Ministry of Justice

Escalation in the severity of offending behaviour

Dr Philip Howard, Andrew Craik, Lu Han and Christopher Spaull

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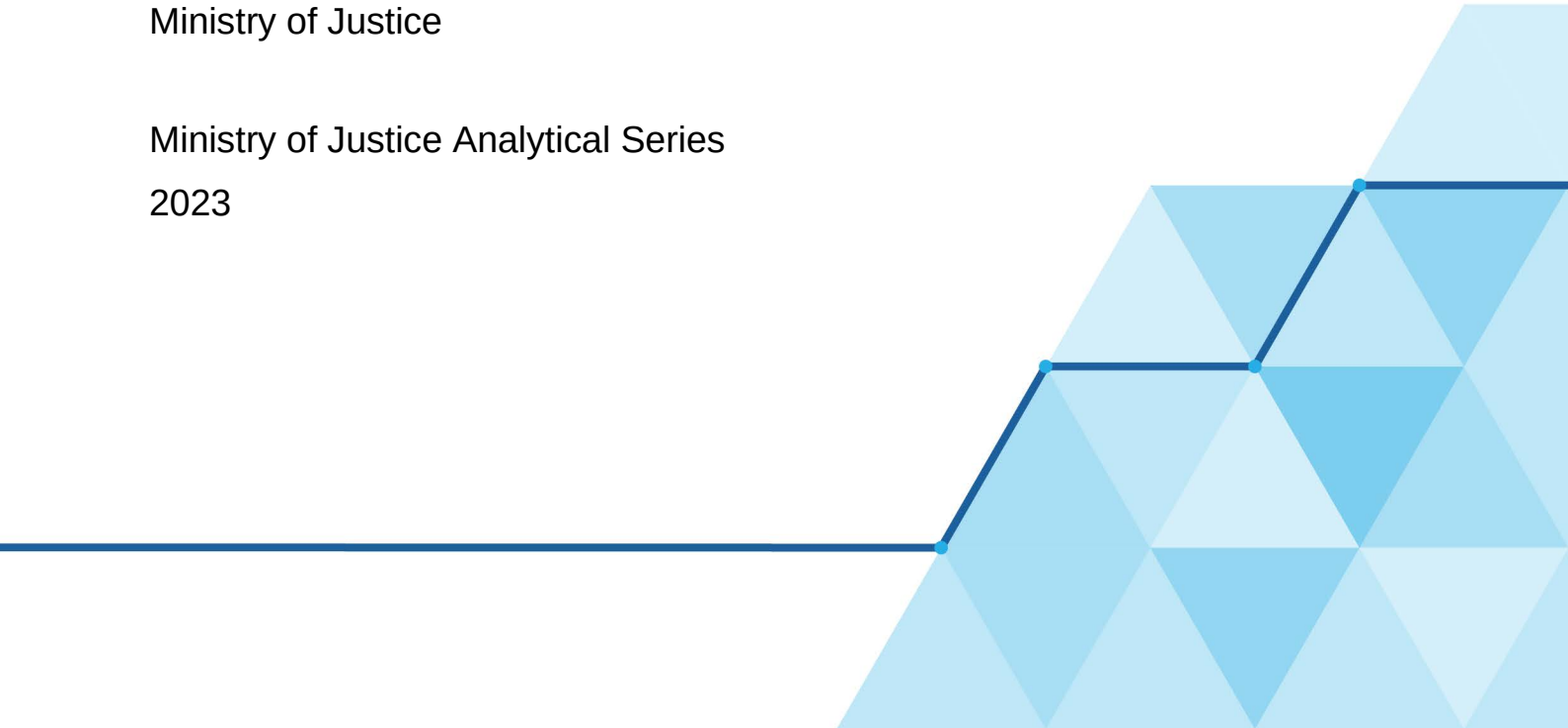

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1. Abstract

This study examines whether particular past offences are more frequent amongst criminals who ‘escalated’ to very serious offending than other repeat offenders, controlling for broader reoffending risk. Escalation to sexual and nonsexual homicide are studied, and to serious sexual assault (SSA) for those with and without prior sexual offending. Prior serious violence is associated with all homicide escalation, and coercive sexual behaviour with sexual homicide and SSA. Some violent offences are associated with SSA for those without sexual history. Additional analyses cover escalation to adult and child SSA offending, and adult nonsexual homicide of female partners, male strangers and male family/acquaintances.

2. Summary

This study aimed to inform risk assessment and management guidance for prison and probation practitioners, and contribute to the future development of actuarial predictors of serious reoffending risk. It revisited a 2002 study on escalation to serious offending to investigate, in an individual's criminal history, which offences are found more often in those who went on to be convicted of homicide or serious sexual assault (SSA), compared with those who went on to be convicted of less serious offences.

2.1 Approach

The criminal records of male offenders aged 18 and over in the prison and probation caseload of 30 June 2021 were filtered to select those with good quality data and no history of homicide or indeterminate sentences prior to the current sentence. Of these, two groups who had escalated to homicide were identified: 234 escalated to sexual homicide, and 3,746 escalated to nonsexual homicide. Additionally, two groups who had escalated to SSA (with no SSA history) were identified: 1,264 who had a known history of sexual offending, and 4,052 who did not. Current homicide and SSA cases were restricted to those convicted since 2011, to ensure relevance to contemporary offending patterns and because of sexual homicide data availability.

The cases in each of these four groups were matched with other offenders ('controls') who also satisfied the history and data quality criteria but had not escalated to homicide or SSA, on the basis of factors known to be related to violent reoffending risk or – for the SSA with-sexual-history cases – contact sexual reoffending risk. Within these matched groups, statistical analyses then compared cases and controls, to determine whether certain 'precursor' offences were found more frequently amongst the criminal histories of the cases than the controls.

2.2 Results

Despite the rarity of sexual homicide, identified precursors for escalation to sexual homicide included histories of wounding with intent to cause grievous bodily harm, arson

(not endangering life), serious sexual assault, sexual assault, direct sexual activity with children, and, based on limited data, kerb-crawling.

Precursors of nonsexual homicide included wounding (with or without intent), robbery, aggravated burglary and arson (not endangering life). Most types of sexual reoffending were found less rather than more often in the histories of those who had escalated to nonsexual homicide than in the histories of their matched control group.

Amongst men with a known history of sexual offending, sexual assault of child victims and direct sexual activity with children aged under 13 were precursors of escalation to SSA, whilst histories of most nonsexual violent offences, breaching sexual offending orders, causing/inciting sexual activity with older children and indecent images of children were found less rather than more often amongst those who had escalated to SSA. Additional analyses of SSA against child victims only or adult victims only indicated strong patterns of age-specific victim preference: direct sexual offences with victims aged under 13 were associated with escalation to child SSA being more likely though no significant relationship was found for escalation to adult SSA.

Amongst men without known sexual offending history, precursors of escalation to SSA included child neglect, arson (not endangering life), criminal damage offences, threats to kill, putting people in fear of violence, coercive control and wounding with intent. Welfare fraud also appeared to be a precursor of both SSA and sexual homicide.

Additional analyses focused on nonsexual homicide of three adult victim groups: female intimate partner homicides (IPH), male family/acquaintances and male strangers. Wounding offences were precursors for all three groups (except wounding without intent for adult male strangers). Female IPH precursors also included threats to kill and arson not endangering life. Male family/acquaintance precursors included past attempts to kill (includes conspiracy and attempted murder), arson and some acquisitive offences. Kidnap, acquisitive violence and weapons offences were amongst the precursors of male stranger homicide, whereas threats and harassment offences (which would tend to be against known victims) indicated lower likelihood of escalation to this offence.

2.3 Summary Results

All study results have been summarised in the following pages. These include some significant results for rarer offences, which are not listed in the Results paragraphs above.

Summary Table 1 provides a description of how results have been summarised, explaining the conventions followed throughout the report. A 'positive' association, and odds ratio above one, indicates that escalation was more likely for those with this precursor than those without, given the case-control matching processes followed. In all cases, where an association (positive or negative) is reported, the ninety-five per cent confidence interval for the odds ratio did not overlap with one.

Although most results relate to all cases convicted since 2011, some potential precursor offences have become more frequently convicted in recent years, and to reduce statistical bias they were retested for the most relevant target offences using cases convicted between July 2019 and June 2021 only.

The summary tables report the following sets of results:

- Summary Table 2 summarises the precursors of the three main target offences, including separate results for SSA amongst men with and without known sexual offending history.
  - Results for **sexual homicide** are summarised from Table E-1, Table E-5 and Table E-8. Where a precursor is included in 'last two year cases' Table E-12, and the number of such cases/controls was not negligible, results are reported from there
  - Results for **nonsexual homicide** are taken from Table E-2, Table E-6 and Table E-9. Where a precursor is reported in 'last two year cases', Table E-13, and the number of such cases/controls was not negligible, results are reported from there.
  - Results for **SSA for men with sexual offence history** are taken from Table E-3, Table E-7 and Table E-10. Where a precursor is included in 'last two year

cases', Table E-14, and the number of such cases/controls was not negligible, results are reported from there.

  - Results for **SSA for men without sexual offence history** are taken from Table E-4 and Table E-11. Where a precursor is listed in 'last two year cases', Table E-15, and the number of such cases/controls was not negligible, results are reported from there.

- Summary Table 3 compares the precursors of nonsexual homicide where the victim(s) were exclusively from one of three specified groups: "Adult female partner", "Adult male family and/or acquaintance" and "Adult male stranger".

  - Results are taken from Table E-19, Table E-20, Table E-21 and Table E-22, Table E-1 and Table E-24 except for 'Adult female partner' precursors of 'breach of restraining order' and 'harassment' which are from 'last two year cases' Table E-25

- Summary Table 4 compares the sexual offending precursors of SSA where the victim(s) were exclusively adults or exclusively children.

  - Results are taken from Table E-17 and Table E-18 except for 'Child Victim' precursors of 'Abuse of children through prostitution and pornography', 'Breaches of sexual offending orders and registration' and 'Engage in sexual communication with a child' which are from 'last two year cases' Table E-26.

Summary Table 1 Legend for summary results

Symbol	Description of strength of association	Notes
+	Moderate positive association	Odds ratio was between 1.0 (inclusive) and 1.5 (exclusive)
++	Strong positive association	Odds ratio was between 1.5 (inclusive) and 2.0 (exclusive)
+++	Very strong positive association	Odds ratio was 2.0 or higher
---	Very strong negative	Odds ratio was 0.5 or lower

Symbol	Description of strength of association	Notes
--	Strong negative	Odds ratio was between 0.5 (exclusive) and 0.67 (inclusive)
-	Negative	Odds ratio was between 0.67 (exclusive) and 1.0 (exclusive)
x	Not studied	For instance, sexual precursors were not studied for the target offence of 'serious sexual assault – for those with no sexual history'.
N/R	No relationship	No positive or negative association was found between the precursor and the target offence

2.4 Conclusions

These results confirm that – over and above a baseline risk given age and violent and general offending history – specific criminal offences and offence groups are associated with differences in the likelihood of escalation to homicide or SSA. Some results have wide application, such as the increased risk associated with wounding with intent. Many other results, such as those on adult and child SSA, indicate enduring patterns of offence specialization and the targeting of certain types of victims. As such, many precursor offences are associated with higher risk of only some forms of escalation, and others are associated with a mixture of higher and lower escalation risk depending on the offence type and victim group. Advice to HMPPS practitioners will therefore need to communicate these detailed patterns, rather than asserting a single pathway for all serious offending.

Summary Table 2 Results for association of precursors for escalation by offence group and the four main target offence types: Sexual homicide, nonsexual homicide, serious sexual assault (SSA) for those with and without sexual offence history

Precursor	Offence Group	Sexual Homicide	Nonsexual Homicide	SSA: those with a sexual offence history	SSA: those with no sexual offence history
Aggravated burglary	Violent	N/R	+	N/R	N/R
Arson (endangering life)	Violent	N/R	N/R	N/R	N/R
Arson (not endangering life)	Violent	++	+	-	+
Blackmail	Violent	+++	+	N/R	N/R
Breach of restraining order	Violent	N/R	-	---	-
Coercive control	Violent	N/R	N/R	N/R	+++
Conspiracy to murder or assisting murder	Violent	N/R	++	N/R	++
Criminal damage with intent to endanger life	Violent	N/R	N/R	---	++
Current custodial sentence	Violent	+	-	-	-
Custodial sentence	Violent	++	+	-	-
False imprisonment and Modern Slavery Act	Violent	+++	+	N/R	N/R
Harassment	Violent	--	-	---	-
Kidnap	Violent	+++	N/R	N/R	N/R
Manslaughter associated with driving	Violent	N/R	N/R	N/R	N/R
Neglect	Violent	N/R	N/R	N/R	++
Putting people in fear of violence	Violent	+	-	--	+
Racially/religiously aggravated violence	Violent	N/R	-	--	-
Robbery	Violent	N/R	+	-	N/R
Serious sexual assault	Violent	+++	-	x	x
Stalking	Violent	N/R	--	N/R	N/R

Precursor	Offence Group	Sexual Homicide	Nonsexual Homicide	SSA: those with a sexual offence history	SSA: those with no sexual offence history
Threats to kill	Violent	N/R	+	--	+
Witness intimidation	Violent	N/R	-	--	N/R
Wounding with intent	Violent	+++	++	N/R	+
Wounding without intent	Violent	N/R	+	--	x
Abuse of children through prostitution and pornography	Sexual	N/R	N/R	N/R	x
Breaches of sexual offending orders and registration	Sexual	+++	---	--	x
Causing/inciting and grooming of children (all)	Sexual	+++	---	-	x
Causing/inciting and grooming of children (under 16 or age unstated)	Sexual	N/R	---	--	x
Causing/inciting children (under 13)	Sexual	+++	N/R	N/R	x
Direct sexual activity with children (all)	Sexual	+++	--	+	x
Direct sexual activity with children: under 13	Sexual	++	N/R	++	x
Direct sexual activity with children: under 16 or age unstated	Sexual	+++	--	+	x
Engage in sexual communication with a child	Sexual	N/R	N/R	N/R	x
Exposure	Sexual	+++	---	--	x
Extreme pornography	Sexual	N/R	---	N/R	x
Indecent images of children (all)	Sexual	N/R	---	-	x
Indecent images: making, distributing etc	Sexual	N/R	---	-	x
Indecent images: possession only	Sexual	N/R	N/R	-	x

Precursor	Offence Group	Sexual Homicide	Nonsexual Homicide	SSA: those with a sexual offence history	SSA: those with no sexual offence history
Kerb crawling and similar offences	Sexual	+++	N/R	+++	x
Sexual assault against adult victims	Sexual	+++	-	N/R	x
Sexual assault against child victims	Sexual	+++	-	++	x
Sexual offence with male child victim	Sexual	+++	---	+	x
Sexual offence with male victim (not restricted to children)	Sexual	+++	N/R	+	x
Voyeurism	Sexual	+++	N/R	++	x
Absconding/bail	RSR	-	+	--	-
Acquisitive violence	RSR	N/R	+	-	N/R
Burglary (domestic)	RSR	++	+	-	+
Burglary (other)	RSR	++	+	-	+
Criminal damage	RSR	+	-	-	+
Drink driving	RSR	--	-	-	-
Drug import/export/production	RSR	---	-	-	-
Drug possession/supply	RSR	---	-	--	--
Drunkenness	RSR	-	N/R	--	N/R
Firearms (most serious)	RSR	N/R	+	--	-
Firearms (other)	RSR	N/R	+	N/R	-
Fraud and forgery	RSR	+	+	N/R	+
Handling stolen goods	RSR	+	+	-	+
Motoring offences	RSR	-	N/R	-	-
Other offences	RSR	+++	+	-	+

Precursor	Offence Group	Sexual Homicide	Nonsexual Homicide	SSA: those with a sexual offence history	SSA: those with no sexual offence history
Public order and harassment	RSR	--	-	--	-
Sexual (against child)	RSR	++	--	+	N/R
Sexual (not against child)	RSR	+++	-	--	N/R
Theft (non-motor)	RSR	+++	+	-	+
Vehicle-related theft	RSR	+	+	-	+
Violence against the person (ABH+)	RSR	++	+	-	+
Violence against the person (sub-ABH)	RSR	--	-	--	-
Weapons (non-firearm)	RSR	N/R	+	--	-
Welfare fraud	RSR	++	+	+	+++

Summary Table 3 Results for association of precursors for escalation to nonsexual homicide by offence group and victim type

Precursor	Offence Group	Adult Female Partner	Adult Male Family and/or Acquaintance	Adult Male Stranger
Aggravated burglary	Violent	N/R	N/R	+
Arson (endangering life)	Violent	N/R	+	N/R
Arson (not endangering life)	Violent	+	+	N/R
Blackmail	Violent	N/R	+	N/R
Breach of restraining order	Violent	++	---	---
Coercive control	Violent	N/R	N/R	N/R
Conspiracy to murder or assisting murder	Violent	N/R	+++	+++
Criminal damage with intent to endanger life	Violent	N/R	N/R	N/R
Current custodial sentence	Violent	-	-	-

Precursor	Offence Group	Adult Female Partner	Adult Male Family and/or Acquaintance	Adult Male Stranger
Custodial sentence	Violent	N/R	+	+
False imprisonment and Modern Slavery Act	Violent	N/R	N/R	N/R
Harassment	Violent	N/R	-	-
Kidnap	Violent	N/R	N/R	++
Manslaughter associated with driving	Violent	N/R	N/R	N/R
Neglect	Violent	++	N/R	N/R
Putting people in fear of violence	Violent	N/R	---	N/R
Racially/religiously aggravated violence	Violent	N/R	-	-
Robbery	Violent	N/R	+	+
Serious sexual assault	Violent	N/R	-	--
Stalking	Violent	N/R	---	---
Threats to kill	Violent	+	N/R	N/R
Witness intimidation	Violent	N/R	-	-
Wounding with intent	Violent	++	++	++
Wounding without intent	Violent	+	+	N/R
Absconding/bail	RSR	N/R	+	+
Acquisitive violence	RSR	N/R	+	+
Burglary (domestic)	RSR	++	+	+
Burglary (other)	RSR	+	+	+
Criminal damage	RSR	+	N/R	-
Drink driving	RSR	-	-	-
Drug import/export/production	RSR	N/R	N/R	N/R

Precursor	Offence Group	Adult Female Partner	Adult Male Family and/or Acquaintance	Adult Male Stranger
Drug possession/supply	RSR	--	-	-
Drunkenness	RSR	N/R	+	-
Firearms (most serious)	RSR	N/R	N/R	++
Firearms (other)	RSR	N/R	+	+
Fraud and forgery	RSR	++	N/R	+
Handling stolen goods	RSR	++	+	+
Motoring offences	RSR	N/R	-	+
Other offences	RSR	+	+	+
Public order and harassment	RSR	--	-	-
Sexual (against child)	RSR	--	--	--
Sexual (not against child)	RSR	---	-	--
Theft (non-motor)	RSR	++	+	+
Vehicle-related theft	RSR	+	+	+
Violence against the person (ABH+)	RSR	++	+	++
Violence against the person (sub-ABH)	RSR	-	-	-
Weapons (non-firearm)	RSR	N/R	+	+
Welfare fraud	RSR	++	+	N/R

Summary Table 4 Results for association of precursors for escalation to serious sexual assault (SSA) by offence group and victim type

Precursor	Offence Group	Adult Victim	Child Victim
Abuse of children through prostitution and pornography	Sexual	N/R	N/R
Breaches of sexual offending orders and registration	Sexual	--	-
Causing/inciting and grooming of children (all)	Sexual	--	--
Causing/inciting and grooming of children (under 16 or age unstated)	Sexual	N/R	---
Causing/inciting children (under 13)	Sexual	---	N/R
Direct sexual activity with children (all)	Sexual	N/R	+
Direct sexual activity with children: under 13	Sexual	N/R	++
Direct sexual activity with children: under 16 or age unstated	Sexual	N/R	+
Engage in sexual communication with a child	Sexual	N/R	N/R
Exposure	Sexual	-	---
Extreme pornography	Sexual	---	N/R
Indecent images of children (all)	Sexual	---	N/R
Indecent images: making, distributing etc	Sexual	---	-
Indecent images: possession only	Sexual	---	N/R
Kerb crawling and similar offences	Sexual	+++	+++
Sexual assault against adult victims	Sexual	++	--
Sexual assault against child victims	Sexual	+	++
Sexual offence with male child victim	Sexual	---	+
Sexual offence with male victim (not restricted to children)	Sexual	N/R	++
Voyeurism	Sexual	N/R	N/R

3. Introduction

The UK government in 2022 places a strong emphasis on addressing Violence Against Women and Girls (VAWG), with public interest heightened by the murder of Sarah Everard by a serving police officer. The Rape Review (Ministry of Justice, 2021) has focused awareness on the difficulty of bringing sexual offending perpetrators to justice, while the Beating Crime Plan (UK Government, 2021) also stresses the importance of a range of responses to reduce rates of homicide.

This study is the first in a series of publications that seek to validate and improve the risk assessment approach taken by the Ministry of Justice (MoJ) and His Majesty's Prison and Probation Service (HMPPS). The publications are centred upon the actuarial prediction of serious reoffending: that is, using algorithms to assign risk scores to people on probation or in prison, where higher scores should indicate a greater likelihood of proven serious reoffending.

HMPPS currently uses an algorithm named Risk of Serious Recidivism (RSR) to indicate risks of homicide, wounding and other serious nonsexual violence, contact sexual offending (i.e. involving actual or attempted victim contact) and indecent images of children (IIOC) offending. The latter two elements are also used in a standalone predictor of sexual reoffending named OSP, which was successfully revalidated by Howard and Wakeling (2021). The risks of homicide, wounding and other serious nonsexual violence, i.e. the serious nonsexual violence (SNSV) element, has not been the subject of a published validation study.

Four key research questions were identified. **The first of these questions is addressed in the current study**, and the remaining three by forthcoming studies to revalidate RSR (Craik et al., in preparation).

- Allowing for age and overall criminal history, are there ‘precursor’ offences that are more frequent amongst those whose behaviour had escalated to a current offence of homicide[1] or serious sexual assault?
- Does RSR correctly estimate rates of serious nonsexual violence, contact sexual and indecent image offences?
- How has the RSR actuarial risk assessment instrument performed in identifying those more likely to commit serious reoffences, in general: serious nonsexual violence, contact sexual and indecent image reoffences, and VAWG reoffences?[2]
- Are those with ‘precursor’ offences more likely to commit serious VAWG reoffences than those without, after controlling for their RSR scores?

3.1 What might be discovered about precursor offences?

This study focused on the HMPPS caseload of 30 June 2021, comparing the criminal histories of those whose offending increased in severity to the point that they were convicted of very serious sexual or violent offences (i.e. “escalated”) with those who continued in less serious offending.

For both guidance to practitioners working with offenders, and the design of actuarial assessments of reoffending risk, it is important to understand whether certain offences in an individual’s criminal history are associated with serious reoffending. Offences which are associated with a raised risk of serious reoffending can be labelled as **precursor offences**.

1 Specifically, sexual homicide will be studied separately from nonsexual homicide

2 Serious sexual assault of females and homicide. It is possible to check whether RSR correctly estimates rates of serious nonsexual violent and – for men with known sexual history - contact sexual and indecent image reoffending, as the RSR algorithm outputs scores that are directly associated with these offences. (For example: does a group of offenders with a 2.5% mean score on the contact sexual reoffending element – known as OSP/C and explained later in this study - actually have a 2.5% two-year rate of proven sexual reoffending?) RSR does not output scores for serious sexual assault and homicide, but those with higher contact sexual risk scores should also be more likely to be reconvicted of SSA, and those with higher serious nonsexual violence risk scores should also be more likely to be reconvicted of homicide offences.

This study has a retrospective design: it looked at whether individuals who escalated (i.e. were eventually convicted of serious offences) were more likely to have certain precursors in their prior criminal histories than those who did not escalate.

A key question was whether the 'precursors' most strongly associated with this escalation are similar to those already used in HMPPS's actuarial assessments of reoffending risk, specifically the Risk of Serious Recidivism (RSR) tool.

