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Murder and Serious Sexual Assault: What criminal histories can reveal about future serious offending

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The views expressed in this report are those of the authors, not necessarily those of the Home Office (nor do they reflect Government policy)

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Foreword

Murder and serious sexual assault are thankfully rare crimes, but their impact and consequences are severe. There has been an increasing emphasis on shifting policy towards exploring what can be achieved in the prevention of serious offences. This study of the criminal careers of those convicted of murder and serious sexual assault is a helpful contribution to our understanding of this area. It informs our understanding of the earlier criminal careers of serious offenders. Within an overall pattern of diversity, there is convincing evidence that convictions for particular rare offences – manslaughter, blackmail and kidnapping for murder, minor indecent assault, kidnapping and a range of other sex offences for serious sexual assault –are linked to an increased risk of future serious offending. An increased relative risk of future offending does not presently on its own offer a mechanism for identifying precisely potential serious offenders. The findings will, however, be helpful in guiding responses to groups of offenders who exhibit an overall increased risk of future serious offending. This study, while only an initial step towards understanding this area, provides a solid base for future advances.

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Executive summary

Improving our understanding of criminal careers and how they relate to very serious offences is important in order to improve both preventative and investigative responses. The primary aim of this study was to identify the presence of risk factors within a prior criminal history that might have some potential application in appropriate interventions for serious offenders. It explores the previous criminal histories of those who had been convicted of murder or serious sexual assault (SSA). The study explores the relationship between the previous criminal history of an individual and the risk of subsequent conviction for murder, on the one hand, and SSA of an adult female, on the other.

The study used a matched case-control approach, using data taken from two existing Home Office datasets: the Offenders Index (OI) and the Homicide Index (HI). For murderers, the analysis was based on 569 males aged under 45 years, convicted of murder for the first time in 1995-97. The study focused on those with previous convictions (386), who were matched to two sets of control groups: a group of offenders with a general criminal history; and a group of offenders with a criminal history including a violent offence. The basic sample for those convicted of SSA consisted of 1,057 males aged under 45 years, convicted for the first time in 1995-97 of rape or serious indecent assault of an adult female. The study focused on those with previous convictions (678) who were matched to a control group of offenders with a general criminal history.

Murders and serious sexual offenders – general characteristics

Analysis of the two groups of offenders revealed the following characteristics:

- 32 per cent of the first-time murderers and 36 per cent of the serious sexual offenders had no previous convictions.
- The mean age of first-time murderers in the study was 27.6 years. The serious sexual offenders tended to be older, with a mean age of 29.1 years.
- Of those murderers with previous convictions, 57 per cent had a conviction for violence, five per cent had a conviction for sexual offences and 20 per cent had convictions for robbery. The most common convictions were for theft and handling stolen goods (72%) and burglary (61%).
- Of those serious sexual offenders with previous convictions, only seven per cent had convictions for sexual offences while 50 per cent had convictions for violence offences. As with convicted murderers, the most common previous convictions were for theft and handling stolen goods (73%) and burglary (53%).
- Comparing murderers *with* previous convictions and those *without* revealed little variation. Both groups seemed to use similar methods of killing, and the circumstances of the murder, as assessed using the HI codes, were similar.

Previous criminal history and the risk of subsequent murder

Comparing the 386 offenders convicted of murder who had previous convictions with the two control groups revealed that:

- Those given a custodial sentence at their last conviction were nearly twice as likely as those offenders without, to go on and to commit murder.
- Those who had been convicted at some time of wounding, robbery and arson (all violent offences against persons or property), theft from automated machines and absconding from lawful custody, were found to have a significantly increased risk of having a murder conviction in their subsequent criminal record.
- The relative risk of a subsequent conviction for murder was particularly high (and significant) for three types of offence. Manslaughter, blackmail and kidnapping, although rare offences, increased the risk of a future conviction by factors of nineteen, five and four respectively.
- Comparing the 'violent' controls with convicted murderers suggested that wounding (endangering life), robbery, kidnapping and arson (when they occurred) indicated a greater risk of a future conviction for specifically murder, rather than for a more general violent offence in the future.

Previous criminal history and the risk of SSA of an adult female

Comparing the 678 offenders convicted of serious sexual assault who had previous convictions with a matched control group of general offenders revealed that:

- A custodial sentence at the previous conviction, having a previous conviction for 'other wounding etc.', robbery (or assault with intent to rob), stealing in a dwelling, arson, kidnapping and cruelty to children all indicated a significantly *increased* risk of subsequent conviction for SSA.
- A number of types of previous sexual convictions indicated significantly *increased* relative risks. For a conviction for minor indecent assault of an adult female (i.e. where the sentence had been non-custodial), the offender was more than 12 times as likely to be convicted of subsequent serious sexual assault than offenders without such a prior conviction. The comparable risk figures for unlawful sexual intercourse with a girl under 16, unlawful sexual intercourse with a girl under 13 and attempted rape, were three times, 19 times and 26 times respectively.

Relationships – family, acquaintance and stranger murders

More detailed analysis of the murder cases was undertaken by relating specific OI murder conviction cases to the relevant details recorded on the HI. Important differences were found to exist between different types of murder. Hence, while the *proportions* of those having *any* previous conviction did not differ significantly between the different types of murder, the *profiles* of the previous criminal history were far from uniform across the types of murder. Hence:

- Those convicted of a murder of a family member were found to have very different risk factors from the general run of offenders and other types of murderer. Those with the comparatively rare offence of threats/incitement to murder were nearly 12 times as likely as general offenders to be convicted of the murder of a family member. This was the only previous conviction that significantly increased the risk of subsequent conviction for a family murder. However, when compared with 'violent' controls, it emerged that a conviction for this offence was a risk factor for a subsequent violence conviction rather than specifically for the murder of a family member.
- The offence of 'robbery and assaults with intent to rob' was found to be a significant risk factor that doubled the risk of a subsequent conviction for murder of a male stranger and trebled the risk of an acquaintance murder. This was also the only offence to significantly increase the risk of murder of a female stranger (by four and a half times), but very small numbers in this category may act against other differences emerging.
- Convictions for wounding and blackmail were found to distinguish *violent* offenders rather than *murderers* from general offenders.

Discussion

This study has revealed that convictions for certain types of offence appear to increase the relative risk for subsequent convictions for very serious offences. In particular, the study has highlighted a number of 'unusual' offences which appear to significantly increase the likelihood of a subsequent criminal conviction of murder or serious sexual assault. The limitations of this approach are clearly acknowledged. The process of attrition means that only a proportion of all offences result in convictions (and indeed changes in disposal policy, such as the move towards greater use of cautioning, means that the picture alters over time). Furthermore, within the broad offence categories for both target and previous convictions are many different varieties of offending behaviour.

What can risk assessment professionals and other agencies take away from these findings? The analyses illustrate risk in terms of how much more likely certain offenders (those who possess certain types of previous convictions) are to be convicted of murder or SSA, compared with other offenders. A good number of the findings indicate that many categories of conviction carry only a slightly enhanced risk of subsequent serious offending (greater than one, but less than twice as likely to receive a subsequent conviction for murder or a serious sexual offence than a general offender). Some unusual offences, however, yield much greater levels of risk of a subsequent conviction for murder or serious sexual assault. In spite of increased *relative* risk due to the presence of certain previous convictions, however, many offenders with these convictions do not go on to commit serious offences (the *absolute* risk of a future conviction appears low).

There are, nevertheless, several very practical applications arising from this study. The findings provide an empirical way of informing the review of offences for Sex Offender Registration. One of the objectives behind the establishment of the Sex Offenders Register (under the Sex Offenders Act 1997), was to 'help the police both prevent crimes…identify suspects once an offence has been perpetrated, and might also act as a deterrent to re-offending'. This study tends to confirm some of the methodology that underpins the Sex Offenders Register, but also suggests that the type of offences (and sentences) which trigger registration could be broadened in the light of these findings (given that some minor sexual offences appear to indicate an increased relative risk of convictions for subsequent SSA). To this end, the review of the Sex Offender Act (Home Office, 2001) recommended that indecent assault offences against adult females receiving more minor sentences should require registration.

One area which clearly lends itself towards further analysis is the offence of kidnapping as a precursor offence for both serious sexual assault and murder. This study suggests that more focused studies on small groups of very serious offenders (and relevant control groups), as a means to identify risk, might possibly yield dividends.

From an investigative perspective, this study provides a framework to help the National Crime and Operations Faculty (NCOF) to collect information on precursor offences which lie outside the current offence criteria of murder and rape. A limited range of 'unusual' offence categories which scored a high relative risk of subsequent serious offending would appear to offer most in terms of linking to more serious, subsequent offences.

Finally, the study explored the extent to which offenders might be assessed in terms of the *combination* of convictions that contribute to a high risk of subsequent serious offending (through the development of risk scores). While validation is required before any instruments can become operational, this may be an area for future development.

Recommendations

Findings from this study suggest that rare or unusual offences indicate a high and statistically significant likelihood of subsequent serious offending. Some practical recommendations follow from this:

- The findings should inform the review of Sex Offender Register 'trigger' offences (i.e. those offences which lead to registration) as they help identify previous offences which indicate a future risk of serious sexual offending.

- NCOF should consider the findings in relation to their strategy for identifying precursor offences to murder and SSA for inclusion on their database.

- This study has produced encouraging results in identifying the potential value of exploring systematically the criminal history of serious offenders. It is however only a first step. Further work in this area will be needed to validate the findings of this study, particularly in relation to the creation of risk scores. In the longer term, incorporating a greater level of detail on both previous and target offences (e.g. offender-victim relationship, circumstances of the offence), and focusing on particular categories of prior offence (e.g. kidnapping), may be beneficial.

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1. Introduction

Aims and objectives of the research

This study is an examination of the relationship between the previous criminal history of an individual and the risk of (a) a subsequent first conviction for murder and (b) a subsequent first conviction for serious sexual assault (SSA) of an adult female. The critical component of this research was a comparison of the criminal careers of convicted murderers against appropriate controls and a comparison of the criminal careers of those convicted of SSA of an adult female against another set of appropriate controls. Underpinning this is the idea of prediction and risk: the intention was to identify risk factors in criminal histories that increase the risk of an offender becoming a murderer or a serious sexual offender. A secondary component is whether risk factors change according to the relationship between offender and victim.

The aims of the research were to:

- identify a sample of recent murderers and serious sexual offenders and to compare them to control groups to identify differences in criminal careers;
- consider the usefulness of summaries of criminal career measures in the assessment of the risk of future convictions for murder and SSA, especially from an intervention viewpoint; and
- estimate risk factors in the previous criminal career for sub-groups of convicted murderers, in terms of the relationship between the offender and victim.

Background to the study

Most research that has explored the area of criminal careers has investigated very different issues. First, research has often been grounded in the risk of future re-conviction, that is, after at least one offence of interest has been committed. Research into murderers and those convicted of SSA has either tended to focus on the risk of re-offending, particularly in the area of sexual offences, or has attempted to provide descriptive accounts of these populations. Secondly, there has been a tendency to focus on the criminal careers of high volume offenders, that is, those who commit many offences, mainly property crime and motoring offences (Rose, 2000). A third strand of criminal career research has sought to throw light on the relationship between behaviours within serious offences and previous criminal convictions (for instance, Davies, Wittebrood and Jackson (1998) on stranger rapists).

Most previous work has not been particularly helpful in establishing the relative significance of offences *prior* to the commission of a first serious offence. Systematic studies of the future risk of serious offending appear rare, although Tiihonen's work on homicide is one exception (1995). Notwithstanding the research undertaken on the criminal careers of sexual and violent offending, others have noted that inaccurate assumptions often surface in relation to the criminal profiles of serious offenders (Canter, 1995: 58-9).

Definitions, methodology and data sources

Definitions

Two specific types of serious offence are examined: murder and SSA on an adult female. Both of these serious offences involve *intentional* criminal activity. For murder, the definition therefore excludes those convicted of manslaughter, infanticide and death by dangerous driving, as well as other lawful killings carried out in self-defence, in war, etc. A murder charge needs to be tested in a court of law, and so by definition, the study focuses on convicted criminals, and not those suspected of murder. First-time convicted murderers only are considered (those who have committed murder previously will be gaining considerable attention both as suspects in any subsequent unsolved murder, and as lifers who are subject to the possibility of recall to prison). Finally, female murderers were omitted from the study. The number of female murderers is small compared with males, and any examination of the criminal history of female murderers would need a different study over a longer time period.

SSA against adult females has been defined to be the offences of rape and more serious cases of indecent assault. Adults are defined as those at or above the age of consent (16 years in England and Wales). The operational definition of 'serious' indecent assault is discussed later in this chapter, but the choice of examining SSA rather than rape alone, needs some comment. Research evidence suggests that many rape offences are plea-bargained down to indecent assault (Harris and Grace, 1999). However, indecent assault covers a wide range of behaviour from groping to penetration with an object and other behaviour similar to rape. The relatively less serious offences of indecent assault were therefore excluded from the main analysis, with attention concentrated on those receiving a severe custodial sentence.

Here too, only those convicted of SSA for the first time were considered in the analysis[1]. Those previously convicted of murder or the completed offence of rape of a female, indecent assault of a child under 16 and of a 'serious' indecent assault of an adult female were excluded from the target offence group. Again, female offenders were omitted. Although females can be involved in SSA, the number of cases is very small compared with males and a different study would be required.

1 *Those who have been previously convicted of SSA offences will be gaining considerable attention, either as suspects in any subsequent case of SSA or by the probation service.*

It is worth highlighting that murder and SSA have different conviction rates. The most explicit evidence relates to murder and rape. Murder has a comparatively high conviction rate and rape has a very low conviction rate (Langan and Farrington, 1998; Harris and Grace, 1999). In fact, there may be many more rapists at large, for a high proportion of rapes are not being reported (Myhill and Allen, 2002) whereas, with some notable exceptions, this is much less likely to be the case for murder. These differences have important implications in terms of a possible bias relating to the proportions of those with previous convictions among those convicted. A systematic sample of convicted murderers is likely to be reasonably representative of murderers in general. In contrast, a systematic sample of convicted rapists may not be representative of rapists in general. The figures for rape are more likely to reflect biases within the criminal justice process than is the case for murder.

Methodology

There are two possible designs for a study investigating the prior criminal careers of criminals as potential risk factors to subsequent murder or SSA. A *prospective* study would take a sample of offenders and follow them through time examining their criminal history, and marking which offenders commit murder or SSA. Prospective studies are appropriate for common offences but are less appropriate for relatively rare offences[2].

2 *The cohort samples from the Offenders Index (OI) were one possible source. An examination of the OI cohort data sets revealed a total of 42 murders and only 113 rapes and were therefore insufficient for detailed analysis.*

Retrospective designs are used extensively in medical studies where relatively rare events are of interest. Rather than following through a group of individuals to see which become ill with a certain disease, a sample of individuals (the cases) with the disease of interest and a second sample (the controls) without the disease of interest are selected, then followed back in time to examine the presence of risk factors in their previous life histories.

