Spots were 10 years of age are given in Table I.

Results

(a) Contact with the Law – findings reported in the previous study

The third report of the study (Miller *et al*, 1974) contained an account of the offences by index children up to 18½ years. By their 15th year, 67 had offended, increasing to 98 by their 17th birthdays and 126 at age 18½ (Table II). By their 17th birthday, 22% of boys had offended, nearly 4% having four or more offences (Table II). In contrast, only 2.4% of girls had offended by 15 years and 3.7% by 17 years. In the 1960s, offences committed before the age of 17 years gave rise either to cautions or were considered in the juvenile courts. The above-mentioned data were gathered from local police records.

From the official criminal records (CRO data), we also had information on convictions in adult life for 106 families. When the CRO data and the '1000 Family' records were cross-referenced, some discrepancies were noted – it was known that the former source contained information about both juvenile and adult convictions of Red Spots who had moved away, or offences committed away from the immediate locale of Newcastle. On the other hand, the CRO records would have been reduced by the process of 'weeding', which consists of deleting records of relatively minor offences and also records about cautioning prior to age 17. The '1000 Family' material had not been exposed to the process of 'weeding' and therefore probably provided a fuller account of offences up to the age of 18 years occurring within or near Newcastle. Combinations of data from these two sources provided a best estimate of lifetime offence rates, although this did not coincide precisely with official listings of delinquency or criminality. We grouped

TABLE II

Delinquency: children appearing in court before 18½ years of age from 380 boys and 380 girls in Newcastle upon Tyne 1947–1965

	One				Two	Three	Four or more
	Boys		Girls				
	n	Percentage	n	Percentage	Boys	Boys	Boys
By 15th birthday	58	15	9	2.4	6.5%	3.2%	2.2%
By 17th birthday	83	22	14	3.7	9.5%	4.6%	3.7%
By 18½ years	105	28	21	5.5	13%	7.8%	5.3%

Only three girls had more than one appearance before November 1965.
Adapted from Miller *et al* (1974)

our data according to offences committed before and after the age of 15 years.

(b) Incidence of criminality based on Home Office–CRO records: males and females

The incidence of offences committed by the age of 33 years, based on information from Home Office criminal record data, was 13.1% ($n = 106$). This data was analysed according to the degree and type of deprivation in the families and shows that rates of criminality increase markedly with the degree of deprivation, with a more than four-fold increase from 6.3% ($n = 30$) for the non-deprived group to 29.2% ($n = 31$) for the multiply deprived group, with the rate for the deprived group with one or two criteria being 19.2% ($n = 44$). The rates for individuals subject to the six different types of deprivation also varied from 21% of those exposed to marital disruption to 33% for those from homes with poor domestic care and lack of cleanliness. The rate of offences for males and females proved very different, being five times higher in males. The above figures are unlikely to include offences committed during the school years, particularly cautions, which are expunged at 17 years, and other minor offences which, through the process of 'weeding', are deleted from the criminal records. Finally, an important question is the extent to which these findings were influenced by the inclusion of minor motoring offences in the records. Examination of the criminal record data indicates that, in Newcastle, over the 20-year period from 1962 to 1981, the contribution proved to be rather marginal – in only seven of the 106 cases was a motoring offence considered to be the principal offence. In every one of these seven cases there was another associated indictable offence.

(c) Incidence of offences derived from combining the two different sources of information ('1000 Families' and CRO data)

Having combined the two sources of information as described above, and excluding the non-indictable cycling/motoring offences – it is to be noted that these did not appear in the CRO records unless the person had an existing criminal offence – we obtained an estimate of total offences in our 847 families (Table III). It is noteworthy that of the 35 Red Spots from the families who moved away from Newcastle between 1952 and 1957 no less than 14 (40%) had been convicted by the age of 32. We found this surprising and difficult to explain, as Osborn (1980) found that moving from London (i.e. away from a large city) led to a decrease in delinquency.

Of 83 persons offending prior to the minimum school leaving age of that period, three quarters went on to commit further offences after that age. In addition, a further 66 individuals appeared in the criminal records for the first time after the age of 15. This gives a total of 149 offenders – rates by the 15th birthday of 10.2%, after 15 and up to 33 years of age 15.9% and, finally, anytime up to 33 years, 18.3%.

