

Revision to **The factors associated with proven re-offending following release from prison: findings from Waves 1 to 3 of SPCR**

Wave 3: Post-release resettlement experience, Section 4.2, p. 19

A sentence on page 19: 'approximately 66% went on to re-offend, compared with 51% of those who were not living with immediate family members' **has been corrected to:** 'approximately 66% went on to re-offend, compared with 51% of those living in stable accommodation'.

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The factors associated with proven re-offending following release from prison: findings from Waves 1 to 3 of SPCR

Results from the Surveying Prisoner Crime Reduction (SPCR) longitudinal cohort study of prisoners)

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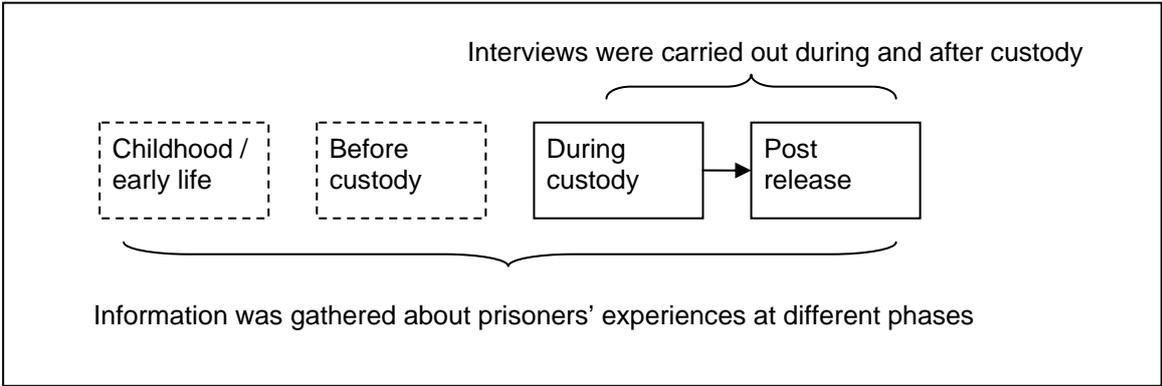
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1. Summary

Increasing our understanding of prisoners who re-offend after release is a key priority for the development of policy in relation to the management and rehabilitation of offenders. Between 2005 and 2010 a longitudinal cohort study (*Surveying Prisoner Crime Reduction – SPCR*) was conducted to improve the evidence in this area.

This study involved interviews during and after custody,¹ as well as matching individuals to administrative data such as criminal records.² Interviews gathered information about a wide range of prisoners’ needs, experiences and behaviours at different life stages. Topics included childhood, schooling and family issues, prior offending, drug use, mental health, and accommodation and employment before and after custody. The study also asked about experiences and behaviour in prison, including participation in interventions (such as offender behaviour programmes), work, family visits, drug use and punishments received in prison. Figure 1.1 provides a schematic outline of interview topics and timing.

Figure 1.1: SPCR interviews and topic areas/life stages



Previous reports from the SPCR study have focused on the background characteristics of prisoners, including childhood experiences, education, employment, drug and alcohol use, health and mental health, needs and attitudes, accommodation before custody, and criminal history (MoJ, 2010a; Light et al, 2013; Williams et al, 2012a; 2012b; Hopkins 2012; Boorman & Hopkins 2012) These reports were based on bivariate analysis and explored prevalence of

¹ The current report uses self-report data from Waves 1 to 3 of the survey (prison reception, pre-release, post release interviews) and is based on SPCR Sample 1, which includes 1,435 adult prisoners sentenced to between one month and four years in England and Wales in 2005 and 2006.
² Approximately 93% of the sample was matched to the Police National Computer (PNC), allowing re-offending and criminal history analyses to be undertaken and this sub-sample of 1,331 prisoners was representative of reception prisoners.

these pre-custody factors and whether they were associated with higher rates of re-offending on release.

The current report extends this approach, first using bivariate analysis to describe a range of experiences and behaviours during custody and post release, exploring how re-offending rates vary according to these later factors. The analysis then focuses more specifically on identifying the particular aspects of offenders' experiences before, during and shortly after prison that were **most strongly** associated with higher likelihood of re-offending after release. To do so the analysis used logistic regression, developing a multivariate model to allow several factors to be tested for their association with re-offending at the same time. This allows us to demonstrate which factors were **independently** associated with re-offending, when all factors were considered together.

Logistic regression analysis does not establish causal links between events, circumstances and re-offending. Nevertheless, the approach allows us to identify a range of factors directly associated with re-offending, and to consider the relative importance of different factors to support policy makers and practitioners working with prisoners and ex-prisoners.

Findings

The analysis identified a number of factors as independently associated with re-offending after release. These related to:

- Prior offending
- Drug use, accommodation and employment in the community
- In-prison attitudes and behaviour
- Regular truancy from school in childhood

Key conclusions and implications are set out below.

Offending

In line with previous research (e.g. May et al., 2008; MoJ, 2012a) **previous offending history** was found to be the most important factor in predicting re-offending. Offenders who had a more complex offending history (as measured by their Copas rates³) were more likely to be reconvicted on release. In contrast, offenders serving their first prison sentence were less likely to be reconvicted.