It is clear that for relatively rare events such as murder and SSA, a retrospective design is more efficient, as sufficient numbers of cases can be chosen as target cases, and compared with a group of controls. The control group will be those who have never been convicted of murder on the one hand, and those who have never been convicted of SSA on the other. The study therefore adopts a retrospective or *case-control* design.

Data sources

There are two possible sources for the criminal histories of an offender: the Home Office OI and the Police National Computer (PNC). The OI is a court-based database of convictions. It contains details of all standard list offences convicted in a crown court or magistrates court in England and Wales from 1963. Information is available on the type of offence, the age and ethnicity of the offender, the police authority, the court and the disposal of the offender. Information on the date of the offence and the relationship between victim and offender is not collected. Also since it is a database of convictions, there are no details of police cautions. The PNC, in contrast, is an operational police database. Although it contains more information, including dates of offence and details of cautioning history, for practical reasons it was decided to use the OI database.

All those convicted of a murder, or of either rape or serious indecent assault of a female aged 16 or over in the years 1995-1997 were selected from the OI (we discuss the definition of serious indecent assault below), and those with previous convictions for these serious offences were then excluded. The years 1995-7 were chosen as they were the most recent for which complete information would be available on the OI.

Additional information on offences resulting in a conviction for murder is available from the Home Office Homicide Index (HI). The HI contains information on every death initially recorded as homicide in England and Wales. The details of the index offence for murder were obtained from the HI by matching the OI by offender name, police authority and offender date of birth to the HI. There is no comparable database to the HI for SSA on adults.

Selection of controls

Since serious offenders are often general criminals, a critical question is how they differ from other criminals. It is not possible, however, to take any randomly selected group who has been convicted of crime as the basis for a comparison group.

Many individuals who are present on the OI have been convicted of only a single offence and a high proportion of these will have desisted from crime. The comparison group was therefore chosen to be made up of *active* but *less serious* offenders. In this context, an active offender was one who had been convicted of an offence in the same calendar year as the serious offender (the index conviction).

For murder cases, control individuals were selected who had *not* been convicted for any offence relating to murder (that is, murder, manslaughter, infanticide, attempted murder or threats to kill) at the index conviction. Additionally, like the case, the control should also not have been convicted for murder in their *previous* criminal history. Control group cases with *previous* convictions for other offences relating to murder (i.e. manslaughter, infanticide, attempted murder or threats to kill) were, however, included.

In a similar way, the relevant control group offender for a SSA case was an active offender who had not committed a serious sexual offence as their index offence. This definition excluded offenders with a conviction for any type of rape (including attempts) of males or females of any age, indecent assault against females aged 16 or over who received *any* length of custodial sentence, all indecent assault against females under 16, other serious sexual offences against children or males, or incest. The offence of murder was also excluded. Offenders were additionally excluded from the control group on the basis of the following *previous* convictions: murder; (completed) rape of a female of any age; indecent assault of a female under 16; and indecent assault of a female aged 16 or over who received *any* length of custodial sentence.

Those convicted of indecent assault of a female aged 16 or over who received shorter custodial sentences (that is, not reaching the thresholds defining a 'serious' offence identified in Appendix A), were neither used as cases nor controls. This was to allow some leeway in the definition of what separates a serious indecent assault of an adult female from a less serious indecent assault. However, those previously convicted of indecent assault of an adult female who did *not* receive a custodial sentence *were* available as cases or controls. This issue becomes particularly important in the analyses that follow.

Control groups can produce misleading results. For example, if a control group of offenders not convicted of murder reveals that previous violence offences are a risk factor for murder, it is unclear whether the risk factor is specific to murder or represents a general risk factor for any serious violent conviction (of which murder is the extreme example). The control group, after all, is likely to be dominated by

non-violent offenders. To address this issue, *two* control groups were chosen for murder. The first was a control group of those convicted for general (non-homicide) offences; the second, a control group of those convicted for violent (non-homicide) offences[3].

Constructing the control groups

The comparison of any two criminal histories for murder is likely to vary substantially according to a range of factors[4]. Factors such as age, cohort and location need to be controlled for in any analysis. While it is possible to match controls at the study design stage ('matched-case control') or at the analysis stage, the former was chosen. The controls were obtained from the OI by selecting the full criminal record of all offenders convicted on 56 pre-selected days in 1995-1997, and those with suitable offences in 1995-1997 were identified as potential controls in the three control groups (non-homicide, violent non-homicide or the non-SSA). For each case in the murder and SSA samples, controls from the appropriate group were selected, matching by the police authority dealing with the offence, the age of the offender at the time of this offence, the year of the offence and the gender of the offender (i.e. the controls were all male).

The rule of thumb quoted in the research literature is that little benefit is gained by going beyond more than four controls per case (Gail, Williams, Byar and Brown, 1976). As a rule, therefore, four controls per case were chosen, but three or fewer controls were taken if suitable controls were hard to find for a particular case. Where no controls could be matched to a case, the age matching was relaxed, and, if necessary, other police authorities were also considered. It would have been desirable to also control for ethnicity but OI data on this variable is patchy, with over a half of recent cases having missing information[5], so it was decided not to pursue this.

Summaries of previous criminal career

Criminal histories are complex, so to assist in the analysis a number of 'summary' measures had to be developed. Five groups of summary measures were used:

- *length* of criminal career, including the age at first conviction;
- prior conviction for a specified type of indictable offence. The OI codes were used to define the offence types, taking account of code changes where necessary;
- the number of occasions on which an individual was sentenced;

3 *For the 'violent non-homicide' control group, the controls were drawn from those with a 'target' conviction of violence, but with no homicide-type 'target' offences (as with the general control group). Violence was defined as in Chapter II of the OI codebook, plus the offence of 'Robbery and assaults with intent to rob'. Hence this control group was made up of those convicted of offences covered by Criminal Statistics group I (Violence against the Person), the Criminal Statistics group IV (Robbery), plus some offences from Criminal Statistics group IX and from the summary offences (such as blackmail, kidnapping, rioting, violent disorder, aggravated assault, child cruelty). It was decided not to have a second control group for SSA cases as there was no clear rationale to define this group.*

4 *One example is that of exposure to drugs supply; recent cohorts of offenders are more likely to have drugs convictions than older cohorts. Other factors may also be important (such as the greater use of cautioning in recent years and the effect of location on offending opportunities).*

5 *Of the 89,170 males convicted on the 56 pre-selected days in 1995-1997 (as used for the control samples), 50,735 (57%) had the ethnicity variable marked as 'unknown'.*

- the number of *offences* for which an individual was convicted (an offender can potentially have many offences at a single conviction date) and specific measures of criminal convictions at an early age; and
- periods of custody.

Analysis

Taking the above summary measures of prior offending history as individual risk factors, a matched case-control analysis was undertaken on each case-control group using conditional logistic regression. In this context, the case-control study examines the ratio of the odds of committing a serious offence *with* a risk factor present in the criminal history to the odds of committing that offence *without* the risk factor present[6,7]. For each potential risk factor (acting alone) and for each case-control group combination, the odds-ratio of the risk factor on murder or SSA was ascertained. For rare events (murder and SSA are both rare events), the odds-ratio and the relative risk are nearly identical, and one can be taken as an approximation for the other (Schlesselman 1982, p.33). The conditional logistic regression produces estimates of odds-ratios, but as relative risks are easier to understand and to interpret, they are reported as relative risks.

Following standard convention, the statistical tests used are based on a significance level of 5 per cent (that is, any differences noted have a probability of only 5% or less of occurring by chance). In presenting relative risks in the following chapters, we do *not* report findings that fail to reach statistical significance.

The final issue relates to the assessment of absolute risk. In general, the issue of absolute risk is harder to handle, as the risk depends on the population under study (for instance young offenders or 30-year-old males) and the time period used. Furthermore, much larger sample sizes would be needed to assess the absolute risk of murder. Nevertheless, some illustrative calculations have been produced, shown as Appendix B, based on a prospective dataset, the Home Office OI Cohort samples.

The samples

For murder cases, the basic sample consists of males, convicted of murder for the first time between 1995 and 1997 in England and Wales. All those with a conviction for murder (offence code 1) in these years were selected from the OI. This gave a total of 711 convicted murderers. Four males with previous murder convictions and 40 female offenders were removed from the sample. The OI does not contain information on

6 *The 'odds' of an event occurring is calculated as simply the number of chances for that event happening divided by the number of chances against it happening.*

7 *Both Breslow and Day (1980) and Schlesselman (1982) show that with a matched design, simple methods of calculating odds-ratios cannot be used, and conditional logistic regression must instead be applied. Analysis was carried out using the statistical software package GLIM. Swan and Francis (1992) showed how to use GLIM to fit conditional logistic regression models to matched case-control data.*

appeals. The Home Office provided information that five of the OI cases were no longer classified as murder, four because they were acquitted on appeal and one because the murder charge was reduced to manslaughter on appeal. This left 662 murderers, of which 657 were successfully matched to the HI.

Only those convicted offenders who had their 'complete' criminal histories available on the OI were included in the study. Offenders born before 1953, who may have started their criminal careers before 1963, were therefore excluded. This removed a further 88 individuals from the sample. Of the remaining 569 murderers, there were 182 who had no previous convictions (32.0%), and one other offender for whom no controls with complete histories could be found. The remaining 386 individuals were matched to two sets of control groups: a group of offenders with a general criminal history; and a group with a violent offence as their target conviction. Almost all cases were matched to four 'general' controls; the analysis sample of 386 cases was matched to 1,542 general controls. The matching to violent controls was not quite so successful, but still achieved a more than acceptable level. A total of 346 cases were matched to four controls, 19 were matched to three controls, ten were matched to two controls and nine were matched to only one control. The analysis sample for the violent controls was therefore 384 cases and 1,470 controls.

The basic sample for the SSA series was derived directly from the OI and consisted of 1,057 male offenders aged under 45 years convicted for the first time between 1995 and 1997 of rape or serious indecent assault of an adult female (as defined above). Of these 1,057 cases, 379 had no previous convictions (35.9%), reducing the sample to 678 cases. These cases were then matched to male controls (by age, location and time of target offence). The vast majority of cases (671) could be matched to four controls; in total the 678 cases were matched to 2,700 controls.

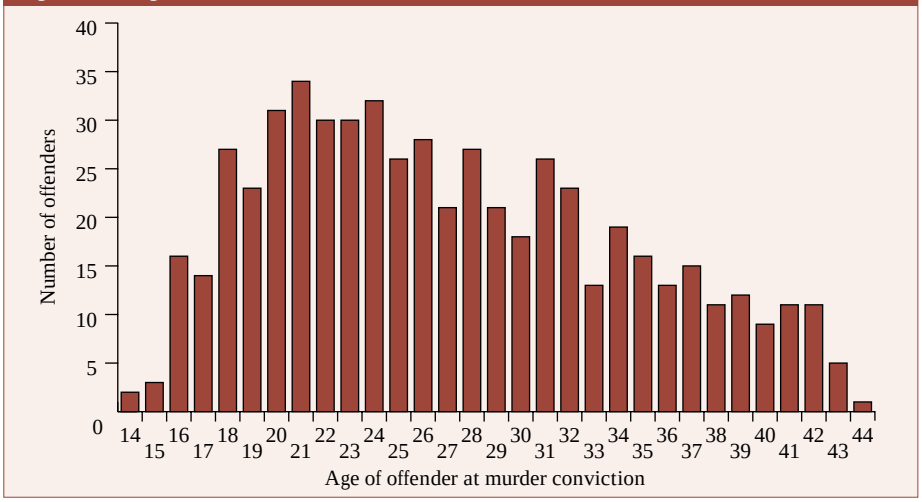
2. Murderers and serious sexual offenders – a brief description

This chapter describes briefly some of the characteristics of the murderers and serious sexual offenders in the study. It summarises their age distribution, the number of previous convictions and the type of offences for which they have been convicted. It is important to remember that the samples are limited to those with complete criminal histories, and therefore all the offenders are aged under 45.

Age and previous criminal history

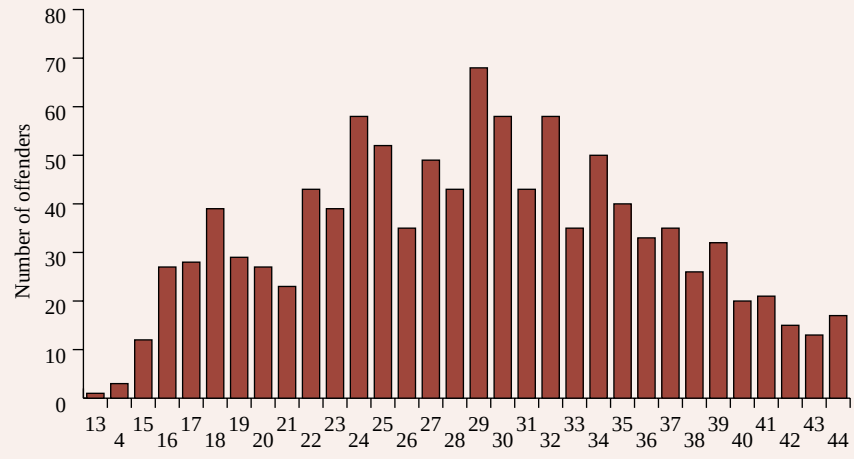
The age distribution of all first-time murderers is presented in Figure 1. The mean age was 27.6 years, with a modal age of 21. The mean age at *first* conviction was 19.8 years (in those cases without prior convictions, the first conviction will be for murder).

Figure 1: Age of the 569 offenders convicted of murder



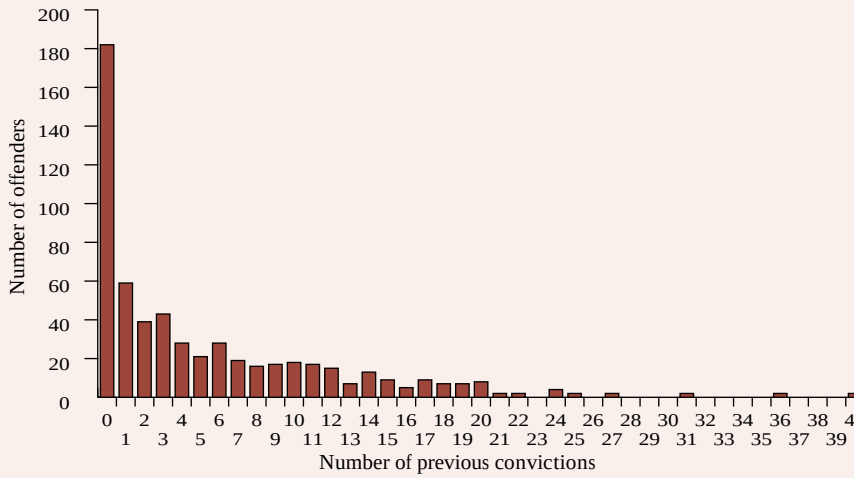
The age distribution of serious sexual offenders is presented in Figure 2. The sexual offenders tend to be older than murderers (their mean age was 29.1 years with a modal age of 29). The mean age at *first* conviction was 21.3 years (in those cases without prior convictions, the first conviction will be for SSA).