Risk of serious recidivism (RSR)

RSR is comprised of a serious nonsexual violence (SNSV) risk score and two sexual risk scores (OSP/C and OSP/I[3]). In addition to age, gender and all-offences and violent-offence criminal history, the scoring of RSR SNSV includes nine specific offences that increase the predicted probability of SNSV when they are present in an individual's criminal history. One of these is homicide, and the other eight are potential precursors: wounding, kidnapping, firearms offences, robbery, aggravated burglary, weapons offences, criminal damage endangering life and arson.

The method used to compare those who did escalate to homicide, and those who did not, controlled for all-offence and violent-offence history but for not any specific precursors. Ideally, the above eight offences would emerge from this study as precursors of both sexual and nonsexual homicide, and others would not.

OASys Sexual Predictor – Contact offences (OSP/C)

OSP/C already weights different types of sexual offence differently – with contact offences against adults most heavily weighted, followed by contact offences against children; indecent images of children have the lowest weighting, behind other noncontact offences. To study escalation to serious sexual assault (SSA) amongst those with known sexual history, the OSP/C score was controlled for, but not any specific precursors. As such, any SSA precursors that emerge for known sexual offenders would improve our understanding of serious sexual offending risk.

[3] OSP/C (contact) and OSP/I (indecent images of children) are also used on a standalone basis, whereas SNSV is only used as part of the overall RSR score. For those without known sexual offending history, the total RSR score is simply equal to the SNSV score. While HMPPS recognises the serious harm caused by indecent images offending, this is typically of lesser magnitude to serious sexual assault and as such outside the scope of this study.

Analyses were also conducted upon escalation to serious sexual assault amongst those without known sexual history. As less is known about this offending pathway, there were no prior expectations about which precursors were more likely to be significant.

3.2 Previous research on escalation to serious offending

This study is a partial replication of a study conducted in 2002, that compared the criminal histories of those who went on to commit serious offences (i.e. “escalated”) with those who continued in less serious offending (Soothill et al., 2002). Its statistical methodology, and the range of analyses conducted, have been revised and expanded. The 2002 study also examined characteristics of the homicide offences, as recorded in the Homicide Index maintained by the Home Office; to focus on the criminal career leading up to serious offending, this element was not replicated.

The findings of the 2002 study, together with more recent evidence on the escalation of offence seriousness, are summarised below (for more detail, please see Appendix A – Review of evidence on the escalation of offence seriousness).

Soothill et al. (2002) studied escalation to murder and serious sexual assault (SSA) of adult females between 1995 and 1997. The fundamental aims of their study were the same as the current study, although their method was different in several details. They found that escalation to both murder and SSA was more likely amongst those with criminal records of wounding, robbery, arson and kidnapping, and custodial sentences for the most recent prior offence. Escalation to murder was also associated with theft from automated machines, absconding from lawful custody, manslaughter and blackmail. Escalation to SSA was also associated with stealing in a dwelling, cruelty to children, indecent assault, unlawful sexual intercourse (i.e. with girls aged under 13 or 16) and attempted rape.

Most research on escalation to homicide to date has focused on the killing of intimate partners (IPH). Monckton-Smith (2020) emphasised pathways, where IPH perpetrators have progressed through behaviour that should be legally classified as harassment, stalking, coercive control and breach of restraining order – though not every offender who starts along this pathway does progress to IPH. Other studies have noted that behaviour does not always increase in frequency or severity over time, and can be more cyclical. There are identifiable risk factors such as loss of employment, substance misuse and

emotional issues (Boxall and Lawler, 2021), and not all perpetrators of partner abuse 'specialise' in this behaviour. Women involved in prostitution may be more at risk of non-IPH femicide (Zara et al., 2019). Both criminal behaviours and social/personal issues are also predictive of serious violence in general (Loeber et al., 2005; Howard, 2015). Sexual homicides can be conducted either as a source of sexual stimulation, or as a consequence of consensual or nonconsensual sexual activity (Stefanska et al., 2017).

Crossover from noncontact to contact sexual offences has mostly been studied in terms of indecent images of children and online offending; this has been found to be rare in the HMPPS caseload (Howard, Barnett & Mann, 2014), though this may be an underestimate given the low proportion of contact offences brought to justice (Ministry of Justice, 2021). There is little published research to date on crossover from nonsexual to sexual offending.

3.3 Structure of this report

This report is structured as follows:

- The Method section defines target and precursor offences, explains the data sources used, and how and why offender records were selected. An Analysis Plan explains the statistical analyses that will follow.

- The Results section narrates the outcome of the statistical analyses – essentially, the statistically significant precursors for escalation to homicide and/or SSA. It is organised according to the type of precursor offence: for each type of precursor in turn, the results for each form of escalation are presented. While most results relate to homicide or SSA of any victim, some additional sets of results describe escalation to offences with specific victims.

- The Conclusions section draws out the key results, making comparisons between different forms of escalation where appropriate. It includes the implications for risk assessment and the understanding of offending behaviour patterns, and lists some limitations associated with studies of official criminal history and especially a retrospective study of this type.

- Appendices give more detail on
  - Previous evidence on escalation
  - The terminology used
  - How the study data were derived and processed
  - The methods of case/control matching and statistical analysis
  - The results of every statistical analysis

- A further Appendix, available on request, details the statutory offences that comprise the homicide, SSA and precursor offence groups

4. Method

The process of robustly testing which types of offending are associated with escalation is complex and was shaped by advice from internal and external peer reviewers. This section sets out some key terms, explains the data sources and how the offences to be tested were agreed, how data was filtered and matched to allow fair comparison of escalating and non-escalating individuals, and the statistical analysis that provides the tests of association with escalation.

Appendix B provides more detail of the terminology used in this report, Appendix C provides more detail about the sources of data used, and Appendix D explains the matching and statistical analysis stages in greater detail. All data processing, matching and statistical analysis was conducted in R Studio software.

4.1 Defining target and precursor offences

An expert advisory group – described in Appendix B – agreed that escalation to three types of **target offence** should be studied: homicide with a sexual element or motivation ('sexual homicide'), other homicide ('nonsexual homicide'), and serious sexual assault. They decided that homicide should include manslaughter and similar offences (e.g. allowing the death of a child or vulnerable person) as well as murder, but exclude motoring-related killing such as causing death by dangerous driving. Serious sexual assault comprised rape, attempted rape, buggery and sexual assault by penetration.

The key to the method was to match **cases** – individuals who did escalate – to **controls** – individuals who did not escalate – and then compare their offending histories. The objective of the matching was to find controls who were very similar to the cases, in terms of the broad age and criminal history factors already proven to be linked to reoffending risk. This matching made it possible to isolate the associations between escalation and precursor offences.

The matching process was conducted four times. Cases who escalated to sexual homicide were matched with all potential controls, as were cases who escalated to nonsexual

homicide. Cases who escalated to serious sexual assault (SSA) were split into two groups, as were their potential controls, depending on whether they had a known history of sexual offending.

The expert group agreed three groups of **candidate precursors**, i.e. offences to be tested to determine whether they actually are precursors:

- Violent candidate precursors, which mostly involved nonsexual violence, but also SSA and whether there was a history of custodial sentences: these are tested for all forms of escalation, as the expert group felt that SSA is sufficiently coercive that it may be linked to nonsexual homicide;
- RSR candidate precursors: also used in all escalation analyses, these 24 potential precursors form a set of offence groups that RSR SNSV uses to score the current offence; and
- Sexual candidate precursors: only used in SSA and sexual homicide analyses, these comprised various non-SSA sexual offences.

4.2 Data sources and study eligibility

The cases and potential controls were drawn from the prison and probation casework systems, Nomis and Delius. Details on those in prison and on probation on 30 June 2021 were matched with the MoJ's analytical Police National Computer (PNC) extract, providing complete records of the sanctions (cautions and convictions) received by each matched individual. The most recent ('index') sanction on or before 30 June 2021 determined escalation status,[4] and sanctions prior to that determined their candidate precursor status and the criminal history factors used in case/control matching. For individuals with a target homicide offence, the MoJ's Offender Assessment System (OASys) database was used to check whether there was a sexual element or motivation associated with this target offence.

[4] The index offence is the most serious offence at this most recent sanction. Therefore, if this is a homicide offence, the individual has escalated to homicide; otherwise, if it is a serious sexual assault (SSA) then they have escalated to SSA, otherwise they have not escalated.

Individuals were excluded from the study if they had no PNC match, no criminal history prior to their index sanction, anomalous data,[5] had target homicide but no OASys, or were under 18. Female offenders were also excluded, as there were too few women convicted of the target offences to enable robust statistical analysis. Those with past convictions for homicide, and others with past indeterminate sentences, were always excluded, as these sentences would have had a profound effect on their subsequent opportunity to offend; those with past SSA sanctions were excluded from the SSA case/control process but not the homicide process.

A further exclusion condition was that cases had to be convicted within the past ten years (i.e. from 1 July 2011 onwards). This was because patterns of offending may have changed over time, and the objective of this research is to inform future practice. For homicides, while the 1 July 2011 condition also applied to their conviction date, the necessary OASys data was only available from 1 October 2014 onwards – this was acceptable as OASys assessments should be reviewed periodically, and almost all homicide offenders would have remained on the prison and probation caseload (and thus subject to OASys review) for many years.

Figure 1 and Figure 2 set out the numbers of individuals included and excluded at each of the above stages, and counts of those convicted of target offences excluded at key stages. More detail can be found in Appendix C: Table C-1 and Table C-2 summarise the outcomes of the matching process with Table C-3 providing further breakdown of past sexual offending for males.

4.3 Analysis plan

The associations between candidate precursors and escalation were tested using conditional logistic regression (CLR), a type of statistical model. The CLR models accounted for baseline risk (i.e. the age and criminal history factors used in case/control matching, which are already known to be associated with serious reoffending), so their results isolate the associations of precursors with escalation.

[5] e.g. recorded index offence date after the index conviction date

The CLR for each combination of target offence and candidate precursor offence returned a coefficient – an estimate of the association – and the robust standard error around it, which were transformed into odds ratios with upper and lower confidence limits. A candidate precursor with a coefficient above 0, and odds ratio above 1, had a positive association with escalation (i.e. escalation was more likely for those with this precursor). The uncertainty around this strength of association depended on various factors, with the range between the upper and lower limits being wider where group sizes were smaller and where precursors were found in fewer individuals' criminal histories.

Statistical significance levels were calculated from the coefficient and robust standard error. These indicate how likely it was that these coefficients would be observed by chance, if the candidate precursor had no underlying association with escalation.

Some additional CLR results are reported. These fall into three groups:

- First, some 'last two years' models were run. These were restricted to candidate precursors that only became criminal offences in recent years or were brought to justice far more often in recent years. As the results for all cases and their controls might therefore not be valid for these precursors, CLRs for cases occurring after 30 June 2019 could provide more reliable results;

- Second, CLRs were run for nonsexual manslaughter as a target, for the violent/custody/SSA set of precursors only. This served as a sensitivity analysis, checking whether the precursors of nonsexual manslaughter were broadly similar to the precursors of all nonsexual homicide; and

- Third, CLRs were run for some subgroups of targets, to determine whether they had particular precursor patterns. For example, CLRs were run not only for all SSAs, but also for SSA with only adult victims and SSA with only child victims. OASys data on victim/perpetrator relationships, victim age and victim gender were used to identify these subgroups.

Figure 1 Initial stages of case and potential control selection

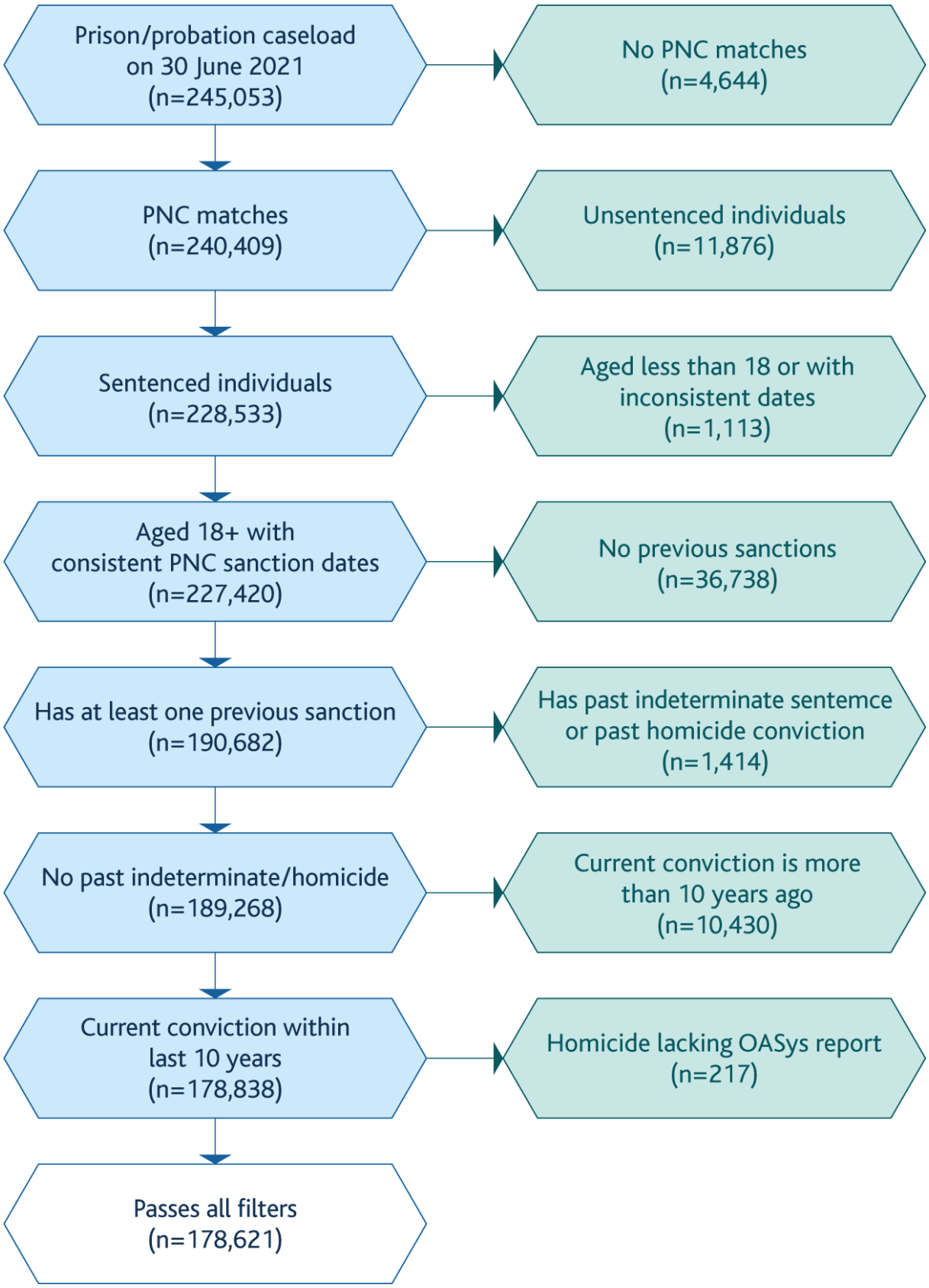
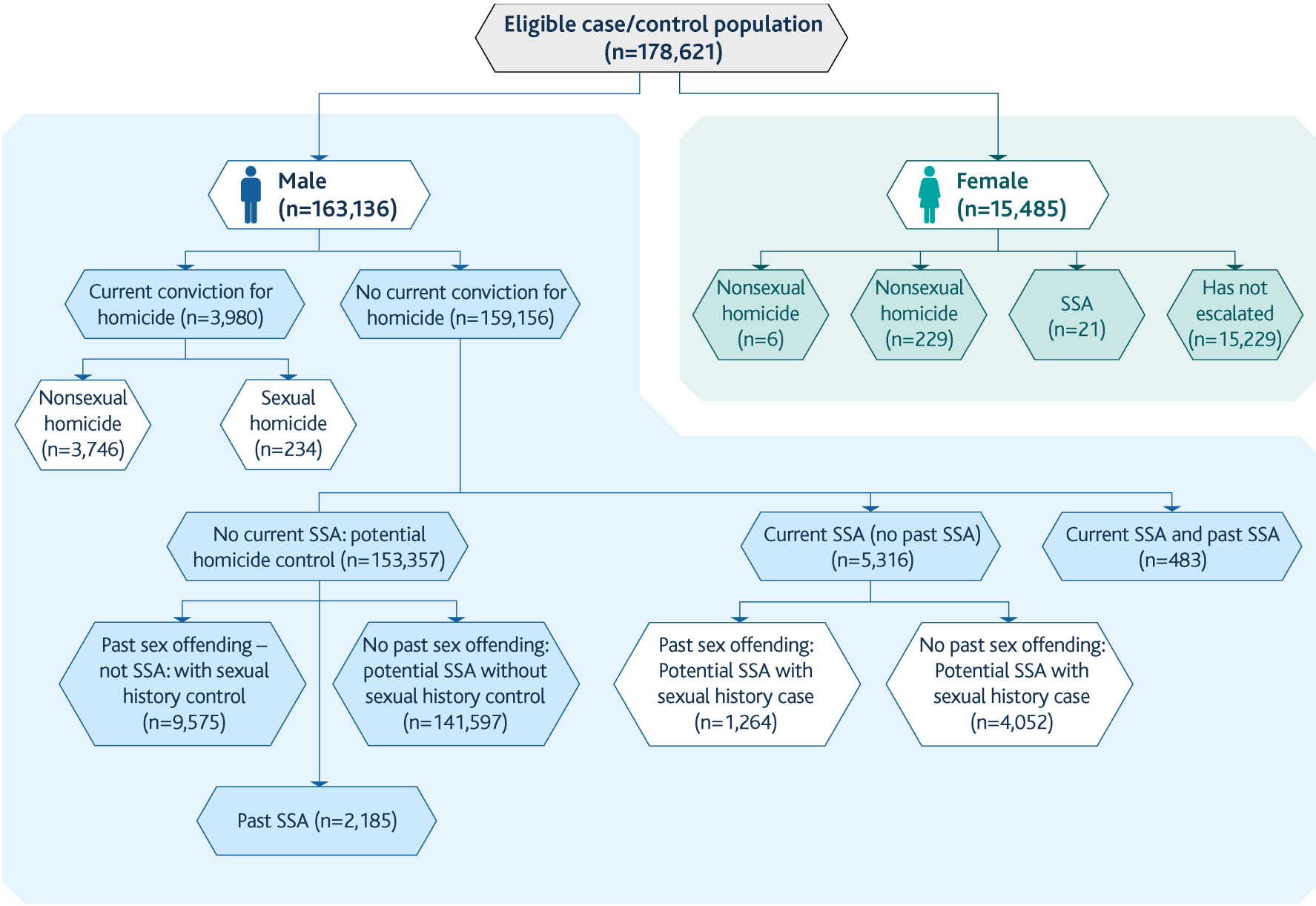


Figure 2 Final stages of case and potential control selection



5. Results

Detailed results tables are provided in Appendix E. Each table of results in Appendix E reports on a **group of precursors** for a **single target offence**. As well as the CLR results, the prevalence of each precursor amongst cases and matched controls (which were weighted as explained in Appendix D) are reported in the results tables. When a precursor was not present amongst any cases, very negative coefficients are reported and the odds ratios and *p* values are suppressed; when it was present amongst neither cases nor controls, no estimate of effect size is made.

The reporting of these results works through Table E-1 to Table E-11 in order, for the three groups of candidate precursors: violent, sexual and RSR. However, Table E-12 through Table E-15 are sometimes referred to, when the “last two years” analyses are required to address concerns about precursors sanctioned mostly in recent years. “Last two years” analyses were not run for all precursors, to reduce the likelihood of results reflecting spurious chance associations.

After the reporting of Table E-1 to Table E-15, results from the additional analysis of nonsexual manslaughter (Table E-16) are reported, as are results for specific groups of victims of SSA (Table E-17, Table E-18 and Table E-26) and nonsexual homicide (Table E-19 to Table E-25).

Odds ratios and reporting of statistically significant results

The simple ratio of cases to weighted matched controls is reported for some key findings (herein referred to as the case/control ratio). This is less robust than the odds ratio, as it does not fully, statistically, control for risk in the way that the odds ratio does, but gives an indication of the real-world impact. For example, **a moderate effect size** for a **frequent precursor** may affect **more people** than a strong effect size for a rare precursor.

Given the large number of precursors analysed, the reporting of results is not comprehensive: **the focus is upon more frequent offences and more significant findings**. Findings were typically considered statistically significant with a *p* value (i.e. probability of observing the result if there is no underlying association) below 0.05,

but results were also noteworthy if the odds ratio was at least 1.5 (i.e. at least a 50% increase in the odds of escalation) and the *p* value below 0.2. Significant results relating to extremely small numbers of cases and controls are not always reported, as these may have been an artefact of the CLR process.

5.1 Violent candidate precursors

Detailed results tables can be found in Appendix E. Table E-1 and Table E-2 set out violent offences, serious sexual assault and custodial sentences as precursors of sexual homicide and nonsexual homicide, respectively. Table E-3 and Table E-4 interrogate these offences (other than SSA) and sentences as precursors of serious sexual assault, for those with and without sexual offending history respectively.

Sexual homicide

For sexual homicide (Table E-1), very strong positive associations were found for serious sexual assault, wounding with intent to cause grievous bodily harm (GBH), kidnapping, blackmail and false imprisonment. Strong positive associations were found for arson (not endangering life) and having ever had a custodial sentence. Moderate positive associations were found for putting people in fear of violence and a current custodial sentence.

Several of these precursors were very rare, and the most consequential, in absolute terms, included wounding with intent – 33 escalated cases compared with 11 controls (a 33/11 case/control ratio), serious sexual assault had a 16/4 case/control ratio, whilst at-any-time custody had a 142/113 case/control ratio.

Breach of Restraining Order (RO) and harassment appeared to be strongly negatively associated with escalation to sexual homicide. For breach of RO, this may be due to these offences being more recently prosecuted in recent years and thus controls having greater exposure than the often long-sentenced cases. The additional “last two years” results in Table E-12 were inconclusive, with only 50 sexual homicide cases to work with, and so the relationship between breach of RO and sexual homicide escalation remained unclear.

For harassment, the median sanction date was in 2011, the same year as the median for all violent offences, and so this result appears more reliable: those who commit

harassment offences may be less likely to escalate than those who commit other violent offences. There are important caveats around this and other findings – see section Limitations, below.

It is not clear whether the custodial sentence results provide any further information to practitioners. Those previously presenting sexual risk – whether through sexual offending, paraphilic behaviour or broad-spectrum antisociality – may have been more likely to receive custodial sentences, but custodial sentences could also weaken family and community ties that are protective against sexual misconduct. In this instance, the simplest explanation may be that those previously convicted of wounding or SSA will have received custodial sentences for those offences.

Nonsexual homicide

Turning to escalation to nonsexual homicide (Table E-2), conspiracy and attempted murder was strongly associated with subsequent homicide. This set of offences was extremely rare, and its strong associations with homicide in other analyses are not repeated below.

Wounding with intent was strongly associated with escalation, with 419 cases compared with 220 controls. Custodial sentences (at-any-time), false imprisonment, wounding without intent, arson (not endangering life), robbery, threats to kill and aggravated burglary were moderately associated. Robbery had an 879/638 case control ratio.