At all ages, convictions were overwhelmingly of males. Thus, by the age of 33, more than one in every four males had offended, but only about one in twenty females. The proportions of males varied according to the degree of deprivation, ranging from one in six of males from non-deprived families, to six in ten of males from multiply-deprived families. However, some forms of deprivation appear to have stronger associations with the offences than others, running at about five in ten of families where there was marital disruption or parental illness to six in every ten families with lack of cleanliness and poor quality of mothering.

We thus ascertained the proportion of individuals in various deprived groups. Considering what proportion of offenders suffered deprivation in their early years, we see in Table III that about a fifth of the male delinquents experienced parental illness and marital disharmony in their homes, and about a third, overcrowding, social dependency, and poor mothering. It is interesting to note that the rates of such deprivations are at much higher levels for female offenders, running at about a half in the case of social dependency and about two fifths in the case of overcrowding and marital disruption.

Next, we looked to see whether there were differences in rates of deprivation for those who committed their first offence before the age of 15 as compared with those who committed their first offence after that age. Table IV

TABLE III
Offence rates in the base cohort of 847 families (corrected for losses)[1]

Overall number of offenders from 812 males and females (five non-indictable motoring offences are included)			
By 15th birthday		83	(10.2%)
After 15th birthday		129	(15.9%)
Either		149	(18.3%)[2]
Offence rate (according to severity of deprivation and sex of offender)			
(a) All males		125 from 404	(30.9%)[3]
All females		24 from 408	(5.9%)[4]
(b) Males in non-deprived families		40 from 226	(17.7%)[5]
(c) Males from all deprived families		85 from 178	(47.8%)[6]
(d) Males in families with multiple deprivation [overlaps with (c)]		35 from 53	(66.0%)
Offence rate (according to type of deprivation – males only)		Deprivation suffered by offenders	
		Males ($n = 125$)	Females ($n = 24$)
Non-deprived families	17.7%	—	—
Deprived families showing:			
Marital disruption	52.8%	28 (22%)**	10 (42%)***
Parental illness	51.1%	23 (18%)*	7 (29%)**
Poor physical/domestic care	67.3%	33 (26%)***	7 (29%)*
Social dependency	59.4%	38 (30%)***	12 (50%)***
Overcrowding	55.8%	43 (34%)***	9 (38%)***
Poor quality mothering	60.9%	39 (31%)**	8 (33%)**

1. Deprivation was assessed in 1952 when the children were 5 years old.
Numbers of non-indictable motoring offences included: 2. five; 3. four; 4. one; 5. one; 6. three.
Significance of difference from non-offenders: *$P \leqslant 0.05$; **$P \leqslant 0.01$; ***$P \leqslant 0.001$.

TABLE IV
Proportions of 125 offenders from 279 males who experienced deprivation in early childhood

	Numbers of males (%)					
	Non offenders	*First offences before 15 years*	*First offences after 15 years*	*Total*	*Chi-squared*	P
With criteria of deprivation	279	67	58	404		
Breakdown of criteria						
Marital instability	25 (9.0)	20 (29.9)	8 (13.8)	53	21.4	<0.001
Parental illness	22 (7.9)	19 (28.4)	4 (6.9)	45	20.2	<0.001
Poor physical/domestic care of children/home	16 (5.7)	18 (26.9)	15 (25.9)	49	30.3	<0.001
Social dependency	26 (9.3)	24 (35.8)	14 (24.1)	64	25.3	<0.001
Overcrowding	34 (12.2)	25 (37.3)	18 (31.0)	77	27.1	<0.001
Poor mothering	25 (9.0)	18 (26.9)	21 (36.2)	64	30.8	<0.001

shows a number of interesting findings. Firstly, while those who committed their first offence after 15 had seldom been exposed to marital instability or parental illness in their pre-school years, those who committed their first offence before 15 had often had such experiences. Secondly, both groups had been exposed to significantly high rates of poor physical and domestic care and mothering ability as children, compared with those with no convictions. Thirdly, offenders experienced higher rates of social dependency and overcrowding in childhood than non-offenders, with the tendency for the effect to be stronger in the case of social dependency before 15 years than after.