Figure 2: Age of the 1,057 offenders convicted of SSA



Turning to the number of previous convictions for murderers, 182 (or 32.0% of the sample) had no previous convictions and nearly 50 per cent of the sample (280) had two or fewer previous convictions (including those who had no previous convictions). At the other end of the scale, however, there was one murderer in the sample with 40 previous convictions (Figure 3).

Figure 3: Number of previous convictions for the 569 murderers



The *types* of previous convictions are now considered. Table 1 shows the number of the 569 murderers who were convicted prior to their murder conviction at least once for an offence of that type. It shows, for example, that almost 50 per cent of *all* murderers were convicted at least once for theft at some time before they were convicted of murder. When looking only at those murderers who have *any* kind of previous conviction, this figure increases to just over 70 per cent. While these figures are interesting on their own, they do not reveal a great deal. It is only when comparing previous convictions of murderers to those of criminals who have *not* murdered that something can be said about the significance of these offences in an offender's criminal history.

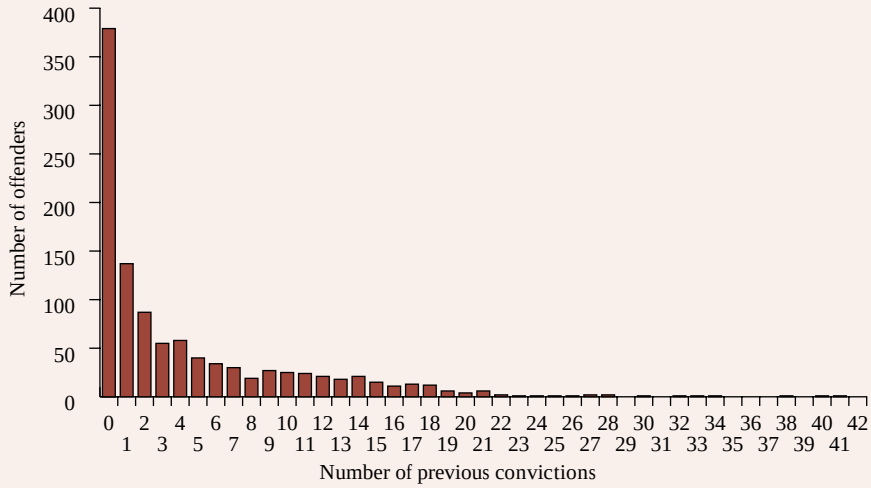
Table 1: Types of offence in the previous convictions of murderers[a]

No. of murderers with previous convictions for:		% of murderers with previous convictions for:	
		All murderers (n=569)[b]	Only those with prior convictions (n=387)
Violence against the person	219	38.5	56.6
Sexual offences	21	3.7	5.4
Burglary	234	41.1	60.5
Robbery	78	13.7	20.2
Theft and handling stolen goods	278	48.9	71.8
Fraud and forgery	83	14.6	21.4
Criminal damage	126	22.1	32.6
Drug offences	70	12.3	18.1

(a) An offender may have previous offences of more than one type, so may appear in the figures for more than one row.
(b) Including those convicted murderers with no prior convictions.

Of the SSA cases, 379 (or 35.9% of the sample) had no previous convictions (see Figure 4), and 604 offenders (57.1%) had two or fewer previous convictions (including those who had no previous convictions). One offender had 41 previous convictions before his first SSA.

Figure 4: Number of previous convictions for the 1,057 SSA offenders



The type of offence that these offenders had been convicted of prior to their conviction for SSA is summarised in Table 2.

Table 2: Types of offence in the previous convictions of SSA offenders[a]

No. of SSA offenders with previous convictions for:		% of SSA offenders with previous convictions for:	
		All SSA offenders (n=1,057)[b]	Only those with prior convictions (n=678)
Violence against the person	338	32.0	49.9
Sexual offences[c]	49	4.6	7.2
Burglary	360	34.1	53.1
Robbery	118	11.2	17.4
Theft and handling stolen goods	495	46.8	73.0
Fraud and forgery	163	15.4	24.0
Criminal damage	197	18.6	29.1
Drug offences	46	4.4	6.8

(a) An offender may have previous offences of more than one type, so may appear in the figures for more than one row.
(b) Including those convicted SSA offenders with no prior convictions.
(c) The target offences were taken to be the first serious sexual offence (whether rape or serious indecent assault of a female). These offences are therefore 'less-serious' sexual offences.

Close to half of those convicted of a first time SSA *and* with any prior conviction had a prior violence conviction (49.9%). In contrast, just over seven per cent of those with any prior convictions had a conviction for a less serious sexual offence. There was little evidence of specialisation within the sample as a whole, with theft and robbery also appearing frequently in the prior criminal history of these offenders. Again, it is important to remember that it is only when comparing the previous offences of those convicted of SSA with those of criminals who have *not* been convicted of SSA that it is possible to say something about the significance of these offences in their criminal history.

Types of murder case

The HI was used to provide information on the relationship between the offender and the principal victim. Table 3 summarises how the victim-suspect relationship variables on the HI were reclassified for this study. Looking at the offender-victim relationship, the largest sub-group was where the murder was of an acquaintance (218 or 38.3%), although a substantial number had murdered a family member (119 or 20.9%). In 39.7 per cent of cases the main victim was a stranger to the offender. In most of the stranger cases, the victim was male (the main victim was a female stranger in only 31 or 5.4% of cases)[8]. Six murders were excluded either because there was insufficient information on the HI, or the murderer had not been satisfactorily matched. These relationship types are considered separately in Chapter 4.

8 In terms of the sex of the victim, the main victim (there may have been more than one victim) was male in the majority of cases (71.9%).

Table 3: Types of murder – re-classification of relationship	
Murder type	HI relationship variable categories included
Family	Son, daughter (including adopted), step-son, step-daughter (including child of suspect's cohabitant/lover) Parent, step-parent Spouse Ex-spouse, estranged spouse Cohabitant, common law spouse Ex-cohabitant, ex-common law spouse Lover, mistress, sweetheart Ex-lover, ex-mistress, ex-sweetheart Homosexual relationship – long-term Other family (including foster children)
Acquaintance	Lover's spouse, spouse's lover, cohabitant's spouse or lover, lover's lover Criminal associate Friend, ex-friend Commercial, business or professional relationship Other known acquaintance
Stranger	Homosexual relationship – casual Prostitute to client Police officer, prison officer killed in the course of their duty Stranger – terrorist killing Stranger – contract killing Stranger – other Not known (insufficient information)

Murder: method and circumstances

In addition to the relationship between the murderer and his main victim, the HI provides information on the method used in the killing, and on the circumstances surrounding the death. It may well be that particular types of murder (as categorised by the method and circumstances) are largely carried out by particular types of male murderers in terms of their previous criminal history.

For this study, HI data on method of killing were combined into eight categories found to be useful in previous work (Soothill, Francis, Ackerley and Collett, 1999). An initial question was whether the type of method used differed between those with previous convictions and those without. For example, it might be reasonable to expect that those with previous convictions may be closer to the criminal fraternity and therefore have access to firearms. Table 4 shows the sample of 569 murderers divided into those with and without previous convictions, and separated into eight categories according to the method used in the murder.

Arguably, the surprises are the similarities rather than the differences. In both groups, around one in ten persons shot their victim and around one in seven killed by strangulation/asphyxiation/drowning. The largest category, where a sharp instrument was used, did not reveal a significant difference at the five per cent level. Only the 'other' method showed significantly different results for those with and without previous convictions. This is, however, a small 'catch-all' category covering such diverse methods as exposure of a newly born child, causing to fall against a hard surface and striking with a motor vehicle.

Table 4: Method used to murder and previous criminal history

	No previous convictions		Previous convictions	
	No.	%	No.	%
Sharp instrument	81	44.5	141	36.4
Blunt instrument	23	12.6	58	15.0
Hitting/kicking	24	13.2	71	18.3
Strangulation/asphyxiation/drowning	29	15.9	54	14.0
Arson	2	1.1	2	0.5
Shooting	17	9.3	38	9.8
Other[(a)]	2	1.1	18	4.7
Unknown	4	2.2	5	1.3
TOTAL	182	100.0	387	100.0

Significant differences (at the 5% level) are shown in bold

(a) In this study, 'other' method consists of the HI categories: exhaust fumes; other poisoning; exposure of newly-born child; negligence or neglect; aborting; explosion; causing to fall against a hard surface; burning, scalding; and struck by motor vehicle, as well as the HI category of 'other'.

As with the method, the circumstances of a murder may be revealing, but the information recorded in the HI is quite limited, with a high proportion of cases simply being recorded as 'rage/quarrel'. Since some of the categories are used extremely rarely, it was decided to collapse the variables into eight categories (Soothill, Francis, Ackerley and Collett, 1999).

Here too, the focus was whether there were differences surrounding the circumstances of a murder in terms of the presence or absence of previous convictions. Table 5 gives details of the sample of 569 male murderers divided between those with and without previous convictions, and separated into eight categories according to the circumstances of the murder.

Table 5: Circumstances of murder and previous criminal history

	No previous convictions		Previous convictions	
	No.	%	No.	%
Rage/quarrel	75	41.2	172	44.4
Jealousy/revenge	16	8.8	37	9.6
Sexual	13	7.1	22	5.7
Theft/other gain	24	13.2	58	15.0
Feud	4	2.2	4	1.0
Unbalanced mind	1	0.5	4	1.0
Other	18	9.9	21	5.4
Unknown	31	17.0	69	17.8
TOTAL	182	100.0	387	100.0

Significant differences (at the 5% level) are shown in bold

In both groups over four out of ten of the circumstances were recorded as 'rage/quarrel', while 'theft/other gain' was recorded in around one in seven cases. 'Sexual' murders were marginally more prevalent among the group with *no* previous convictions, but the difference was not statistically significant. In fact, the only category for which the proportion of those with no previous convictions differed significantly (at the 5% level) from those who did have a previous criminal history was again the 'other' category (a 'catch-all' category containing a diverse range of circumstances from mercy killings to resisting arrest).

The next chapter compares the two groups of first-time serious offenders with the sets of matched controls that have *not* murdered or committed a SSA on an adult female.

3. Murderers and serious sexual offenders with a criminal history

This chapter summarises the results from the case-control analysis relating to the previous criminal history of murderers and serious sexual offenders. The results are presented in the form of tables of *relative risks*, where relative risk scores greater than one indicate the ways in which elements of the previous criminal history reveal a *greater* likelihood of becoming a murderer (or a serious sexual offender). Conversely, relative risk scores of less than one reveal a *reduced* likelihood of becoming a murderer (or a serious sexual offender). The tables in this chapter show only the variables which, at the five per cent level, significantly increase or decrease the relative risk of murder or serious sexual assault[9].

9 The results for those convictions for offences, etc., which were found not to be significant can be found on: www.cas.lancs.ac.uk/prcu/murderssa/supplement.pdf.

For variables which are ages, time periods in years, or counts of some kind (e.g. the age at the previous conviction, the length of time from the first conviction to the target conviction, or the number of sentencing occasions or previous offences), the mean values for the cases and for the controls are displayed in the first two columns. The variables which measure either the number of sentencing occasions or offences in a specific age range are considered only for those who were older than the upper point of that age range at the time of the target conviction.

For the remaining variables – the presence or absence of a conviction for a particular indictable offence[10] or a custodial sentence at some point in the previous criminal history – the percentages of cases and controls having this measure are shown in the first two columns. For these measures, the study makes an operational distinction between those which are *frequent* among the cases (20% or more of murderers or serious sexual offenders), those which are not quite so frequent but still quite *sizeable* (over 5% but fewer than 20%), and those which are comparatively *rare* (between 2% and 5% of cases). In addition, the measures that are even more rare – occurring in less than two per cent of cases – are highlighted in a fourth category. These are considered in more detail in Chapter 6 on 'unusual offences'.

10 An offence which may be tried at a crown court. It excludes less serious summary offences which are tried only in a magistrates' court.

The third column of figures indicates the p-value (since only the significant results are given in this chapter, these are all less than 0.05). The relative risks are shown in the fourth column, with '(0.01)' or '(100)' being displayed when there were no cases or no controls (respectively) present in the sample to enable accurate estimation of the relative risk.

Murderers

Table 6 identifies the 25 statistically significant differences between murderers and the general control group in terms of their previous criminal history. A little over half of the differences indicate in which ways a previous criminal history reveals a significantly *greater* likelihood of becoming a murderer (those with a relative risk score significantly greater than 1). The remaining differences indicate where a previous history reveals a significantly *lesser* likelihood of becoming a murderer (those with a relative risk score significantly lower than 1). In medical terms the latter variables would be called 'protective' factors (Farrington [2000] uses this term when referring to social factors in a criminological context).

Taking the variables that indicate high relative risk scores, there are some anticipated outcomes. For example, increased risks exist for offenders with previous manslaughter and wounding (endangering life). Murder is 19 times as likely for those with a previous conviction for the offence of manslaughter compared to those active criminals without such a conviction, while a previous conviction for wounding (endangering life) more than doubles the risk. There are also some surprising findings. The offences of 'soliciting by a man' and 'adulteration of food/drugs' have high relative risks of subsequent murder. However, for each of these, only two of the cases had a previous conviction for the offence, with none of the controls having such a conviction in their criminal history.

Table 6 shows that where the relative risk was above one and statistically significant, measures of custody at any previous conviction and custody at the previous conviction, came into the 'frequent' category. Three offences (criminal damage, other wounding and robbery) also came into this category. Arson, theft from automated machines and wounding (endangering life) came into the 'sizeable' category, while absconding from custody came into the 'rare' category. Five offences were in the 'unusual' category – kidnapping; manslaughter; blackmail; soliciting by a man; and, adulteration of food and drugs; these are considered in more detail in Chapter 5.