Conversely, the four offences most strongly associated with intimate partner abuse – stalking, coercive control, breach of RO and harassment – all had significant negative associations with escalation to nonsexual homicide (i.e. they were more frequent amongst controls than cases). Serious sexual assault, witness intimidation and current custodial sentences also had moderate negative associations. For the offences suspected to be affected by recency, “last-two-year” models (Table E-13) confirmed the association for breach of RO (with a 44/67 case/control ratio), while results for stalking were negative

but not statistically significant, and coercive control showed a nonsignificant positive association.[6]

Table E-16 reports the results of a sensitivity analysis, spurred by the decision to include manslaughter offences in the homicide target. This involved a CLR for violent precursors and a nonsexual manslaughter target (809 of 834 manslaughter cases were nonsexual in nature). While most associations were somewhat weaker than for all nonsexual homicide, the key results were similar: wounding offences and robbery remained significantly positively associated with escalation; SSA, breach of RO, current custodial sentence (i.e., for the conviction prior to (non)escalation) and harassment remained significantly negatively associated.[7]

Serious sexual assault (SSA) – for men with and without sexual offending history

Amongst those with sexual offending history (Table E-3), escalation to SSA appears less likely for those committing almost all of the violent candidate precursors. Breach of restraining order, stalking, harassment and racially/religiously aggravated violence were amongst those with the lowest odds ratios. Other "threats" offences – witness intimidation, threats to kill and putting people in fear of violence – were also strongly negatively associated with escalation to SSA. Both current and at-any-time custody were associated with slightly lower odds of escalation to SSA. Table E-14 includes a test of breach of RO amongst the "last two year" cases and their matched controls, and confirms a very strong negative association between this offence and escalation to SSA, whereas the "last two year" result for stalking was inconclusive amidst very small numbers of recent convictions for this offence.

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6 While harassment was not amongst the offences that met the criteria for "last-two-year" models, a CLR was run for last-two-year nonsexual homicide in response to the considerable interest in this offence group. The association was still moderately negative (odds ratio 0.78, confidence interval 0.73 to 0.84).

7 If breach of RO and harassment are not precursors of homicide, then what role do they play in the criminal careers of their perpetrators? Additional analyses (not published) compared the proportions with these previous offences by the current RSR offence group (i.e. the 24 groups examined in the RSR candidate precursors section) generally, and in those sentenced in the past six months. Those with a current offence in the "public order and harassment" group were amongst the most likely to have past breach of RO, past stalking and past putting people in fear of violence offences and past harassment offences, in the latter instance trailing the infrequent "drunkenness" group, and otherwise trailing "other offences", which is driven by a subgroup named "criminal breaches of court orders". Whilst breach of Restraining Order has always been understood to be clearly related to harassment, the evidence base on breaches of other court orders such as Criminal Behaviour Orders has been lacking in the past, which is why they were consigned to the "other offences" RSR group.

Amongst those without sexual offending history (Table E-4), escalation to serious sexual assault appeared more likely amongst perpetrators of child neglect, arson not endangering life, criminal damage offences, threats to kill, putting people in fear of violence and wounding with intent. Escalation appeared to be less likely for those with histories of stalking, breach of RO, racially/religiously aggravated violence and harassment. Both current and at-any-time custody showed small but significant negative associations. In the "last two years" results, breach of RO retained a moderate negative association and stalking had no significant effect.

Table E-15 identified one association that was not detected in Table E-4: amongst the "last two years" cases and matched controls, coercive control appeared to be associated with increased SSA escalation risk, albeit as a rare offence.

5.2 Sexual candidate precursors

Table E-5 and Table E-6 set out sexual offences as precursors of sexual and nonsexual homicide, respectively. Table E-7 sets out precursors of escalation to serious sexual assault.

Sexual homicide

Most of the candidate sexual precursors proved to have very strong positive associations with sexual homicide. These included sexual assault and male-victim offences with both adult and child victims, direct sexual activity with children of all ages, and causing/inciting children to engage in sexual activity – though the latter only with victims aged under 13. Sexual assault across all victims had a combined case/control ratio of 27/8. Offences related to kerb crawling, and voyeurism, also had very strong positive associations, but were only present for three and one perpetrators respectively. Breaches of sexual offending orders and registration requirements had a marginal positive association. There were no significant negative associations, although some very rare offences were not found in any sexual homicides.

Nonsexual homicide

Most sexual offences had statistically significant and usually strong negative associations with escalation to nonsexual homicide. Amongst the most extreme was causing and inciting children to engage in sexual activity, with a 2/33 case/control ratio, and indecent

images of children, with a 3/45 case/control ratio. While the results for breaches of sexual offending orders and registration, direct sexual activity with children, sexual assault of both adult and child victims and exposure were less extreme, their odds ratios – between 0.55 and 0.8 – around 0.7 still represent a considerable reduction in relative risk.

Serious sexual assault (SSA) – for men with sexual offending history only

The results in Table E-7 indicate both strong positive and negative associations between prior sexual offences and escalation to serious sexual assault, for men with sexual history. Sexual assault of child victims was a frequent offence with a strong positive association: an odds ratio of 1.82, and a 363/219 case/control ratio. Direct sexual activity with children aged under 13 was associated with an increased risk of escalation to serious sexual assault and frequently occurs (133/82 case/control ratio). Offences with male victims, and other direct child sexual activity, were also moderately positively associated.

The age differential between under-13 and other child victims was also apparent for causing/inciting children to engage in sexual activity, which involves a lesser degree of contact with the victim than the other offences. There was a neutral association with escalation when victims were aged under 13, but a strong negative association otherwise. These results were replicated for “last two year” cases in Table E-14.

Two very strong negative associations, for abuse of children through prostitution/ pornography and engaging in sexual communication with a child, may be associated with the recency of these offences. Among “last two year” cases and their controls, Table E-14 reports weaker negative associations with marginal statistical significance (p = 0.09 and 0.08, respectively) – therefore, it may be said that the evidence is still very preliminary for these offences.

Breaches of sexual offending orders/registration and exposure both returned very strong negative SSA escalation associations amongst all men with sexual history in Table E-7, while Table E-14 confirms their more moderate, but still significant, negative associations amongst “last two year” cases and controls for these two offences.

Indecent images of children and extreme pornography offences had moderate negative associations with SSA escalation.

5.3 Further analysis: Sexual candidate precursors for SSA against adult and child victims

Serious sexual assault (SSA) – Adult and child victims

Table E-17 and Table E-18 repeat Table E-7's CLR of prior sexual offences as precursors of escalation to SSA – but for targets of having only an adult victim and only a child victim respectively. Appendix D explains how these cases were selected.

For the adult SSA target offence, the only meaningful positive associations were for sexual assault, with both adult- and child-victim offences showing strong effects.

Strong negative associations were found for causing/inciting under 13s, extreme pornography, indecent images of children and offences with male child victims. Causing/inciting those aged under 16 or of unknown age was indicatively negative, but not a significant association. Similarly, direct sexual activity with children had a moderate negative association – the confidence intervals indicate that this association was probably, but not certainly, more negative for offences with victims aged under 13.

Sexual assault of children had a strong positive association with the child SSA target offence, with a case/control ratio of 233/132. Direct sexual activity with under 13s, and all sexual offences against males, also had strong positive associations with this target offence, whilst other direct sexual activity with children had a moderate positive association. The results for causing/inciting sexual activity (all ages) were the same as in Table E-7, while the associations for extreme pornography and indecent images offences were moderately negative. Sexual assault of adult victims had a stronger moderate negative association.

Breach of sexual offending orders and registration requirements had a moderate negative association in both models. Abuse of children through prostitution/pornography and engaging in sexual communication with children had extremely strong negative associations with the child-victim models and very little data in the adult-victim models.

To address concerns about recent offence skewing results, Table E-26 includes "last-two-years" models for escalation to SSA of children for these three precursors. The results

showed that the moderate negative association persisted for breach of orders/registration, while the negative effects became statistically insignificant for the other two precursors.[8]

These findings suggest an association between victim age at precursor and the type of SSA target offence committed, both in the differences between child and adult target results, and the contrasts between offences which definitely had victims aged under 13 and those where the child victims were older or of unknown age.

5.4 RSR candidate precursors

The violent and sexual candidate precursors are specific offences that were selected by the expert advisory group on the basis of theory and past evidence, and (except for current custody) were scored using the individual's entire criminal history prior to (non)escalation – so any case or control individual could have none, one or many of those candidate precursors. By contrast, the 24 RSR offence categories relate only to the most recent sanction prior to (non)escalation, and are comprehensive and mutually exclusive – every individual was mapped to exactly one of the 24 categories.

When interpreting results for the RSR offence categories, it is important to understand that violent offending history was a major element of the case/control matching. Nine of the 24 categories are considered violent for this purpose: the pair of violence against the person and firearms offences, weapon possession, acquisitive violence, criminal damage, drunkenness and public order and harassment. Men are matched according to the incidence of sanctions that included offences in these categories, within their criminal career prior to their (non)escalation.

For example, the results for acquisitive violence indicate whether a man with a history of acquisitive violence has greater likelihood of escalation than other men with comparable age and history of violent and general offending yet who do not have a history of acquisitive violence. All of these men have some violent offending history, and therefore typically have higher escalation risk than men with no violent offending history. Positive

[8] Abuse through prostitution and pornography: odds ratio 0.51 (95% confidence interval 0.17, 1.57), case / weighted control ratio 1 / 2.4; breach: 0.60 (0.47, 0.76), 25 / 38; engaging in sexual communication: 0.63 (0.34, 1.16), 3 / 4.9. Whilst all three ratios were similar, the radical changes in odds ratios and case/control ratios for the abuse and communication precursors indicates how strongly these offences were affected by recency issues.

associations for the 15 nonviolent categories, and negative associations for the nine violent categories, should be interpreted against this baseline of a higher risk for those with violent offending history – such associations would close or even reverse this existing differential, rather than starting from a neutral position. Positive associations for the nine violent categories indicate that the escalation risk may be still greater than the typical violent/nonviolent gap.

Table E-8 and Table E-9 set out the RSR offence categories as precursors of sexual homicide and nonsexual homicide, respectively. Table E-10 and Table E-11 investigate the role of these offence categories as precursors of serious sexual assault, for those with and without sexual offending history respectively.

Sexual homicide

The strongest associations with escalation to sexual homicide were sexual offences (with adult or child victims), theft (not related to motor vehicles) and 'other offences'.[9] Burglary, violent offences of at least Actual Bodily Harm severity and welfare fraud – a rare category – also had strong associations, while vehicle-related theft, handling stolen goods and fraud/forgery had moderate positive associations. Drugs offences were very strongly related to lower sexual homicide escalation risk, and lower-level violence, public order, motoring-related, drunkenness and absconding/bail offences had lesser negative associations.

Nonsexual homicide

The associations between RSR categories and escalation to nonsexual homicide were weaker than for sexual homicide. Most acquisitive and interpersonal offences were associated with raised escalation risk, but sexual offences, public order / harassment, criminal damage and, again, less serious violence against the person are associated with lower risk.

[9] About half of this category could not be identified or fell into a miscellaneous group. Most of those that could be meaningfully categorised were breaches of Anti Social Behaviour Orders or drinking orders, criminal breaches of court orders or railway offences.

Serious sexual assault (SSA) – for men with and without sexual offending history

Table E-10 contains an intriguing, but ultimately hollow, set of findings about escalation to SSA amongst those with sexual offending history: previous sanctions in almost every RSR offence category were associated with lower odds of escalation. Only sexual offences against children and, again, welfare fraud, were associated with higher odds.

The OSP/C algorithm, upon which these cases and controls are matched, includes a simple "any previous sanctions" item (i.e. the OSP/C score is higher for those with one previous sanction than none, but then rises no further), and Table E-10 indicates that those with more past sanctions across a range of offences were less likely to escalate to SSA, allowing for their age and sexual offending history. A further CLR model was run, which confirms that, among men with sexual offending history, those with more sanctions were less likely to escalate to SSA controlling for their OSP/C score.[10]

This result should probably be understood as a consequence of the matching method: those with a more extensive nonsexual offending history were more likely to continue offending nonsexually, and thus have a nonsexual index offence. This does not necessarily indicate a reduced risk of eventually committing a further sexual offence as, to explain the above result, it would be sufficient that their nonsexual offending continued alongside their sexual offending.

Table E-11 indicates that, amongst those without sexual history, the welfare fraud category was particularly associated with raised escalation risk.[11] Drugs offences and motoring-related offences were again associated with lower risk of escalation, as were firearms offences. The drug possession/supply category had 1,180 cases to 1,910 controls.

[10] This CLR model included the number of sanctions as well as the case/control stratum (which matches on exact OSP/C score): the parameter estimate was - 0.037 per sanction, for an odds ratio of 0.964 (95% confidence interval 0.958, 0.969).

[11] The welfare fraud category had a case control ratio of 101 / 33 for SSA without sexual history. Almost all welfare fraud sanctions were for dishonest representation for obtaining benefit (over 30%) or making false statements or representation (over 60%). Taking these specific offences as candidate precursors in CLR models for SSA without sexual history, they had odds ratios of 1.68 (confidence interval 1.41, 2.01) and 2.20 (1.96, 2.47) respectively. As such, both had strong positive associations with escalation, but the latter, indictable offence is very likely to have had the stronger association.

5.5 Further analysis: Nonsexual homicide of adult victim groups

Table E-19 through Table E-25 present the results of CLR models, investigating the associations of violent and RSR offences with the three most numerous identifiable victim subgroups, all of which were adult nonsexual homicide victims.

Nonsexual intimate partner homicide (IPH) of adult women

Table E-19 sets out results for violent precursors of nonsexual intimate partner homicide (IPH) of adult women. The two wounding offences, aggravated burglary, threats to kill and arson not endangering life had significant positive associations, of which wounding with intent had the strongest and most consequent association, with a 36/20 case/control ratio. Negative associations were found for harassment, breach of RO and current custodial sentences.

Last-two-year analyses – not included in the published tables – for harassment and breach of RO revealed very different patterns. Harassment had a nonsignificant negative association with escalation to IPH of adult women (odds ratio 0.80, confidence interval 0.57 – 1.12), whilst breach of RO had a strong positive association (odds ratio 1.77, confidence interval 1.13 – 2.77). Numbers of stalking and coercive control sanctions among these cases and their matched controls were too low to test.

In Table E-20, more serious violence and all acquisitive categories other than acquisitive violence (i.e. robbery and aggravated burglary) had strong positive associations with nonsexual adult female IPH. Sexual and drugs offences, public order, less serious violence and drink driving had strong or moderate negative associations.

Nonsexual homicide of adult men (family or acquaintances)

Table E-21 and Table E-22 describe associations for cases where an adult male homicide victim was a family member or other acquaintance of the perpetrator. In Table E-21, wounding, arson, conspiracy to murder or assisting murder, custody at any time and robbery were significantly positive, with the offences most closely related to lethality having the strongest associations. Offences related to fear and harassment, other than threats to kill, had significant negative associations, as did SSA, racial/religious violence and current custodial sentences.

In Table E-22, theft, handling and burglary offences all had moderate positive associations, as did more serious violence. The confidence intervals for the three weapons offence categories overlapped, though only less serious firearms offences were significantly positively associated. Absconding/bail, other offences and drunkenness also had positive associations. Amongst the negative associations, the most notable difference from Table E-20 (RSR precursors) results was that drug possession/supply had a weaker association and drug import/export/production offences had a neutral association. The odds ratios for public order and harassment offences are significantly higher (representing a weaker negative association) for adult male family / acquaintance homicide than for adult female IPH.

Nonsexual homicide of adult men (strangers)

Table E-1 and Table E-24 describe associations for the nonsexual killings of adult male strangers. In Table E-1, kidnap and wounding with intent (83/38 case/control ratio) were strongly positively associated. Aggravated burglary, at-any-time custody and robbery had moderate associations (the latter two both with over 50 more cases than controls). Stalking and breach of RO had very strong negative associations; witness intimidation, harassment, racial/religious violence and current custody had moderate negative associations. Threats to kill and coercive control had strong but not statistically significant negative associations. Most of these negatively-associated offences imply some form of ongoing relationship or recognition between offender and victim, though this is not the case for racially or religiously motivated violence.

Serious firearms offences had a strong positive association with escalation to male stranger homicide, in contrast to the female IPH and male family/acquaintance results. Serious violence was also strongly associated, whilst all acquisitive categories, other offences and the remaining two weapons categories had moderate positive associations. The negative associations were generally similar to those in Table E-22.

These differential results for weapon-related offences may indicate their greater role in the offending histories of men involved in criminal groups or gangs, who could go on to kill a stranger such as a member of a rival group or gang or use weapons lethally during a chance violent encounter.

6. Conclusions

These analyses demonstrate that understanding escalation is not straightforward, and must be interpreted in the light of significant statistical limitations, but some patterns do emerge.

Precursor offences can be identified for the relatively rare target offence of **sexual homicide**: histories of wounding with intent to cause GBH, arson, serious sexual assault, sexual assault, direct sexual activity with children, and perhaps kerb-crawling seem to be associated with higher risk of such escalation.

Precursors of **nonsexual homicide** can also be identified: wounding (with or without intent), robbery, aggravated burglary and arson were associated with raised risk of escalation to this offence. Some candidate nonsexual violent precursors – the most frequent of which was racially/religiously aggravated violence – appeared more often in those who did not escalate, and men with most types of sexual offending history also tended not to escalate to nonsexual homicide.

When criminal histories were examined in the broader RSR offence categories, the **risks of both types of homicide** tended to be greater amongst those with nonviolent acquisitive offence history – the most surprising finding being the raised risk presented by welfare fraud perpetrators, a group not covered in the existing evidence base. Drugs offenders, drink drivers and those committing the least serious violence-related offences were less likely to escalate to homicide. It must be remembered that these findings are incremental to the matching undertaken on broad violent and general offending histories, and do not imply that (for example) acquisitive offending represents greater risk than violence against the person.

Among **men who already had sexual offending history**, escalation to **SSA** was positively indicated by histories of sexual assault of children and/or direct sexual contact with younger victims, and those who also had nonsexual violence history were less likely to escalate to SSA, as were those who had been sanctioned for child sexual offences with the lowest degree of victim contact.

Precursors for escalation to **SSA amongst those with no known history of sexual offending** included child neglect, arson, criminal damage, threats to kill, putting people in fear of violence, wounding with intent and possibly coercive control.

Escalation to all serious offences (excluding sexual homicide) appeared less likely for those whose pre-escalation sentence was custodial. Those who had ever served a custodial sentence were less likely to escalate to SSA but more likely to escalate to homicide.

The offences associated with nonsexual homicide of three particular adult victim groups can be contrasted. Some clear differences are evident – drugs offences are less often present in those who kill their female partners, whilst killers of male strangers are more likely to have been convicted of weapons offences and less likely to have been convicted of a range of offences which require them to know their victim.

Offences associated with threats and harassment were often associated with lower odds of escalation than other violent offences. However, results from those convicted most recently indicate that breach of Restraining Order may instead be associated with raised escalation risk of female intimate partner homicide.

6.1 Implications

This analysis supports the RSR algorithm's use of eight precursors of serious nonsexual violence – and identifies further likely precursors of homicide and SSA which can be examined further in the RSR revalidation study (forthcoming).

The patterns of nonsexual homicide observed here demonstrate that people who have sexually offended seldom cross back into the most serious nonsexual offences. These individuals do have heightened risk of sexual homicide, but these results suggest that their overall risk to the public may be lower, as this increase may be more than outweighed by a lower risk of nonsexual homicide.

While the results are complex, a general pattern emerges that sexual offences involving greater degrees of victim contact and coercion, and those with victims aged under 13, are associated with escalation to SSA, having controlled for contact sexual reoffending risk as

estimated by the existing OSP/C tool. OSP/C is an actuarial risk assessment of the risk of any proven “contact sexual” reoffending – criminal acts with an intent to involve victims in sexual activity to which they do not or cannot legally consent. These acts range from offences not requiring physical contact, such as engaging in sexual communication with a child or causing/inciting a child to engage in sexual activity, through to the forcible penetrative crimes that have been classed here as SSA. These findings thus suggest persistent specialisation within sexual offending: Howard, Barnett and Mann (2015) previously demonstrated that this exists in the HMPPS caseload using OSP/C’s contact adult, contact child, indecent images and other noncontact groups, and the present findings suggest that specialization also occurs in gradations of seriousness within contact sexual offending.

The differences within homicide victim patterns also suggest some specialization: the lack of previous offences that require victim knowledge (e.g. threat-related crimes) amongst those who killed strangers indicates an ongoing pattern of offending against strangers rather than acquaintances, rather than the homicide victim selection being an isolated event.

The results relating to harassment and, perhaps, other offences centred around threatening behaviour, suggest that men convicted of these offences may present a lesser risk of homicide than those convicted of physical violence. Instead, they tend to continue in a cycle of harassing, threatening and disorderly behaviour. Escalation by such individuals occurs sometimes, and results for those recently convicted indicate that breaching a Restraining Order may be associated with increased risk of escalation to adult female intimate partner homicide. As such, it remains feasible that intimate partner homicides may involve the pattern described by Monckton Smith (2020) – while most men convicted of intimate partner homicide had not been convicted of threatening or harassing offences, it is known that convictions for such domestically abusive behaviour are difficult to secure.

The gradations of seriousness found within both contact sexual and nonsexual violent precursors have implications for actuarial risk assessment design. Criminal history data sharing between the police and HMPPS currently lacks automation, and therefore actuarial scoring rules are kept simple in order to reduce time and manual error. While the scoring of the RSR SNSV algorithm, involving eight specific precursor offences and 24 current

offence categories, may account for most of the predictive value to be gained from recognition of offence seriousness, it is possible that algorithms for serious violent and sexual reoffending which make more detailed use of criminal history could have greater predictive validity. HMPPS and MoJ continue to explore criminal history data sharing options with the police.

Within the SSA target offence, for the minority of such perpetrators who had known sexual offending history, specialization was also found by victim age. Different sexual precursors were found for SSA against adult and child victims, with sexual assault precursors predicting SSA against adults and contact offending against children predicting SSA against children. Offending related to extreme or child pornography was seldom found in those escalating to SSA against adults, but had a neutral association with escalation risk for SSA against children.

One of the most persistent findings across multiple analyses was that those men who had been sanctioned for breaches of sexual offending orders and registration requirements were less likely to have escalated to SSA than those convicted of other sexual offences, albeit this pattern did not hold true for escalation to sexual homicide. This topic may be examined further in prospective studies of sexual recidivism, which could then affect the scoring of OSP.

The welfare fraud results were unexpected and, given a lack of relevant prior research, it is not possible to reliably explain why those convicted of these offences were more likely to escalate to sexual homicide and SSA than those with other nonviolent offending history.

6.2 Limitations

The findings from this study must be interpreted cautiously and in context.

Offences not brought to justice

The measurement of offending is imperfect: some offences of every type, and most sexual abuse and domestic abuse offences, do not result in formal sanction. Criminal history records therefore give an incomplete record of past offending behaviour, and some people will have escalated yet escaped detection. Even when a domestic abuse offence has been

brought to justice, PNC data limitations mean that it can only be definitively identified as such if it is convicted under a specific offence such as coercive control.

It is possible that these results obscure patterns involving offences not brought to justice. However, for the conclusions drawn to be seriously wrong, there would need to be complex processes in play: for example, convictions for harassment or breach of Restraining Order – but not for physical violence – resulting in successful intervention or deterrence that diverts their perpetrators away from homicide pathways.[12] Moreover, HMPPS practitioners are most likely to be aware of offences that have been brought to justice, and therefore these findings are relevant to their supervision of offenders.

Identifying offences

Where an offence was identified as sexual rather than nonsexual homicide, this relied upon OASys data – while homicides with no linked OASys were filtered out, the identification of sexual homicide did still rely upon correct completion of the OASys sexual element and sexual motivation data items.

The results relating to the sexual assault precursor offences are difficult to interpret for men who offended against young teenage victims. The Sexual Offences Act 2003 distinguishes only victims aged under 13: therefore, “sexual assault against adults” includes sexual assaults against those aged 13 and upwards. This legislative anomaly could only be fully addressed statistically if complete OASys victim age data were available for current and past offences.

Statistical issues affecting the interpretation of results

This study’s retrospective method has greater statistical bias than the usual prospective approach of a study of proven reoffending. The retrospective method essentially compares two groups of reoffenders – those who escalated and those who continued with lower-severity offending – and ignores those who did not reoffend (and thus fell out of the HMPPS caseload prior to 30th June 2021). A prospective reoffending study such as the forthcoming RSR revalidation can compare serious reoffenders with all those who do not

[12] It was not feasible to identify the deterrent effect of convictions for particular offences, and investigate whether this could be atypical for harassment and breach of RO. Those conducting further research might combine longitudinal and qualitative data to address this topic.

seriously reoffend, making due adjustment for events such as recall to custody or imprisonment for a lesser reoffence. The forthcoming revalidation study will also be able to better adjust for baseline risk with the inclusion of OASys's dynamic risk factor data. However, this retrospective study has the statistical advantage of greater numbers of 'events' – it draws on data on thousands of perpetrators of homicide and serious sexual assault whereas, the RSR revalidation will be limited to perhaps dozens of reoffenders for each.