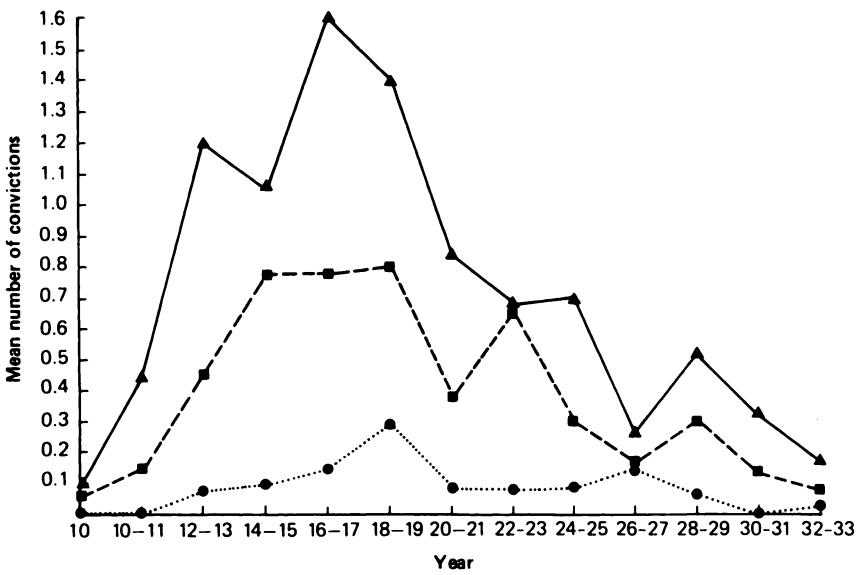

FIG. 1 Mean number of convictions at each age band for Red Spot males calculated in relation to the total population ($n = 404$). ▲ —— ▲, multiply deprived ($n = 53$); ■ --- ■, deprived ($n = 178$); ● · · · ●, not deprived ($n = 226$).

(d) From youth to adulthood

Because the great majority of charges were brought against males, the rates for all males were not greatly different from the overall rates. It was found that nearly half of those charged after 15 years of age had already been charged before that age (52 out of 110 = 47%), and few of those who committed no offence after 15 years had committed an offence before (15 out of 294 = 5%). Males who were charged with offences before the age of 15 had a three in four chance of being charged again by the age of 33 years (52 out of 67 = 78%), but those who had not been charged by 15 years had only a one in six likelihood of being charged by 33 years (58 from 337 = 17%). It is to be noted that the above rates are estimates based on the notional denominator of 404 males.

(e) Female offenders

Only 24 females (5.9%) were charged with offences – a much lower incidence than for males: only 2% of girls in the non-deprived, but 9% in the deprived, and 15% in the multiply deprived groups. A steeper rise in the number of convictions as the level of deprivation increases was thus noted for girls (four and a half and seven times the non-deprived figure for the deprived and multiply deprived groups respectively), compared with boys (three and four times).

(f) Mean number of convictions in relation to age (males and criminal record data only)

The mean numbers of offences committed by males at each age to 33 years are set out in Fig. 1. The numbers have been calculated in relation to the degree of deprivation the individual experienced at 5 years of age. The picture is clear: the rates in pre-puberty (10 and 11 years) are low; then there is a steep rise through the teens (13–19) with the peak at 16–17 years. The rate then falls away, and at 32–33 years is almost as low as at the 10-year level. The three curves, representing each of the sample's sub-groups, soon diverge after age 10 but from 26–27 to 32–33 years they again converge. At every age band before 26 years those with multiple deprivation have the highest score, the deprived are intermediate, and the non-deprived the lowest. Each group has a small secondary peak between 26 and 29 years.

The differences in offence rates according to severity of deprivation give rise to a gradient not only of percentages of individuals who commit offences, but also of the mean number of offences for the whole of that population. After the age of 30 the mean number of offences committed in every group is very low.