Crime type was identified in the analysis as an important predictor, in particular offenders who were serving a sentence for an **acquisitive crime** (theft, robbery, prostitution, handling stolen goods, burglary) were more likely to go on to re-offend than offenders serving sentences for other crime types (for example, violence, sexual offences, drug offences, fraud and forgery, vehicle-related offences, and 'other' offences).

Behaviour and experiences in the community

Criminogenic needs experienced in the community before or after custody, such as **insecure accommodation, employment needs** and **substance misuse** were identified as good predictors, even after controlling for criminal history, reinforcing the importance of interventions to address these issues in order to reduce re-offending. Specifically:

- Offenders who were homeless or living in temporary accommodation prior to their prison sentence were more likely to re-offend on release than those with more stable accommodation.
- Offenders who reported Class A drug use after custody were more likely to re-offend than those who did not.
- Prisoners who reported being employed at some point in the 12 months before custody were less likely to re-offend than those who had not been employed during the same period.

In-custody behaviours and experiences

The analysis also found that offenders who were less willing to follow prison rules (that is, those who received additional **punishment while in prison**) were more likely to re-offend, after controlling for other factors; this suggests that there may be opportunity to identify and target a group of offenders for further engagement to reduce re-offending.

³ The Copas rate (Copas and Marshall, 1998) is a measure of the rate at which an offender has built up convictions throughout their criminal career. The Copas rate formula is the natural log of (the number of court appearances or cautions, plus one, all divided by the length of criminal career in years, plus ten). See MoJ (2011) for more details.

Offenders who reported in their first interview in prison that they felt **worried about spending time in prison** were less likely to re-offend on release, compared with those who did not report feeling worried (after controlling for other factors, including previous offending).

Differences were observed in re-offending levels according to participation in activities during custody such as paid work, interventions and family visits, however these did not remain significant once they were entered into the model; this means that these factors were not independently associated with re-offending after release. These results may reflect study design limitations and in particular sample sizes.

In-custody activities may be associated with offenders achieving other intermediate outcomes that support desistance. Prison-based activities such as family visits, paid work and other interventions are important for engaging with offenders' attitudes, increasing their skills before release, keeping them occupied and strengthening and maintaining family ties.

Early life factors

The analysis found that offenders who reported **regularly playing truant from school** as a child were more likely to go on to re-offend on release than those who did not.

Adverse childhood events have high rates of prevalence amongst the prison population (such as witnessing violence in the home, experiencing abuse, and being taken into care) and different levels of re-offending were observed in the bivariate analysis for offenders who had such experiences. These differences did not remain significant in the final model. It is likely that these factors are associated with the commencement of a criminal career (rather than re-offending specifically), emphasising the importance of preventative interventions, such as early childhood and familial interventions.

Other

Other factors identified as directly associated with lower rates of offending reinforce the role of **age** in desistance from crime; each year of age was associated with a two percent reduction in the odds of re-offending. In addition, offenders who served **longer sentences** (greater than one year) were less likely to re-offend than those on shorter sentences (less than one year). This may be due to differences in the characteristics and rehabilitative opportunities of longer sentenced prisoners which were not controlled for in the models.

Implications

The analysis shows that offenders' journeys into and out of custody are characterised by a broad range of experiences, needs and behaviours at all stages.

Some of these factors have been identified in the research as directly, or independently, associated with re-offending, and these offer opportunities for targeted interventions to support desistance. In particular, findings on offenders' accommodation, drug misuse and employment needs indicate the potential of through-the-gate initiatives and community-based interventions to support rehabilitation.

The direct association of offending history, as well as offender behaviours and worry in prison, indicate opportunities to target particular groups of offenders to support their desistance.

The analysis found that several experiences, needs and behaviours were **not** independently associated with re-offending, for example adverse childhood experiences; these factors may be linked either to the commencement of a criminal career in the first place or to other factors (such as drug use or employment problems) that are directly associated with re-offending. These findings indicate the need for preventative measures and interventions.

In addition, the analysis found that in-custody interventions were not independently associated with reoffending outcomes; it is a challenge for a general prisoner survey of this kind to generate sufficient sample sizes to assess the impact of individual interventions, and more targeted research would be needed to evaluate the effectiveness of particular prison- (and community-) based interventions in reducing re-offending.

2. Context

2.1 Background

Previous analysis of Surveying Prisoner Crime Reduction (SPCR)⁴ identified a number of 'risk' and 'protective' factors associated with reconviction⁵ within a year of release from prison.⁶

Previous reports were based on analysis of the first tranche of prisoner interviews in the study (Wave 1) which were carried out on reception to prison. These interviews covered childhood experiences, pre-custody accommodation, employment, and drug and alcohol use, as well as information on criminal histories. Further information on criminal histories, as well as re-offending data, were available from the Police National Computer (PNC).