This study has identified the particular risk of bias associated with offences being more frequent over time, in a context where cases spanning many years are necessarily matched with controls mostly convicted in recent years. This makes it very difficult to test the escalation properties of some offences, such as stalking and engaging in sexual communication with children. The "last two years" analysis was run to address this issue, but smaller numbers of cases limit its findings. The problem would have been worse if all individuals on the HMPPS caseload with a current homicide or SSA were included in the study. Instead, men convicted more than ten years ago, who had even less opportunity to accrue previous convictions for many contemporary criminal offences, were excluded, which does mean that the findings are not applicable to them.

Where offences are associated with higher risk of escalation, this association will therefore ideally be tested in the RSR revalidation study, but it is possible that the revalidation study's lower statistical power will lead to inconclusive results.

Results indicating lower risk should also be interpreted carefully. For example, as reported above, harassment was associated with lower odds of escalating to nonsexual homicide. This does not mean that harassment offending is associated with lower risk in an absolute sense. An individual with a record of harassment and one other violent sanction may present higher risk than someone with only one, non-harassment, violent sanction, but lower risk than someone with two non-harassment violent sanctions. Similarly, the results for religiously and racially aggravated offences may reflect the nature of these offences: they can involve a lower degree of physical harm than many other violent offences, and any future analyses focused on this offence may need to use a customized matching process (e.g. matching between those convicted of racially aggravated common assault and those convicted of unaggravated common assault).

This study has made multiple comparisons, and this creates the risk of false positive findings. This has been mitigated by choosing precursors carefully, but it still exists. As shown in Appendix E (Table E-1 through Table E-15), most of the findings reported have a very low *p* value and thus are likely to represent meaningful phenomena if the modelling strategy is valid, but some findings involving small numbers and/or moderate effect sizes could still have arisen by chance.

Other statistical modelling issues

There is room for scrutiny of the statistical choices made in this study. In accordance with longstanding MoJ / HMPPS actuarial practice, criminal history was measured in terms of sanctions rather than offences (e.g., five robberies and two assaults convicted on the same day become one sanction); this use of sanctions, rather than offences, dates from unpublished analysis when the actuarial risk assessment instrument OGRS3 (Howard, Francis, Soothill & Humphreys, 2009) was developed, and has not been retested since. It was not within the scope of this paper to create models that used the count of precursor sanctions as well or instead of binary flags.

This study did not consider the impact of the trajectory of a criminal career, e.g., whether the majority of sanctions were soon after the first sanction, or close to the most recent prior sanction. This study assumed that a precursor has the same influence regardless of the number of sanctions or rate of offending, as the data are too sparse to test precursors separately for each stratum.

Options for further analysis

The possibilities of the current escalation data have not been exhausted. For example, it is possible to test risk factors for sexual homicide with female-only or male-only victims, SSA of female-only or male-only victims, or homicide of partner or stranger victims. Some of these targets would benefit from amendment of the precursor groups to distinguish sexual offences with female victims from those with male victims.

It is also possible to study escalation to any contact sexual offence. This could be conducted either for those with only noncontact sexual history, or those with no known sexual history. This will be considered within prioritization of future analyses.

This paper covers many escalation topics but, unlike Soothill et al. (2002), does not use Homicide Index data to study offence features, which the expert advisory group and other consulted parties considered to be a lower priority than identifying those most likely to escalate.

It was not feasible to use OASys data on dynamic risk factors in this study due to structural correlation between OASys availability and patterns of offending – assessment policy results in lower OASys prevalence amongst those convicted of less serious offences and given lower-tariff sentences. As well as using OASys data in the RSR revalidation study, other data sources, such as local police systems and cross-government linkage projects (e.g. Data First, which has data such as Department of Work and Pensions benefit claims), present possibilities for risk factors and identifying victim selection in future studies.

Finally, as previously noted, the limited number of serious offences committed by women made it statistically unfeasible to analyse their escalation patterns – our findings are only valid for male offenders.

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Appendix A
Review of evidence on the escalation of offence seriousness

Summary of the original paper by Soothill and colleagues

Soothill et al. (2002) studied previously convicted males who were aged under 45 years when convicted of murder of any person (N = 386) or serious sexual assault of adult females (SSA; N = 678) between 1995 and 1997. SSA was defined by Soothill et al. not only as rape offences, but also indecent assaults resulting in longer custodial sentences, with the intention of focusing on cases where a rape may have been convicted under the lesser charge of indecent assault.

The focus of Soothill et al. (2002) was a set of case-control studies. In these studies, 'cases' – those currently convicted of the offence of interest (i.e. murder or SSA) – were compared with similar people currently convicted of some other offence. Cases and controls must not have been previously convicted of the offences of interest, and some other restrictions around related current or past offending were also applied. Those convicted of murder were matched to two control groups – those convicted of any non-homicide offence and those convicted of violent non-homicide offences – whilst those convicted of SSA were matched to a control group convicted of non-SSA offences.

Matching involved offenders' age and gender, the year of their current offence and their location as indicated by the police authority associated with their conviction. Cases and controls had fairly similar numbers of previous convictions – the purpose of the study was to identify whether convictions for particular offences were relevant to inform decision-making.

Escalation to murder appeared to be more likely for those whose criminal records included wounding, robbery, arson, theft from automated machines, absconding from lawful custody and, in particular, the rare offences of manslaughter, blackmail and kidnapping.

Nonsexual offences indicating increased risk of escalation to SSA included 'other wounding etc.', robbery (or assault with intent to rob), stealing in a dwelling, arson,

kidnapping and cruelty to children. Sexual offences indicating greatly increased SSA escalation risk included indecent assault with a noncustodial sentence, unlawful sexual intercourse (USI) with a girl aged under 13 and attempted rape, whilst USI with a girl aged under 16 indicated a lesser though still substantial increase in SSA risk. The murder and SSA analyses both indicated that a custodial sentence for the most recent prior offence was associated with increased risk – though this did not control for the most recent offence type, so may reflect the offence-related risks just described.

In a further paper by the University of Lancaster's research group (Soothill, Francis & Liu, 2008), escalation to homicide from arson, blackmail, kidnapping and threats to kill offending was scrutinised in data from England and Wales between 1979 and 2001. All four offences had a heightened likelihood of subsequent homicide compared with the general population; the likelihood was somewhat higher for kidnapping, and for those with more than one of these four offence types.

Escalation to homicide

Pathways to intimate partner homicide

Much of the recent literature on escalation to homicide relates to intimate partner homicide (IPH): the killing of current or past intimate partners.

The "eight stages" theory of IPH, set out by Monckton-Smith (2020) on the basis of an extensive case review, states that almost all IPH offences follow a particular pathway, rather than being spontaneous and unpredictable events. Through the stages of this pathway, it would be expected that harassment, stalking, coercive control and breach of restraining order are behaviours that would be expected in the criminal career of an IPH perpetrator. Monckton-Smith herself specifies that these behaviours do not always lead to homicide – the offender can step off the path. Rather, when IPH does occur, it almost always involves these behaviours and, as such, we might expect these to be found in most homicides of women – the majority of femicide cases worldwide can be characterised as IPH (Stöckl et al., 2013).

However, we know that these homicide-preceding behaviours do not always lead to conviction, due to attrition throughout the criminal justice process (including the initial phase of the act being reported to the police). This limitation of criminal history data

indicates that, if the “eight stages” theory is correct, we might find convictions for these acts are sufficiently indicative of homicide risk that they are found more often in domestic abuse offenders who have escalated to homicide of women rather than those who have not.

A further limitation is that the identification of those who have abused their partners in the past is unreliable, as few statutory criminal offences are specific to partner abuse. Whilst partner abuse is frequently convicted as common assault, there are many other circumstances in which common assault occurs, and no easy way of distinguishing the former from the latter using centrally-held administrative data.

The later stages of the Monckton-Smith pathway involve acute risk factors such as changes in behaviour and the victim attempting to break away from the perpetrator. These were also found in the US data of Sheehan et al. (2015).

Boxall and Lawler (2021) review the broader literature on escalation in intimate partner violence, and note that the traditional conceptualisation of increasing frequency over time has not always been borne out. This may be because the data available is on specified criminal behaviours or sanctions rather than all violent acts (i.e. qualitative interviews with victim-survivors are more likely to report escalation, including more frequent non-physical abuse, albeit of course this method will not cover escalation to homicide). Exploring situations in which victim-survivors experience increasing levels of distress due to threats, coercive control and other severe nonphysical abuse is not yet feasible through secondary data analysis. Our results may also be limited by the complex filtering process through which abusive acts do or do not lead to criminal sanction.

Studies of escalation in severity have also found a range of results, with only some having detected an increase in severity (however measured) over time. In an Australian population, Kerr, Whyte and Strang (2017) propose targeting resources on victim–perpetrator dyads with two or more prior incidents. One study indicates that coercive control is a strong predictor of IPH, compared with threats and violence (Johnson, Eriksson, Mazerolle & Wortley, 2017).

Risk factors for intimate partner homicide (IPH)

Boxall and Lawler go on to note that an alternate way of understanding escalation is as an episodic, fluctuating process (like involvement in many other forms of crime), and that there are identifiable risk factors such as loss of employment, substance misuse, the perpetrator's emotional state, relationship stressors and external shocks (e.g., natural disasters, COVID-19 lockdowns and major sporting events). If these risk factors play a substantial role in the commission of IPH, then the more deterministic, criminal history based process that our method is designed to validate may be less important and thus less visible and significant in our data. The existing literature (e.g. Hilton & Eke, 2016; Piquero, Theobald & Farrington, 2013) does suggest that many perpetrators do not specialize in partner abuse, some continuing in this offence and others transitioning to other forms of offending.

Non-fatal strangulation is a recognised escalation risk factor (e.g., Glass et al., 2008); in England and Wales, it was criminalised in the Domestic Abuse Act 2021. As such, such acts are not yet identifiable from our data and, given that the relevant sections of the Act will not be brought into force until appropriate training, guidance and publicity have been introduced, this behaviour will not be identifiable in studies of this nature for some time to come (Home Office, 2022).

Prior threats, stalking and physical violence are among the risk factors identified in a review comparing IPH with other acts, alongside abuse during pregnancy and strangulation attempts (Matias et al, 2020), whilst a review of Domestic Homicide Reviews in England and Wales additionally mentioned separation, the victim being in a new relationship, and sociodemographic factors such as deprivation, low income and barriers to housing and services (Chopra et al, 2022).

Stefanska, Longpré and Harriman (2021) analysed calls to the National Stalking Helpline, involving a mixture of inherently criminal and other behaviours. Of the inherently criminal behaviours, they found that death threats and break-ins were found in the most serious cases, physical assault, property damage and threats were medium-severity behaviours, and sexual assault was seldom a feature of reported stalking.

Homicide not involving intimate partners

While less is known about risk factors for non-IPH femicide, in a study based on data from northern Italy, Zara et al. (2019) found that women involved in prostitution were disproportionately likely to be the victims of this offence.

A large longitudinal study of Pittsburgh youth showed that carrying a weapon, gang fights and selling hard drugs, alongside a range of sociodemographic factors, distinguished those who committed homicide from those who committed other violence (Loeber et al., 2005). In an English and Welsh sample, HMPPS's current actuarial risk assessment for broadly defined nonsexual violence, the OASys Violence Predictor (OVP), includes the intensity of general and nonsexual violence offending as risk factors, as well as factors such as weapon use, alcohol misuse and temper control; OVP scores are predictive of reoffending involving homicide and wounding / grievous bodily harm (Howard, 2015). The Risk of Serious Recidivism instrument (Craik et al., in preparation) includes these general and nonsexual violent offending factors.

Stefanska et al. (2017) distinguished perpetrators of "direct" and "indirect" sexual homicides. For the direct group, killing was a source of sexual stimulation and/or allowed them to carry out sexual acts with the victim's body. The indirect group killed the victim after sexually assaulting her to eliminate her as a witness, or while she was trying to escape or defend herself from sexual assault, or in the course of a consensual sexual act. Stefanska, Carter and Higgs (2015) found that those with previous convictions for rape or attempted rape tended to be in a sexually driven path, which was expected to feed into the indirect group.

Escalation to rape and serious sexual assault

The criminal justice system's overarching perspective on what constitutes a serious sexual offence is arguably summarised by the Sentencing Council. Their guidelines for the sentencing of hundreds of criminal offences, including most sexual offences, are the basis of the Cambridge Crime Harm Index (CCHI; Sherman, Neyroud & Neyroud, 2016; Cambridge Centre for Evidence-based Policing, 2020), which makes all sentences – whether custodial or noncustodial – comparable, by converting them into the equivalent of a number of days in custody.

Starting points for sexual offences involving direct victim contact range from 2920 days (rape of children aged under 13) to 10 days (several offences including sexual activity with a child aged under 16, no penetration; this represents a medium-level community order), whereas noncontact sexual offences have starting points as high as 548 days (taking/making/distributing indecent images of children). As such, the dividing line between serious and nonserious sexual offences does not equate to the distinction between contact and noncontact offences.

Crossover to contact sexual offences

One form of escalation to the most serious sexual offences is crossover from perpetration of indecent images of children (IIOC) offences to contact sexual offences against children. Babchishin et al. (2014) suggest that those with high levels of paedophilia and/or antisociality, with access to children and few psychological barriers to acting on their desires are most likely to crossover. While past research on the HMPPS caseload (Howard, Barnett & Mann, 2014) has found very little crossover from IIOC to contact, other research suggests that reliance on official criminal records may result in underestimation of the extent of crossover. Given the very low proportion of contact sexual offences brought to justice in recent years in England and Wales, as documented by the Rape Review (Ministry of Justice, 2021), it does appear likely that PNC data will not detect a substantial proportion of those who cross over from either IIOC or other sexual and nonsexual criminal acts into rape offending.

While there is little published evidence on transition from nonsexual to sexual offending, earlier exploratory analysis conducted by this report's first author indicated that, for men without known sexual offending history, scores on the OGRS4/V (Howard, 2015) – an actuarial risk assessment of violent recidivism risk – are moderately predictive of sexual recidivism.

Several studies, reviewed by Giles and Alison (2021) have identified that serious harm can be caused by sexual acts against children other than rape. As detailed in the UK by Hamilton-Giachritsis, Hanson and Whittle Beech (2017), some online offenders can coerce their victims into engaging in sexual activity, whilst some contact offending does not meet the legal definition of rape.

The findings of Saramago, Cardoso & Leal (2020) imply that prior offending patterns and dynamic risk factors vary between contact adult and contact child sexual offenders. They found that contact adult offenders had a greater diversity of past sexual offences and were at a more immature phase of moral reasoning than contact child offenders. As such, escalation processes could be expected to differ between these subgroups of offenders.

Appendix B
Terminology

A number of terms are used throughout the report which are defined here.

Current agreements with police data security accreditors limit the use of Police National Computer (PNC) data for identifiable individuals. To provide effective anonymisation, names and other IDs were removed, and dates of birth were perturbed.[13] This prevents individual records from being tracked back, whilst introducing only minimal inaccuracy to two processes described in Appendix D: matching cases and controls, and using age as a factor in regression analyses. An age (e.g., at most recent prior offence) calculated on this basis is referred to as the **exact randomised age**.

Throughout this study, the term **serious sexual assault (SSA)** is purposefully used in preference to the term Rape and Serious Sexual Offending (RASSO), which was used in the Rape Review. This is to highlight this study's use of a particular definition of SSA, in terms of a set of statutory offences – different to those used by Soothill et al. (2002) – set out in Methods below. References to **homicide** are also references to a set of statutory offences, and these offences can be **sexual homicide** or **nonsexual homicide**.

Sanctions are often mentioned: these are most often convictions, but also include cautions, reprimands, warnings and other outcomes involving a formal finding or admittance of criminal guilt. One sanction includes one or many offences brought to justice on a single day. A violent sanction includes at least one offence defined as (nonsexual) violent originally set out in the OASys Violence Predictor actuarial risk assessment instrument (Howard, 2009), and also used in RSR SNSV.

The **current offence** is usually the primary offence, as indicated in MoJ PNC data, at the most recent sanction date on or prior to 30 June 2021,[14] and the **current sanction** is the sanction incorporating this offence. However, many individuals given life or Indeterminate

[13] Dates were perturbed by adding a random Normal variate with a mean of zero days and a standard deviation of 30 days

[14] The prison and probation caseload snapshot date

Public Protection (IPP) sentences subsequently receive other sentences yet still can be identified as subject to the life/IPP sentence. To maximise the number of homicide and SSA cases that can be studied, where a life or IPP sentence had been given for homicide or SSA, this was treated as the current offence / sanction.

Case/control matching was based on each individual's age and criminal history at the point of their **most recent prior sanction** or **most recent prior offence**, depending which type of escalation was studied. These were the sanction that immediately precedes the current sanction, and its associated primary offence.

The term **escalation** always refers to an increase in the severity of offending rather than, in some other research, an increase in the frequency of offending. While this study's method is retrospective, our offending history measurements are made as much as possible from the perspective of a criminal justice worker encountering an offender prior to their current offence.

Target offences are the serious violent and sexual offences to which individuals may escalate. **Precursor** offences are associated with escalation being more likely; a **candidate precursor** offence has yet to be tested to see if it does have an association with escalation.

Cases are individuals who did escalate and satisfied the criteria for inclusion in the study population. **Potential controls** are individuals who did not escalate and satisfy the inclusion criteria, and **matched controls** are those potential controls who were most similar to cases on key characteristics and therefore have been selected for comparison between their candidate precursors and those of their respective cases.

Effect sizes are cited in the results. For consistency, these are reported as follows: a very strong effect size has an odds ratio of 2 or above ("very strong positive association with escalation") or 0.5 or below ("very strong negative association with escalation"); a strong effect size has an odds ratio above 1.5 or below 0.67, and other effect sizes, where statistically significant, are described as moderate. The **odds ratio** represents the odds that escalation will occur if a precursor offence is present in a given person's history compared with the odds of escalation if the precursor offence is not present in their history. In turn, odds are the probability of escalation, as a proportion of the probability of non-

escalation. (For example: the odds ratio of rolling a 6 on a fair die are (1/6)/(5/6) = 1/5 = 0.2. If a loaded die was used, which gave a 1/4 probability of rolling a 6, its odds would be (1/4)/(3/4) = 1/3. The odds ratio for rolling a 6 using the loaded die rather than the fair die would be (1/3)/(1/5) = 5/3 = 1.67. We would say that switching to the loaded die has a strong effect on the likelihood of rolling a 6.)

Appendix C
Deriving the study data

A vital aspect of the study was the derivation of the study data, which comprised of defining target and precursor offences and identifying the eligible population of target cases and controls.

Data Source

The case/control study used the criminal records of people in prison and on probation on 30 June 2021. Data from the prison and probation casework systems, Nomis and Delius, provided the names, dates of birth and PNC IDs of this cohort. These details were matched with the MoJ's analytical PNC extract, providing complete records of the sanctions (cautions and convictions) received by each matched individual. Convictions from outside England and Wales were not included.

A further matching process obtained these individuals' assessments completed using the Offender Assessment System (OASys) since 1 October 2014.[15] Further information on matching between Nomis, Delius and OASys records is provided in an ad hoc statistics publication using the same data (Ministry of Justice, 2022; 4.2 Matching of offender records), and the process of matching with the analytical PNC extract was fundamentally similar.

Target Offences: Defining the most serious violent and sexual offences

The formal definitions of target offences, to which offending behaviour could escalate, are central to the study. Definitions were considered at length by an expert advisory group comprising HMPPS strategic and operational leads with public protection responsibilities, and analysts with relevant experience (e.g., supporting the Rape Review). While they considered sentencing guidelines, as compiled in the Cambridge Crime Harm Index (CCHI), professional experience working with individuals convicted of different offences, and their victims, also contributed to their decision making.

[15] Prior to the design of this study, older assessments had been deleted from data systems for data privacy reasons

It was agreed that the most serious violence would be focused on homicide. Its definition comprises murder, attempted murder, manslaughter (excluding driving offences), infanticide and child destruction.

Sexual and nonsexual homicide

A further distinction was made between sexual and nonsexual homicide, as it would be valuable to identify any differences in their precursor patterns. OASys data were utilised to identify sexual homicide, which was deemed to be present in homicides where the assessor's analysis of the index offence identified the presence of a sexual motivation and/or sexual element. OASys data was available for assessments completed from 1 October 2014 – of both newly convicted individuals and reviews of those already in prison and on probation – and therefore a very small proportion of homicides convicted since July 2011 were removed due to lack of OASys.

Serious sexual assault (SSA)

The SSA offence group comprised buggery, rape, attempted rape and assault by penetration offences. Soothill et al. (2002) included the now obsolescent offence of indecent assault in individual cases where it attracted a longer custodial sentence, whereas contemporary statute allows the identification of assault by penetration as a more serious form of sexual assault. Attempted rape has a similar intent to rape, as does buggery in modern-day sentencing (unlike Soothill's 1990s dataset, where consensual homosexual offences may have been present).

While sexual offences are victim-specific and thus those with male victims could have been omitted from our 'target' offence set, the expert group advised that the mandate of Violence Against Women and Girls is not exclusionary (i.e. while sexual offences as a whole has predominately female victims, it is not necessary to exclude serious sexual offences with male victims). A proposal to include all contact sexual offences with victims aged under 13 was considered carefully but not accepted. A still broader definition, involving all contact sexual offences, was rejected as incongruent with a focus on the most serious offending, given that some contact sexual offences have sentencing starting points of high-level community sentences, thus lower in tariff than some noncontact sexual offences.

Identifying precursor offences

The expert advisory group identified offences to be put on a shortlist of ‘candidate precursor offences’ where differences are expected based on the existing evidence base (e.g., Soothill et al, 2002., which includes a split in some sexual offences by victim age; Soothill, Francis & Liu, 2008) and/or clinical observation (e.g., offences related to stalking and harassment). Many of these precursors actually comprised multiple related statutory offences (e.g., “robbery” comprises robbery and assault with intent to rob), but will typically be referred to as if they represent a single offence.

A statistical concern is that running many significant tests (e.g., whether a precursor predicts a certain type of escalation) will raise the risk of false positive findings (i.e. finding an association with escalation by chance alone). Using a defined list of precursors should avoid testing in situations where our expectations of the odds of false positive versus true positive findings are unfavourable – we acknowledge that this strategy does sacrifice our ability to detect entirely unexpected associations.

As such, a degree of comprehensiveness was introduced by also testing the 24 mutually exclusive offence categories used in the RSR risk assessment. These 24 categories are based on those in OGRS4, with the large violence against the person category split into five: the most serious firearms offences; other firearms offences; other weapon possession; actual bodily harm (ABH) and more serious violence, and violence less serious than ABH.

By definition, candidate precursor offences are less serious than the target offences. Therefore, past SSA offending could not be a precursor of escalation to SSA, but past SSA offending was tested as a precursor of escalation to sexual and nonsexual homicide.

The possibility that perpetrators of SSA might have victim age preferences was recognised. As statutes that define sexual offences are inconsistent, it was possible to distinguish between victims aged under 13 and under 16 for two offences groups whereas, for example, sexual assault legislation changed over time so that an under-16 / adult split was replaced with an under-13 / any other age split, rendering a precise age distinction unfeasible for this offence group.

Some precursors were included twice, to allow differences to be examined where possible but also aggregate where necessary in the presence of small counts. For example, there is a sexual offence precursor of “causing/inciting and grooming of children (all)”, which comprises a subgroup whose statutes specify victims aged under 13, and another subgroup where the statute specifies a victim aged under 16 or only that the victim is a child.