(g) Analysis of data from Home Office Criminal records (males and females)

Since the official records have been subjected to 'weeding', the rate of offences over the period at risk based on such records should be regarded as minimal. Calculations were made from a notional population of 812 families, on the basis of 477 non-deprived individuals, 335 deprived, and 106 multiply deprived. For the principal offences of violence, sexual attacks, criminal damage, and fraud/forgery, the rates are all low, with the highest being a 3% rate of violence in the multiply deprived group. Only burglary, robbery, and theft (combined) show a gradient – mounting from 20 offences for the 477 non-deprived (= 4%) to 23 for the 106 multiply deprived families (= 22%).

TABLE V
Basic data concerning male convictions based on CRO data

	Families		
	Not deprived (n = 226)	*All deprived (n = 178)*	*Multiply deprived (n = 53)*
Number of males with criminal (CRO) records up to age of 32/33	27 (11.9%)	62 (34.8%)	27 (50.9%)
Number of offences			
1–5	20 (9%)	36 (20%)	14 (26%)
6–10	3 (1%)	9 (5%)	5 (9%)
11 or more	4 (2%)	17 (10%)	8 (15%)
Mean number of offences	0.7	2.9	5.1
Mean time incarcerated (in months)	7.9	13.9	20.9
Mean age in years at first court appearance	19.4	18.2	16.7

Known other offences, which are those additional to the principal offences, have been summed. There are some small increases in the percentage occurrence in the deprived over the non-deprived group – e.g. rates for the non-deprived, deprived, and multiply deprived groups are of 1%, 4%, and 8% respectively for criminal damage; and for taking and driving away 1%, 5%, and 10% respectively. However, none of the differences are significant except the item 'all other theft' where the rates are 3%, 13%, and 21% respectively. We also found that the multiply deprived group not only has a higher percentage of offences but also a higher percentage of repeated offences (see Table V).

These different offences were studied in relation to the six criteria of deprivation experienced in the early years of life. They were listed according to the highest and lowest rates of the different types of deprivation, and the following patterns emerged:

Offence	Highest percentage	Lowest percentage
Violence	Poor care/cleanliness of child and home	Parent illness
Criminal damage	Poor care/cleanliness of child and home	Parent illness
Fraud/ forgery	Social dependence	Parent illness
Theft	Poor care/cleanliness of child and home	Marital instability
Drink	Poor care/cleanliness of child and home	Over-crowding
Motoring	Poor care/cleanliness of child and home	Over-crowding

Despite what appear to be small differences between the groups with the highest and lowest rates, the findings suggest that poor care/cleanliness of child and home were the most powerful adverse influence in the family of origin, and parental illness and overcrowding were the least adverse – particularly in relation to different types of offences.

We examined a selection of offences for males, and these showed a more distinctive pattern. There was now a clear gradient of increase from non-deprived to multiply deprived on most offences, suggesting that all types increase in relation to the severity of deprivation in the family of origin. This was particularly true of theft. The pattern was confirmed by the characteristics of offences for males only (Table V) – this showed a steep increase in the mean number of convictions and mean time in custody, according to the degree of deprivation. There is also a decrease in the mean age at first Court appearance by more than 2 years from the non-deprived to the much deprived.

Finally, we used the profile approach developed by Gunn (Gunn & Robertson, 1976) to ascertain if any of the different types of deprivation were associated with a distinctive profile of offences. No such distinctions were found, except that high rates of theft and low rates of drug offences occurred broadly in all deprived groups.

(h) Family factors

(i) Some social factors and offending rates

The offence rates of the Red Spots in relation to occupational class of the fathers when the Red Spots were 5 years old were analysed. A close relationship was found between offence rates and lower occupational status, rising from 3% of those from social classes I and II, to 27% of those from social classes IV and V. The association is even stronger in the case of males only – 5% from occupational classes I and II, 26% from social class III, and 42% from social classes IV and V plus. Another way of looking at the data for both males and females is to look at non-offenders and offenders separately. Of the non-offenders, 12% came from occupational classes I and II, 55% from III, and 33% from the lowest occupational strata. The percentages for the offenders are 2%, 42%, and 56% respectively. The offenders tended to come from larger sibships, with a mean family size of 3.5 overall and 3.7 for males as compared with 2.6 overall and 2.5 for males who were not offenders. There was also more unemployment among the fathers of the offending groups.