Reconviction in the year after release from prison was linked to the prisoners' backgrounds, with a higher risk of reconviction amongst prisoners who reported: having suffered abuse or witnessed violence in the home as a child; having been taken into care as a child; having been permanently excluded from school; having no academic qualifications; and having family members who had been convicted of a non-motoring criminal offence, amongst other factors (Williams *et al*, 2012a; Hopkins, 2012). Associations between SPCR prisoners' criminal histories (using self-reported and PNC variables) and re-offending on release were also reported (Boorman and Hopkins, 2012). Dynamic⁷ factors relating to prisoners' immediate pre-custody situation were also found to be important, with higher risk of reconviction amongst regular drug and alcohol users, those who were homeless or living in temporary accommodation prior to their sentence, and those who had not been in employment in the year prior to their sentence (MoJ, 2010a; Light *et al*, 2013; Williams *et al*, 2012b; Hopkins 2012).

Many of these risk factors may be related to each other and to other underlying risk factors, which only emerged in later interviews (which were carried out in prison and after release). The current analysis was designed to capture these additional risk factors associated with

⁴ Wave 1 interviews, conducted on reception to prison.

⁵ The research published in 2010 used an earlier measure of re-offending, which did not include out-of-court disposals such as cautions. The measure adopted by the MoJ in 2011 (proven re-offending) includes out-of-court disposals, and this measure is used in this report. See MoJ (2011) for details.

⁶ For a summary of the risk factors see MoJ (2010a); for details of the PNC-matched sub-samples see Boorman and Hopkins (2012).

⁷ 'Dynamic' risk factors are those which can change, whilst 'static' risk factors are not subject to change (Andrews and Bonta, 2010).

re-offending on release and to identify which factors, out of all of those identified, were directly associated with re-offending (and not by their association with other factors).

2.2 Aims

Building on the previous research, the analysis presented here aimed first to identify additional factors associated with re-offending that were captured during Wave 2 (pre-release) and Wave 3 (post-release) interviews with offenders. These interviews were undertaken during custody and after release, and provided information on, for example, involvement in prison-based education, training programmes, offending behaviour interventions, contact with family, and help with resettlement, as well as living arrangements and other circumstances following release from prison.

The analysis also aimed to identify, using both the additional and previously-identified risk factors, those factors which were most strongly (independently) associated with proven re-offending within one and two years of release from prison amongst a sub-sample of SPCR. Factors which are *independently* associated with re-offending provide clear indications about where interventions to reduce re-offending may be most successful. Other factors which are *indirectly* associated with re-offending can help to identify which prisoners are more likely to re-offend, and indicate areas where interventions to address other issues associated with re-offending (such as the commencement of a criminal career) may be most successful.

Factors which are *not* associated with re-offending may also be important for other reasons. For example, prison routines which are important for maintaining order, health, or well-being amongst prisoners may not be associated with reduced re-offending.

3. Approach

This report is based on analysis of Waves 1–3 of Surveying Prisoner Crime Reduction (SPCR) data. SPCR is a longitudinal cohort study of 3,849 adult (18 years of age and over) prisoners in England and Wales sentenced to up to four years in prison.⁸ Interviews were conducted on reception to prison (Wave 1),⁹ in the weeks prior to release (Wave 2), and in the community approximately two months after release (Wave 3).¹⁰ Participants were matched to the Police National Computer (PNC), allowing reconviction rates to be calculated.

The analysis presented is based on Sample 1¹¹ of SPCR: a representative¹² sample of 1,435 prisoners sentenced in 2005 and 2006. Despite SPCR Sample 1 achieving a representative sample of prisoners on entry to prison, over the course of the survey (2005 to 2010) a number of prisoners were either not contactable, or declined to participate in later waves of the survey (survey attrition). At Wave 2 the response rate was 76%,¹³ falling to 57% at Wave 3.

The loss of participants was problematic for analyses based on data from all three waves of the survey, reducing the useable sample and potentially leading to biased estimates. In order to adjust for the impact of missing data, **multiple imputation (MI)** procedures (which create statistical proxies for missing data based on available data) were used. The sensitivity of the results to the assumptions underlying the multiple imputation approach was explored, with the models judged to be robust. As a result, the analyses of Waves 2 and 3 of SPCR Sample 1 in this report are based on partially imputed datasets.¹⁴

Data from the Police National Computer (PNC) were matched to each survey participant to obtain a record of whether prisoners went on to be reconvicted of at least one proven

⁸ Most prisoners serve approximately half of their prison sentence in custody; SPCR prisoners would have spent up to two years in custody.

⁹ Results from the Wave 1 (on reception to prison) interviews are available in MoJ (2010a) and in Williams *et al* (2012a; 2012b); Cunniffe *et al* (2012); Hopkins (2012); Boorman and Hopkins (2012); and in Light *et al* (2013). Descriptive results from the Wave 2 (pre-release) and Wave 3 (post-release) interviews, including both non-imputed and imputed results, will be available in Hopkins and Brunton-Smith (forthcoming). Another analysis exploring factors across Waves 1–3 associated with longer-term (sentenced to between 18 months and four years) prisoners' *employment* on release will be available in Brunton-Smith and Hopkins (forthcoming).

¹⁰ A fourth wave of the survey was also conducted six months after release, but this was restricted to a subset of longer-term prisoners so is not considered further here.

¹¹ See Cleary *et al* (2012a, 2012b, 2013) for details on sampling and data collection.