Eligible participants

Not all people on the 30 June 2021 caseload were eligible for inclusion in the study. Prior to creating the case and control datasets, people were excluded for several reasons, volumes at different stages are shown in both Figure 1 and Figure 2 setting out the numbers of individuals observed at each stage of this process. These volumes are represented in Table C-1. This includes counts of the numbers with the three target offences excluded due to having no previous sanctions and having been sanctioned more than 10 years ago.

Unsentenced individuals were excluded: those recorded on Nomis as being on remand, noncriminal[16] prisoners and those with unrecorded sentence type. We then excluded people who appeared to be aged under 18, or who had obviously inaccurate PNC date information (e.g. whose current offence was recorded as having been committed after 30 June 2021).

As this study is focused on escalation from previous offending to the most serious current offences, **those with no previous criminal sanctions were excluded**. When studying escalation to homicide, those with previous homicide were then excluded. When studying escalation to serious sexual assault (SSA), those with previous homicide or SSA were excluded – the SSA exclusion was made later in the process for efficiency purposes.

Past custodial sentences, periods subject to Multi Agency Public Protection Arrangements etc. would be disruptive to escalation pathways, but apply to many individuals. It would be counterproductive to exclude all of these individuals, as they form a high proportion of the HMPPS caseload, especially those with a record of more serious offending. Instead, only people who had received indeterminate sentences prior to the

[16] Those held for civil offences or under the immigration act.

current offence were excluded, as their offending pathways were very strongly disrupted and therefore atypical.

Individuals were not excluded if they had a record of past violent or sexual offending that was less serious than the target offences. Most individuals on the HMPPS caseload have some history of nonsexual violence, and many of sexual offending – our matching methods will control for this baseline risk.

Those whose current sanction was more than ten years before 30 June 2021 were excluded. It is important to identify recent patterns of escalation, and those committing very serious offences many years ago might have different patterns, and may have experienced very different criminal justice system conditions, to the recently convicted individuals who could be matched with them as controls. As a key driver of these potential differences, candidate precursors that became criminal offences or more often enforced in recent years presented analytical problems due to the presence of cases that preceded their introduction or rise in prominence.[17] These issues are explored later within the ten-year limit, which was seen to mitigate but not eliminate this issue.

As this filter was applied to those who escalated, it seemed appropriate to also apply it to the potential control individuals, though the impact is greater on the potential cases given the long sentences associated with homicide and SSA.

At this point, **the records of female offenders were excluded**. If women were included, then their data should be analysed separately from that of male offenders, as an assumption that male and female offending pathways are identical is not defensible. Yet, the number of women convicted of serious offences is sufficiently low that, for most candidate precursor offences, only a very large proportionate difference between cases and controls would be statistically significant.

The following stages distinguished different types of homicide cases and identified potential controls. As the case/control matching process was identical for both homicide

[17] Sexual offences were especially affected by the introduction of new legislation, with major reforms introduced in the Sexual Offences Act 2003 and implemented for offences committed from May 2004.

groups, it was not necessary to create separate groups of potential sexual and nonsexual homicide controls.

Following a check on whether current SSA perpetrators had been sanctioned in the past 10 years and had no past SSA (in addition to the prior check on past homicide), SSA cases and potential controls were identified. They were separated according to whether they have any (non-SSA) known sexual offending history, as explained in the following section. As the matching for those with sexual history was based on sexual recidivism risk, the SSA potential controls were split into with- and without-sexual-history groups.

While those with current homicide or SSA could only be in one of the four case groups, those without these offences could be in more than one potential control group.

Figure 1 and Figure 2 set out the numbers of individuals observed at each stage of this process. These volumes are represented in Table C-1. This includes counts of the numbers with the three target offences excluded due to having no previous sanctions and having been sanctioned more than 10 years ago.

Table C-1 Study eligibility – volumes at different stages of exclusion, as per Figure 1

Status	Has status	Cumulative status	Remaining count
Initial count	245,053	0	245,053
No PNC matches	4,644	4,644	240,409
Unsentenced individuals	11,876	16,520	228,533
Aged less than 18 or inconsistent dates	1,113	17,633	227,420
No previous sanctions	36,738	54,371	190,682
Has past indeterminate sentence or homicide	1,414	55,785	189,268
Current conviction is more than 10 years ago	10,430	66,215	178,838
Homicide lacking OASys report	217	66,432	178,621
Passes all filters	178,621	245,053	0

Table C-2 Study eligibility by target offence status and offender gender, to accompany Figure 2

Eligibility Status	Has not escalated: Female Offender	Has not escalated: Male Offender	Nonsexual homicide: Female Offender	Nonsexual homicide: Male Offender	Sexual homicide: Female Offender	Sexual homicide: Male Offender	Serious sexual assault: Female Offender	Serious sexual assault: Male Offender
No PNC matches	481	4,163	NA	NA	NA	NA	NA	NA
Unsentenced individuals	548	11,154	6	70	NA	1	NA	97
Aged less than 18 or inconsistent dates	87	918	4	67	NA	NA	3	34
No previous sanctions	4,705	26,463	248	1,905	10	207	33	3,167
Has past indeterminate sentence or homicide	28	988	8	221	1	34	2	132
Current conviction is more than 10 years ago	182	4,143	165	4,074	10	541	6	1,309
Homicide lacks OASys	NA	NA	8	209	NA	NA	NA	NA
Passes all filters	15,229	153,357	229	3,746	6	234	21	5,799

Table C-3 Past sexual offending and SSA (male only), as additional information to Figure 2

Current/past SSA status	No past sexual offending	Past sexual offending	Total
Current SSA, past SSA	NA	483	483
Current SSA, no past SSA	4,052	1,264	5,316
No current SSA, past SSA	261	1,924	2,185
No current SSA, no past SSA	141,597	9,575	151,172

Appendix D
Logistic regression and the principles and conventions of case/control matching

Conditional logistic regression models

The strength of the association between each candidate precursor and escalation was determined by fitting a conditional logistic regression (CLR) model.

A logistic regression model identifies the strength of associations between independent variables and a binary dependent variable. In this case, independent variables were factors that control for the baseline risk of reoffending, plus the candidate predictor of interest. The dependent variable was whether the individual's severity of offending behaviour had escalated (i.e. whether they were a case rather than a control).

A CLR model is a special form of logistic regression that accounts for the structural correlation between different individuals – in this case, each case had been matched with one or more controls, so their presence in the dataset was not independent. As such, the model includes strata membership: each stratum consisted of one case and its matched controls.

Pearce (2015) explains that the matching process does not obviate the need to include risk factors in the CLR model. Empirical testing confirmed that including risk factors did improve the Concordance Index[18] for a given precursor.

The specification of the CLR model that was taken forward therefore included the factors used in matching, except those factors that had become redundant as they nested entirely within the CLR's strata. For example, "one previous sanction" was redundant as, for any given stratum, the case and its controls either all had or all did not have one previous sanction. Whereas, "one previous violent sanction" was not redundant as, in the "three-plus previous sanctions, with violence" group, there were strata for which the case had one

[18] The Concordance Index is a metric that quantifies how well a risk predictor (e.g., a fitted CLR model) separates those who do experience the event of interest (e.g., cases) and those who do not (e.g., matched controls). A high Concordance Index occurs when most cases are scored higher by the CLR model than most controls.

previous violent sanction but some of its controls had multiple previous violent sanctions, or vice versa.

Therefore, each CLR model for SSA amongst those with sexual history included only the stratum, candidate precursor status and age at most recent previous sanction, as cases and controls were matched on the OSP/C score and age, and OSP/C scores were entirely nested within strata because each case had the same OSP/C score as all of its controls.[19]

Each CLR model for nonsexual homicide, sexual homicide and SSA without sexual history included the stratum and the following independent, non-redundant variables:

- Candidate precursor status (ever/never sanctioned for this offence)
- Age at most recent prior offence
- Age at most recent prior offence, squared
- OGRS4/V Copas rate for violent sanctions
- Binary flag for having one previous violent sanction
- Years between first and most recent previous offence [set to 0 unless the individual has exactly two previous sanctions]
- OGRS4/V Copas rate for all sanctions [set to 0 unless the individual has at least three previous sanctions]

In all of these CLR models, controls were weighted by the inverse of the number of controls for that case, i.e. the number of cases was equal to the number of weighted controls, as shown in Table E-27, Table E-28 and Table E-29.

The matching process involved forming ‘matching groups’ of very broadly similar cases and then matching precisely within these groups, using age and sanction history at both stages.

[19] Although banded age contributes to the OSP/C score, age was not redundant in this CLR model, as exact age was used in addition to the OSP/C score in the case/control matching process.

A key principle here was that cases and controls should be matched on the basis of their age and sanction history at the point of the most recent offence prior to the current sanction: this means that the only pertinent difference between cases and controls will have been the candidate precursor offences for which they had been convicted prior to the current sanction (i.e. prior to escalation or non-escalation).

A further principle was that an individual's escalation status should be considered on the basis of their current dominant sentence. From the information available to the study team, the sole meaning of this in practice was that life and IPP sentences should be superordinate, because people given these sentences will continue to be subject to them even when determinate sentences are given for further offences. This is briefly referred to in the main report, and the following example will illustrate its practical effect.

If someone has been sentenced to an IPP for rape of an adult, and then is next convicted of a burglary committed whilst on licence, we will consider the rape conviction to represent the current offence and thus:

i. the individual is an SSA 'case'

ii. they are excluded from the two homicide study populations because they are an SSA 'case'

iii. the matching is baselined on the most recent offence prior to the rape conviction, and

iv. the subsequent burglary and any other convictions after the IPP sentence are set aside.

Whereas, if they had received (say) a 10-year determinate sentence for the rape offence, then:

i. the burglary would be the current offence

ii. matching would be baselined on the rape conviction (as the sanction prior to the burglary conviction)

iii. the individual would enter the 'control' pool for the two homicide studies

iv. they would be coded as having a previous serious sexual assault (which is a candidate precursor for both types of homicide), and

v. they would be excluded from the study population for escalation to SSA as they had already been convicted of SSA.

Matching cases and controls for nonsexual homicide and sexual homicide

For both types of homicide, these matching processes involved the calculation of 'Copas rates' representing the intensity of past general and nonsexual violent offending at the point at which the most recent prior offence was committed.[20] When predicting reoffending, these 'Copas rates' summarise criminal history more effectively than straightforward counts of previous offences or sanctions. For example, a history of 8 sanctions over 6 years between first and most-recent sanction yields a higher Copas rate than 8 sanctions over 12 years, 4 sanctions over 6 years or even 4 sanctions over 3 years. Figure 8.2 of the OGRS4 development report (Howard, 2015), illustrates the association between sanctions, career length in years and all-offences recidivism.

We then divided the cases (either nonsexual or sexual homicide offenders) and potential controls into six groups, and a pair of groups with no previous sanctions that were then removed, as shown in Table D-1.

Table D-1 Criteria used in case/control matching for sexual homicide, nonsexual homicide and serious sexual assault without sexual offending history

General offending history	No violent history	Has violent history
No previous sanctions	Not applicable: cases should be removed as they cannot 'escalate'	Not applicable: cases should be removed as they cannot 'escalate'
One previous sanction	Match on age[21] at MRPO[22] only	Match on age at MRPO only

[20] The first 'Copas rate' was derived by Copas & Marshall (1998). The precise formula has changed over time, and the current study uses the 'Copas rate' formula of Howard (2015) for the OGRS4/V predictor.

[21] Age refers to the exact randomised age – see Appendix B, Terminology

[22] MRPO is most recent previous offence (i.e. at the sanction prior to the index sanction)

General offending history	No violent history	Has violent history
Two previous sanctions	Match on age at MRPO and years between[23] first offence and MRPO	Match on age at MRPO, number of violent sanctions[24] and years between first sanction and MRPO
Three-plus previous sanctions	Match on age and OGRS4/G Copas rate[25] (all as of MRPO)	Match on age, OGRS4/G Copas rate and OGRS4/V Copas rate (all as of MRPO)

The cases and controls were not matched on the date of the most previous offence or sanction. Given the different sentences that result for serious and nonserious offences, matching on date would risk bias due to incarceration – if cases had actually been convicted of more serious offences in the past (as would be logical if offence specialization occurs) than controls, then their most recent offence dates would tend to be earlier due to the incapacitating effects of imprisonment for part of the period between most recent and current sanction. To neutralise this potential bias would require also matching on the sentence type (custodial / noncustodial) and length of custody at the most recent sanction – an excessive complication.

The Copas rate is usually calculated utilising the years of first and current sanction in the denominator. The OGRS3 and OGRS4 algorithms were designed to use sanction date rather than offence date given historic missing offence data, but the PNC's offence dates are now essentially complete. As such, offence dates were used in Copas rate calculation, as they should better reflect the intensity of offending behaviour (sanction date was substituted in the rare instances where offence date was missing). Where a sanction includes more than one offence, the date of the primary offence – the most serious offence as identified by the police – was used for consistency.

[23] "Years between" for second-time offenders is scored as a risk factor for this group by the OGRS4 and RSR SNSV predictors. Howard, 2015, provides more details: see pg. 159 for the general approach and pg. 172 for the formulae.

[24] The "two previous sanctions, violent" stratum is effectively split into two substrata (i.e. one or two violent sanctions), matching on the age and year criteria within each substratum

[25] OGRS4/G Copas rate is calculated only for those with 3+ sanctions for any offence, whereas the OGRS4/V Copas rate is calculated for those with 1+ sanctions for violent offences.

A matching algorithm then selected the best four matches for each case, summing standardised differences when more than one matching factor is used, while ensuring that no control is matched to more than one case.

Match bias was measured to ensure that controls were not too dissimilar from cases, which is very unlikely in any case due to the large size of the HMPPS caseload (i.e. a wide choice of possible controls). With bias likely to be low, matching without replacement was preferred to also maximise precision, and proved to be feasible in both of these matching exercises. A very small proportion of cases could not be matched at all, and others to fewer than four controls. As recommended by Hennessy et al (1999) and the experts who peer reviewed our methodology, we matched more than four cases when match quality was excellent. The criteria used were:

- All matches with a sum of standardized differences of no more than 0.01 standard deviations[26] were retained for most of the seven matching groups (i.e. the six shown in Table D-1, separating those with two sanctions and violence into those once and twice violent)
- This was reduced to 0.001 standard deviations for the “three-plus previous sanctions, violent” matching group, as most cases and controls fell into this group and therefore an extremely high number of matches could be obtained
- Matches with a higher standardized sum were retained if the sum was below 0.1 standard deviations per criterion (e.g. 0.2 standard deviations for groups with two matching criteria or 0.3 SDs for groups with three criteria) ***and*** this was the 1st to 4th best without-replacement match for that case.

Controls were weighted by the reciprocal of the number of matches for that case – for example, if a case was matched to five controls, then each control was weighted 0.2.

[26] The cases and eligible potential controls were combined, and each continuous matching variable was converted onto a standardized Normal distribution. A standardized difference was therefore the absolute difference in standardized values between a case and a potential control. (For example, standardized value of –0.58 (i.e., 0.58 standard deviations below the mean) for a case and –0.56 for a control would be an absolute standardized difference of 0.02.)

The results of the matching process are reported in Table E-27**,** Table E-28 and Table E-29. The proportions of cases with fewer than four matches were acceptably low (below 20 per cent) for all seven matching groups.

Matching cases and controls for serious sexual assault: men with no known sexual offending history

Earlier exploratory data analysis by this report's first author suggested that transition into contact sexual offending by men with no known sexual offending history was quite well predicted by their OGRS4/V scores.

Therefore, the nonsexual homicide and sexual homicide criteria were also applied to identify appropriate controls for those cases who committed SSA with no known sexual offending history.

The results are reported in Table E-29. At least four results were found for most cases.

Matching cases and controls for serious sexual assault: men with sexual offending history

For men who did have a criminal record for sexual offending prior to the current sanction, the OASys Sexual Reoffending Predictor, contact scale (OSP/C; Howard & Wakeling, 2021) score was calculated as it was at the point of sanction for the most recent prior offence. OSP/C is a validated predictor of proven reoffending involving actual or attempted sexual contact with a victim, and therefore provided an evidence-based starting point for SSA risk. One of its seven items, stranger victim at the index offence (i.e. the most recent prior offence), could not be scored as the most recent prior offence was not matched with OASys victim data. Possible integer scores on the OSP/C scale therefore ranged from 0 to 60 rather than 0 to 64.[27] Cases and potential controls were exactly matched on this 0 to 60 score, with the absolute difference in exact randomised age between case and control

[27] From the experience of the first author (Philip Howard) in OSP development, the omission of the stranger victim item should have a very limited impact on the validity of the matching process: the Concordance Index of OSP/C as a predictor of proven contact sexual reoffending is reduced by thousandths rather than hundredths if stranger victim is not scored.

used to break ties. The first four matches were taken, plus any further matches where the absolute age difference was less than one year.[28]

Matching without replacement was less successful than with the three OGRS4/V-based cohorts. Of 1,161 cases, 44 had no match, 89 had one, 125 had two and 101 had three – therefore, 359 (31 per cent) had fewer than the desired four matches.

Recognising that with-replacement matching can lessen statistical precision, a hybrid approach was favoured. Without-replacement matches were used when they existed; for those with fewer than four without-replacement matches, the difference was made up from with-replacement matches.

Matching with replacement was therefore undertaken for these cases and potential controls. This found no matches for one case (i.e. no controls had the same OSP/C score as this case), but otherwise obtained at least four matches for all.

Table E-30 profiles the cases and matched controls (weighted and unweighted). The differences in mean scores on the components of the OSP/C score give some indication of which risk factors may be more strongly predictive of SSA than they are of all contact sexual offending.

Identifying SSA with adult and child victims, and nonsexual homicide with adult female victims

For the analyses of escalation to SSA against adult and child victims, cases were selected carefully to be sure that the cases in these two targets only had adult victims, and only child victims respectively. As the index offence had generally been coded on the basis of the primary index offence, it is possible that secondary offence victims existed, and if secondary offences were not charged as sexual offences then the offence code would not reveal victim age. Therefore, OASys victim data was used. Those in the SSA against adult

[28] In OSP/C, age is scored on a quasi-continuous basis. Those aged 18 to 20 years score 14 points, those aged 21 to 23 score 13 points, and so on at three-year intervals until those aged 60 and over score zero points. Within any of the three-year bands, exact randomised age essentially has a continuous uniform distribution. The expected difference between two draws from a continuous uniform distribution is one-third of its range: as such, a case and control dyad who share a three-year age band will typically have ages one year apart. Noting additionally that offenders with the same OSP/C score do not need to be within the same age band, any dyad who are not only matched on OSP/C score but are in the same band with an absolute difference of under one year represents an unusually close match.

victims group required a victim in at least one of the age 18+ groups, and no victim in any groups aged up to 16.[29] The opposite was true for the SSA against child victim groups. Given also that OASys victim data was not always available, while other offenders had both adult and child victims and therefore were excluded, the 1,159 SSA with sexual offence history cases yielded 163 with only adult victims and 617 with only child victims. They had 1,607 and 4,802 matched controls respectively. The “last two years” analysis for child victims featured 115 cases and 927 matched controls.

For the analyses of escalation to nonsexual homicide of adult female partners, the above adult age and conviction date filters, and further OASys-based filters to check that there was a female victim and no male or unknown-gender victim, and that the victim was a partner of the perpetrator, were applied. This identified 314 cases with 5,434 matched controls. The adult male family/acquaintance analyses similarly required filters on single-gender victims and victim/offender relationship, yielding 1,120 cases and 19,907 controls. An equivalent process for adult male strangers yielded 709 cases and 11,988 controls.

Table D-2 summarises the outcomes of the matching process.

Table D-2 Summary of case/control matching

	Cases: All	Cases: Matched with 1+ control	Controls: All eligible	Controls: Matched with a case	Controls: Mean per matched case
Nonsexual homicide	3,746	3,731	153,348[30]	63,450	17.0
Sexual homicide	234	234	153,348	5,105	21.8
SSA (no sexual history)	4,052	3,991	141,588	54,014	13.5
SSA (sexual history)	1,264	1,146	9,575	9,491	8.3

Characteristics of cases and controls

Table D-3 through Table D-6 summarise the characteristics of cases and potential controls as profiled in Figure 2 (minus the few unmatched cases), and matched controls. The

[29] OASys has the following victim age groups: 0-4, 5-11, 12-15, 16-17, 18-20, 21,25, 26-49, 50-64, 65+. The 16-17 age group was deliberately ignored in the filtering: those with a victim aged under 16 could also have a victim aged 16-17, as could those with a victim aged 18 and above, but those aged 16 or 17 were not classified as either children or adults.

[30] This figure represents the same pool of potential controls for all homicides.

dissimilarity in ages and previous sanction counts between some cases and unweighted matched controls is a consequence of the matching process. As the Appendix shows, the number of controls matched was typically higher for cases with more total and violent sanctions, creating an imbalance in the unweighted matched controls – as such, the means for weighted matched controls were typically more similar to those of cases. The greatest difference in previous sanctions between cases and weighted matched controls is in Table D6, for all and violent offences – but this describes matching on OSP/C, and OSP/C's criminal history matching only relates to sexual sanction history and whether there were any sanctions for all offences. Cases were far more likely to be serving custodial sentences than their controls, and had much higher levels of OASys Layer Three matching, albeit this related to the current sentence.

Nonsexual homicide cases were more likely than their controls – or all potential controls – to be of Black ethnicity, with over 20 per cent being Black. Further analysis (not published) of the potential controls shows that some cohorts convicted of the nontarget offence groups most associated with nonsexual homicide also included high proportions of Black individuals. Amongst those convicted of firearms offences, over 20 percent of the male caseload were Black, as were well over 10% of those convicted of wounding with intent to do grievous bodily harm, kidnapping and nonfirearm weapons offences. Sexual homicide cases were more likely than their controls to be of White ethnicity.

Cases were far more likely than their controls to have female victims, except for nonsexual homicide. For all targets, cases were more likely than their controls to have family / acquaintance victims, and less likely to lack victim relationship data. Amongst the case groups, sexual homicide and no-sexual history SSA had higher partner victim rates, and these cases were more likely than their controls to have partner victims.

It is notable that the proportion of female victims was far lower (65 per cent) for sexual homicides than SSA with (83 per cent) or without (95 per cent) sexual offending history. Examining OASys victim gender data, the 234 sexual homicides included 61 (27 per cent) with only male victims, 40 (18 per cent) with both male and female victims, and 20 (8 per cent) with no recorded victim data.

OASys victim age data, and statutory offence codes for sexual offences, enabled the identification of child victims. Only four per cent of nonsexual homicides had a child victim, but 22 per cent of sexual homicides, 52 per cent of SSA without sexual history and 75 per cent of SSA with sexual history had a child victim. Cases with only a male child victim comprised 13 per cent of SSA with sexual history, compared with two to three per cent of the other three case groups.

In absolute numbers, there were more cases with only male child victims amongst the SSA-with-history group than the SSA-no-history group (148 and 124 cases, respectively), despite the far greater overall size of the latter case group. This may reflect the more 'specialist' nature of sexual offending against males and children, whereas those who offend sexually against adult female victims are more likely to have crossed-over from nonsexual offending.