(ii) Parental personality factors (Table VI)

Parental characteristics had been described and analysed in 1962, by which time the study team had known the families for 15 years and had long acquaintance of the dominant character traits of both the mothers and fathers of the Red Spot children. This present analysis showed that male offenders more often had parents who were characterised as 'ineffective', i.e. who did not cope with family matters, and they were also slightly more likely to have aggressive fathers, and less likely to have parents who were 'effective and kind'.

(i) Comment

Similar associations were described by Miller *et al* (1974) in relation to family factors, and juvenile delinquency

TABLE VI
Predominant character traits of parents in relation to male Red Spots committing offences (assessed when subjects were aged 15 years)

Predominant characteristics of parents in relation to the care of children and the family	*Non-criminal sons (n = 255)*	*Criminal sons (n = 111)*
Effective and kind		
Father	123 (48%)	22 (20%)
Mother	90 (35%)	25 (23%)
Ineffective but kind		
Father	46 (18%)	31 (28%)
Mother	27 (11%)	38 (34%)
Aggressive		
Father	46 (18%)	32 (29%)
Mother	47 (18%)	18 (16%)
Anxious		
Father	5 (2%)	2 (2%)
Mother	71 (28%)	11 (10%)
Others (includes non-applicable)		
Father	35 (14%)	24 (22%)
Mother	20 (8%)	19 (17%)

The above data have not been corrected for losses.

defined as contact with the law. The present data reconfirms the well-known social origins of delinquency and criminality both in terms of poor occupational gradings of the breadwinner, unemployment, and large family size. But these are not the only origins – parental personalities also seem to play an important part.

Discussion

The Newcastle work is a longitudinal study and therefore has all the strengths of this design, but is also subject to a number of disadvantages. Thus it was not possible to study changes in the patterns of delinquency at different periods of time. An example of this is the relative increase in female delinquency over the last 25 years leading to an alteration in the male: female ratio for delinquency (Rutter & Giller, 1983). Furthermore, the longer the period covered by research, the greater the likelihood that results will reflect temporal changes occurring in a society which imposes limits on their analysis and interpretation. Rutter (1979) points to some of the difficulties: for example, alterations in law may entail certain behaviour moving in or out of the ambit of criminal law; criminal statistics are affected by the level of police activity: police treatment for offenders does not remain constant; and the opportunity to commit crime is affected by social phenomena like the increase in the total number of self-service stores and motor vehicles. On the other hand, as the population of Red Spots is an age cohort, both the criminals and non-criminals were simultaneously exposed to the widespread changes in society, particularly the increase in frequency of criminal acts and the variations in police processing of delinquent acts which have occurred in the past 30 years.

Criminal records as a data source

In studying delinquency, it is axiomatic that a truer measure of delinquency will be obtained by relatively contemporaneous interviews than by a study of official records. Firstly, official records under-represent the true extent of criminal behaviour. Self-report surveys show that less than 15% of criminal acts result in police contact (West & Farrington, 1977). Even when police contact is made, the processing of the individual concerned may well vary according to the offender's age, sex, race, and previous record (Landau, 1981 – a study of 1603 police decisions on juveniles in London). Secondly, official-record studies fail to recognise the offence or conviction as merely one facet of a delinquent life-style. For example, the Cambridge study showed official delinquents at 18 to be almost uniformly at the socially deviant end of the spectrum with an excess of alcohol problems, driving offences, sexual experience, unemployment, poor family relationships, and anti-establishment attitudes (Farrington, 1979). It also needs to be borne in mind that while the majority of young people have committed delinquent acts, only a small minority enter the criminal records (Rutter & Giller, 1983).