¹² Of reception prisoners sentenced to between one month and four years in prison in 2006: Less than 10% of prisoners were sentenced to more than four years in prison in 2006 – Offender management caseload statistics (annual), available at: <http://www.justice.gov.uk/publications/statistics-and-data/prisons-and-probation/omcs-annual.htm>

¹³ This includes 737 prisoners who were asked a subset of the Wave 2 questions as part of their Wave 1 interview.

¹⁴ Full details of the survey attrition and the methods used to adjust for it are available in the missing data recovery Technical Report (Brunton-Smith *et al*, forthcoming).

re-offence within one and two years after release. This is based on those offences committed within a 12- and 24-month period after release (conviction in court for the offence may have occurred up to six months later). Using the methodology adopted by the Ministry of Justice in 2011 (MoJ, 2011), proven re-offending also included offences that resulted in other court disposals (court cautions, warnings, reprimands).¹⁵ Around 7% of prisoners could not be successfully matched to the PNC, so a re-offending sub-sample¹⁶ of 1,331 out of the 1,435 prisoners in Sample 1 was used for the re-offending and criminal history analysis. This SPCR Sample 1 re-offending sub-sample is referred to in this report as the **SPCR re-offending sample**. Proven re-offending by SPCR participants is referred to as 're-offending'.

To identify those factors that were independently (or directly) associated with re-offending, multivariate logistic regression models¹⁷ were used. These models enable examination of the association of particular offender, offence and sentence attributes with re-offending whilst controlling for the effects of other characteristics.

The model looks at factors relating to prisoners' lives in the community before imprisonment, during custody, and in the community after imprisonment. This may help identify where interventions to reduce re-offending may be most effective: in the community or in custody. Interventions to rehabilitate prisoners are generally delivered during imprisonment, such as accredited¹⁸ Offending Behaviour Programmes (OBP). However, it is possible that greater effects may be achieved by a better understanding of the timing of factors associated with re-offending. Pre- or post-release interventions in the community (such as 'through the gate' support) may be more effective.

Variables eligible for inclusion in the models from the Wave 1 reception interview were selected based on previous SPCR findings (e.g. MoJ, 2010a; Williams *et al*, 2012a; 2012b; Cunniffe *et al*, 2012; Hopkins, 2012; Boorman and Hopkins, 2012; Light *et al*, 2013). This was supplemented with data from the Wave 2 (pre-release) interview about prisoners' time in prison, involvement in prison-based education and treatment, and expectations on release.

¹⁵ Some SPCR reconviction results were published using the pre-2011 measure, e.g. MoJ (2010a), Williams *et al* (2012a), (2012b), Hopkins (2012), Cunniffe *et al* (2012), Light *et al* (2013).

¹⁶ For details of the re-offending sub-sample, please see Boorman and Hopkins (2012).

¹⁷ Logistic regression models allow several factors to be tested for their association with re-offending at the same time. The model will demonstrate which factors are *independently* associated with re-offending, when all factors are considered together.

¹⁸ Accredited by the Correctional Services Advice and Accreditation Panel (CSAAP). A broader definition of prison-based interventions to reduce re-offending extends to activities which are designed to improve prisoners' employability, including drug treatment, education, and participating in work in prison.

Data from the Wave 3 (post-release) interview in the community covering accommodation arrangements since release, resettlement experience and drug use were also explored.

Bivariate (or two-factor) analyses were used to identify which factors from the Waves 2 and 3 follow-up interviews were related to re-offending. Statistically significant differences are reported (at the 5% level). All significant variables¹⁹ were then included in a logistic regression model using a backwards²⁰ stepwise procedure to identify those factors independently associated with re-offending at the 5% level. The final model also retained basic background characteristics of offenders covering their age, gender and ethnicity, as well as their main sentenced offence (also called 'index offence') and sentence length.

Limitations

There are a number of limitations to a study of this kind. The survey element of the study is based upon self-reported information, which is by its nature subjective (while data on re-offending and previous criminal history came from the Police National Computer (PNC)).

In addition, SPCR Sample 1 is representative of prison receptions sentenced to between one month and four years in 2005 and 2006, but is not representative of all prisoners, as it does not include prisoners sentenced to more than four years.²¹

Logistic regression models demonstrate association between factors, but are not able to determine cause and effect. This research has generated hypotheses about factors related to re-offending, but has not conclusively tested them. However, it has provided important information for the evidence base in this area.

¹⁹ Where necessary, variable categories were combined to ensure straightforward interpretation of the final model.

²⁰ Automated selection procedures are not available for multiple imputation, therefore this was calculated by hand. As a result, backwards stepwise regression was judged to be the more straightforward (and less error-prone) approach.

²¹ Less than 10% of prisoners were sentenced to more than four years in prison in 2006: *Offender management caseload statistics (annual)*, available at: <http://www.justice.gov.uk/publications/statistics-and-data/prisons-and-probation/omcs-annual.htm>

SPCR suffered from comparatively high levels of attrition at Wave 2 and Wave 3, with approximately 76% re-interviewed at Wave 2, but only 57% successfully interviewed at Wave 3 (see Cleary *et al*, 2012a; 2012b; 2013). In order to adjust for this, multiple imputation was used (Brunton-Smith *et al*, forthcoming), and enabled the research to maximise the available data included in the analysis, adjusting estimates and standard errors from variables with high levels of missing data to incorporate the additional uncertainty associated with the loss of information. However, this may also result in conservative estimates of significance and can result in few significant factors in the final model.