Table 6: Relative risks for murder among general offenders with a previous criminal history[a]

	Cases N=386	Controls N=1,542	p-val	Relative risk	'Band'
Increased risk of murder	*%*	*%*			
Custody for any previous conviction	60.9	52.2	.0017	1.45	
Criminal damage (combined)[b]	54.9	49.0	.0330	1.28	
Other wounding etc.	53.1	43.7	.0007	1.48	Frequent
Custody at previous conviction[c]	32.1	19.7	.0000	1.93	
Robbery and assaults with intent	20.2	10.2	.0000	2.27	
Arson	7.5	3.6	.0014	2.22	
Theft from automated machines	7.3	3.7	.0043	2.05	Sizeable
Wounding (endangering life)	6.5	2.7	.0008	2.48	
Absconding from lawful custody	3.4	1.6	.0295	2.23	Rare
Kidnapping	1.6	0.4	.0207	4.00	
Manslaughter	1.3	0.1	.0008	19.39	
Blackmail	1.0	0.2	.0310	5.33	Unusual
Soliciting by a man	0.5	0.0	.0115	(100)	
Adulteration of food or drugs	0.5	0.0	.0115	(100)	
Decreased risk of murder	*%*	*%*			
Other theft	49.5	56.3	.0151	0.76	
Shoplifting	35.2	40.9	.0380	0.78	Frequent
Receiving	32.6	39.1	.0188	0.76	
Fraud	20.0	24.8	.0382	0.75	
Theft from vehicles	19.4	24.8	.0230	0.73	Sizeable
Drugs offences (combined)[b]	18.1	27.8	.0000	0.56	
Attempting to pervert course of justice	0.3	2.0	.0053	0.13	Unusual
	Mean	*Mean*			
Age at previous conviction[c]	24.7	25.4	.0032	0.96	
Length of previous criminal career	7.7	8.4	.0186	0.98	
No. of previous sentencing occasions	7.3	8.1	.0375	0.98	
No. of previous sentencing occasions with no custodial sentence	5.3	6.2	.0008	0.96	

The figures in parentheses indicate where, due to there being either no cases or no controls present in our sample with that particular risk factor, the actual relative risk cannot be estimated. A p-value of .0000 indicates that the value is less than 0.00005

(a) For a description of each column see earlier text. The results for those convictions for offences, etc., which were found not to be significant can be found on: www.cas.lancs.ac.uk/prcu/murderssa/supplement.pdf.

(b) The combined 'criminal damage' and 'drugs offences' are each combinations of the various individual offence codes which have been used by the OI over time.

(c) 'Previous conviction' (as distinct from 'any previous conviction') denotes convictions at the sentencing occasion immediately prior to that of the target offence.

The findings suggest that the relative risk of murder for those who were given a custodial sentence at their last conviction was nearly twice (1.93) that of those who were not awarded a custodial sentence for their previous conviction. Being previously convicted of robbery (or assault with intent to rob) more than doubled (2.27) the risk of murder compared with those with no previous conviction for robbery. Similarly, a prior arson offence more than doubled the risk (2.22). Kidnapping, manslaughter and blackmail increased the risk by factors of four, 19 and five respectively. This analysis is not, however, detailed enough to indicate whether those with previous convictions which increase the risk become involved in murderous activity which *is related to the prior offence in question*.

The suggestion that certain offences in someone's past may be precursors to future behaviour is relatively straightforward. Table 6 also suggests that those previously convicted of a range of offences – for example, other theft, shoplifting, receiving, fraud, theft from vehicles and drugs offences – have a lowered risk of murder compared to those offenders without such convictions in their criminal career. This study does not dwell on these particular factors, although they play a part in the construction of an overall risk score (see Appendix C).

Two risk factors relating to custody have been identified as significantly *increasing* the risk of murder: a custodial sentence on *any* previous occasion, and at the immediately previous sentencing occasion. However, a third custodial measure, the number of sentencing occasions where *no* custodial sentence was awarded – appears as a factor that significantly *decreases* the risk of murder. The greater the number of 'custodial-free' sentencing occasions, the lower the risk of becoming a murderer. Although supporting the suggestion that custodial measures lead to an increased relative risk, this does not equate to a simple 'more custodial terms = greater risk of becoming a murderer'.

In summary, in contrast to the persistent, petty offenders (characterised by convictions for drugs and the more common property offences, with longer criminal careers which start early), those who have committed robbery, kidnapping and arson have an increased risk of having a murder conviction in their future criminal record. While only a minority of murderers display this type of criminal past, these are the type of offences that seem to distinguish murderers from the control group of persons convicted at the same age, time and location for another crime. The next part of the analysis considers whether murderers are any different from those convicted of violence offences.

Murderers compared with those convicted of violence

Table 7 summarises the statistically significant differences between murderers with a previous criminal history and a matched set of controls (also with previous convictions) who had a *violent* conviction as the target offence.

Table 7: Relative risks for murder among violent offenders with a previous criminal history[a]

	Cases N=384	Controls N=1,470	p-val	Relative risk	'Band'
Increased risk of murder	*%*	*%*			
Custody for *any* previous conviction	60.7	47.2	.0000	1.76	
Burglary (other than in a dwelling)	47.7	41.2	.0231	1.31	
Burglary (in a dwelling)	43.2	32.4	.0001	1.62	Frequent
Custody at previous conviction[b]	32.0	18.4	.0000	2.09	
Robbery and assaults with intent	20.1	10.8	.0000	2.17	
Arson	7.6	3.3	.0004	2.46	
Theft from automated machines	7.3	3.1	.0008	2.47	Sizeable
Wounding (endangering life)	6.3	3.4	.0311	1.78	
Stealing by an employee	2.9	1.0	.0061	3.38	Rare
Aggravated burglary in a dwelling	2.1	0.5	.0169	3.64	
Kidnapping	1.6	0.3	.0065	5.83	
False accounting	0.8	0.1	.0179	11.90	Unusual
Soliciting by a man	0.5	0.0	.0115	(100)	
Adulteration of food or drugs	0.5	0.0	.0325	(100)	
	Mean	*Mean*			
No. of previous offences aged 10-13	0.9	0.5	.0044	1.08	
No. of previous sentencing occasions aged 14-15	0.8	0.6	.0204	1.12	
No. of previous sentencing occasions with a custodial sentence	2.0	1.6	.0126	1.06	

The figures in parentheses indicate where, due to there being either no cases or no controls present in our sample with that particular risk factor, the actual relative risk cannot be estimated. A p-value of .0000 indicates that the value is less than 0.00005

(a) For a description of each column see earlier text. The results for those convictions for offences, etc., which were found not to be significant can be found on: www.cas.lancs.ac.uk/prcu/murderssa/supplement.pdf.

(b) 'Previous conviction' (as distinct from '*any* previous conviction') denotes convictions at the sentencing occasion immediately prior to that of the target offence.

The results suggest it would be incorrect to regard murderers as simply reflecting the characteristics of those convicted of violence offences. Many of the factors revealed in Table 6 as indicating a significantly increased relative risk of murder remain when considering a control group made up entirely of those convicted of violent offences. However, it is interesting to note that there are also some new factors appearing in the 'increased risk of murder' section of Table 7. In particular, compared with the 'violent' controls, murderers are more likely to have been convicted of burglary in its various forms. The most striking difference between Table 6 and Table 7, however, is the disappearance of *all* of the so-called 'protective' factors. No measures of previous criminal history appear to identify those who are less likely to murder when a population of violent offenders is considered.

Whereas a previous conviction for criminal damage or other wounding distinguished murderers from the general controls, this is no longer the case when the comparison is with the 'violent' controls. However, the specific offence of 'wounding (endangering life)' remains a significant risk factor compared with the violent controls; those convicted of this offence are nearly twice as likely to become murderers as the 'violent' controls. This finding suggests that a significant minority of murderers are more likely to have engaged in a more intense form of violence than other violent offenders. Meanwhile, among the unusual offences, manslaughter and blackmail no longer significantly increase the relative risk of murder. This implies that having a conviction for these offences is a risk factor for subsequent violent behaviour in general, rather than specifically murder.

Increased early convictions (number of previous offences between the ages of ten and 13, and number of previous sentencing occasions at age 14 or 15) appear to increase the risk of murder among violent offenders. In addition, a greater number of previous sentencing occasions where a custodial sentence was awarded appears as a factor which significantly, if only slightly, increases the risk of murder. However, the total number of previous sentencing occasions, and the number of previous sentencing occasions where *no* custodial sentence was served no longer distinguish significantly between the murderers and controls now that a population of violent offenders is considered.

Custody at *any* time during the criminal career was experienced by a high proportion (60.7%) of the murderers with previous convictions, and was found to significantly increase the risk of murder among general offenders (Table 6). Despite 47.2 per cent of the violent control group having a custodial sentence in their criminal history, this factor continues to distinguish significantly the murderers from

the violent control group, with the risk of becoming a murderer increasing significantly when the previous criminal career contains a custodial sentence. In a similar manner, custody at the sentencing occasion immediately prior to that of the target conviction remains as a factor which significantly increases the risk of murder among violent offenders (now more than doubling the risk).

In summary, however, the two most important findings from this analysis are, first, that so many of the factors which *increase* the risk of murder for generally active criminals have similar (significant) effects when considering a population of *violent* active criminals. Secondly, for a small number of violent offences (for example, wounding [endangering life], robbery, kidnapping, and arson) there is a greater risk of a future conviction for (specifically) *murder*, rather than for an offence of a violent nature in general.

Serious sexual offenders

We now turn to serious sexual offenders. As Table 8 reveals, there was also a variety of statistically significant differences between the two groups in terms of their previous criminal history. A total of 26 risk factors were identified. Eleven were found to have a significantly *increased* risk of subsequent convictions for SSA (those with a relative risk score significantly greater than one); the remaining 15 had a significantly *decreased* risk of SSA (i.e. a relative risk score significantly lower than one).

Restrictions placed on the choice of cases and controls with regard to their previous criminal history means that some possible risk factors are not considered in this analysis. Having a previous conviction for murder is not considered; neither is a previous conviction for the completed offence of rape, although *attempted* rape has been used in the analysis. Previous convictions for indecent assault of a female where the victim was under 16, or where the victim was 16 or over *and* a custodial sentence was awarded have also not been considered as risk factors, in accordance with the selection procedures. However, minor indecent assault of a female aged 16 or over (where the sentence was non-custodial) *was* included in the risk factors considered here.

Table 8: Relative risks for SSA among general offenders with a previous criminal history[a][b]

	Cases N=678	Controls N=2,700	p-val	Relative risk	'Band'
Increased risk of SSA	*%*	*%*			
Other wounding etc.	48.2	43.7	0.0313	1.21	Frequent
Custody at previous conviction[c]	27.9	20.3	0.0000	1.54	
Robbery and assaults with intent	17.4	11.1	0.0000	1.74	
Stealing in a dwelling	7.1	4.6	0.0125	1.58	Sizeable
Arson	5.9	3.0	0.0005	2.05	
Indecent assault of adult female (non-cust.)	3.7	0.3	0.0000	12.39	Rare
Kidnapping	1.9	0.4	0.0004	4.50	
Unlawful sexual intercourse with girl <16	1.5	0.4	0.0046	3.64	
Attempted rape	1.0	<0.05	0.0000	26.22	Unusual
Unlawful sexual intercourse with girl <13	0.7	<0.05	0.0008	19.39	
Cruelty to or neglect of children	0.7	0.1	0.0033	9.95	
Decreased risk of SSA	*%*	*%*			
Other theft	49.6	54.4	0.0217	0.82	
Burglary (other than in a dwelling)	42.6	47.3	0.0297	0.83	
Shoplifting	31.1	41.2	0.0000	0.63	Frequent
Bail Act	30.5	41.0	0.0000	0.62	
Receiving	30.4	38.5	0.0001	0.70	
Theft from vehicles	19.9	23.8	0.0266	0.78	
Drugs offences (combined)[d]	16.2	26.6	0.0000	0.53	Sizeable
Possession of housebreaking tools	11.6	15.1	0.0342	0.76	
	Mean	*Mean*			
Age at previous conviction[c]	25.27	26.17	0.0000	0.96	
Length of previous criminal career	7.77	8.80	0.0001	0.97	
No. of previous offences	15.26	17.64	0.0018	0.99	
No. of previous sentencing occasions	6.75	7.90	0.0000	0.97	
No. of previous sentencing occasions with no custodial sentence	4.98	5.97	0.0000	0.95	
No. of previous offences aged 18-20	2.30	3.03	0.0001	0.96	
No. of previous sentencing occasions aged 18-20	1.09	1.32	0.0003	0.89	

A p-value of .0000 indicates that the value is less than 0.00005

(a) For a description of each column see earlier text. The results for those convictions for offences, etc., which were found not to be significant can be found on: www.cas.lancs.ac.uk/prcu/murderssa/supplement.pdf.

(b) The offence of indecent exposure was not considered as a risk factor as only some of the more serious cases are 'standard list' and therefore recorded on the OI.

(c) 'Previous conviction' (as distinct from 'any previous conviction') denotes convictions at the sentencing occasion immediately prior to that of the target offence.

(d) The combined 'drugs offences' is a combination of the various individual offence codes which have been used by the OI over time.

There are five measures identified in Table 8 as 'frequent' or 'sizeable' risk factors that suggest significantly *increased* relative risks: custody at the sentencing occasion immediately prior to that of the target conviction; having a previous conviction for 'other wounding'; robbery (or assault with intent to rob); stealing in a dwelling; or arson. It might reasonably be expected that the latter four offences would significantly increase the risk among general offenders of a subsequent conviction for SSA on an adult female. Most commentators recognise that SSA may be as much about power and violence rather than simply about sexual activity (Brownmiller, 1975; Scully and Marolla, 1985; Scully, 1990). Robbery and wounding are clear demonstrations of power, while arson can be regarded as a more covert expression of power. Furthermore, the offence of arson is sometimes associated with sexual imagery in the psychiatric literature (Fras, 1983), and so this finding can be incorporated within conventional wisdom. By contrast, stealing in a dwelling perhaps suggests a more opportunistic offence that can also characterise some SSAs.

The fact that indecent assault of an adult female (which has resulted in a non-custodial sentence) is a risk for a future SSA is also not an unexpected finding. However, the scale of the relative risk is noteworthy; although classified here as a 'rare' offence (there are many offenders with previous convictions for more serious types of indecent assault of a female who are necessarily excluded from this analysis), the risk of SSA amongst those with a previous conviction for this offence is more than twelve times as likely as the risk among those general offenders without such a prior conviction.

The five significant variables showing a relative risk above one in the 'unusual' band (that is, less than 2% of the cases) are discussed separately in Chapter 5. Essentially, they fall into three groups: kidnapping; three types of sexual offences; and cruelty to or neglect of children.

The major difference between the offences which provide an *increased* relative risk and those with a *decreased* relative risk score is that more than half of the former are 'rare' or 'unusual' offences, while the latter all fall within the 'frequent' and 'sizeable' bands. In fact, the offences shown as significant in the bottom part of Table 8 simply describe the characteristics of the general criminal population. They tend to thieve, commit burglary, shoplift, handle stolen goods, steal vehicles, take from vehicles and get involved in drugs offences. Elsewhere (Soothill and Francis, 1999; Soothill, Francis, Sanderson and Ackerley, 2000), it has been clearly demonstrated that a high proportion of those convicted of sex offences are engaged in other kinds of

criminal activity. The scale of the differences needs to be understood. So, for example, while the most prevalent offence ('other theft') leads to a slightly reduced risk of serious sexual offending, it still needs to be remembered that almost one-half (46.8%) of the SSA offenders still had this offence in their prior criminal history (Table 2). Taken together, these findings reinforce the heterogeneity of the criminal backgrounds of those convicted of serious sexual offences and the range of 'offending pathways' that exist.