Table D-3 Nonsexual homicide – characteristics of cases and controls

	Nonsexual homicide cases	Nonsexual homicide potential control cases	Nonsexual homicide matched control cases	Nonsexual homicide weighted control cases
Count	3,731	153,362	63,450	3,731
Mean Age	26.9	30.9	30.3	29.0
Standard Deviation Age	9.69	10.20	9.40	9.86
Asian	7%	6%	6%	7%
Black	21%	9%	10%	10%
Mixed	6%	4%	5%	4%
Other	1%	1%	1%	1%
White	65%	74%	74%	72%
Ethnicity unknown	0%	5%	4%	6%
In custody	82%	27%	28%	26%
Has layer 3 OASys	99%	77%	79%	77%
Victim gender: Female	21%	20%	20%	19%
Victim relationship: Family member	39%	7%	7%	7%
Victim relationship: Partner	14%	11%	12%	11%
Victim relationship: Stranger	31%	29%	30%	28%

	Nonsexual homicide cases	Nonsexual homicide potential control cases	Nonsexual homicide matched control cases	Nonsexual homicide weighted control cases
Victim relationship: Unrecorded / unclear	16%	52%	51%	53%
Mean previous sanctions: All offences	10.0	12.6	12.0	10.3
Mean previous sanctions: Nonsexual violence	4.6	5.2	5.1	4.3
Mean previous sanctions: Sexual violence	0.0	0.1	0.1	0.1

Table D-4 Sexual homicide – characteristics of cases and controls

	Sexual homicide cases	Sexual homicide matched control cases[31]	Sexual homicide weighted control cases
Count	234	5,105	234
Mean Age	26.6	29.4	27.3
Standard Deviation Age	9.07	9.22	9.42
Asian	6%	7%	7%
Black	9%	10%	10%
Mixed	3%	5%	5%
Other	0%	1%	1%
White	81%	73%	70%
Ethnicity unknown	1%	4%	7%
In custody	76%	28%	26%
Has layer 3 OASys	100%	79%	75%
Victim gender: Female	65%	20%	19%
Victim relationship: Family member	35%	8%	7%
Victim relationship: Partner	21%	12%	11%
Victim relationship: Stranger	35%	30%	29%
Victim relationship: Unrecorded / unclear	9%	50%	53%

[31] Potential controls for sexual homicide were identical to those for nonsexual homicide, as shown in Table D-3.

	Sexual homicide cases	Sexual homicide matched control cases[31]	Sexual homicide weighted control cases
Mean previous sanctions: All offences	7.9	10.6	7.9
Mean previous sanctions: Nonsexual violence	3.3	4.5	3.3
Mean previous sanctions: Sexual violence	0.2	0.1	0.1

Table D-5 Serious sexual assault (without sexual offending history) – characteristics of cases and controls

	Serious sexual assault cases (no history)	Serious sexual assault potential controls (no history)	Serious sexual assault controls (no history)	Serious sexual assault weighted controls (no history)
Count	4,107	140,721	56,191	4,107
Mean Age	31.4	30.5	29.8	29.8
Standard Deviation Age	10.84	9.83	9.13	9.89
Asian	8%	7%	7%	8%
Black	10%	10%	10%	10%
Mixed	3%	4%	5%	4%
Other	1%	1%	1%	2%
White	76%	73%	73%	69%
Ethnicity unknown	1%	5%	5%	8%
In custody	71%	26%	25%	22%
Has layer 3 OASys	97%	76%	77%	72%
Victim gender: Female	95%	18%	18%	18%
Victim relationship: Family member	43%	7%	7%	7%
Victim relationship: Partner	21%	12%	12%	11%
Victim relationship: Stranger	18%	28%	28%	25%
Victim relationship: Unrecorded / unclear	18%	53%	53%	57%
Mean previous sanctions: All offences	6.9	12.5	10.2	7.3

	Serious sexual assault cases (no history)	Serious sexual assault potential controls (no history)	Serious sexual assault controls (no history)	Serious sexual assault weighted controls (no history)
Mean previous sanctions: Nonsexual violence	3.0	5.2	4.4	3.1
Mean previous sanctions: Sexual violence	0.0	0.0	0.0	0.0

Table D-6 Serious sexual assault (with sexual offending history) – characteristics of cases and controls

	Serious sexual assault cases (history)	Serious sexual assault potential control cases (history)	Serious sexual assault potential control cases (history)	Serious sexual assault weighted control cases (history)
Count	1,159	10,455	9,615	1,159
Mean Age	37.2	36.1	35.5	37.2
Standard Deviation Age	13.73	12.62	12.24	13.66
Asian	4%	4%	4%	4%
Black	5%	6%	6%	6%
Mixed	1%	3%	3%	2%
Other	1%	1%	1%	1%
White	88%	85%	85%	86%
Ethnicity unknown	1%	2%	2%	1%
In custody	79%	35%	35%	36%
Has layer 3 OASys	98%	91%	92%	92%
Victim gender: Female	82%	33%	34%	36%
Victim relationship: Family member	51%	13%	14%	15%
Victim relationship: Partner	7%	7%	7%	6%
Victim relationship: Stranger	19%	40%	39%	40%
Victim relationship: Unrecorded / unclear	23%	40%	40%	39%
Mean previous sanctions: All offences	7.1	14.0	13.4	12.8

	Serious sexual assault cases (history)	Serious sexual assault potential control cases (history)	Serious sexual assault potential control cases (history)	Serious sexual assault weighted control cases (history)
Mean previous sanctions: Nonsexual violence	2.4	5.8	5.4	4.9
Mean previous sanctions: Sexual violence	1.0	1.0	1.0	1.0

Appendix E
Tables

Table E-1 Violent offences, custody and serious sexual assault as precursors of sexual homicide

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	0	0.0	2	0.9	-17.03	-	-	-	-	-
Arson (endangering life)	2	0.9	1	0.4	0.41	0.21	1.51	1.00	2.28	0.05
Arson (not endangering life)	13	5.6	5	2.1	0.69	0.10	1.98	1.63	2.42	<0.01
Blackmail	2	0.9	1	0.4	0.70	0.21	2.00	1.32	3.04	<0.01
Breach of restraining order	4	1.7	15	6.4	-1.07	0.28	0.34	0.20	0.60	<0.01
Coercive control	0	0.0	0	0.0	-	-	-	-	-	-
Conspiracy to murder or assisting murder	0	0.0	0	0.0	-	-	-	-	-	-
Criminal damage with intent to endanger life	0	0.0	1	0.4	-16.08	-	-	-	-	-
Current custodial sentence	78	33.3	67	28.6	0.13	0.06	1.14	1.01	1.29	0.03
Custodial sentence	142	60.7	113	48.3	0.55	0.08	1.74	1.49	2.02	<0.01
False imprisonment and Modern Slavery Act	4	1.7	1	0.4	0.70	0.18	2.01	1.41	2.87	<0.01
Harassment	31	13.2	54	23.1	-0.62	0.09	0.54	0.45	0.65	<0.01
Kidnap	3	1.3	1	0.4	0.80	0.19	2.22	1.52	3.25	<0.01
Manslaughter associated with driving	0	0.0	0	0.0	-	-	-	-	-	-

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Child Neglect	0	0.0	1	0.4	-16.03	-	-	-	-	-
Putting people in fear of violence	4	1.7	3	1.3	0.36	0.18	1.44	1.01	2.04	0.04
Racially/religiously aggravated violence	10	4.3	14	6.0	-0.25	0.14	0.78	0.59	1.02	0.07
Robbery	36	15.4	33	14.1	0.03	0.07	1.03	0.89	1.20	0.66
Serious sexual assault	16	6.8	4	1.7	1.08	0.13	2.93	2.27	3.79	<0.01
Stalking	0	0.0	2	0.9	-17.04	-	-	-	-	-
Threats to kill	1	0.4	2	0.9	-0.61	0.48	0.54	0.21	1.38	0.20
Witness intimidation	3	1.3	4	1.7	-0.17	0.23	0.85	0.54	1.32	0.46
Wounding with intent	33	14.1	11	4.7	0.86	0.07	2.36	2.04	2.72	<0.01
Wounding without intent	12	5.1	10	4.3	0.17	0.11	1.18	0.94	1.48	0.14

Table E-2 Violent offences, custody and serious sexual assault as precursors of nonsexual homicide

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	49	1.3	38	1.0	0.20	0.06	1.22	1.09	1.36	<0.01
Arson (endangering life)	31	0.8	26	0.7	0.11	0.08	1.12	0.96	1.31	0.16
Arson (not endangering life)	127	3.4	98	2.6	0.13	0.04	1.14	1.06	1.22	<0.01
Blackmail	27	0.7	19	0.5	0.24	0.07	1.27	1.10	1.47	<0.01
Breach of restraining order	122	3.3	288	7.7	-0.69	0.05	0.50	0.46	0.55	<0.01
Coercive control	3	0.1	6	0.2	-0.55	0.27	0.58	0.34	0.99	0.04

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Conspiracy to murder or assisting murder	4	0.1	2	0.1	0.68	0.19	1.98	1.37	2.87	<0.01
Criminal damage with intent to endanger life	13	0.3	14	0.4	-0.04	0.12	0.96	0.76	1.22	0.74
Current custodial sentence	1,161	31.1	1,194	32.0	-0.10	0.02	0.91	0.88	0.93	<0.01
Custodial sentence	2,295	61.5	2,115	56.7	0.22	0.02	1.25	1.20	1.30	<0.01
False imprisonment and Modern Slavery Act	37	1.0	25	0.7	0.27	0.06	1.31	1.16	1.48	<0.01
Harassment	942	25.2	1,126	30.2	-0.31	0.02	0.73	0.71	0.76	<0.01
Kidnap	18	0.5	17	0.5	0.05	0.10	1.06	0.87	1.29	0.59
Manslaughter associated with driving	6	0.2	9	0.2	-0.22	0.21	0.80	0.53	1.21	0.29
Child Neglect	8	0.2	13	0.3	-0.25	0.17	0.78	0.56	1.08	0.13
Putting people in fear of violence	45	1.2	57	1.5	-0.14	0.07	0.87	0.77	0.99	0.04
Racially/religiously aggravated violence	272	7.3	321	8.6	-0.20	0.03	0.82	0.78	0.87	<0.01
Robbery	879	23.6	638	17.1	0.20	0.02	1.22	1.18	1.26	<0.01
Serious sexual assault	30	0.8	50	1.3	-0.34	0.09	0.71	0.60	0.84	<0.01
Stalking	7	0.2	28	0.8	-1.02	0.22	0.36	0.23	0.56	<0.01
Threats to kill	52	1.4	42	1.1	0.16	0.06	1.17	1.05	1.32	<0.01
Witness intimidation	61	1.6	71	1.9	-0.20	0.06	0.82	0.74	0.92	<0.01
Wounding with intent	419	11.2	220	5.9	0.51	0.02	1.66	1.59	1.73	<0.01
Wounding without intent	268	7.2	207	5.5	0.18	0.03	1.20	1.14	1.27	<0.01

Table E-3 Violent offences and custody as precursors of serious sexual assault: cases with sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	10	0.9	10	0.9	-0.02	0.15	0.98	0.73	1.33	0.92
Arson (endangering life)	8	0.7	11	0.9	-0.23	0.18	0.80	0.56	1.13	0.20
Arson (not endangering life)	31	2.7	40	3.5	-0.18	0.09	0.83	0.70	0.99	0.04
Blackmail	6	0.5	7	0.6	-0.13	0.20	0.88	0.59	1.31	0.52
Breach of restraining order	15	1.3	85	7.3	-1.45	0.17	0.23	0.17	0.33	<0.01
Coercive control	0	0.0	1	0.1	-14.07	-	-	-	-	-
Conspiracy to murder or assisting murder	1	0.1	0	0.0	15.20	-	-	-	-	-
Criminal damage with intent to endanger life	2	0.2	6	0.5	-0.86	0.43	0.42	0.18	0.98	0.04
Current custodial sentence	511	44.1	550	47.5	-0.10	0.03	0.90	0.85	0.96	<0.01
Custodial sentence	795	68.6	842	72.6	-0.17	0.03	0.85	0.79	0.90	<0.01
False imprisonment and Modern Slavery Act	13	1.1	14	1.2	-0.05	0.14	0.95	0.72	1.24	0.69
Harassment	152	13.1	323	27.9	-0.73	0.05	0.48	0.44	0.53	<0.01
Kidnap	8	0.7	6	0.5	0.22	0.17	1.25	0.89	1.75	0.20
Manslaughter associated with driving	0	0.0	2	0.2	-15.17	-	-	-	-	-
Child Neglect	6	0.5	7	0.6	-0.14	0.21	0.87	0.57	1.31	0.50
Putting people in fear of violence	10	0.9	19	1.6	-0.46	0.17	0.63	0.45	0.88	<0.01
Racially/religiously aggravated violence	53	4.6	113	9.7	-0.61	0.08	0.55	0.47	0.63	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Robbery	99	8.5	153	13.2	-0.37	0.05	0.69	0.62	0.77	<0.01
Serious sexual assault	0	0.0	0	0.0	-	-	-	-	-	-
Stalking	1	0.1	10	0.9	-1.83	0.78	0.16	0.03	0.74	0.02
Threats to kill	9	0.8	18	1.6	-0.53	0.18	0.59	0.41	0.84	<0.01
Witness intimidation	11	0.9	25	2.2	-0.62	0.17	0.54	0.39	0.75	<0.01
Wounding with intent	61	5.3	62	5.3	-0.01	0.06	0.99	0.87	1.13	0.89
Wounding without intent	32	2.8	55	4.7	-0.41	0.09	0.67	0.55	0.80	<0.01

Table E-4 Violent offences and custody as precursors of serious sexual assault: cases with no sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	30	0.7	27	0.7	0.11	0.07	1.11	0.97	1.28	0.14
Arson (endangering life)	18	0.4	18	0.4	-0.03	0.10	0.98	0.80	1.19	0.80
Arson (not endangering life)	110	2.7	77	1.9	0.27	0.04	1.31	1.21	1.41	<0.01
Blackmail	15	0.4	14	0.3	0.00	0.11	1.00	0.80	1.24	0.98
Breach of restraining order	187	4.6	225	5.5	-0.19	0.03	0.83	0.77	0.89	<0.01
Coercive control	10	0.2	8	0.2	0.15	0.14	1.17	0.88	1.55	0.29
Conspiracy to murder or assisting murder	3	0.1	1	0.0	0.57	0.21	1.77	1.18	2.68	<0.01
Criminal damage with intent to endanger life	17	0.4	8	0.2	0.51	0.09	1.66	1.38	2.00	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Current custodial sentence	844	20.6	1,068	26.0	-0.17	0.02	0.85	0.82	0.88	<0.01
Custodial sentence	1,680	40.9	1,834	44.7	-0.10	0.02	0.91	0.87	0.94	<0.01
False imprisonment and Modern Slavery Act	21	0.5	19	0.5	0.06	0.09	1.07	0.89	1.28	0.48
Harassment	764	18.6	923	22.5	-0.18	0.02	0.83	0.80	0.87	<0.01
Kidnap	17	0.4	13	0.3	0.17	0.10	1.19	0.98	1.44	0.09
Manslaughter associated with driving	7	0.2	9	0.2	-0.16	0.19	0.85	0.59	1.24	0.40
Child Neglect	38	0.9	14	0.3	0.62	0.08	1.87	1.60	2.18	<0.01
Putting people in fear of violence	65	1.6	46	1.1	0.22	0.05	1.24	1.12	1.37	<0.01
Racially/religiously aggravated violence	170	4.1	237	5.8	-0.22	0.04	0.80	0.74	0.86	<0.01
Robbery	451	11.0	517	12.6	-0.02	0.02	0.98	0.93	1.02	0.33
Serious sexual assault	0	0.0	0	0.0	-	-	-	-	-	-
Stalking	14	0.3	28	0.7	-0.59	0.14	0.56	0.42	0.74	<0.01
Threats to kill	55	1.3	33	0.8	0.33	0.06	1.39	1.24	1.56	<0.01
Witness intimidation	47	1.1	55	1.3	-0.06	0.06	0.94	0.83	1.07	0.35
Wounding with intent	228	5.6	181	4.4	0.15	0.03	1.16	1.09	1.22	<0.01
Wounding without intent	160	3.9	159	3.9	0.02	0.03	1.02	0.95	1.09	0.62

Table E-5 Sexual offences as precursors of sexual homicide

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	0	0.0	0	0.0	-14.9	-	-	-	-	-
Breaches of sexual offending orders and registration	7	3.0	5	2.1	0.3	0.15	1.36	1.01	1.83	0.05
Causing/inciting and grooming of children (all)	3	1.3	3	1.3	-0.1	0.26	0.94	0.57	1.55	0.80
Causing/inciting and grooming of children (under 16 or age unstated)	1	0.4	2	0.9	-0.6	0.54	0.54	0.19	1.57	0.26
Causing/inciting children (under 13)	2	0.9	1	0.4	0.2	0.29	1.24	0.69	2.21	0.47
Direct sexual activity with children (all)	14	6.0	4	1.7	0.9	0.12	2.34	1.86	2.95	< 0.01
Direct sexual activity with children: under 13	3	1.3	1	0.4	0.7	0.26	1.93	1.17	3.18	0.01
Direct sexual activity with children: under 16 or age unstated	12	5.1	3	1.3	0.9	0.12	2.40	1.89	3.05	< 0.01
Engage in sexual communication with a child	0	0.0	1	0.4	-16.1	-	-	-	-	-
Exposure	1	0.4	1	0.4	-0.2	0.43	0.80	0.34	1.87	0.60
Extreme pornography	0	0.0	1	0.4	-16.2	-	-	-	-	-
Indecent images of children (all)	1	0.4	3	1.3	-0.9	0.58	0.43	0.14	1.32	0.14
Indecent images: making, distributing etc	0	0.0	3	1.3	-17.1	-	-	-	-	-
Indecent images: possession only	1	0.4	2	0.9	-0.3	0.48	0.72	0.28	1.85	0.50
Kerb crawling and similar offences	3	1.3	0	0.0	1.8	0.33	6.19	3.25	11.79	< 0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Sexual assault against adult victims	17	7.3	5	2.1	0.9	0.11	2.54	2.07	3.12	< 0.01
Sexual assault against child victims	10	4.3	3	1.3	1.0	0.15	2.60	1.95	3.46	< 0.01
Sexual offence with male child victim	6	2.6	2	0.9	0.8	0.20	2.25	1.52	3.33	< 0.01
Sexual offence with male victim (not restricted to children)	3	1.3	1	0.4	0.9	0.32	2.52	1.34	4.75	< 0.01
Voyeurism	1	0.4	0	0.0	2.2	0.65	9.06	2.54	32.29	< 0.01

Table E-6 Sexual offences as precursors of nonsexual homicide

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	0	0.0	4	0.1	-13.97	-	-	-	-	-
Breaches of sexual offending orders and registration	32	0.9	74	2.0	-0.57	0.09	0.57	0.47	0.68	< 0.01
Causing/inciting and grooming of children (all)	2	0.1	33	0.9	-2.29	0.57	0.10	0.03	0.31	< 0.01
Causing/inciting and grooming of children (under 16 or age unstated)	1	0.0	22	0.6	-2.58	0.83	0.08	0.02	0.38	< 0.01
Causing/inciting children (under 13)	1	0.0	15	0.4	-2.18	0.83	0.11	0.02	0.58	< 0.01
Direct sexual activity with children (all)	30	0.8	59	1.6	-0.41	0.10	0.66	0.55	0.80	< 0.01
Direct sexual activity with children: under 13	7	0.2	13	0.3	-0.37	0.20	0.69	0.46	1.03	0.07

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Direct sexual activity with children: under 16 or age unstated	23	0.6	51	1.4	-0.51	0.11	0.60	0.48	0.75	< 0.01
Engage in sexual communication with a child	0	0.0	5	0.1	-15.05	-	-	-	-	-
Exposure	16	0.4	27	0.7	-0.43	0.12	0.65	0.51	0.82	< 0.01
Extreme pornography	1	0.0	9	0.2	-1.77	0.67	0.17	0.05	0.64	< 0.01
Indecent images of children (all)	3	0.1	45	1.2	-2.17	0.47	0.11	0.05	0.29	< 0.01
Indecent images: making, distributing etc	3	0.1	38	1.0	-2.01	0.46	0.13	0.05	0.33	< 0.01
Indecent images: possession only	0	0.0	23	0.6	-16.08	-	-	-	-	-
Kerb crawling and similar offences	4	0.1	5	0.1	0.06	0.23	1.06	0.68	1.67	0.80
Sexual assault against adult victims	49	1.3	71	1.9	-0.27	0.07	0.76	0.67	0.87	< 0.01
Sexual assault against child victims	25	0.7	43	1.2	-0.34	0.10	0.71	0.59	0.87	< 0.01
Sexual offence with male child victim	8	0.2	24	0.6	-0.77	0.21	0.46	0.30	0.70	< 0.01
Sexual offence with male victim (not restricted to children)	4	0.1	8	0.2	-0.44	0.26	0.65	0.39	1.07	0.09
Voyeurism	1	0.0	3	0.1	-0.69	0.51	0.50	0.18	1.35	0.17

Table E-7 Sexual offences as precursors of serious sexual assault: cases with sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	3	0.3	30	2.6	-1.88	0.45	0.15	0.06	0.37	< 0.01
Breaches of sexual offending orders and registration	184	15.9	356	30.7	-0.72	0.04	0.48	0.44	0.53	< 0.01
Causing/inciting and grooming of children (all)	131	11.3	208	17.9	-0.46	0.05	0.63	0.57	0.70	< 0.01
Causing/inciting and grooming of children (under 16 or age unstated)	72	6.2	152	13.1	-0.66	0.07	0.51	0.45	0.59	< 0.01
Causing/inciting children (under 13)	67	5.8	79	6.8	-0.13	0.07	0.88	0.77	1.00	0.05
Direct sexual activity with children (all)	393	33.9	340	29.3	0.20	0.04	1.23	1.14	1.32	< 0.01
Direct sexual activity with children: under 13	133	11.5	82	7.1	0.41	0.05	1.50	1.36	1.66	< 0.01
Direct sexual activity with children: under 16 or age unstated	320	27.6	289	24.9	0.13	0.04	1.14	1.06	1.22	< 0.01
Engage in sexual communication with a child	6	0.5	51	4.4	-1.74	0.31	0.18	0.10	0.32	< 0.01
Exposure	51	4.4	109	9.4	-0.78	0.09	0.46	0.39	0.55	< 0.01
Extreme pornography	42	3.6	57	4.9	-0.27	0.08	0.77	0.65	0.90	< 0.01
Indecent images of children (all)	219	18.9	278	24.0	-0.30	0.04	0.74	0.68	0.81	< 0.01
Indecent images: making, distributing etc	182	15.7	241	20.8	-0.32	0.05	0.73	0.67	0.80	< 0.01
Indecent images: possession only	108	9.3	147	12.7	-0.28	0.05	0.76	0.68	0.84	< 0.01
Kerb crawling and similar offences	6	0.5	2	0.2	0.70	0.20	2.02	1.36	2.99	< 0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Sexual assault against adult victims	311	26.8	314	27.1	-0.03	0.06	0.97	0.87	1.09	0.65
Sexual assault against child victims	363	31.3	219	18.9	0.60	0.04	1.82	1.68	1.96	< 0.01
Sexual offence with male child victim	186	16.0	143	12.3	0.25	0.04	1.29	1.18	1.40	< 0.01
Sexual offence with male victim (not restricted to children)	57	4.9	37	3.2	0.35	0.08	1.42	1.23	1.65	< 0.01
Voyeurism	13	1.1	14	1.2	-0.06	0.14	0.94	0.71	1.24	0.67

Table E-8 RSR offence groups as precursors of sexual homicide

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	60	25.6	67	28.6	-0.21	0.08	0.81	0.69	0.94	< 0.01
Acquisitive violence	36	15.4	34	14.5	0.01	0.08	1.01	0.87	1.17	0.92
Burglary (domestic)	72	30.8	43	18.4	0.61	0.07	1.83	1.60	2.10	< 0.01
Burglary (other)	71	30.3	48	20.5	0.45	0.07	1.57	1.36	1.80	< 0.01
Criminal damage	115	49.1	99	42.3	0.31	0.07	1.36	1.18	1.58	< 0.01
Drink driving	32	13.7	53	22.6	-0.44	0.09	0.64	0.54	0.76	< 0.01
Drug import/export/production	4	1.7	11	4.7	-0.77	0.27	0.46	0.27	0.79	< 0.01
Drug possession/supply	53	22.6	113	48.3	-1.04	0.08	0.35	0.31	0.41	< 0.01
Drunkenness	15	6.4	22	9.4	-0.32	0.12	0.73	0.58	0.91	< 0.01
Firearms (most serious)	2	0.9	4	1.7	-0.56	0.33	0.57	0.30	1.10	0.09
Firearms (other)	12	5.1	9	3.8	0.19	0.11	1.21	0.98	1.49	0.08