4. Results

This chapter first considers prisoner characteristics, experiences in prison and outcomes on release. It examines bivariate, or unadjusted, associations of these factors with re-offending. The second section presents results of the logistic regression model, identifying those factors significantly and independently associated with re-offending. These relationships are then considered in more detail.

4.1 Factors associated with re-offending

Offender characteristics

Basic demographic²² data (gender, age and ethnicity), as well as information about current sentence (offence type and sentence length) were available for all prisoners in the SPCR re-offending sample (1,331 prisoners) (Table 4.1).²³ Approximately 91% of prisoners were male, with a mean age of 30 years (three per cent of offenders were over the age of 50). Almost one in seven (14%) prisoners identified themselves as belonging to an ethnic minority group (7% Black, 3% Asian and 4% Other).

In line with the general prison reception population, most SPCR re-offending sample prisoners (67%) were serving sentences of less than six months, with a further 15% serving sentences up to a year. Almost one in three (30%) prisoners were serving a sentence for an acquisitive crime (theft and handling, burglary or robbery), and just over one in six (17%) were serving a sentence for a violent offence. Drug offences accounted for 5% of all sentences, and vehicle-related offences for 18%.

²² Demographic data on the 1,435 prisoners in Sample 1, including those not matched to the PNC, is available in MoJ (2010a), Light *et al* (2013) etc.

²³ The sample was generally representative of the wider prison reception population sentenced in England and Wales in 2005 and 2006 to between one month and four years. See Cleary *et al* (2012a).

Table 4.1: SPCR re-offending sample*: by gender, age, ethnic background (two groupings), sentence length, and offence type

Factor		No.	%
Gender	Male	1,214	91
	Female	117	9
Age	18–20 years	166	12
	21–24 years	277	21
	25–29 years	299	22
	30–39 years	393	30
	40–49 years	154	12
	50+ years	42	3
Ethnic background	White	1,144	86
	Black, Asian, or minority ethnic (BAME)	187	14
Sentence length	One month to six months	890	67
	Over six months to one year	202	15
	Over one year to 18 months	70	5
	Over 18 months to two years	64	5
	Over two years to three years	76	6
	Over three years to four years	29	2
Index offence type	Violence ²⁴	225	17
	Acquisitive ²⁵	393	30
	Drugs ²⁶	68	5
	Vehicle-related ²⁷	241	18
	Other ²⁸	313	24
	Unknown	91	7
Total		1,331	100

Totals may not add up to 100% because of rounding.

* For demographic data on SPCR Sample 1 see MoJ (2010a), Light *et al* (2013)

Proven re-offending since release from prison

Just over half (54%) of the SPCR re-offending sample prisoners were reconvicted of at least one proven re-offence within one year of release from prison.²⁹ This was higher than the national one-year proven re-offending rates for discharged prisoners in 2005 and 2006 (47% and 48% respectively), as the SPCR sample does not include prisoners sentenced to more than four years (who generally have lower proven re-offending rates – see Boorman and

²⁴ Violence; public order or riot; criminal or malicious damage.

²⁵ Robbery; burglary; theft and handling.

²⁶ Import or export or production or supply; possession or small-scale supply.

²⁷ Taking and driving away and related offences; theft from vehicles; drink-driving offences; other motoring offences.

²⁸ Fraud and forgery; absconding or bail offences; sexual offences; other offences.

²⁹ Pre-2011 reconviction measures excluded court disposals other than convictions. When court convictions only were included, the one-year re-offending rate for the SPCR re-offending sample was 52%.

Hopkins (2012) for details). More than two thirds (68%) of the SPCR re-offending sample prisoners were reconvicted of at least one proven re-offence within two years of release.

Wave 1: Static and dynamic risks observed during reception interview

As noted above, previous analyses of SPCR data identified a number of factors associated with an increased tendency to be reconvicted within one year of release from prison. These characteristics were either static (not considered to be changeable) or dynamic (changeable). The prevalence of these factors amongst the SPCR Sample 1 is shown in **Annex A**, along with estimates of prevalence in the general population, where appropriate.

These factors were:

- experienced abuse in childhood (emotional, sexual or physical) (Williams *et al*, 2012a);
- observed violence in the home as a child (Williams *et al*, 2012a);
- taken into care as a child (Williams *et al*, 2012a);
- family members found guilty of a non-motoring offence (Williams *et al*, 2012a);
- expelled or a regular truant from school (Williams *et al*, 2012a);
- no academic qualifications (Hopkins, 2012);
- homeless or living in temporary accommodation prior to sentence (Williams *et al*, 2012b);
- no employment in the year prior to sentence (Hopkins, 2012);
- used drugs in the four weeks prior to custody (Light *et al*, 2013);
- daily alcohol consumption prior to custody (MoJ, 2010a);
- reported needing help with finding a place to live on release (Williams *et al*, 2012b)

Many of the SPCR prisoners' background characteristics were more prevalent amongst the prisoner population than the general population (see **Annex A**). These factors may therefore be associated with the development of a criminal career and with imprisonment.