Our work has been confined to the use of criminal records both to establish the incidence and the types of juvenile and adult indictable offences. We have examined each of the original records and have confirmed that in over 90% we are dealing with the most delinquent and serious criminal acts committed by the cohort over the years from 1957–1981. While we accept that there is much criminal behaviour which cannot be identified by surveys of criminal records, this latter method is free from the distortions which can occur in studies relying on self reports where there is a tendency to higher rates of non-response in delinquent populations (Rutter & Giller, 1983).

Prevalence rates

Another strength of the Newcastle research is that it comprised an entire birth cohort for a city, with

delinquency data collected until the individuals were 32–33 years of age. It therefore constitutes one of a small number of longitudinal surveys of crime in this country and has provided a record of the prevalence of offending individuals from childhood to the age of 32–33 years. This period covers the main period of risk for new offences, for after the age of 33 years the rate declines.

As discussed above, Miller *et al* (1974) found that, considering the rates of offences up to the age of 15 years, then 17 years and, finally, 18½ years, for 760 individuals who had remained in the city, by the age of 18½, more than one in four of the boys had offended, but only about one in twenty of the girls (Table II).

We updated the figures to include adult criminality data and additional juvenile data, as described above.

Three quarters of delinquents offending before the minimum school-leaving age (15) of their time went on to commit further offences after that age. Sixty-six offended for the first time after the age of 15. From the total population of 847, 149 (10.2%) offended by their 15th birthday, 15.9% between 15–33 years, and 18.3% at any time up to 33 years (corrected for losses – see Table III). Both before and after 15 years of age the convictions were overwhelmingly due to offences commited by males; 31% of the men had been charged by the age of 33 but only 6% of the women.

It is noteworthy how closely the local rates, despite differences of definition and inclusion criteria, approximate the national prevalence rates of convictions of males born in 1953 of 31% up to the age of 28 and of females of 6% (Home Office, April 1985). The latter statistics take no account of convictions not included on the Home Office standard list – for instance, it excludes less serious motoring offences, drunkenness, prostitution, and persons cautioned by the police. To date, the best measure of juvenile criminality within one cohort is the Cambridge team's study of 411 boys aged 8–9 years taken from six state primary schools in a working-class area of London in 1961–1962. One in five of the group had been convicted as a juvenile, and nearly one in three by 24 years of age (West, 1982). Farrington (1981) estimated life-time prevalence by using official statistics based on a random sample showing estimated numbers of first convictions in each age group. He simply added the first-time conviction rate at each age group and concluded that about one third to one half of males acquire a criminal record during their lifetimes.

Despite following our cohort to 32–33 years of age, the rates fell short of Farrington's (1979, 1981) estimates: he followed his cohort to only 24 years of age. One possible reason for the lower rates in Newcastle is that Farrington's conclusions are influenced by the working-class composition of the Cambridge cohort whereas the Newcastle population derived from a cohort of all births in the city over a defined period and this reduced the possibility of distortions. Further, the Newcastle research displays the often-reported relationship between occupational class of the family of origin and contact with the law.

The proportions of convictions for men ranged from one in six of men from families who were not deprived, to more than six in ten of men from families who were much deprived during their childhood. Some forms of deprivation appear to be more harmful than others. The risks were about five in ten in families where there was marital breakdown, parental illness, overcrowding , or social dependency; and about six in ten in families with defective cleanliness and poor quality of mothering – all suggesting that the quality of parental care is of fundamental importance.

The cardinal findings of the Newcastle research is the dramatic increase in the rates of delinquency and criminality in relation to the severity of deprivation in the family of origin. Some 60% of males coming from high-risk, much-deprived family backgrounds eventually end up with a criminal record. For females, the rates are very much lower, but the ratio of offences in the much deprived, as compared with criminality in the non-deprived, is much higher – four times higher in males but seven times higher in females.

Life-time trends

The Newcastle data demonstrates another aspect of life-time trends in relation to mean number of convictions (Fig. 1). There is a peak at about 16/17 to 18/19 years for the mean number of convictions, followed by a decline, with low rates at 32–33 years. Further, the mean number of convictions is closely tied to the severity of deprivation in childhood – the more severe the childhood deprivation, the earlier the offences are committed, and the higher the mean number of subsequent convictions, with a peak in late adolescence. A secondary peak occurred at about 28–29 years, but we do not know of any national or local circumstances which can explain this. These findings are consistent with West & Farrington (1973, 1977) who reported that whereas the peak age for first conviction was 14 years, 17 was the peak age for both the number of convictions and the number of individuals convicted.