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Fraud and forgery	50	21.4	41	17.5	0.19	0.07	1.21	1.05	1.39	< 0.01
Handling stolen goods	46	19.7	39	16.7	0.15	0.08	1.16	1.00	1.34	0.05
Motoring offences	68	29.1	83	35.5	-0.28	0.07	0.76	0.67	0.87	< 0.01
Other offences	90	38.5	41	17.5	0.85	0.07	2.34	2.05	2.67	< 0.01
Public order and harassment	72	30.8	94	40.2	-0.41	0.07	0.66	0.57	0.76	< 0.01
Sexual (against child)	25	10.7	13	5.6	0.55	0.09	1.73	1.45	2.06	< 0.01
Sexual (not against child)	32	13.7	11	4.7	0.78	0.08	2.19	1.86	2.57	< 0.01
Theft (non-motor)	136	58.1	95	40.6	0.71	0.08	2.03	1.74	2.36	< 0.01
Vehicle-related theft	92	39.3	72	30.8	0.31	0.07	1.36	1.19	1.56	< 0.01
Violence against the person (ABH+)	95	40.6	69	29.5	0.47	0.07	1.61	1.41	1.83	< 0.01
Violence against the person (sub-ABH)	88	37.6	111	47.4	-0.45	0.07	0.64	0.56	0.73	< 0.01
Weapons (non-firearm)	53	22.6	56	23.9	-0.06	0.07	0.94	0.82	1.07	0.36
Welfare fraud	4	1.7	2	0.9	0.53	0.20	1.69	1.14	2.52	< 0.01

Table E-9 RSR offence groups as precursors of nonsexual homicide

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	1,441	38.6	1,345	36.0	0.16	0.02	1.17	1.13	1.21	<0.01
Acquisitive violence	910	24.4	660	17.7	0.20	0.02	1.23	1.19	1.27	<0.01
Burglary (domestic)	994	26.6	851	22.8	0.19	0.02	1.21	1.16	1.25	<0.01
Burglary (other)	1,141	30.6	963	25.8	0.25	0.02	1.28	1.24	1.33	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Criminal damage	1,874	50.2	1,910	51.2	-0.09	0.02	0.91	0.88	0.94	<0.01
Drink driving	661	17.7	939	25.2	-0.20	0.02	0.82	0.79	0.85	<0.01
Drug import/export/production	163	4.4	209	5.6	-0.08	0.04	0.92	0.86	0.99	0.02
Drug possession/supply	1,840	49.3	1,973	52.9	-0.13	0.02	0.88	0.85	0.90	<0.01
Drunkenness	481	12.9	502	13.5	-0.02	0.02	0.98	0.93	1.02	0.27
Firearms (most serious)	109	2.9	86	2.3	0.15	0.04	1.16	1.08	1.26	<0.01
Firearms (other)	246	6.6	192	5.1	0.17	0.03	1.19	1.13	1.25	<0.01
Fraud and forgery	830	22.2	788	21.1	0.16	0.02	1.18	1.14	1.22	<0.01
Handling stolen goods	932	25.0	760	20.4	0.28	0.02	1.33	1.28	1.38	<0.01
Motoring offences	1,417	38.0	1,507	40.4	-0.03	0.02	0.97	0.94	1.01	0.11
Other offences	1,075	28.8	888	23.8	0.25	0.02	1.28	1.24	1.32	<0.01
Public order and harassment	1,676	44.9	1,810	48.5	-0.21	0.02	0.81	0.78	0.84	<0.01
Sexual (against child)	63	1.7	154	4.1	-0.63	0.07	0.53	0.47	0.61	<0.01
Sexual (not against child)	103	2.8	174	4.7	-0.37	0.05	0.69	0.63	0.76	<0.01
Theft (non-motor)	1,935	51.9	1,736	46.5	0.23	0.02	1.26	1.21	1.30	<0.01
Vehicle-related theft	1,579	42.3	1,360	36.5	0.23	0.02	1.25	1.21	1.30	<0.01
Violence against the person (ABH+)	1,651	44.3	1,317	35.3	0.33	0.02	1.40	1.35	1.44	<0.01
Violence against the person (sub-ABH)	1,932	51.8	2,109	56.5	-0.26	0.02	0.77	0.74	0.80	<0.01
Weapons (non-firearm)	1,289	34.5	1,047	28.1	0.17	0.02	1.18	1.14	1.22	<0.01
Welfare fraud	35	0.9	30	0.8	0.30	0.07	1.36	1.18	1.56	<0.01

Table E-10 RSR offence groups as precursors of serious sexual assault: cases with sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	210	18.1	376	32.4	-0.62	0.04	0.54	0.49	0.58	<0.01
Acquisitive violence	103	8.9	159	13.7	-0.37	0.05	0.69	0.62	0.77	<0.01
Burglary (domestic)	212	18.3	256	22.1	-0.18	0.04	0.83	0.77	0.90	<0.01
Burglary (other)	236	20.4	278	24.0	-0.17	0.04	0.85	0.79	0.91	<0.01
Criminal damage	351	30.3	476	41.1	-0.39	0.03	0.68	0.63	0.72	<0.01
Drink driving	128	11.0	193	16.7	-0.37	0.05	0.69	0.63	0.76	<0.01
Drug import/export/production	26	2.2	35	3.0	-0.22	0.10	0.80	0.66	0.97	0.03
Drug possession/supply	197	17.0	380	32.8	-0.70	0.04	0.50	0.46	0.54	<0.01
Drunkenness	74	6.4	165	14.2	-0.68	0.07	0.51	0.44	0.58	<0.01
Firearms (most serious)	9	0.8	19	1.6	-0.54	0.18	0.59	0.41	0.83	<0.01
Firearms (other)	40	3.5	48	4.1	-0.14	0.08	0.87	0.74	1.01	0.08
Fraud and forgery	249	21.5	265	22.9	-0.06	0.04	0.94	0.87	1.01	0.09
Handling stolen goods	165	14.2	217	18.7	-0.25	0.04	0.78	0.71	0.84	<0.01
Motoring offences	251	21.7	324	28.0	-0.27	0.04	0.76	0.71	0.82	<0.01
Other offences	292	25.2	337	29.1	-0.16	0.04	0.85	0.79	0.91	<0.01
Public order and harassment	276	23.8	464	40.0	-0.63	0.04	0.53	0.49	0.57	<0.01
Sexual (against child)	847	73.1	805	69.5	0.28	0.05	1.32	1.20	1.44	<0.01
Sexual (not against child)	579	50.0	695	60.0	-0.57	0.04	0.57	0.52	0.62	<0.01
Theft (non-motor)	466	40.2	498	43.0	-0.10	0.03	0.91	0.85	0.97	<0.01
Vehicle-related theft	294	25.4	347	29.9	-0.18	0.04	0.83	0.78	0.89	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Violence against the person (ABH+)	292	25.2	382	33.0	-0.30	0.04	0.74	0.69	0.79	<0.01
Violence against the person (sub-ABH)	311	26.8	497	42.9	-0.62	0.04	0.54	0.50	0.58	<0.01
Weapons (non-firearm)	138	11.9	248	21.4	-0.54	0.05	0.58	0.53	0.64	<0.01
Welfare fraud	27	2.3	19	1.6	0.26	0.10	1.29	1.06	1.57	<0.01

Table E-11 RSR offence groups as precursors of serious sexual assault: cases with no sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	985	24.0	1,099	26.8	-0.05	0.02	0.95	0.91	0.99	<0.01
Acquisitive violence	464	11.3	533	13.0	-0.03	0.02	0.97	0.93	1.02	0.24
Burglary (domestic)	728	17.7	658	16.0	0.21	0.02	1.23	1.18	1.29	<0.01
Burglary (other)	866	21.1	751	18.3	0.24	0.02	1.27	1.22	1.32	<0.01
Criminal damage	1,663	40.5	1,660	40.4	0.03	0.02	1.03	1.00	1.07	0.09
Drink driving	807	19.6	1,069	26.0	-0.34	0.02	0.71	0.69	0.74	<0.01
Drug import/export/production	161	3.9	210	5.1	-0.21	0.04	0.81	0.75	0.87	<0.01
Drug possession/supply	1,180	28.7	1,910	46.5	-0.62	0.02	0.54	0.52	0.56	<0.01
Drunkenness	385	9.4	392	9.5	-0.02	0.02	0.98	0.93	1.03	0.42
Firearms (most serious)	46	1.1	75	1.8	-0.33	0.07	0.72	0.63	0.82	<0.01
Firearms (other)	147	3.6	167	4.1	-0.09	0.04	0.91	0.85	0.98	0.01
Fraud and forgery	896	21.8	718	17.5	0.22	0.02	1.25	1.20	1.30	<0.01
Handling stolen goods	748	18.2	598	14.6	0.30	0.02	1.35	1.30	1.41	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Motoring offences	1,319	32.1	1,446	35.2	-0.09	0.02	0.92	0.89	0.95	<0.01
Other offences	964	23.5	732	17.8	0.30	0.02	1.35	1.31	1.40	<0.01
Public order and harassment	1,419	34.6	1,562	38.0	-0.16	0.02	0.85	0.82	0.89	<0.01
Sexual (against child)	0	0.0	0	0.0	-	-	-	-	-	-
Sexual (not against child)	0	0.0	0	0.0	-	-	-	-	-	-
Theft (non-motor)	1,796	43.7	1,506	36.7	0.38	0.02	1.46	1.41	1.52	<0.01
Vehicle-related theft	1,225	29.8	1,122	27.3	0.21	0.02	1.24	1.19	1.28	<0.01
Violence against the person (ABH+)	1,318	32.1	1,111	27.1	0.20	0.02	1.22	1.18	1.26	<0.01
Violence against the person (sub-ABH)	1,872	45.6	1,933	47.1	-0.05	0.02	0.96	0.92	0.99	0.01
Weapons (non-firearm)	718	17.5	875	21.3	-0.15	0.02	0.86	0.83	0.89	<0.01
Welfare fraud	101	2.5	33	0.8	0.70	0.05	2.02	1.83	2.23	<0.01

Table E-12 Selected offences as precursors of sexual homicide: cases from July 2019 to June 2021

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	0	0.0	0	0.0	-	-	-	-	-	-
Breach of restraining order	1	2.0	3	6.0	-0.81	0.54	0.44	0.15	1.28	0.13
Breaches of sexual offending orders and registration	2	4.0	1	2.0	0.89	0.27	2.43	1.44	4.09	< 0.01
Causing/inciting and grooming of children (all)	2	4.0	1	2.0	0.77	0.29	2.15	1.22	3.78	< 0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Causing/inciting and grooming of children (under 16 or age unstated)	0	0.0	1	2.0	-18.02	-	-	-	-	-
Causing/inciting children (under 13)	2	4.0	0	0.0	1.07	0.31	2.92	1.58	5.40	< 0.01
Coercive control	0	0.0	0	0.0	-	-	-	-	-	-
Engage in sexual communication with a child	0	0.0	0	0.0	-	-	-	-	-	-
Exposure	1	2.0	0	0.0	1.00	0.31	2.72	1.48	4.99	< 0.01
Extreme pornography	0	0.0	0	0.0	-	-	-	-	-	-
Stalking	0	0.0	0	0.0	-	-	-	-	-	-
Voyeurism	1	2.0	0	0.0	19.06	-	-	-	-	-

Table E-13 Selected offences as precursors of nonsexual homicide: cases from July 2019 to June 2021

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	0	0.0	1	0.1	-13.75	-	-	-	-	-
Breach of restraining order	44	5.1	67	7.8	-0.30	0.07	0.74	0.64	0.86	< 0.01
Breaches of sexual offending orders and registration	3	0.4	16	1.9	-1.20	0.39	0.30	0.14	0.64	< 0.01
Causing/inciting and grooming of children (all)	1	0.1	7	0.8	-1.58	0.76	0.21	0.05	0.91	0.04
Causing/inciting and grooming of children (under 16 or age unstated)	0	0.0	5	0.6	-16.28	-	-	-	-	-

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Causing/inciting children (under 13)	1	0.1	4	0.5	-1.13	0.71	0.32	0.08	1.30	0.11
Coercive control	3	0.4	2	0.2	0.31	0.24	1.37	0.85	2.19	0.19
Engage in sexual communication with a child	0	0.0	1	0.1	-13.91	-	-	-	-	-
Exposure	2	0.2	5	0.6	-0.91	0.30	0.40	0.23	0.72	< 0.01
Extreme pornography	0	0.0	2	0.2	-14.98	-	-	-	-	-
Stalking	3	0.4	7	0.8	-0.56	0.28	0.57	0.33	0.99	0.05
Voyeurism	0	0.0	1	0.1	-13.90	-	-	-	-	-

Table E-14 Selected offences as precursors of serious sexual assault: cases from July 2019 to June 2021 with sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	1	0.4	4	1.8	-1.14	0.66	0.32	0.09	1.17	0.09
Breach of restraining order	4	1.8	19	8.3	-1.30	0.32	0.27	0.15	0.51	< 0.01
Breaches of sexual offending orders and registration	53	23.2	74	32.5	-0.40	0.09	0.67	0.57	0.80	< 0.01
Causing/inciting and grooming of children (all)	29	12.7	37	16.2	-0.23	0.11	0.80	0.64	0.98	0.03
Causing/inciting and grooming of children (under 16 or age unstated)	16	7.0	27	11.8	-0.49	0.14	0.61	0.47	0.81	< 0.01
Causing/inciting children (under 13)	16	7.0	13	5.7	0.20	0.14	1.22	0.93	1.59	0.15

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Coercive control	0	0.0	0	0.0	-	-	-	-	-	-
Engage in sexual communication with a child	5	2.2	9	3.9	-0.43	0.25	0.65	0.40	1.06	0.08
Exposure	16	7.0	24	10.5	-0.46	0.15	0.63	0.47	0.85	< 0.01
Extreme pornography	13	5.7	15	6.6	-0.13	0.15	0.88	0.65	1.17	0.38
Stalking	1	0.4	2	0.9	-0.43	0.53	0.65	0.23	1.84	0.42
Voyeurism	5	2.2	2	0.9	0.54	0.25	1.72	1.06	2.79	0.03

Table E-15 Selected offences as precursors of serious sexual assault: cases from July 2019 to June 2021 with no sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	0	0.0	0	0.0	-	-	-	-	-	-
Breach of restraining order	33	4.5	38	5.2	-0.18	0.08	0.84	0.72	0.98	0.02
Breaches of sexual offending orders and registration	0	0.0	0	0.0	-	-	-	-	-	-
Causing/inciting and grooming of children (all)	0	0.0	0	0.0	-	-	-	-	-	-
Causing/inciting and grooming of children (under 16 or age unstated)	0	0.0	0	0.0	-	-	-	-	-	-
Causing/inciting children (under 13)	0	0.0	0	0.0	-	-	-	-	-	-
Coercive control	5	0.7	1	0.1	0.83	0.21	2.30	1.53	3.46	< 0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Engage in sexual communication with a child	0	0.0	0	0.0	-	-	-	-	-	-
Exposure	0	0.0	0	0.0	-	-	-	-	-	-
Extreme pornography	0	0.0	0	0.0	-	-	-	-	-	-
Stalking	3	0.4	4	0.5	-0.30	0.27	0.74	0.43	1.26	0.27
Voyeurism	0	0.0	0	0.0	-	-	-	-	-	-

Table E-16 Violent offences, custody and serious sexual assault as precursors of nonsexual manslaughter

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	4	0.6	7	1.0	-0.40	0.23	0.67	0.42	1.06	0.08
Arson (endangering life)	4	0.6	5	0.7	-0.13	0.23	0.88	0.56	1.37	0.57
Arson (not endangering life)	15	2.2	19	2.8	-0.26	0.12	0.77	0.62	0.97	0.03
Blackmail	5	0.7	4	0.6	0.14	0.19	1.15	0.80	1.66	0.45
Breach of restraining order	31	4.6	56	8.4	-0.54	0.09	0.58	0.49	0.69	<0.01
Coercive control	2	0.3	2	0.3	0.15	0.29	1.16	0.66	2.04	0.60
Conspiracy to murder or assisting murder	1	0.1	0	0.0	1.34	0.42	3.83	1.67	8.75	<0.01
Criminal damage with intent to endanger life	4	0.6	3	0.4	0.20	0.20	1.22	0.83	1.80	0.31
Current custodial sentence	190	28.4	218	32.6	-0.18	0.04	0.83	0.77	0.90	<0.01
Custodial sentence	398	59.6	392	58.7	0.08	0.04	1.08	0.99	1.18	0.09

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
False imprisonment and Modern Slavery Act	8	1.2	5	0.7	0.36	0.14	1.43	1.08	1.89	0.01
Harassment	205	30.7	218	32.6	-0.20	0.04	0.82	0.76	0.89	<0.01
Kidnap	5	0.7	3	0.4	0.28	0.20	1.33	0.90	1.96	0.15
Manslaughter associated with driving	1	0.1	2	0.3	-0.27	0.77	0.76	0.17	3.47	0.73
Child Neglect	1	0.1	3	0.4	-0.64	0.48	0.53	0.21	1.35	0.18
Putting people in fear of violence	12	1.8	11	1.6	0.08	0.12	1.09	0.86	1.38	0.50
Racially/religiously aggravated violence	64	9.6	62	9.3	-0.04	0.06	0.96	0.85	1.07	0.46
Robbery	152	22.8	122	18.3	0.10	0.04	1.11	1.02	1.20	0.01
Serious sexual assault	3	0.4	8	1.2	-0.70	0.29	0.50	0.28	0.88	0.02
Stalking	0	0.0	6	0.9	-17.03	-	-	-	-	-
Threats to kill	7	1.0	7	1.0	-0.02	0.16	0.98	0.72	1.34	0.89
Witness intimidation	11	1.6	14	2.1	-0.33	0.13	0.72	0.55	0.92	0.01
Wounding with intent	76	11.4	42	6.3	0.47	0.05	1.60	1.44	1.77	<0.01
Wounding without intent	59	8.8	40	6.0	0.27	0.06	1.31	1.17	1.47	<0.01

Table E-17 Sexual offences as precursors of serious sexual assault of adult victims: cases with sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	0	0.0	2	1.2	-17.19	-	-	-	-	-
Breaches of sexual offending orders and registration	31	19.0	53	32.5	-0.60	0.10	0.55	0.45	0.67	< 0.01
Causing/inciting and grooming of children (all)	12	7.4	20	12.3	-0.48	0.17	0.62	0.45	0.86	< 0.01
Causing/inciting and grooming of children (under 16 or age unstated)	11	6.7	15	9.2	-0.26	0.17	0.77	0.56	1.07	0.11
Causing/inciting children (under 13)	1	0.6	8	4.9	-1.74	0.78	0.18	0.04	0.81	0.03
Direct sexual activity with children (all)	27	16.6	31	19.0	-0.17	0.12	0.85	0.67	1.07	0.16
Direct sexual activity with children: under 13	4	2.5	6	3.7	-0.33	0.26	0.72	0.43	1.20	0.21
Direct sexual activity with children: under 16 or age unstated	25	15.3	27	16.6	-0.08	0.12	0.92	0.73	1.17	0.51
Engage in sexual communication with a child	0	0.0	3	1.8	-17.21	-	-	-	-	-
Exposure	14	8.6	19	11.7	-0.34	0.16	0.71	0.52	0.98	0.04
Extreme pornography	1	0.6	8	4.9	-1.78	0.69	0.17	0.04	0.65	< 0.01
Indecent images of children (all)	8	4.9	27	16.6	-1.36	0.26	0.26	0.15	0.42	< 0.01
Indecent images: making, distributing etc	6	3.7	22	13.5	-1.40	0.30	0.25	0.14	0.44	< 0.01
Indecent images: possession only	3	1.8	15	9.2	-1.38	0.37	0.25	0.12	0.52	< 0.01
Kerb crawling and similar offences	1	0.6	0	0.0	1.21	0.43	3.35	1.45	7.74	< 0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Sexual assault against adult victims	88	54.0	76	46.6	0.66	0.16	1.93	1.42	2.64	< 0.01
Sexual assault against child victims	30	18.4	23	14.1	0.31	0.12	1.36	1.08	1.72	< 0.01
Sexual offence with male child victim	4	2.5	12	7.4	-0.85	0.31	0.43	0.23	0.78	< 0.01
Sexual offence with male victim (not restricted to children)	4	2.5	6	3.7	-0.36	0.27	0.70	0.41	1.18	0.18
Voyeurism	3	1.8	2	1.2	0.37	0.31	1.45	0.80	2.66	0.22

Table E-18 Sexual offences as precursors of serious sexual assault of child victims: cases with sexual offending history

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	1	0.2	18	2.9	-2.41	0.87	0.09	0.02	0.49	< 0.01
Breaches of sexual offending orders and registration	83	13.5	179	29.0	-0.84	0.07	0.43	0.38	0.49	< 0.01
Causing/inciting and grooming of children (all)	78	12.6	118	19.1	-0.42	0.07	0.66	0.58	0.75	< 0.01
Causing/inciting and grooming of children (under 16 or age unstated)	36	5.8	88	14.3	-0.79	0.10	0.45	0.37	0.55	< 0.01
Causing/inciting children (under 13)	48	7.8	44	7.1	0.08	0.08	1.08	0.93	1.26	0.31
Direct sexual activity with children (all)	249	40.4	199	32.3	0.32	0.05	1.38	1.26	1.52	< 0.01
Direct sexual activity with children: under 13	95	15.4	50	8.1	0.55	0.06	1.74	1.54	1.96	< 0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Direct sexual activity with children: under 16 or age unstated	201	32.6	168	27.2	0.22	0.05	1.25	1.14	1.38	< 0.01
Engage in sexual communication with a child	3	0.5	32	5.2	-1.93	0.46	0.14	0.06	0.36	< 0.01
Exposure	20	3.2	56	9.1	-0.99	0.15	0.37	0.28	0.50	< 0.01
Extreme pornography	25	4.1	29	4.7	-0.13	0.11	0.88	0.71	1.09	0.24
Indecent images of children (all)	146	23.7	157	25.4	-0.09	0.06	0.91	0.82	1.01	0.09
Indecent images: making, distributing etc	124	20.1	140	22.7	-0.14	0.06	0.87	0.78	0.97	0.01
Indecent images: possession only	76	12.3	80	13.0	-0.04	0.06	0.96	0.84	1.08	0.49
Kerb crawling and similar offences	4	0.6	1	0.2	0.71	0.26	2.03	1.23	3.37	< 0.01
Sexual assault against adult victims	112	18.2	132	21.4	-0.43	0.09	0.65	0.55	0.77	< 0.01
Sexual assault against child victims	233	37.8	132	21.4	0.67	0.05	1.96	1.78	2.17	< 0.01
Sexual offence with male child victim	132	21.4	89	14.4	0.38	0.05	1.47	1.32	1.63	< 0.01
Sexual offence with male victim (not restricted to children)	34	5.5	18	2.9	0.55	0.10	1.74	1.42	2.13	< 0.01
Voyeurism	3	0.5	7	1.1	-0.65	0.34	0.52	0.27	1.01	0.05

Table E-19 Violent offences, custody and serious sexual assault as precursors of nonsexual homicide of adult female partners

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	5	1.6	3	1.0	0.27	0.17	1.31	0.94	1.83	0.10
Arson (endangering life)	3	1.0	2	0.6	0.12	0.26	1.13	0.68	1.89	0.64
Arson (not endangering life)	11	3.5	7	2.2	0.28	0.12	1.32	1.05	1.67	0.02
Blackmail	0	0.0	2	0.6	-16.08	-	-	-	-	-
Breach of restraining order	19	6.1	25	8.0	-0.32	0.11	0.73	0.59	0.90	<0.01
Coercive control	0	0.0	0	0.0	-	-	-	-	-	-
Conspiracy to murder or assisting murder	0	0.0	0	0.0	-	-	-	-	-	-
Criminal damage with intent to endanger life	1	0.3	1	0.3	0.43	0.37	1.54	0.75	3.17	0.24
Current custodial sentence	70	22.3	96	30.6	-0.27	0.06	0.76	0.68	0.86	<0.01
Custodial sentence	172	54.8	173	55.1	0.10	0.07	1.10	0.97	1.26	0.14
False imprisonment and Modern Slavery Act	3	1.0	2	0.6	0.17	0.23	1.18	0.75	1.86	0.48
Harassment	62	19.7	100	31.8	-0.62	0.07	0.54	0.47	0.62	<0.01
Kidnap	1	0.3	2	0.6	-0.62	0.41	0.54	0.24	1.20	0.13
Manslaughter associated with driving	1	0.3	1	0.3	0.01	0.42	1.01	0.45	2.29	0.98
Child Neglect	2	0.6	1	0.3	0.50	0.25	1.65	1.01	2.68	0.04
Putting people in fear of violence	7	2.2	5	1.6	0.21	0.15	1.23	0.93	1.65	0.15
Racially/religiously aggravated violence	26	8.3	27	8.6	-0.07	0.09	0.93	0.79	1.11	0.44
Robbery	43	13.7	50	15.9	-0.06	0.07	0.94	0.82	1.09	0.42