Information on whether prisoners reported being worried on arrival in prison was also included for the current analysis (this Wave 1 factor was not reported previously). Just under half of SPCR Sample 1 (48%³⁰) reported that they agreed or strongly agreed that they felt worried or confused when they came into prison, and this was associated with re-offending

³⁰ Base size 1,435.

on release (those who reported feeling worried or confused were less likely to re-offend – 39% were convicted of at least one offence in the year after release, compared with 57% of those who did not report feeling worried or confused when they came into prison).

Information from the PNC on prior offending history was available for all SPCR re-offending sample prisoners (see Boorman and Hopkins, 2012). A measure of complexity of offending history (Copas rate) was included, with higher scores reflecting more complex and extensive criminal histories (Copas and Marshall, 1998; MoJ, 2011).³¹ Whether prisoners were serving their first prison sentence was also included, with most (78%) recorded on the PNC as having served a prior sentence (Boorman and Hopkins, 2012).

Wave 2: Experience of prison and pre-release expectations

Information about SPCR prisoners' experiences during their sentence and expectations on release from prison was drawn from the Wave 2 pre-release interview conducted in the weeks prior to release.³² This data covered:

- involvement in prison work;
- receipt of additional punishments (for behaviour problems);³³
- participation in education, drug and alcohol treatment programmes, and other interventions designed to tackle offending behaviour;
- help with resettlement needs; and
- visits received from family.³⁴

Results are provided for SPCR re-offending sample prisoners³⁵ (n = 1,331), along with re-offending rates one year after release. The imputed and non-imputed sample sizes are also given, to demonstrate the proportion of imputed data used in the estimation. Tests of statistical significance were derived from bivariate logistic regression models, using the Wald test. All differences reported were statistically significant at the 5% level. Although associations between in-custody factors and re-offending are explored here, it should be

³¹ The Copas rate (Copas and Marshall, 1998) controls for the rate at which an offender has built up convictions throughout their criminal career. The higher the rate, the more convictions an offender has in a given amount of time, and the more likely it is that they will re-offend. The Copas rate formula is the natural log of (the number of court appearances or cautions, plus one, all divided by the length of criminal career in years, plus ten). See MoJ (2011) for more details.

³² For 737 prisoners serving shorter sentences – typically less than six months – this information was collected during the initial reception interview.

³³ 'Additional punishments' refers to prisoners who were punished during their sentence for a violation of the prison rules.

³⁴ This data was derived retrospectively as part of the post-release interview in the community.

³⁵ These estimates may differ slightly from estimates for the whole of Sample 1 (1,435 prisoners) which are provided in Hopkins and Brunton-Smith (forthcoming), as the current sample is a sub sample of prisoners matched to the PNC.

noted that this study was not designed to test the effectiveness of interventions or programmes (due to sample size and methodological constraints), which should be done using a more targeted approach.

More than half (53%) of SPCR re-offending sample prisoners reported working during their sentence (Table 4.2), and those who did were less likely to be convicted of at least one proven re-offence within a year of release (50% of this group were reconvicted, compared with 57% of those who did not work).

Around one in five (22%) prisoners had been punished at some point during their sentence, with more of this group (60%) re-offending within one year (compared with 52% of those who were not punished).

Over two thirds (69%) of prisoners received visits from family members during their sentence, with fewer of those who received family visits re-offending. Forty-seven per cent of those who reported receiving visits re-offended one year after release, compared with 68% of those who did not report receiving visits.

Table 4.2: SPCR re-offending sample: experiences in prison and association with re-offending one year after release (MI adjusted results)*

Factor		Total	One year re-offending
Paid work in prison**	Yes	53%	50%
	No	47%	57%
<i>Non-imputed sample size (imputed)</i>		<i>1,002 (1,324)</i>	
Punished in prison**	Yes	22%	60%
	No	78%	52%
<i>Non-imputed sample size (imputed)</i>		<i>993 (1,315)</i>	
Family visits in custody**	Yes	69%	47%
	No	31%	68%
<i>Non-imputed sample size (imputed)</i>		<i>753 (1,322)</i>	

* Percentages derived from bivariate logistic regression models.

** denotes statistical significance at the 5% level.

More than one in four SPCR re-offending sample prisoners were involved in drug or alcohol treatment programmes during their sentence, with the most common type of treatment being drug or alcohol detoxification (20%). Eleven per cent were enrolled in an accredited drug or

alcohol intervention programme (including 12 Steps,³⁶ Therapeutic Communities,³⁷ and RAPt³⁸), with another 19% taking part in other forms of treatment or counselling (primarily one-to-one and group counselling sessions).

Restricting the focus to those who reported using drugs in the four weeks prior to their sentence or who consumed alcohol on a daily basis during the same period (Table 4.3), no significant differences in re-offending were evident between those who participated in these interventions and those who did not.