This represents the first stages in exploring the value of this kind of approach. What has emerged is that *some* serious offenders – whether they murder or commit SSA against adult females – are unlike the general run of offenders. They are more likely to have convictions for violent crime in their criminal histories. Furthermore, in the case of murder, previous convictions for some of the violent offences do not merely increase the risk of future convictions for violence in general. When a control sample of violent offenders is used, the statistical significance of, for example, previous robbery, arson and wounding (endangering life), indicates that the risk of murder *specifically* is increased by having previously been convicted of these offences. This analysis does not, however, address how various previous offences might work in combination with each other. This is addressed in detail in Appendix C.

The next chapter looks at risk factors and offender-victim relationships in murder. As noted with respect to serious sexual assault, murder is a term which can cover a very wide range of activity. Analysing such offenders as a homogenous group may well smooth out some of the more unusual characteristics peculiar to a particular type of murder; Chapter 4 explores this issue.

4. Risk factors and relationships in murder

The next part of the analysis considers whether the results are consistent when different relationships between the offender and the victim are considered separately. Unfortunately, there was no equivalent national database that permits the relationship between offender and victim to be examined for the SSA cases, so what follows is limited to murder cases only.

The HI gives details of the relationship between the murderer and his victim (or main/first victim where there is more than one). For this analysis each murder has been categorised to one of four 'types': family murders, acquaintance murders, murders of males by strangers and murders of females by strangers (see Table 3). The main question to clarify here was whether different convictions emerged as important risk factors for particular types of murder. While the focus in this study was principally on offenders with previous convictions, it is possible that the likelihood of a murder being committed by someone without previous convictions differs according to the victim-offender relationship. While the proportions of those with previous convictions were slightly lower when the victim was a family member or a female stranger, as Table 9 shows, these differences were not found to be statistically significant. A particular *kind* of offence or previous conviction may, of course, have a different kind of impact according to the type of murder.

Table 9: Murderers, by victim-offender relationship

	N	% with previous convictions
Family	119	62.2
Acquaintance	218	69.7
Stranger – male victim	195	70.3
Stranger – female victim	31	61.3
Total	563 (a)	68.0

(a) This excludes the six cases where the relationship is unknown.
Test of whether percentage of murderers with previous convictions differs according to relationship: $x^2 = 3.23$ on 3 df; $p = 0.36$

Of 386 male murderers with previous convictions, 74 killed a family member, 152 an acquaintance, 137 a male stranger, and 19 a female stranger. There were four cases where the relationship was unknown. The small numbers involved in the female stranger classification makes drawing firm conclusions from this analysis difficult.

Using the general control group for comparison, Table 10 identifies the measures of previous criminal history which are statistically significant (at the 5% level) for each type of offender-victim relationship[11]. The format is as before, except that Table 10 displays only the relative risks of the significant variables, and, does not indicate as we have done in Chapter 3, how *pervasive* an offence is. A greatly enhanced (or reduced) relative risk where the offence is comparatively rare might not have the practical importance of a small, but significant, increase (or decrease) for an extremely common offence. There are, nonetheless, a considerable number of statistically significant differences.

11 *The results for those convictions for offences, etc., which were found not to be significant can be found on: www.cas.lancs.ac.uk/prcu/murderssa/supplement.pdf.*

The sheer number of variables that lead to a reduced risk of family murders is striking. By comparison, there were few such factors in evidence for the three remaining types of murder. However, these variables can be dismissed fairly quickly, for they simply indicate that family murderers tend to be different from the general run of active criminals.

For those variables that increase the risk of murder, the following points are worth noting. First, there is the emergence for the first time of previous convictions for 'threats/incitement to murder' as a risk factor. Those with this previous offence are nearly twelve times as likely to be convicted of a family murder. In fact, this is the only previous offence that significantly increases the risk of a family murder. While in theory this might have important practical ramifications, it is not possible from this analysis to establish whether the threats were issued against the person who was subsequently killed.

Notes for Table 10 (opposite):

The figures in parentheses indicate where, due to there being either no cases or no controls present in our sample with that particular risk factor, the actual relative risk cannot be estimated.

(a) The repetition of 11.90 is due to the same number of cases and same number of controls in these analyses.

(b) 'Previous conviction' (as distinct from 'any previous conviction') denotes convictions at the sentencing occasion immediately prior to that of the target offence.

(c) The combined 'drugs offences' is a combination of the various individual offence codes which have been used by the OI over time.

Table 10: Relative risks for offender-victim relationships for murder among general offenders with a previous criminal history

	Relative risk for the different types of offender-victim relationship			
	Family *74 cases*	Acquain-tance *152 cases*	Stranger male victim *137 cases*	Stranger female victim *19 cases*
Increased risk of murder				
Threats/incitement to murder	11.90[a]			
Manslaughter			(100)	
Wounding (endangering life)		3.11		
Other wounding etc.		1.73	1.55	
Indecent assault of a female			3.42	
Robbery and assaults with intent		3.04	2.19	4.53
Blackmail		11.90[a]		
Kidnapping			11.90[a]	
False accounting		(100)		
Arson		2.95	2.65	
Custody at previous conviction[b]		2.50	1.84	
Custody for *any* previous conviction		1.98	1.64	
Varied risk of murder according to the relationship				
Burglary (in a dwelling)	0.59	1.70		
Decreased risk of murder				
Theft of pedal cycles	0.31			
Theft from vehicles			0.62	0.14
Shoplifting	0.52			
Other theft	0.44			
Fraud	0.36			
Receiving	0.34			
Other forgery or uttering	(0.01)			
Attempting to pervert course of justice		(0.01)		
Firearms Act	(0.01)			
Drugs offences (combined)[c]		0.56		(0.01)
Age at previous conviction[b]	0.92			
Length of previous criminal career	0.93			
No. of previous offences	0.98			
No. of previous sentencing occasions	0.94			
No. of previous sentencing occasions aged 14-15	0.77			
No. of previous sentencing occasions with a custodial sentence	0.90			
No. of previous sentencing occasions with no custodial sentence	0.91			

The offence of 'robbery and assaults with intent to rob' appears, perhaps not unexpectedly, as a significant risk factor. The existence of convictions for this offence in the criminal career more than doubles the risk of murder of a male stranger and trebles the risk of an acquaintance murder. Furthermore, this offence is the only factor to emerge as significantly increasing the risk of a subsequent murder of a female stranger. Those previously convicted of robbery have a risk four and a half times that of general offenders without this previous offence. The small numbers involved in this category do, however, prevent too great an emphasis from being placed on this finding.

Those who are convicted of the murder of a family member are unlike both the general run of offenders and other types of murderer. In terms of the factors that increase the risk of a subsequent conviction of murder, with one or two exceptions, acquaintance and male stranger murders begin to look quite similar.

It might also at first appear unusual that a previous conviction for 'indecent assault of a female' is a risk factor for the murder of a *male* stranger but not a *female*. This might reflect a willingness to physically attack others in a variety of circumstances. However, the lack of a significant relationship with 'indecent assault of a female' in the female stranger murder group may simply reflect the small number of cases. This variable, although not significant, had an estimated relative risk of 2.0.

In order to test whether the factors identified in Table 10 were indicative of *violent* individuals, rather than specifically murderers, the case-control analysis was repeated using only those with a violent offence at the 'target' conviction as the control group (Table 11). There are four main themes that emerge. First, for those convicted of family murders, some of the variables distinguishing significantly between murderers and general offenders have disappeared in the comparison with violent controls, but others have emerged. For example, 'threats/incitement to murder' disappears as a statistically significant variable *increasing* the risk of a subsequent conviction for murder. In this context, it can therefore be seen as a risk factor of violence rather than of the murder of a family member.

The second theme emerging from Table 11 relates to acquaintance murders. Here only a few risk factors have fallen out. Both wounding and blackmail disappear when violent controls are introduced. This suggests that these offences are as much characteristics of violent offenders as murderers. In other words, compared with a general group of active criminals, wounding and blackmail have a significantly enhanced risk of murder, but compared with violent controls, they do not.

Table 11: Relative risks for offender-victim relationships for murder among violent offenders with a previous criminal history

	Relative risk for the different types of offender-victim relationship			
	Family *74 cases*	Acquain-tance *152 cases*	Stranger male victim *137 cases*	Stranger female victim *19 cases*
Increased risk of murder				
Burglary (in a dwelling)			2.18	
Burglary (other than in a dwelling)		1.56		
Robbery and assaults with intent		2.88	1.93	
Kidnapping			11.90	
Stealing by an employee		5.09		
Theft from automated machines		3.33		
False accounting		11.90		
Arson		2.34	3.16	
Forgery etc.		(100)		
Custody at previous conviction[a]		2.27	2.06	
Custody for any previous conviction		2.10	1.81	
No. of previous offences aged 10-13			1.12	1.38
No. of previous offences aged 14-15			1.06	1.51
No. of previous sentencing occasions aged 14-15			1.30	
No. of previous sentencing occasions with a custodial sentence		1.06	1.09	
Decreased risk of murder				
Indecent assault of a female	(0.01)			
Fraud	0.46			
Receiving	0.52			
Other forgery or uttering	(0.01)			
Drugs offences (combined)[b]				(0.01)
Age at previous conviction[a]	0.93			

The figures in parentheses indicate where, due to there being either no cases or no controls present in our sample with that particular risk factor, the actual relative risk cannot be estimated.

(a) 'Previous conviction' (as distinct from 'any previous conviction') denotes convictions at the sentencing occasion immediately prior to that of the target offence.

(b) The combined 'drugs offences' is a combination of the various individual offence codes which have been used by the OI over time.

Moreover, there are new factors that emerge as risks for acquaintance murder when compared with violent controls. Among violent offenders, previous convictions for

burglary (other than in a dwelling), stealing by an employee and theft from automated machines all increase the risk of an acquaintance murder. The risk also increases for a greater number of previous custodial sentences. These variables did not seem to increase the risk of a conviction for murdering an acquaintance when compared against a control group made up of the general run of offenders. Only when the focus is on violent offenders do these factors make significant differences. While not identical, these findings share some similarities with the two analyses that were carried out for *all* murderers in Chapter 3. This is not completely surprising, since acquaintance murders form the largest sub-set of murderers, and there will naturally be a bias in this group's favour.

A different picture emerges for those convicted of murder of a male stranger. Here, several of the risk factors, including custody in the previous criminal history and previous convictions for burglary (in a dwelling), robbery, kidnapping or arson, remain from the analysis using general offenders as controls (Table 10). This suggests that these factors indicate an increased risk of murder of a male stranger, rather than violence in general. Additional factors which significantly increase the risk of murder of a male stranger when compared to violent offenders include convictions for criminal activity between the ages of ten and 15, and the number of sentencing occasions where a custodial sentence was given.

In summary, the variables that emerged as risk factors for the various types of murder were largely found to be those identified as increasing the risk of murder in general. What is new is that the same variables do not often emerge for each of the four different types of offender-victim relationship. Those with a history of acquisitive crime and with greater numbers of convictions were less likely to become family murderers. Very few factors significantly affect the risk of murder of a female stranger, due to the small numbers of cases involved. Meanwhile, the risk factors for murders of acquaintances or male strangers varied depending on whether general or violent offenders were used as the control group. Nevertheless, those factors that did appear were largely those that significantly increase the risk of overall murder. While the *proportions* of those having previous convictions did not differ significantly between the different types of offender-victim relationships (see Table 9), the *profiles* of the previous criminal history was far from uniform.

5. Unusual previous offences

This chapter considers in more depth those convicted of murder or SSA who had less common offences in their background. In particular, it focuses on those previous offences for which less than two per cent of either murderers or serious sexual offenders had convictions, but which were nevertheless statistically significantly different from the controls. Of course, the very nature of 'unusual' offences means that the number of cases is often limited and this needs to be considered in assessing the inferences that follow.

Offenders convicted of murder

Using the criteria for 'unusual offences', it was found that convictions for manslaughter, kidnapping, blackmail, soliciting by a man and adulteration of food/drugs significantly increased the relative risk of murder. Manslaughter was the most clear-cut and perhaps most predictable. The possible links between kidnapping, blackmail, soliciting by a man and adulteration of food/drugs with subsequent convictions for murder are more intriguing, and several of these are examined in more detail.

A previous conviction for manslaughter was shown to be statistically significant for murder (see Table 6), and those with such a conviction are over 19 times as likely to be subsequently convicted of murder. Five murderers and one general control had manslaughter in their history. As there were approximately four controls to every murderer, it would be expected that if cases and controls were similar, there would be around 20 offenders with manslaughter convictions among the controls. However, a conviction for manslaughter did not significantly distinguish murderers from violent controls.

A previous conviction for kidnapping was shown to be a statistically significant risk factor for murder, both when compared against general criminal controls and against violent controls. Focusing on the offender-victim relationship reveals that kidnapping is only a significant risk factor for subsequent male stranger murders. In fact, of the six murderers with a previous conviction for kidnapping, three had murdered a male stranger (of the others, two had murdered a male acquaintance and one had murdered a female stranger). There is no evidence that anyone with kidnapping in their history murdered a family member. Furthermore, for all cases, the murder conviction was within six years of the kidnapping conviction.

Kidnapping is a serious offence. Of the 16 offenders in the study as a whole with a previous conviction for kidnapping (i.e. including murderers, general controls and violent controls), the majority (twelve) received a custodial sentence for this offence. In one case and one control, each had an additional earlier kidnapping conviction that was not given a custodial sentence. In fact, of the six offenders who went on to be convicted of murder, all were given a custodial sentence for their kidnapping offence. In contrast, four of those who had not murdered were given non-custodial sentences for their kidnapping conviction. Finally, it is worth noting what the absolute risk is of a convicted kidnapper becoming a murderer. While it is difficult to estimate absolute risk for rare events, Appendix B summarises the calculation. It was estimated that about one in 240 convicted kidnappers would subsequently be convicted for murder.

The offence of blackmail is also comparatively rare. Of those with previous convictions, just four (1%) of the murderers had a blackmail conviction, while among the general controls this proportion was even lower (three individuals or 0.2%). The relative risk was, however, found to be statistically significant. Those with a blackmail offence were over five times as likely to become murderers as the general controls.

If the relationship between the murderer and the victim is considered, this revealed that a blackmail conviction had a highly statistically significant relative risk for the murder of an acquaintance (see Chapter 4). Three of the offenders had blackmail in their criminal record, while this was the case with only one (instead of the expected twelve) among the controls. The risk of a man convicted of blackmail being convicted for the murder of an acquaintance was nearly twelve times that of a man without this offence among his previous convictions. The only other case of a blackmail conviction predating a murder in the series related to the murder of a female stranger. Unlike kidnapping, a sizeable gap in time was found between the blackmail conviction and subsequent murder conviction. For the three cases where the subsequent murder was of an acquaintance, the gaps were 19, 14 and 16 years respectively. The exception was the 22-year-old who murdered a female stranger just eight years after being convicted of blackmail at the age of 14. Both murderers and controls that had blackmail convictions in their histories tended to have early convictions followed by a conviction as a young adult. The comparison with the violent controls (see Table 7) produced some further insights. The *absence* of blackmail from the significant differences suggests that a blackmail offence is as much a characteristic of violent offenders as of murderers. In contrast, kidnapping is much more specifically linked with murder rather than violence in general.