Our findings support the notion of a group at high risk for criminality who commit their first offences while still at school. Almost eight in ten of the Newcastle males offending before 15 years of age committed further offences after leaving school, but only about one in six of those without offences before 15 years were subsequently offenders by 32–33 years of age. These findings are in line with other prospective surveys which report that a substantial proportion of youths convicted as juveniles subsequently have official contacts with the legal system as adults. For example, in the St Louis Study (Robins & O'Neil, 1958) 60% of juvenile delinquents had been arrested for subsequent non-traffic offences by 43 years of age. Similarly, McCord (1978) reported that 79% of 139 men convicted of offences in the Massachusetts Juvenile Court during 1933–1951 were reconvicted by 48 years of age. They also mirror the Cambridge findings of 61% of official juvenile delinquents being reconvicted as young adults and only 13% of those without convictions as juveniles being convicted as young adults (Farrington & West, 1979, 1981).

In summary, not only are children from much deprived backgrounds at higher risk for later delinquency and criminality, but as a group they are subject to many more convictions. Nevertheless, in adult life there is a marked fall in the frequency of criminal behaviour and, therefore, we can conclude that most juvenile delinquents do not become persistent offenders. In addition, few individuals commit offences for the first time in their late 20s.

Types of offences (based on criminal record data for males)

It was found that all types of offences tended to increase in relation to the severity of deprivation and this was particularly true of theft. Furthermore, there did not appear to be any association between the type of offence and the nature of deprivation.

Previous research has demonstrated relatively high rates of adverse early-life experience in the backgrounds of delinquents, but we found that, for males, the rates are low, running from 18–34% for the different types of deprivation. In the case of females the rates are higher, running from 29–50%. Thus, while delinquency is a less frequent occurrence in females, where it does occur, deprivation appears to have a potent influence.

Next, marital instability and illness in parents are seldom associated with offences after the age of 15 years, but are relatively commonly associated with offences before that age. This suggests that the social origins of offences before and after 15 years differ in some important respects. Defective care of the child and home and poor mothering appear to have similar associations with offences at both ages. In addition, social dependency and overcrowding seem to be important in relation both to offences before and after 15 years, but more so in the latter than in the former.

Finally, while a high percentage, and at times the majority, of deprived males later commit offences (about 50–60%), only a minority of male delinquents have suffered early-life deprivations (18–34%).

Family mechanisms

All the types of deprivation we studied had significant correlations with criminality. First, there was a strong relationship between delinquency and severity of deprivation in the case of males. Second, there was a strong relationship between delinquency and the mother's poor care of the home and the child during the early years of life. Poor physical and domestic care of the child and home implies not only poor standards of care of the home and children, but also poor appreciation of the need for good-quality parenting in the early formative years, or the ability to organise, plan, or make wise provision for the future. In such circumstances, these mothers fail to provide guidance, direction, and supervision, and are poor models for imitation. These appear to be the most likely operative mechanisms. It is important to note that these two deprivations, namely, poor quality of parenting and poor standard of care of the home and the children, appear to have a much closer relationship with offending than do marital discord or breakdown. Nevertheless, it is likely that they act both separately and together to give rise to an atmosphere of family stress and general disorganisation and, for the child, a sense of lack of personal restraints (West & Farrington, 1973). It is tempting to suggest that these are the processes which lead to criminality. The work of McCord (1979) relating child-rearing antecedents to criminal behaviour in middle age is pertinent. The research demonstrates a significant link between early-life home atmosphere and adult criminality. Significant predictors which represented dimensions of child-rearing were parental conflict, supervision, and mother's affection. Predictors which reflected parental personality characteristics were aggressiveness, paternal deviance, and mother's self-confidence. All of these proved to be significant predictors of either property crimes or personal crimes, or both. Surprisingly, father's absence failed to distinguish non-criminals from criminals, and elsewhere, McCord (1982) comments that the focus should be turned from quantity of parenting to quality of parenting. The

results of this latter important research are qualified by the nature of the population – all of whom were reared in congested urban areas in the USA during the 1930s and 1940s. Nonetheless, this work reinforces the view that family atmosphere during childhood has an important impact on subsequent behaviour. The Newcastle research deals with a total cohort and is, therefore, less subject to the limitations admitted by McCord, but suggests similar links between quality of care and mothering, and later criminality.