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Serious sexual assault	2	0.6	4	1.3	-0.58	0.33	0.56	0.29	1.07	0.08
Stalking	4	1.3	3	1.0	0.14	0.21	1.15	0.76	1.73	0.52
Threats to kill	7	2.2	3	1.0	0.40	0.15	1.49	1.12	1.99	<0.01
Witness intimidation	3	1.0	6	1.9	-0.43	0.27	0.65	0.38	1.09	0.10
Wounding with intent	36	11.5	20	6.4	0.43	0.07	1.53	1.33	1.76	<0.01
Wounding without intent	23	7.3	17	5.4	0.21	0.09	1.23	1.04	1.46	0.02

Table E-20 RSR offence groups as precursors of nonsexual homicide of adult female partners

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	92	29.3	111	35.4	-0.10	0.07	0.90	0.79	1.03	0.13
Acquisitive violence	46	14.6	52	16.6	-0.04	0.07	0.96	0.84	1.11	0.60
Burglary (domestic)	80	25.5	68	21.7	0.40	0.07	1.50	1.31	1.71	<0.01
Burglary (other)	93	29.6	79	25.2	0.36	0.07	1.44	1.26	1.64	<0.01
Criminal damage	178	56.7	159	50.6	0.28	0.07	1.32	1.16	1.50	<0.01
Drink driving	75	23.9	81	25.8	-0.13	0.06	0.87	0.78	0.98	0.03
Drug import/export/production	12	3.8	16	5.1	-0.18	0.12	0.84	0.66	1.07	0.16
Drug possession/supply	94	29.9	157	50.0	-0.64	0.06	0.53	0.47	0.60	<0.01
Drunkenness	45	14.3	43	13.7	0.02	0.07	1.02	0.89	1.17	0.80
Firearms (most serious)	6	1.9	7	2.2	-0.04	0.19	0.96	0.67	1.38	0.83
Firearms (other)	12	3.8	17	5.4	-0.25	0.13	0.78	0.61	1.01	0.06

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Fraud and forgery	92	29.3	65	20.7	0.48	0.06	1.61	1.43	1.82	<0.01
Handling stolen goods	79	25.2	63	20.1	0.42	0.07	1.53	1.34	1.74	<0.01
Motoring offences	108	34.4	122	38.9	-0.07	0.06	0.93	0.83	1.05	0.25
Other offences	96	30.6	78	24.8	0.32	0.06	1.38	1.23	1.55	<0.01
Public order and harassment	124	39.5	155	49.4	-0.49	0.06	0.61	0.54	0.69	<0.01
Sexual (against child)	7	2.2	13	4.1	-0.47	0.20	0.63	0.42	0.93	0.02
Sexual (not against child)	4	1.3	15	4.8	-0.98	0.30	0.38	0.21	0.68	<0.01
Theft (non-motor)	158	50.3	139	44.3	0.46	0.07	1.58	1.39	1.80	<0.01
Vehicle-related theft	118	37.6	106	33.8	0.37	0.06	1.45	1.28	1.63	<0.01
Violence against the person (ABH+)	161	51.3	110	35.0	0.58	0.06	1.78	1.58	2.01	<0.01
Violence against the person (sub-ABH)	172	54.8	181	57.6	-0.18	0.06	0.83	0.74	0.95	<0.01
Weapons (non-firearm)	80	25.5	84	26.8	-0.03	0.06	0.97	0.87	1.09	0.62
Welfare fraud	6	1.9	3	1.0	0.46	0.16	1.58	1.15	2.16	<0.01

Table E-21 Violent offences, custody and serious sexual assault as precursors of nonsexual homicide of adult male family members and acquaintances

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	14	1.2	13	1.2	0.08	0.11	1.08	0.88	1.34	0.45
Arson (endangering life)	14	1.2	8	0.7	0.32	0.11	1.38	1.11	1.71	<0.01
Arson (not endangering life)	42	3.8	33	2.9	0.12	0.06	1.13	1.00	1.28	0.05

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Blackmail	9	0.8	6	0.5	0.28	0.13	1.32	1.03	1.70	0.03
Breach of restraining order	33	2.9	97	8.7	-0.90	0.09	0.41	0.34	0.49	<0.01
Coercive control	0	0.0	2	0.2	-15.06	-	-	-	-	-
Conspiracy to murder or assisting murder	2	0.2	1	0.1	0.88	0.25	2.42	1.47	3.96	<0.01
Criminal damage with intent to endanger life	4	0.4	5	0.4	-0.05	0.22	0.96	0.62	1.48	0.84
Current custodial sentence	358	32.0	376	33.6	-0.11	0.03	0.89	0.84	0.95	<0.01
Custodial sentence	733	65.4	678	60.5	0.22	0.04	1.25	1.17	1.34	<0.01
False imprisonment and Modern Slavery Act	8	0.7	9	0.8	-0.07	0.15	0.93	0.70	1.24	0.64
Harassment	317	28.3	367	32.8	-0.27	0.03	0.76	0.72	0.81	<0.01
Kidnap	4	0.4	5	0.4	-0.09	0.21	0.92	0.61	1.39	0.68
Manslaughter associated with driving	4	0.4	3	0.3	0.25	0.21	1.28	0.84	1.94	0.25
Child Neglect	0	0.0	5	0.4	-16.00	-	-	-	-	-
Putting people in fear of violence	6	0.5	19	1.7	-0.84	0.23	0.43	0.28	0.67	<0.01
Racially/religiously aggravated violence	94	8.4	107	9.6	-0.16	0.05	0.85	0.78	0.94	<0.01
Robbery	258	23.0	208	18.6	0.13	0.03	1.14	1.07	1.21	<0.01
Serious sexual assault	10	0.9	16	1.4	-0.31	0.15	0.73	0.55	0.97	0.03
Stalking	1	0.1	9	0.8	-1.77	0.64	0.17	0.05	0.60	<0.01
Threats to kill	17	1.5	14	1.2	0.11	0.10	1.11	0.92	1.35	0.27
Witness intimidation	15	1.3	23	2.1	-0.39	0.12	0.68	0.54	0.86	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Wounding with intent	132	11.8	72	6.4	0.47	0.04	1.60	1.49	1.72	<0.01
Wounding without intent	88	7.9	65	5.8	0.20	0.05	1.23	1.12	1.34	<0.01

Table E-22 RSR offence groups as precursors of nonsexual homicide of adult male family members and acquaintances

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	487	43.5	448	40.0	0.19	0.03	1.21	1.13	1.29	<0.01
Acquisitive violence	267	23.8	216	19.3	0.13	0.03	1.14	1.08	1.21	<0.01
Burglary (domestic)	320	28.6	281	25.1	0.16	0.03	1.18	1.11	1.26	<0.01
Burglary (other)	362	32.3	322	28.7	0.19	0.03	1.21	1.13	1.29	<0.01
Criminal damage	619	55.3	612	54.6	-0.01	0.03	0.99	0.92	1.05	0.66
Drink driving	231	20.6	295	26.3	-0.15	0.03	0.86	0.80	0.92	<0.01
Drug import/export/production	56	5.0	66	5.9	-0.04	0.06	0.96	0.85	1.08	0.49
Drug possession/supply	592	52.9	617	55.1	-0.07	0.03	0.93	0.88	0.98	0.01
Drunkenness	198	17.7	169	15.1	0.17	0.04	1.18	1.10	1.27	<0.01
Firearms (most serious)	33	2.9	29	2.6	0.07	0.07	1.07	0.93	1.24	0.32
Firearms (other)	84	7.5	63	5.6	0.22	0.04	1.24	1.14	1.35	<0.01
Fraud and forgery	247	22.1	254	22.7	0.05	0.03	1.05	0.98	1.13	0.13
Handling stolen goods	308	27.5	251	22.4	0.29	0.03	1.33	1.25	1.42	<0.01
Motoring offences	451	40.3	481	42.9	-0.05	0.03	0.95	0.90	1.00	0.07
Other offences	341	30.4	299	26.7	0.16	0.03	1.18	1.11	1.25	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Public order and harassment	527	47.1	584	52.1	-0.27	0.03	0.76	0.72	0.81	<0.01
Sexual (against child)	19	1.7	46	4.1	-0.64	0.13	0.53	0.41	0.68	<0.01
Sexual (not against child)	35	3.1	57	5.1	-0.36	0.08	0.70	0.60	0.82	<0.01
Theft (non-motor)	635	56.7	560	50.0	0.28	0.03	1.33	1.25	1.42	<0.01
Vehicle-related theft	512	45.7	440	39.3	0.25	0.03	1.28	1.20	1.36	<0.01
Violence against the person (ABH+)	505	45.1	415	37.1	0.29	0.03	1.34	1.26	1.42	<0.01
Violence against the person (sub-ABH)	596	53.2	671	59.9	-0.35	0.03	0.71	0.66	0.76	<0.01
Weapons (non-firearm)	387	34.6	334	29.8	0.13	0.03	1.14	1.08	1.20	<0.01
Welfare fraud	14	1.2	10	0.9	0.39	0.11	1.47	1.19	1.82	<0.01

Table E-23 Violent offences, custody and serious sexual assault as precursors of nonsexual homicide of adult male strangers

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	10	1.4	7	1.0	0.28	0.13	1.33	1.02	1.73	0.03
Arson (endangering life)	3	0.4	5	0.7	-0.23	0.31	0.80	0.43	1.46	0.46
Arson (not endangering life)	22	3.1	17	2.4	0.06	0.10	1.06	0.88	1.28	0.53
Blackmail	5	0.7	4	0.6	0.27	0.19	1.31	0.90	1.89	0.16
Breach of restraining order	10	1.4	54	7.6	-1.22	0.19	0.30	0.20	0.43	<0.01
Coercive control	1	0.1	1	0.1	-0.47	0.35	0.62	0.31	1.24	0.18
Conspiracy to murder or assisting murder	2	0.3	0	0.0	1.58	0.35	4.84	2.43	9.64	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Criminal damage with intent to endanger life	0	0.0	3	0.4	-15.79	-	-	-	-	-
Current custodial sentence	236	33.3	227	32.0	-0.14	0.04	0.87	0.81	0.94	<0.01
Custodial sentence	443	62.5	395	55.7	0.21	0.05	1.23	1.13	1.35	<0.01
False imprisonment and Modern Slavery Act	6	0.8	4	0.6	0.19	0.15	1.21	0.90	1.61	0.20
Harassment	169	23.8	205	28.9	-0.31	0.05	0.73	0.67	0.80	<0.01
Kidnap	7	1.0	3	0.4	0.59	0.17	1.80	1.30	2.50	<0.01
Manslaughter associated with driving	0	0.0	1	0.1	-14.64	-	-	-	-	-
Child Neglect	0	0.0	2	0.3	-15.77	-	-	-	-	-
Putting people in fear of violence	8	1.1	10	1.4	-0.05	0.15	0.95	0.70	1.29	0.74
Racially/religiously aggravated violence	45	6.3	56	7.9	-0.25	0.07	0.78	0.68	0.90	<0.01
Robbery	185	26.1	117	16.5	0.23	0.04	1.25	1.16	1.36	<0.01
Serious sexual assault	6	0.8	11	1.6	-0.43	0.22	0.65	0.43	1.00	0.05
Stalking	1	0.1	4	0.6	-0.99	0.46	0.37	0.15	0.91	0.03
Threats to kill	3	0.4	6	0.8	-0.30	0.26	0.74	0.45	1.22	0.24
Witness intimidation	10	1.4	12	1.7	-0.35	0.15	0.70	0.52	0.94	0.02
Wounding with intent	83	11.7	38	5.4	0.64	0.05	1.90	1.71	2.11	<0.01
Wounding without intent	41	5.8	38	5.4	0.04	0.07	1.04	0.91	1.19	0.56

Table E-24 RSR offence groups as precursors of nonsexual homicide of adult male strangers

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Absconding/bail	283	39.9	233	32.9	0.33	0.05	1.39	1.27	1.52	<0.01
Acquisitive violence	193	27.2	121	17.1	0.24	0.04	1.28	1.18	1.38	<0.01
Burglary (domestic)	204	28.8	152	21.4	0.24	0.04	1.28	1.17	1.39	<0.01
Burglary (other)	226	31.9	166	23.4	0.32	0.04	1.38	1.26	1.50	<0.01
Criminal damage	328	46.3	353	49.8	-0.23	0.04	0.79	0.73	0.86	<0.01
Drink driving	90	12.7	167	23.6	-0.29	0.06	0.75	0.67	0.83	<0.01
Drug import/export/production	27	3.8	40	5.6	-0.12	0.09	0.89	0.74	1.07	0.21
Drug possession/supply	357	50.4	371	52.3	-0.15	0.04	0.86	0.80	0.93	<0.01
Drunkenness	75	10.6	90	12.7	-0.12	0.06	0.89	0.79	1.00	0.05
Firearms (most serious)	28	3.9	15	2.1	0.53	0.08	1.70	1.44	2.00	<0.01
Firearms (other)	49	6.9	33	4.7	0.26	0.06	1.29	1.14	1.46	<0.01
Fraud and forgery	136	19.2	140	19.7	0.11	0.05	1.11	1.01	1.22	0.03
Handling stolen goods	181	25.5	138	19.5	0.30	0.05	1.35	1.23	1.48	<0.01
Motoring offences	274	38.6	277	39.1	0.08	0.04	1.08	1.00	1.17	0.05
Other offences	189	26.7	153	21.6	0.27	0.04	1.31	1.20	1.42	<0.01
Public order and harassment	308	43.4	335	47.2	-0.21	0.04	0.81	0.74	0.88	<0.01
Sexual (against child)	13	1.8	29	4.1	-0.58	0.15	0.56	0.42	0.75	<0.01
Sexual (not against child)	12	1.7	30	4.2	-0.62	0.17	0.54	0.39	0.75	<0.01
Theft (non-motor)	354	49.9	321	45.3	0.11	0.04	1.12	1.03	1.22	<0.01
Vehicle-related theft	315	44.4	250	35.3	0.24	0.04	1.27	1.17	1.38	<0.01

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Violence against the person (ABH+)	323	45.6	240	33.9	0.45	0.04	1.56	1.44	1.69	<0.01
Violence against the person (sub-ABH)	347	48.9	386	54.4	-0.27	0.04	0.76	0.70	0.83	<0.01
Weapons (non-firearm)	260	36.7	188	26.5	0.23	0.04	1.26	1.17	1.35	<0.01
Welfare fraud	4	0.6	5	0.7	0.30	0.28	1.34	0.78	2.31	0.28

Table E-25 Violent offences, custody and serious sexual assault as precursors of nonsexual homicide of adult female partners: cases from July 2019 to June 2021

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Aggravated burglary	3	6.4	1	2.1	1.56	0.36	4.77	2.37	9.62	<0.01
Arson (endangering life)	1	2.1	0	0.0	0.49	0.31	1.63	0.89	2.97	0.11
Arson (not endangering life)	1	2.1	1	2.1	-0.13	0.42	0.88	0.39	2.00	0.76
Blackmail	0	0.0	1	2.1	-17.19	-	-	-	-	-
Breach of restraining order	8	17.0	3	6.4	0.57	0.23	1.77	1.13	2.77	0.01
Coercive control	0	0.0	0	0.0	-	-	-	-	-	-
Conspiracy to murder or assisting murder	0	0.0	0	0.0	-	-	-	-	-	-
Criminal damage with intent to endanger life	0	0.0	0	0.0	-	-	-	-	-	-
Current custodial sentence	14	29.8	14	29.8	0.00	0.15	1.00	0.75	1.33	0.99
Custodial sentence	24	51.1	25	53.2	0.13	0.17	1.14	0.82	1.58	0.43

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
False imprisonment and Modern Slavery Act	1	2.1	0	0.0	1.33	0.43	3.78	1.64	8.74	<0.01
Harassment	14	29.8	15	31.9	-0.22	0.17	0.80	0.57	1.12	0.20
Kidnap	1	2.1	0	0.0	0.66	0.38	1.94	0.91	4.11	0.08
Manslaughter associated with driving	0	0.0	0	0.0	-	-	-	-	-	-
Child Neglect	1	2.1	0	0.0	2.17	0.48	8.73	3.41	22.32	<0.01
Putting people in fear of violence	1	2.1	1	2.1	0.09	0.29	1.10	0.63	1.93	0.74
Racially/religiously aggravated violence	10	21.3	4	8.5	0.95	0.19	2.59	1.77	3.80	<0.01
Robbery	9	19.1	7	14.9	0.51	0.16	1.66	1.21	2.27	<0.01
Serious sexual assault	0	0.0	1	2.1	-17.98	-	-	-	-	-
Stalking	1	2.1	0	0.0	0.97	0.45	2.65	1.09	6.41	0.03
Threats to kill	0	0.0	0	0.0	-	-	-	-	-	-
Witness intimidation	1	2.1	1	2.1	-0.24	0.35	0.79	0.39	1.57	0.50
Wounding with intent	4	8.5	3	6.4	0.23	0.22	1.25	0.81	1.93	0.31
Wounding without intent	5	10.6	2	4.3	0.62	0.20	1.87	1.26	2.76	<0.01

Table E-26 Sexual offences as precursors of serious sexual assault of child victims: cases from July 2019 to June 2021

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Abuse of children through prostitution and pornography	1	0.9	3	2.6	-0.84	0.62	0.43	0.13	1.47	0.18
Breaches of sexual offending orders and registration	25	21.7	37	32.2	-0.28	0.14	0.76	0.57	1.00	0.05
Causing/inciting and grooming of children (all)	20	17.4	20	17.4	-0.10	0.14	0.91	0.69	1.19	0.48
Causing/inciting and grooming of children (under 16 or age unstated)	11	9.6	15	13.0	-0.38	0.17	0.68	0.49	0.97	0.03
Causing/inciting children (under 13)	12	10.4	7	6.1	0.33	0.17	1.39	0.99	1.96	0.06
Direct sexual activity with children (all)	47	40.9	37	32.2	0.32	0.12	1.37	1.09	1.72	< 0.01
Direct sexual activity with children: under 13	21	18.3	10	8.7	0.77	0.15	2.15	1.59	2.91	< 0.01
Direct sexual activity with children: under 16 or age unstated	36	31.3	31	27.0	0.13	0.12	1.14	0.90	1.43	0.27
Engage in sexual communication with a child	3	2.6	5	4.3	-0.39	0.32	0.68	0.36	1.26	0.22
Exposure	7	6.1	13	11.3	-0.36	0.23	0.70	0.44	1.10	0.12
Extreme pornography	12	10.4	8	7.0	0.16	0.18	1.17	0.82	1.68	0.39
Indecent images of children (all)	42	36.5	30	26.1	0.30	0.13	1.35	1.05	1.72	0.02
Indecent images: making, distributing etc	37	32.2	26	22.6	0.28	0.13	1.33	1.03	1.70	0.03
Indecent images: possession only	18	15.7	17	14.8	0.02	0.15	1.02	0.76	1.36	0.92
Kerb crawling and similar offences	1	0.9	1	0.9	0.30	0.59	1.35	0.43	4.28	0.61

Precursor	Cases	Cases (%)	Controls	Controls (%)	Beta	SE (Beta)	Odds ratio	Lower limit (95%)	Upper limit (95%)	P value
Sexual assault against adult victims	23	20.0	30	26.1	-0.55	0.21	0.58	0.38	0.88	0.01
Sexual assault against child victims	39	33.9	24	20.9	0.55	0.13	1.73	1.35	2.21	< 0.01
Sexual offence with male child victim	27	23.5	16	13.9	0.39	0.13	1.47	1.14	1.90	< 0.01
Sexual offence with male victim (not restricted to children)	8	7.0	5	4.3	0.18	0.23	1.19	0.75	1.89	0.45
Voyeurism	2	1.7	1	0.9	0.51	0.42	1.67	0.74	3.78	0.22

Table E-27 Case-control matching for nonsexual homicide cases

All prior sanctions	Prior violent sanctions	Cases before matching	Potential controls before matching	Variables matched on	No matches	One match	Two matches	Three matches	Four or more matches	Number controls matched	Mean matches per case
One	None	180	9,413	Age	1	1	3	3	172	1,437	8.0
One	One or more	241	7,300	Age	6	0	2	3	230	1,476	6.1
Two	None	68	4,558	Age, years between first and current offence	0	0	0	0	68	278	4.1
Two	One	133	4,997	Age, years between first and current offence	0	2	0	4	127	523	3.9
Two	Two	127	3,731	Age, years between first and current offence	3	2	0	3	119	487	3.8
Three or more	None	167	7,407	Age, Copas-G	1	6	4	4	152	692	4.1

All prior sanctions	Prior violent sanctions	Cases before matching	Potential controls before matching	Variables matched on	No matches	One match	Two matches	Three matches	Four or more matches	Number controls matched	Mean matches per case
Three or more	One or more	2,830	115,942	Age, Copas-G, Copas-V	4	9	14	21	2,782	58,557	20.7

Table E-28 Case-control matching for sexual homicide cases

All prior sanctions	Prior violent sanctions	Cases before matching	Potential controls before matching	Variables matched on	No matches	One match	Two matches	Three matches	Four or more matches	Number controls matched	Mean matches per case
One	None	27	9,413	Age	0	0	0	0	27	306	11.3
One	One or more	20	7,300	Age	0	0	0	0	20	121	6.0
Two	None	9	4,558	Age, years between first and current offence	0	0	0	0	9	36	4.0
Two	One	8	4,997	Age, years between first and current offence	0	0	0	0	8	32	4.0
Two	Two	8	3,731	Age, years between first and current offence	0	0	0	0	8	32	4.0
Three or more	None	12	7,407	Age, Copas-G	0	0	0	0	12	49	4.1
Three or more	One or more	150	115,942	Age, Copas-G, Copas-V	0	0	0	0	150	4,529	30.2

Table E-29 Case-control matching for serious sexual assault cases with no sexual offending history

All prior sanctions	Prior violent sanctions	Cases before matching	Potential controls before matching	Variables matched on	No matches	One match	Two matches	Three matches	Four or more matches	Number controls matched	Mean matches per case
One	None	420	8,107	Age	10	7	13	15	375	2,314	5.5
One	One or more	455	7,213	Age	12	7	15	31	390	2,384	5.2
Two	None	174	3,841	Age, years between first and current offence	7	6	10	9	142	642	3.7
Two	One	222	4,705	Age, years between first and current offence	11	9	4	18	180	791	3.6
Two	Two	169	3,691	Age, years between first and current offence	5	2	6	7	149	631	3.7
Three or more	None	258	6,313	Age, Copas-G	3	7	5	10	233	1,011	3.9
Three or more	One or more	2,354	107,718	Age, Copas-G, Copas-V	13	15	20	23	2,283	46,241	19.6

Table E-30 Case-control matching for serious sexual assault cases with sexual offending history: summary of risk factors scored in OSP

Risk factor	Cases	Matched controls (weighted)	Matched controls (unweighted)
Sanctions for contact adult sexual offences	1.73	1.69	1.58
Sanctions for contact child sexual offences	2.20	2.00	1.69
Sanctions for noncontact sexual offences (excluding indecent images of children)	0.24	0.42	0.41
Age at most recent prior sanction	8.12	8.13	8.66
Age at most recent prior sexual sanction	9.09	8.96	8.82
Any previous sanctions?	4.65	4.84	5.15
Total OSP/C score	26.04	26.04	26.31
Number	1,159	1,159	9,615