One general observation about this analysis of the murder cases (though there are exceptions) is that these unusual offences often involve persons who go on to murder in their 30s and perhaps early 40s[12]. In contrast, most murder involves persons who are convicted in their 20s.

12 Owing to the construction of the sample, it is not possible to have anyone aged more than 44 years in the series.

Offenders convicted of SSA

In Chapter 3, there were five offences identified as unusual but highly significant in distinguishing SSA cases from the general criminal controls. These five offences are now examined in three groups: first, those convicted of kidnapping; secondly, those with a previous conviction for cruelty to/neglect of children; and, finally, those with a previous sexual offence.

In total, 13 sexual assault cases and eleven controls had kidnapping in their history. As the expectation was that there would be around 52 controls with kidnapping in their previous criminal history, kidnapping convictions are clearly a risk factor for subsequent serious sexual offending.

All 13 offenders convicted of kidnapping who went on to be convicted of SSA had a first conviction aged 23 or under. However, ages for conviction of SSA varied: five were aged 25 years or below, five were in their 30s, and three were in their 40s. The relationship between age at conviction for kidnapping, length of sentence and age at subsequent conviction for SSA is shown for all 13 cases in Table 12. It is worth considering the actual periods 'at risk' in the community. So, for example, case A was convicted of kidnapping (and other offences, including robbery) at the age of 34 for which he was awarded a sentence of ten years' imprisonment, and was convicted of rape at the age of 44. While the time between the kidnapping conviction and the rape conviction was ten years, case A would have spent much of the time between these events in prison (as a result of the initial sentence for kidnapping and the time taken to process Case A through the criminal justice system for the conviction of rape). The ten-year gap between the kidnapping and the rape offence exaggerates the genuine time 'at risk'.

Table 12: Relationship between age and sentence for kidnapping and subsequent SSA conviction

	Kidnapping (or false imprisonment) conviction at age:	Sentence awarded for kidnapping etc.	SSA at age:
Case A	34	10 years' imprisonment	44
Case B	35	3 years' probation (with non-residential mental treatment)	41
Case C	40	1 year's imprisonment	42
Case D	31	3 1/2 years' imprisonment	39
Case E	25	1 year's imprisonment	30
Case F	19	3 years in a YOI	25
Case G	32	5 years' imprisonment	37
Case H	27	1 year's imprisonment	31
Case I	26	3 years' imprisonment	30
Case J	19	6 months in a YOI	20
Case K	20	1-year probation order	21
Case L	16	10 months in a YOI	17
Case M	23	180 hours' community service	24

The data in Table 12 reveal the generally short lag between the conviction for kidnapping and the conviction for SSA (especially if the custodial sentence awarded for the kidnapping offence is taken into account to indicate a period 'at risk'). In fact, of the three cases awarded a non-custodial sentence for kidnapping, two had been convicted of a SSA within a year. It is also worth noting that five of these individuals were convicted of SSA *along with* a second offence of kidnapping or false imprisonment. Even without reviewing the case papers, the repetition of kidnapping or false imprisonment in these cases does suggest the earlier convictions were direct precursors to the final offence involving a SSA.

Cruelty to and neglect of children is an unusual criminal offence (there were only 390 convictions with this as principal offence in England and Wales according to the 1998 *Criminal Statistics*) but not an unusual human activity. Many instances, of course, do not come to the notice of any officials. Those that come to court are a fraction of the total, although it is possible that the more serious cases are over-represented in this group.

The relationship between child cruelty or neglect and subsequent SSA was not expected. Five SSA offenders and just two controls had child cruelty or neglect of children in their criminal history. If there had been no differences between the groups, it would be expected that 20 controls would have child cruelty or neglect in their criminal record. It is estimated that offenders with this conviction in their criminal history are nearly ten times as likely to be convicted of a SSA.

Here too, knowledge of the relationship between the offender and the victim of the SSA would have been helpful, in order to establish whether these persons were more likely to commit a particular kind of SSA (e.g. stranger offences). If this were the case, then the relative risk score for a particular kind of SSA would probably be even higher. However, an enhanced dataset would be necessary to confirm this.

In general, those who are convicted of child cruelty also have a first conviction of some kind occurring at a young age. Only one of the cases had convictions for an offence other than child cruelty at the same sentencing occasion, while this was the situation for both controls, and for all three, the offence in question was 'other wounding etc.'. The most noteworthy feature is the short time between the conviction for child cruelty or neglect and the subsequent conviction for SSA (see Table 13). One difference between cases and controls would appear to be the use of custody for the cruelty offence among the cases. Three of the five cases, but neither of the controls, received custodial sentences for the child cruelty offence. This finding suggests that some of the cases (who were eventually convicted of SSA) had committed a particularly serious child cruelty offence (although persistent criminal behaviour may also have been a factor in being awarded a prison sentence). Whatever the reason, those *imprisoned* for child cruelty or neglect were at greater risk of subsequently committing a SSA.

Table 13: Relationship between age and sentence for child cruelty or neglect and subsequent SSA conviction

	Child cruelty or neglect of children conviction at age:	Sentence awarded for Child cruelty etc.	SSA conviction at age:
Case A	29	6 years' imprisonment	30
Case B	23	5 months' imprisonment	25
Case C	27	2 years' conditional discharge	31
Case D	35	3 1/2 years' imprisonment	41
Case E	18	£150 fine	23

The databases provide no material to extend this analysis. However, there are clear differences for those with prior convictions for kidnapping. Kidnapping as a previous conviction relates to both murder and SSA, while child cruelty or neglect only has a link to subsequent SSA. For those with an earlier conviction for kidnapping, there was a direct link for some offenders between subsequent kidnapping *and* the SSA (they were charged with both kinds of offences at the same time). This suggests that the earlier kidnapping was a *precursor* for the later SSA. It is, however, difficult to see child cruelty or neglect in quite the same way.

Little has so far been said about the more obvious relationship between SSA and previous convictions for sexual offences. Table 8 revealed that a person with a (less serious) indecent assault of an adult female was twelve times as likely to be convicted of a SSA. In addition, those with a conviction for attempted rape were 26 times as likely to be convicted of SSA. Having a conviction for unlawful sexual intercourse with a girl under 13 or unlawful sexual intercourse with a girl under 16 increases the likelihood of being convicted of SSA to more than 19 times and three times respectively. These are impressive findings although perhaps not unexpected; the link between previous sexual offending and later sexual offending in *some* offenders' criminal histories has been well established (see for instance Grubin and Gunn, 1991). There are, however, several definitional, and technical issues to address.

In terms of definitions, this study has focused on SSA, which has been defined as 'rape' and serious cases of 'indecent assault of an adult female'. This definition has two features. First, it excludes cases, such as 'attempted rape', which many would regard as a 'SSA'. Secondly, it assumes that non-custodial indecent assault of an adult female is different in nature to indecent assaults for which higher sentences have been awarded. We are confident that, in broad terms, this approach *does* separate less serious indecent assaults from more serious indecent assaults, but there will always be exceptional cases. The technical issue is that some cases had a variety of sexual offences on their record. While not widespread, there is the issue (when small numbers of cases are involved) whether one or two of these sexual offenders are having a disproportionate effect on the calculation of the relative risks. This issue is addressed in more detail in Appendix C.

6. Summary and conclusions

Much of the previous work on the risk of offending behaviour has focused on recidivism (i.e. the likelihood of re-offending behaviour). This study has instead focused on the likelihood of those within the general criminal population of committing their first serious offence (murder or SSA of an adult female, including rape). This chapter summarises the rationale for the study, explores what lessons may be learned and finally discusses some of the practical applications the research might have.

Having an understanding of criminal histories is important for many of those working within the criminal justice system. There has, of course, been a long tradition of criminological work in using criminal histories to predict re-conviction and re-offending. This tradition, which began with the pioneering work of Ernest W. Burgess in Chicago in the 1920s trying to identify those who would be most appropriate to parole (Mannheim, 1965), has evolved. In the late 1990s, the Home Office developed the (revised) Offender Group Reconviction Score (OGRS). This is a statistical risk score which provides an estimate of the probability that a convicted offender will be re-convicted at least once within two years of release from custody or from the start of a community sentence (Copas and Marshall, 1998; Taylor, 1999). The Offender Assessment System, a new national system for assessing the risk and needs of an offender, represents the most recent development in this area (Home Office, 2001).

This present study, however, has examined whether it is possible to look back at criminal histories to reveal something more specific about the future. It started with the idea that a more systematic study of the previous criminal history of those that had been convicted and sentenced for murder or SSA might provide an insight into *patterns in very serious offending behaviour*.

The approach involves the language of probabilities rather than of certainties: what is the *relative* risk of those committing certain types of crime in the past becoming murderers or convicted of SSA? It is important to remember the general weaknesses around using conviction data as proxy for offending behaviour; through the process of attrition, successful convictions represent only a proportion of all offences committed. Moreover, this relationship varies considerably between the target offences of murder on the one hand, and rape/serious indecent assault on the other, as well as in relation to all the prior offences that make up criminal careers.

Notwithstanding the problems around using conviction data as a proxy for offending behaviour, using appropriate control groups does produce analytical rigour. It is of little use knowing that over 40 per cent of convicted murderers have

previously had a conviction for burglary (which, of course, sounds quite a high figure) unless it is known how the figure compares with similar persons who have *not* murdered. The emphasis for this study was therefore a comparison with currently active criminals.

Main findings

The results of the case-control approach have been presented in terms of relative risk. Where high relative risk scores (above one) have been generated, they indicate a greater likelihood of an event taking place if the risk factor is present. Low relative risk scores (below one) indicate a lesser likelihood of the event taking place. Following convention, these factors have been identified as significant when they have been found to be statistically significant at the five per cent level. The vast majority of the discussion has focused on 'risk factors' – those crimes that indicate a greater likelihood of subsequent conviction for murder and SSA.

The major difference between offences which provide an *increased* relative risk of being convicted of murder or SSA and those which provide a *decreased* relative risk score is that for the former, around a half of the risk factors are 'rare' or 'unusual' offences, while the latter almost always fall within offence categories designated as 'frequent' or 'sizeable'. What the analysis highlights is that the characteristics of the general criminal population (who tend to thieve, commit burglary, shoplift, handle stolen goods, steal vehicles, thieve from vehicles and get involved in drugs offences) tend to lower the relative risk of getting involved in murder and SSA. However, we have to be very careful in interpreting this point. Elsewhere (Soothill and Francis, 1999; Soothill, Francis, Sanderson and Ackerley, 2000) it has been found that a high proportion of those convicted of sex offences are engaged in other kinds of criminal activity. So, for example, while for the most prevalent offence – 'other theft' – shows a significantly *decreased* risk of subsequent SSA convictions, it needs to be remembered that almost exactly one-half (49.6%) of the SSA offenders still had this offence in their prior criminal history. The finding does not suggest that these offenders *do not* commit serious offences – they do. What it reveals however is that, among the general criminal population, *the more routine, high volume criminal activity is not a good source for predicting future serious criminal activity*.

In contrast, there are some comparatively unusual offences which, from the evidence presented here, are better predictors of future convictions for murder or SSA (or both). 'Unusual' offences were defined as those occurring in less than two per cent of those convicted of murder or SSA. Therefore these particular offence characteristics

would be shared, at most, by only one in fifty of each of our target groups. Nevertheless, this focus on *all* murderers or *all* those convicted of SSA could be misleading. An unusual previous criminal history may have special importance in a particular social (or criminological) context. Hence, it is twelve times as likely that a man with a previous manslaughter conviction will be subsequently convicted of the murder of *a family member*; that a man with a blackmail conviction will be subsequently convicted of the murder *of an acquaintance*; or that a man with a kidnapping conviction will be subsequently convicted of the murder of a *stranger male victim*. Finally, understanding the context of murder and SSA has been largely beyond the scope of this project but this is clearly an area worth further examination.

There are a number of challenges in interpreting these findings. Are 'risk factors' causative or correlative? Does the fact that someone convicted of blackmail is five times as likely than the general offender to be eventually convicted of some kind of murder mean that committing the offence of blackmail has somehow 'caused' the eventual murder? A distinction needs to be made between what can be termed as 'indicators' and 'precursors'. This distinction is similar to the classic distinction between 'causes' and 'correlates'. 'Indicators' are simply pointers or, as one dictionary definition suggests, 'any device for considering condition for the time being'. In contrast, 'precursors' are more directly related to future behaviour or, again as a dictionary suggests, 'a forerunner; a predecessor; an indication of the approach of an event'.

Without perhaps distorting too much, indicators indicate the present, while precursors give more of a hint of the future. Precursors are much more closely connected to the eventual event, in this case, murder. With this study we can only really speculate, for it needs other, more detailed data sources, to confirm or challenge this observation. If a person has been convicted of kidnapping in the past and then commits another kidnapping which ends up in a murder, we would argue that the first kidnapping conviction could be seen as a precursor to the kidnapping/murder. It is not causative in the conventional sense, although some of the ingredients of the eventual outcome might be identified in the earlier offence. In contrast, some other crimes related to eventual murder or SSA may simply 'indicate' future serious offending. 'Indicators' provide indications of a particular lifestyle that may or may not be permanent.

Applying the results

What can risk assessment professionals and other agencies take away from these findings? The analyses illustrate risk in terms of how much more likely certain offenders (those who possess certain types of previous convictions) are to be convicted of murder or SSA, compared with other offenders. Although many of the relative risks are statistically significant, the extent to which they are useful for practitioners working in real world settings may at first seem more restricted. A good number of these findings indicate that many categories of conviction carry only a slightly enhanced risk of subsequent serious offending (greater than one, but less than twice as likely to receive a subsequent conviction for murder or a serious sexual offence than a general offender).

For example, knowing that a person with a conviction for robbery or assaults with intent is just over one and a half times as likely to be convicted for SSA compared with an offender who has no such convictions is of limited value to practitioners (despite the fact that it is a statistically significant result). Principally this is because, in spite of increased risk due to the presence of certain previous convictions, the vast majority of the many offenders with these convictions do not go on to commit serious offences.

Even for those 'unusual' previous convictions that indicate a *relatively* high likelihood of future conviction for a more serious offence, the *absolute* risk of offending seems low. In other words, the likelihood that one particular offender with a high risk conviction will go on to commit a target offence is low; for example, robbery had a relative risk of 2.27, but the absolute risk of someone with this offence going on to be convicted of murder is low, at around one in 526 (see Appendix B).