We have studied an index of social deprivation which is reflected by dependency on the social and welfare services. In our families, the rate of male criminality in those dependent on the social services was at least three times higher than in families without deprivation as we have defined it, but it is lower than in those with poor quality of parenting and poor care of the home and children. However, these three criteria of deprivation are significantly correlated with each other so that it is not easy to estimate the independent or relative contribution of each. Nevertheless, we hope to study these themes further by use of a more complex statistical model (multiple regression model). Again, it is tempting to speculate that one of the mechanisms leading to delinquency is a sense of freedom from personal restraints, as described by West & Farrington (1973), combined with a reaction to relative poverty.

The association with criminality proved stronger for deprivation than for occupational status of the parents, supporting the notion that criminality is a phenomenon which has significant origins in the extremes of family deprivation and dysfunction (Rutter & Giller, 1983). We have demonstrated the usual ecological correlation between neighbourhood variables and offender rates – the rates range from about one in six males in the more affluent wards to one in three in the poorest ward (this data will be re-examined in relation to ecological data collected by the social services). Furthermore, one of our criteria of deprivation at 5 years of age was overcrowding – there was a significantly higher rate of criminality in youths coming from overcrowded homes as compared with youths coming from homes in which there was none. We can advance all the usual explanations of the operative processes in terms of social meaning of such circumstances to the inhabitants of a disadvantaged neighbourhood – such as, lack of personal control over the social environment, lack to privacy, lack of sense of safety (Rutter & Giller, 1983). However, it is important to remember that overcrowding does not occur in isolation from other indices of deprivation, and poor social and economic circumstances (such as parental ill-health, poor care of the youth and the home, and relatively poor parental control) are likely to act in concert to produce their effects.

Next, we have to consider whether the Newcastle research can add anything to the debate about the significance of a family variable such as family size: 17.3% of our male criminals, but only 3.4% of non-delinquents came from families with six or more children. These rates are very much lower than in the Cambridge study, suggesting a lower correlation of family size with delinquency when the data derives from a representative population. However, this lesser correlation does not detract from the close relationship of criminality with large families, and the latter with deprivation, causing circumstances in which children do not receive sufficient or adequate care.

Parental factors – criminality and personality

While we did not have data on criminality for the parents of Red Spots, we did have information about major defects of parental personality. These were based on judgements which were reached by a team of doctors and health visitors (community nurses) who had known the families over 10–15 years, and who had worked together during the years, 1947–1962, and measured deprivation (Miller *et al*, 1960, 1974). The results (Table VI) show the importance of the fathers' personality characteristics in relation to their sons' criminality and suggest that children of ineffective parents are at high risk of delinquency. Taken together, the findings again emphasise the importance of poor supervision, direction, and guidance of children in the genesis of delinquency.

Conclusion

In this study, we dealt with assessment of the relationship between social and family variables and offences against the law. The study was not designed to look at relevant current influences which are the object of interest of modern criminological research – such as differences of intake of troublesome boys into different secondary schools; perceptions of the consequence of offending; situational factors; and possible peer-group influences (Roff *et al*, 1972; Gath *et al*, 1977; Rutter *et al*, 1979). Even so, such factors are likely to be more common in the presence of adverse social and family circumstances, but the operative mechanisms remain unclear. Perhaps adverse social and family influences and parental attitudes make boys more vulnerable to such current environmental factors, or the effects of family influences may be mediated through individual characteristics in the boys – or there may be

interactions between all these factors, but in different combinations in different delinquents. We are aware, however, that there are likely to be other interacting factors which may be as important as those we have mentioned. The latter theme will be explored in a subsequent paper.

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