Table 4.3: SPCR re-offending sample (pre-custody drug or alcohol users only): drug/alcohol interventions in prison and association with re-offending one year after release (MI adjusted results)*

Factor		Total	One year re-offending
Drug/alcohol detoxification	Yes	20%	64%
	No	80%	62%
Accredited drug/alcohol programme	Yes	11%	58%
	No	89%	63%
Other drug/alcohol intervention	Yes	19%	61%
	No	81%	62%
<i>Non-imputed sample size (imputed)</i>		727 (934)	

* Percentages derived from bivariate logistic regression models

In addition to prison-based interventions designed to tackle drug and alcohol use, some SPCR re-offending sample prisoners were also involved in other accredited³⁹ courses designed to help them understand their offending behaviour (including ETS,⁴⁰ Cognitive Skills Booster, Think First, R&R,⁴¹ or Focus on Resettlement) or deal with anger management issues (including CALM,⁴² CSCP⁴³ and Healthy Relationships). A total of 11% of SPCR re-offending sample prisoners were involved in these programmes, with fewer of those who were enrolled going on to re-offend (49% versus 54%); however, this was not a statistically significant difference⁴⁴ (Table 4.4).

³⁶ An alcohol misuse programme.
³⁷ Participative, group-based therapy for long term mental illness, personality disorder, and drug addiction.
³⁸ Rehabilitation for Addicted Prisoners Trust (RAPt).
³⁹ Accredited by the Correctional Services Accreditation and Advice Panel, CSAAP, an organisation funded by the National Offender Management Service (NOMS).
⁴⁰ Enhanced Thinking Skills programme, now called the Thinking Skills programme.
⁴¹ Reasoning and Rehabilitation (R&R) programme.
⁴² Controlling Anger and Learning how to Manage It (CALM) programme.
⁴³ Cognitive Self Change Programme (CSCP) programme.
⁴⁴ The Enhanced Thinking Skills (ETS) programme has been shown to be associated with reduced re-offending in an impact evaluation: see Sadlier (2010).

Prisoners could also take part in education and training programmes, with nearly one in four (23%) enrolled on one of these courses (approximately one quarter of these incorporated some job skills based training). Slightly fewer prisoners who participated in educational programmes went on to re-offend within a year of release (51%) compared with those who were not enrolled (54%), although this difference was not statistically significant.

Table 4.4: SPCR re-offending sample: other prison-based interventions and association with re-offending one year after release (MI adjusted results)*

Factor		Total	One year re-offending
Accredited offending behaviour programme (OBP)	Yes	11%	49%
	No	89%	54%
Education course	Yes	23%	51%
	No	77%	54%
<i>Non-imputed sample size (imputed)</i>		1,009 (1,331)	

* Percentages derived from bivariate logistic regression models

Similar to drug and alcohol treatment programmes, accredited interventions in custody to reduce re-offending did not show statistically significant associations with re-offending on release. Again, this research was not intended to test the effectiveness of the programmes (sample sizes were not consistently large enough) and the results observed may be due to selection effects,⁴⁵ the quality of the programmes, or the grouping⁴⁶ of the programmes together in the analysis.

SPCR re-offending sample prisoners were also asked about whether they had received help in custody with their resettlement. One in five (20%) reported that they had received help with their resettlement and a further 19% had received help finding a job to go into on release. There were no statistically significant differences in re-offending between those who received this form of help and those who did not. Levels of need and motivation were not taken into account, and these factors may also be associated with re-offending on release.

⁴⁵ Accredited programmes are intended for higher risk prisoners with particular needs, most of whom are sentenced to more than 12 months imprisonment. To evaluate interventions/programmes, participants should be compared against a similar group of prisoners who did not receive the programme.

⁴⁶ Programmes were combined due to small samples.

Wave 3: Post-release resettlement experience

Information on the resettlement experiences of ex-prisoners in the SPCR re-offending sample, drawn from the post-release interview in the community two months after release was also examined (Table 4.5), covering:

- accommodation arrangements;
- employment status;
- drug use since release.

More than half of SPCR re-offending sample respondents (57%) reported that they were living with their immediate family shortly after release, whilst 16% were homeless or living in temporary accommodation. Those who returned to live with their family were less likely to go on to re-offend within one year (48% compared with 61% of those not living with their family), whilst being homeless or living in temporary accommodation was associated with a higher chance of re-offending (approximately 66% went on to re-offend, compared with 51% of those living in stable accommodation).

Just over one in four respondents (28%) reported that they had been in paid employment at some point since release from prison. Thirty-nine per cent of those who reported being in employment went on to re-offend within a year, which was less than the 59% of those who had not secured employment.⁴⁷

Respondents were also asked about their drug use since leaving prison, with a third admitting using Class A drugs⁴⁸ since release and more drug users re-offending within a year compared with those who did not report using Class A drugs since release (76% versus 43%).

⁴⁷ A data sharing initiative between the Ministry of Justice and the Department for Work and Pensions showed that less than a third (29%) of prisoners had been in paid *P45 employment* at some point during the first two years since their release from prison, with only 15% identified as working at the two year mark (MoJ & DWP, 2011). This data-sharing initiative also demonstrated that ex-prisoners who gained formal employment on release were less likely to re-offend than similar prisoners who did not find work (MoJ, 2013).