There are, nevertheless, several very practical applications arising from this study. As other commentators have observed, the present trend is towards a more preventative approach to serious offending, with the introduction of measures designed primarily to protect the public (Maguire, Kemshall, Noakes, Wincup and Sharpe, 2001). Examples of recent legislative provisions to effectively manage offenders in the community include the introduction of the sex offender register under the Sex Offenders Act 1997, and the use of Sex Offender Orders under the Crime and Disorder Act 1998 (Kemshall, 2001). Several of these approaches benefit by being informed from this study, and in particular, that we can make more informed judgements about broad groups of offenders whose criminal convictions suggest higher levels of relative risk of future serious offending.

The findings clearly provide an empirical way of examining offences which require Sex Offender Registration. One of the objectives behind the establishment of the Sex Offenders Register (under the Sex Offenders Act 1997), was to 'help the police both prevent crimes…identify suspects once an offence has been perpetrated, and might also act as a deterrent to re-offending' (Plotnikoff and Woolfson, 2000). As others have highlighted, a number of serious offences do not necessitate registration even if a sexual component was present in the offence (e.g. murder, manslaughter, kidnapping and abduction). Within indecent assault against adult females, only more serious cases (convictions with a custodial sentence of over 30 months) require registration. This study tends to confirm some of the methodology that underpins the Sex Offenders Register, but also suggests that the type of offences (and sentences) which trigger registration could usefully be considered against these findings (given that some minor sexual offences appear to indicate an increased relative risk of convictions for subsequent SSA). To this end, the review of the Sex Offender Act (Home Office, 2001) recommended that indecent assault offences against adult females receiving more minor sentences should require registration.

One area which clearly lends itself towards further analysis is the offence of kidnapping as a precursor offence for both serious sexual assault and murder. The tragic death of Sarah Payne has raised public concerns over predatory stranger paedophiles. This study suggests that more focused studies on small groups of very serious offenders (and relevant control groups), as a means to identify risk, might possibly yield dividends.

The analysis of the future risk of homicide by victim-offender relationship, also suggests that our understanding of the risk of future serious offending may be markedly improved by analysis built upon more detailed offence and offender data. The absence of detailed data on the nature of sex offenders and their offences has been an impediment in this sense, but several initiatives are under way which will improve data quality in this important area, and will allow further research to be much more focused[13].

From an investigative perspective, this study has provided a framework for National Crime and Operations Faculty to guide the collection of information on precursor offences which lie outside the current offence criteria of murder and rape. A limited range of 'unusual' offence categories which scored a high relative risk of subsequent serious offending would appear to offer most in terms of linking to more serious, subsequent offences.

13 For instance, the plan to establish a national Sexual and Violent Offenders Database and the move towards routine 'flagging' of all violence offences by the offender-victim relationship.

Finally, the study explored the extent to which offenders might be assessed in terms of the *combination* of convictions that contribute to a high risk of subsequent serious offending (through the development of risk scores). While validation is required before any instruments can become operational, this may be an area for future development.

The development of risk scores takes us towards the possibility of actively intervening in the careers of potential serious offenders. An intervention model raises questions, however, about what can be reasonably done to achieve crime prevention. If a retributionist approach to punishment is embraced, where the focus is on punishing for *past* criminal activity, there can be little enthusiasm about anything that intervenes to try to prevent future wrongdoing. In contrast, if a more rehabilitative approach to punishment is adopted, where the focus is more *future* directed, then the intervention model has much more appeal. Here the questions become *how much* one is entitled to intervene and how accurate are the tools to support intervention. In reality, reasonableness and resources become the key defining features. If the future potential harm were limited, then expensive treatment (which may mean incarceration) or surveillance (which is draining of resources) would be rejected on both ethical and pragmatic grounds. It is self-evident, however, that the future potential harm arising from the target offences in this study is considerable.

Recommendations

Findings from this study suggest that rare or unusual offences indicate a high and statistically significant likelihood of subsequent serious offending. Some practical recommendations follow from this.

- The findings should inform the review of Sex Offender Register 'trigger' offences (i.e. those offences which lead to registration) as they help identify previous offences which indicate a future risk of serious sexual offending.

- NCOF should consider the findings in relation to their strategy for identifying precursor offences to murder and SSA for inclusion on their database.

This study has produced encouraging results in identifying the potential value of exploring systematically the criminal history of serious offenders. It is however only a first step. Further work in this area will be needed to validate the findings of this study, particularly in relation to the creation of risk scores. In the longer term, incorporating a greater level of detail on both previous and target offences (e.g. offender-victim relationship, circumstances of the offence), and focusing on particular categories of prior offence (e.g. kidnapping), may be beneficial.

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Appendix A: Defining 'serious' indecent assault of a female aged 16 or over

'Serious sexual assault of an adult female' (SSA) has been defined in this study as being (completed) rape of a female aged 16 or over, and *serious* indecent assault of a female aged 16 or more. However, the OI classification of indecent assault of a female, while distinguishing those victims aged under 16 from those aged 16 or more, does not discriminate in terms of the severity of the offence. In order to enable such a separation to be made, therefore, the length of sentence given for convictions of indecent assault of a female aged 16 or over in 1995-7 was examined. This offence has OI code 20, sub-code 2, and is referred to here as 'IAF 16+'. For this offence, offenders can be given non-custodial disposals, or a custodial sentence of up to ten years (in addition to Hospital Orders and Restriction Orders). The aim of this exercise was to establish what classes as a 'severe' custodial sentence, with a view to using this as a measure of 'serious' IAF 16+. It seemed more appropriate to consider the median, rather than the mean, sentence length, as the point at which to separate out 'serious' from 'non-serious' offences. Furthermore, it would be reasonable to expect the length of sentence to depend additionally on such factors as the offender's age and previous criminal history. These factors have been considered in the modelling.

Using the computer package GLIM, the log of the sentence length can be modelled, with the median then being obtained using the result:

if $\log y \sim N(ß'x, \sigma^2)$

then

$median(y) = \exp(ß'x)$

(Aitkin, Anderson, Francis and Hinde (1989), p.121).

Previous criminal history can be considered in several ways. Those considered here were in terms of: number of previous offences; number of previous sentencing occasions; counting *all* offences; all *sex* offences; or only rape and indecent assault of a female (where the victims were of any age). The model finally chosen involved the number of previous sex offences (a four-category variable), age of the offender at conviction (a continuous variable), and an interaction between the two, with all these terms being statistically significant in the model.

The model is:

Number of previous sex offences	Log (sentence length) =	Median (sentence length) =
0	5.867 + 0.0005838.Age	Exp (5.867 + 0.0005838.Age)
1	6.328 – 0.0027622.Age	Exp (6.328 – 0.0027622.Age)
2 – 4	6.739 – 0.0079822.Age	Exp (6.739 – 0.0079822.Age)
5 +	7.626 – 0.0226562.Age	Exp (7.626 – 0.0226562.Age)

Figure 5 displays the fitted median sentence lengths for offenders over the age range for each of the four categories of 'number of previous sex offences'. The cross-over of the curves is due to the scarcity of older males with large numbers of previous sexual offences, rather than being an indication of paradoxical sentence lengths.

To interpret the curves, it is necessary to establish how an IAF 16+ of particular severity might merit a particular sentence length. Having previous sex convictions is likely to increase the sentence length. However, a young person with many previous sex convictions will be seen as more 'dangerous' (therefore meriting a stiffer sentence) than an older person with the same number of previous sex convictions (whose sex offending has not had the same 'intensity').

Figure 5: Median custodial sentence lengths for indecent assaults of adult females

However, the estimated median sentence length is, for each category of number of previous convictions, a continuous function of age. In fact, the majority of sentence lengths fall exactly on a certain number of months or years: 1 year, 15 months, 18 months, 21 months, and then 2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, 6, 7, 8, 9, 10 years. It therefore seemed appropriate to create step functions for each of the previous convictions categories to reflect this.

Using the predicted median sentence length for each age and number of previous sex offences, the next 'important' sentence length has been taken as the cut-off point; an offence receiving *this sentence length or more* can be classed as 'serious'.

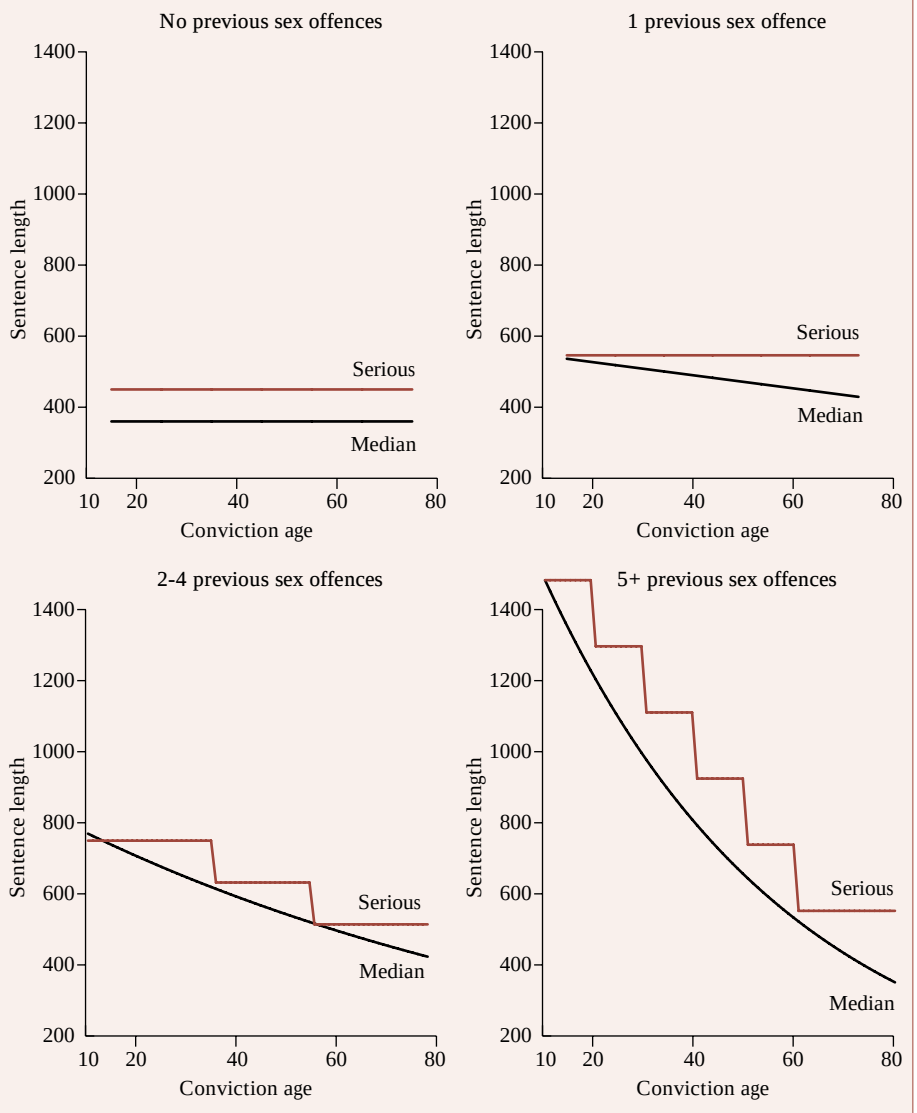
The values to be used to define a 'serious' indecent assault of a female aged 16 or over are therefore:

Number of previous sex offences	Conviction age	'Serious' offences have sentence lengths:
0	All	15 months (456 days) or more
1	All	18 months (547 days) or more
2 – 4	15 – 35	2 years (730 days) or more
	36 – 55	21 months (638 days) or more
	56 onwards	18 months (547 days) or more
5 +	15 – 20	4 years (1460 days) or more
	21 – 30	3 1/2 years (1277 days) or more
	31 – 40	3 years (1095 days) or more
	41 – 50	2 1/2 years (912 days) or more
	51 – 60	2 years (730 days) or more
	61 onwards	18 months (547 days) or more

These are sentences of *immediate imprisonment*, whether in an adult or young persons institution. In addition, those offences for which the disposal was a 'Restriction Order' are also classed as 'serious'.

In Figure 6, a separate plot is produced for each of the four categories for the number of previous sex offences. In each plot, the appropriate fitted line for the median sentence length (seen in Figure 5) is displayed, with the 'step function' superimposed. Sentence lengths that fall *on the step function or above it* are deemed to have been awarded to a 'serious' indecent assault of a female aged 16 or over.

Figure 6: Sentence lengths of 'serious' indecent assaults of adult females



Note: In each plot, the line labelled 'Median' is the fitted median sentence length. The line labelled 'Serious' denotes the minimum number of days custodial sentence at which an indecent assault of a female aged 16 or over is deemed to be 'serious'.

Appendix B: Developing the concept of absolute risk

In this report, the concept of relative risk has been used, with little discussion of what the *absolute* risk of murder (or SSA) is for individuals with particular criminal histories. This is a deliberate strategy, as the absolute risk of murder is always conditional on the population under consideration, and the future time horizon. For example, estimating the absolute risk of those with a conviction for 'other wounding etc.' of subsequent murder *until age 40* for those born in 1953 would be different to estimating the future *lifetime* absolute risk of the *current criminal population*. In addition, large samples are needed to calculate absolute risk with any degree of accuracy. However some progress can be made.

This problem has been approached by looking at the OI birth cohorts. The 1953 birth cohort contains the criminal histories of everyone born in one of four selected weeks in 1953 and convicted of a standard list offence; similar cohorts exist for 1958, 1963, 1968, 1973 and 1978. This gives us a prospective data set, but one subtly different to the dataset used in the report. First, many of the offenders in the cohort samples are minor offenders (committing a single offence in their teens and then desisting); this is somewhat different to the active criminals chosen for the case-control study. Secondly, the later cohorts are young cohorts – the 1978 cohort in particular is only followed up until 1999, the offenders in this cohort would be 22 or younger. For this reason, two later cohorts have been excluded.

Three sample offences have been considered here: other wounding etc., robbery and kidnapping. Two methods of estimation of absolute risk were used: a direct method based on the cohort data alone; and an indirect method using the estimated relative risk from the case-control study.

Other wounding etc. (offence code 8)

The table below gives the number of murders and non-murders for those with and without prior 'other wounding', and calculates the odds-ratio and the relative risk.

By combining all four cohorts together, it is possible to get a global estimate of absolute risk over a medium term time horizon. Given a previous conviction, the odds of murder given a prior 'other wounding' is estimated at one chance of murder to 688 against, and the absolute risk of murder given prior 'other wounding' was therefore estimated at 1 in 689. Similarly, the absolute risk of murder given no prior 'other wounding' was estimated at 1 in 1068. The estimate of the relative risk of murder for prior 'other wounding' was the ratio of these two absolute risks: 1068/689, or 1.551. The relative risk estimated by the case-control method was 1.483, which represents a satisfying agreement.

Table 14: Other wounding etc: odds ratios and relative risks for those with and without a subsequent conviction for murder

Cohort	follow-up to	All males			With prior other wounding			Without prior other wounding		
		Murder	No murder	Odds	Murder	No murder	Odds	Murder	No murder	Odds
1953	1993	13	9,221	1:709	2	1,712	1:856	11	7,509	1:683
1958	1992	11	10,505	1:955	5	2,312	1:462	6	7,793	1:1299
1963	1992	6	8,173	1:1362	3	2,124	1:708	3	6,049	1:2016
1968	1993	8	8,503	1:1062	2	2,113	1:1056	6	6,393	1:1065
All		38	36,402	1:957	12	8,261	1:688	26	27,744	1:1067

Robbery

As before, the procedure is to find the number of murders and non-murders for those with and without prior robbery, and calculate the odds-ratio and the relative risk. Robbery is a less common offence than 'other wounding', so the numbers of cases for those with robbery are small.

Table 15: Robbery: odds ratios and relative risks for those with and without a subsequent conviction for murder

Cohort	follow-up to	All males			With prior robbery			Without prior robbery		
		Murder	No murder	Odds	Murder	No murder	Odds	Murder	No murder	Odds
1953	1993	13	9,221	1:709	1	223	1:223	12	8,998	1:750
1958	1992	11	10,505	1:955	1	302	1:302	10	9,803	1:980
1963	1992	6	8,173	1:1362	0	261	(zero)	6	7,912	1:1318
1968	1993	8	8,503	1:1062	0	264	(zero)	8	8,239	1:1030
All		38	36,402	1:957	2	1,050	1:525	36	34,952	1:971

Given a previous conviction, the odds of a murder given a prior conviction for robbery is estimated at one chance of murder to 525 against. The absolute risk of murder given prior robbery was therefore estimated at 1 in 526. Similarly, the absolute risk of murder given no prior robbery was estimated at 1 in 972. The estimate of the relative risk of murder for prior robbery was the ratio of these two absolute risks: 526/972, or 2.14. The relative risk estimated by the case-control method was 2.27, another fairly close agreement.

Kidnapping

The final example chooses the unusual offence of kidnapping.

Table 16: Kidnapping: odds ratios and relative risks for those with and without a subsequent conviction for murder

Cohort	follow-up to	All males			With prior kidnapping			Without prior kidnappimg		
		Murder	No. murder	Odds	Murder	No. murder	Odds	Murder	No. murder	Odds
1953	1993	13	9,221	1:709	0	3	(zero)	13	9,218	1:750
1958	1992	11	10,505	1:955	1	11	1:11	10	10,494	1:980
1963	1992	6	8,173	1:1362	0	19	(zero)	6	8,154	1:1318
1968	1993	8	8,503	1:1062	0	12	(zero)	8	8,491	1:1030
All		38	36,402	1:957	1	45	1:45	37	36,357	1:982

Given a previous conviction, the odds of murder given a prior kidnapping was estimated at one chance of murder to 45 against, and the absolute risk of murder given prior ‘kidnapping was therefore estimated at 1 in 46. Similarly, the absolute risk of murder given no prior kidnapping was estimated at 1 in 983. The estimate of the relative risk of murder for prior kidnapping was the ratio of these two absolute risks: 983/46, or 21.36. However, the relative risk estimated by the case-control method was 4.00 and these are widely discrepant.

It is clear that for rare offences, the use of the cohort data produces very poor estimates of the absolute risk of murder. For these rare offences, it is possible to produce an alternative estimate, combining information from the cohort data with the relative risk from the case-control study.

Absolute risks through an indirect method of estimation

The absolute risk of murder from this cohort study for anyone with a prior conviction was 1 in 958, with 38 murders, and 45 kidnappers. It is necessary to divide up the 38 murders so that the relative risk is that estimated from the case-control study (4.00). This means that if N is defined as the expected number of murderers amongst the kidnappers, then

$$(N/45)/(38-N/36357) = 4.00$$
$$N/(45 \times 4.00) = (38–N)/36357$$
$$(36357+180)N = 38 \times 180$$
$$N = 6840/36537$$
$$N = 0.187$$

The expected number of subsequent murderers amongst a sample of 45 kidnappers is 0.187, giving an absolute risk of 0.187 in 45, or 1 in 241.

Appendix C: Developing risk scores for serious offending

In this study, each risk factor has been examined one at a time, without controlling for the effect of the other risk factors. For example, we found in Chapter 3 that kidnapping and blackmail are both significant risk factors for subsequent conviction for murder, but we did not consider the *joint* effect of having both a kidnapping and blackmail offence in the prior criminal history. If, however, a kidnapping conviction were strongly associated with a blackmail conviction, then the *extra* effect of a blackmail conviction on the risk of subsequent murder conviction, given that an offender already had a kidnapping conviction, would be small. In other words, in this fictitious example, blackmail would not significantly increase the relative risk once kidnapping had been controlled for. In this Appendix, this approach is expanded, and a risk score developed which may have the potential to be used to assess the likely risk of an offender being subsequently convicted of murder or SSA. The risk score consists of a weighted sum of criminal career summary measures.

Those convicted of murder or SSA with at least one prior conviction were considered. As the intention was to develop a risk assessment tool which can be applied before the murder or serious sexual assault has been committed, risk factors relating to the time of the target conviction were not considered. Variables such as the total length of criminal career and the time from murder to the previous conviction were, for example, removed from the analysis. Other summary measures which were defined only if the offender was above a certain age (for example, the number of previous convictions aged between 18 and 20), and variables where the relative risk could not be computed (because the risk condition either featured in the controls but not in the cases, or the risk condition featured in the cases but not in the controls) were also excluded. For drugs and criminal damage, only the aggregate risk factors of 'any drugs offence' and 'any criminal damage offence' were considered, rather than a set of risk factors based on the individual offence codes.

In developing a risk score, conditional logistic regression was again used, as this is suitable for analysing matched case-control data. With over 60 potential explanatory variables for each analysis, a forward selection procedure was adopted. This involved selecting at each stage, from those variables that were significant at the five per cent level, the variable that gave the largest reduction in the *deviance* (minus twice the log-likelihood). This variable was then included in the model. The selection process stopped when no further variables were significant. A final stage tested that all variables that had been included were still statistically significant. Significance of a variable was determined by computing the difference of

the model fit including the variable with one excluding the variable. This difference has chi-squared distribution on one degree of freedom if the additional variable is not needed in the score. Thus, differences in deviance greater than 3.84[14] are taken to be significant.

14 95th percentile of the chi-squared distribution with one degree of freedom.

A risk score for murder

Table 17 below shows the final model arising out of the analysis of the murder cases and general controls. It consists of 13 variables that significantly contribute to the risk score. The variables are listed in the order in which they were included in the model. This is a stable solution – all variables in the model were individually statistically significant when removed from the model, and no further variables not in the model were significant.

Table 17: The risk score for first murder (general controls)

1 Variable name	2 parameter estimates	3 standard error	4 contribution to relative risk exp (col. 2)
1. If given custodial sentence at last conviction	0.487	0.145	1.627
2. Drugs offences (any) [codes 77,92, 193]	-0.631	0.160	0.532
3. Robbery and assault with intent [code 34]	0.807	0.177	2.242
4. General other theft [code 49]	-0.473	0.137	0.623
5. Arson [code 56]	0.687	0.259	1.987
6. Wounding (endangering life) [code 5]	0.752	0.285	2.120
7. Attempting to pervert the course of justice [code 79]	-1.998	0.990	0.136
8. Theft from automated machines [code 47]	0.750	0.261	2.117
9. Manslaughter [code 4]	2.402	1.122	11.050
10. Other wounding etc [code 8]	0.285	0.130	1.329
11. Other frauds [code 53]	-0.329	0.158	0.720
12. Criminal damage (any) [codes 57, 58, 59, 149]	0.280	0.130	1.323
13. Receiving/handling stolen goods [code 54]	-0.290	0.139	0.749

In total, therefore, 13 variables contributed to the risk score for murder. Eight of the summary measures produced an increased risk (shown by a positive estimate in column 2 and a relative risk contribution above one in column 4); five summary measures lowered the risk (shown by a negative estimate in column 2 and a relative risk contribution below one in column 4). Some of the unusual offences identified in Table 6 are not present in the risk score. Kidnapping and blackmail are both missing from the final score, as such activity does not further significantly change the risk of murder once the chosen thirteen variables have been allowed for. However, manslaughter increases the risk of murder by a factor of over eleven times, even after controlling for the two offence codes of violence. Similarly, attempting to pervert the course of justice (offence code 79) significantly reduced the risk of murder by over seven times, even after controlling for other variables.

Interpretation

The estimates in the above table can be used to build a relative risk for subsequent murder for any offender with a prior conviction. In order to consider what such a score is relative to, it is necessary to define a typical 'baseline' offender with none of the criminal career characteristics appearing in the above table. Such an offender is allowed to have one or more prior convictions for any offences not appearing in Table 17 (the 'murder-neutral' offences) which have not led to a custodial sentence on the last sentencing occasion, but should have no convictions for any of the offences which *do* appear in the above table. These 'murder-neutral' offences would include, for example, burglary in a dwelling, shoplifting and car crime. We can imagine this baseline offender to be a typical petty offender, with a string of relatively minor offences that have not led to a custodial sentence.

Compared with this typical petty offender, it is possible to calculate a relative risk of murder for any other offender. If any of the risk factors above appear in the criminal history of the offender, then we multiply the relative risks together. If none of the risk factors appear, then the relative risk would be 1.0. One example is considered below:

> Example A. A 25-year-old active offender with prior offences for arson, actual bodily harm and indecent assault of a female. This last offence leading to a custodial sentence of six months.

The offence of arson has a relative risk contribution of 1.987; the offence of actual bodily harm belongs in offence category 8 – other wounding etc. – which has a relative risk contribution of 1.329. The offence of indecent assault of a female is

'murder-neutral' and neither increases nor decreases the relative risk of murder. As, however, this last conviction was custodial, there is a also a relative risk contribution of 1.627. Multiplying these three contributions together, we obtain

1.987 x 1.329 x 1.627
or
4.296

From this model, this offender is over four times as likely to murder as the typical petty offender is.

A risk score for SSA

A separate analysis was undertaken for the SSA cases. Table 18 below shows the final model produced, which consists of 15 variables significantly contributing to the risk score. The variables are listed in the order in which they were included in the model. This again is a stable solution.

Of the summary measures, eleven produced an increased risk (shown by a positive estimate in column 2 and a relative risk contribution above one in column 4) and four lowered the risk.

It is immediately clear that there are some important features in the risk score. First, attempted rape was by far the most significant and important risk factor in the score. However, other sexual offences such as non-custodial indecent assault of an adult female, unlawful sexual intercourse with a girl under 13, and, to a lesser extent, unlawful sexual intercourse with a girl under 16, also contributed to the score (even after controlling for the effect of attempted rape). Thus, those with a variety of sexual offences against females were at a heightened risk of committing a SSA. In contrast to the murder analysis, most of the unusual offences identified in Table 8 were present in this risk score (both kidnapping and cruelty to children were in the final risk score). However, many of the risk factors which decreased the risk of SSA were not present (receiving, fraud and other theft offences did not contribute to the score). The number of previous sentencing occasions *did* enter into the score; the risk decreased by a factor of 0.966 for every additional previous sentencing occasion above the first one (which all offenders in this analysis had, by definition).

Table 18: The risk score for first SSA (general controls)			
1 Variable name	2 parameter estimates	3 standard error	4 contribution to relative risk exp (col. 2)
1. Non-custodial indecent assault of an adult female [code 20]	2.410	0.436	11.135
2. Drugs offences (any) [codes 77,92,193]	-0.493	0.124	0.611
3. Robbery and assault with intent [code 34]	0.589	0.135	1.803
4. Shoplifting [code 46]	-0.269	0.109	0.764
5. If given custodial sentence at last conviction	0.374	0.111	1.454
6. Absconding while on bail [code 83]	-0.251	0.111	0.778
7. Arson [code 56]	0.684	0.214	1.981
8. Kidnapping [code 36]	1.370	0.454	3.937
9. Stealing in a dwelling [code 40]	0.632	0.192	1.881
10. Cruelty to or neglect of children [code 11]	2.430	0.892	11.357
11. Attempted rape [code 19]	2.875	1.212	17.729
12. Number of previous sentencing occasions above 1	-0.034	0.010	0.966[(a)]
13. Unlawful sexual intercourse with a girl < 13 [code 21]	2.428	1.096	11.332
14. Other wounding etc. [code 8]	0.269	0.101	1.309
15. Unlawful sexual intercourse with a girl < 16 [code 22]	1.306	0.478	3.692

(a) For each additional previous sentencing occasion above one.

Interpretation

As with the murder analysis, a typical 'baseline' offender, with none of the criminal career characteristics appearing in the above table, needs to be defined; all relative risks will then be relative to this typical offender. Such an offender would have only one previous sentencing occasion but with no convictions for any of the offences which appear in the risk score. Such offences would include, for example, non-residential breaking and entering, receiving, car crime and criminal damage. The baseline offender is therefore a petty offender whose sphere of activity is towards businesses, factories, shops and cars. The presence (or absence) in the criminal

career of offences appearing in the table above will raise (or lower) the risk of future SSA relative to this individual. A second example is given below:

> Example B. A 22-year-old active male offender with prior convictions, at separate sentencing occasions, for unlawful sexual intercourse with a girl under 16, shoplifting and stealing in a dwelling. This last offence resulted in a custodial sentence of three months.

The relevant features are identified from the criminal history. An offence of unlawful sexual intercourse with a girl under 16 has a relative risk contribution of 3.692; an offence of stealing in a dwelling contributes 1.881 to the relative risk; and a conviction for shoplifting contributes 0.764. There are three previous sentencing occasions (two more than the baseline one), and so a factor of 0.966 is counted twice. Finally, a custodial sentence on the last sentencing occasion contributes an additional factor of 1.454.

Some of these factors are less than one, and some are greater than one. The convictions of unlawful sexual intercourse with an under 16-year-old and stealing in a dwelling, together with the custodial sentence at the last conviction all increase the relative risk, but this is mitigated by the shoplifting charge and having more than one previous conviction. Multiplying all the factors together gives

3.692 x 1.881 x 0.764 x 0.966 x 0.966 x 1.454
or
7.20

Therefore this offender has a risk of becoming a SSA offender that is over seven times as great as the baseline criminal.

Several points are worth making on the general area of developing risk scores. It was surprising that there were so many previous offences that were found to be statistically significant. The usual pattern of re-conviction studies, where the number of previous convictions seems to ‘swamp’ the subtleties of the effect of different kinds of offences, was not evident here. It suggests that very particular types of criminal career patterns involving ‘type’ (that is, the importance of particular kinds of offences) rather than the ‘quantity’ (that is, any type of criminal activity), characterise the greater likelihood of persons becoming murderers, on the one hand, and committing SSA, on the other. While the

number of previous offences that proved relevant makes the current risk score somewhat more unwieldy than expected, the risk score does provide greater scope for understanding the range of criminal pathways to these types of offending.

The development of the risk score provided a useful bonus to this exploratory study. However, it is important to remember the caveat that the scoring system has not yet been validated. Validation, using a different dataset, would need to be carried out before any practical application of the risk scores could be undertaken.

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