⁴⁸ Ecstasy, LSD, heroin, crack cocaine, cocaine, and methadone.

Table 4.5: SPCR re-offending sample: resettlement experience and association with re-offending one year after release (MI adjusted results)*

Factor		Total	One year re-offending
Living with immediate family**	Yes	57%	48%
	No	43%	61%
<i>Non-imputed sample size (imputed)</i>		756 (1,325)	
Homeless or temporary accommodation**	Yes	16%	66%
	No	84%	51%
<i>Non-imputed sample size (imputed)</i>		761 (1,330)	
In paid employment at some point shortly after release **	Yes	28%	39%
	No	72%	59%
<i>Non-imputed sample size (imputed)</i>		762 (1,331)	
Class A drug use since release**	Yes	33%	76%
	No	67%	43%
<i>Non-imputed sample size (imputed)</i>		761 (1,330)	

* Percentages derived from bivariate logistic regression models.

** denotes statistical significance at the 5% level.

Each of these factors was associated with re-offending on release. Living with immediate family post-release, and being in paid employment appeared to be protective factors, whilst being homeless or in temporary accommodation and reporting using Class A drugs appeared to be risk factors.

4.2 Multivariate results: the final logistic regression model

A number of significant associations with re-offending one year after release from prison amongst the SPCR re-offending sample were identified in Section 4.1 (e.g. working in prison, being in paid employment after release). However, these results did not take into account associations between these factors and other factors associated with re-offending on release. The logistic regression model that follows used all factors described in Section 4.1 as being associated with re-offending on release to see which were independently, or directly associated with re-offending (and not indirectly associated, by their association with other factors).⁴⁹

Table 4.6 includes details from the logistic regression identifying the factors statistically significantly and independently associated with re-offending within one year and two years of release from prison amongst the SPCR re-offending sample, whilst taking into account all factors in the model.

The factors associated with **increased odds** of re-offending within one year were:

- index of complexity of criminal history (Copas rate);
- receipt of an additional punishment during sentence;
- homeless or living in temporary accommodation prior to sentence;
- use of Class A drugs since release from prison;
- having regularly playing truant from school; and
- serving a sentence for an acquisitive offence – robbery, burglary, theft and handling (compared with drugs, vehicle-related, or ‘other’ offence).

The factors associated with **reduced odds** of re-offending were:

- serving first prison sentence;
- being employed in the year prior to sentence;
- agreed or strongly agreed that they felt worried or confused when they came into prison;
- age (older prisoners were less likely to re-offend); and
- longer prison sentences.

Factors not included in the final model (because they were not statistically significantly associated with re-offending, either in the bivariate analysis or once all other factors in the model were taken into account) are listed below.

Wave 1 factors:

- having been abused as a child;
- observing violence in the home;
- being taken into care as a child;
- having family members who have been found guilty of a non-criminal offence;
- having been expelled from school;
- no academic qualifications;
- drug use in the four weeks prior to custody;
- daily alcohol consumption prior to custody; and
- needing help with resettlement on release.

⁴⁹ The model also included background demographic characteristics of each offender (age, gender, ethnicity) and sentence details (index offence and sentence length).

Wave 2 factors:

- involvement in paid prison work;
- participation in education classes or accredited prison interventions;
- receiving help with resettlement needs (employment and accommodation); and
- receiving family visits.

Wave 3 factors:

- living with immediate family since release;
- homeless or living in temporary accommodation after custody; and
- being in paid employment since release.

Also not significant in the model (but retained to allow for the factor to be controlled for) were gender and ethnicity. This may be because of small samples (there were only 132 women in SPCR Sample 1, for example). In other research, gender and ethnicity have been associated with re-offending of prisoners on release (see MoJ, 2012a).

Table 4.6 presents the odds ratios for each factor in the final model. The odds ratio can be interpreted as the independent association of each factor remaining in the model, whilst controlling for all other factors in the model. A significance level of less than 0.05 shows whether the factor was significantly associated with re-offending (compared with the absence of the factor, or with the reference category). An odds ratio greater than one (1.0), for those factors which were significantly associated with re-offending, demonstrates an independent association with increased odds of re-offending, and an odds ratio less than one demonstrates an independent association with decreased odds of re-offending.

The 95% confidence intervals (CI) are also provided – these show the likely variation in the true value of the odds ratios. 'B' (beta) refers to the coefficient (the log-odds ratio), and SE the standard error of the coefficient.

Table 4.6: SPCR re-offending sample: factors independently associated with re-offending in 1 and 2 years (MI adjusted results)

Factor (data source)	Model 1: One year re-offending				95% CI		Model 2: Two year re-offending				95% CI	
	B	S.E	Sig	Odds ratio	Lower	Upper	B	S.E	Sig	Odds ratio	Lower	Upper
Female (W1)	-0.10	0.27	0.70 ^A	0.90	0.53	1.53	-0.34	0.28	0.22	0.71	0.41	1.22
Age (W1)	-0.02	0.01	0.03	0.98	0.97	1.00	-0.03	0.01	<0.01	0.97	0.96	0.99
Sentence length (compared to a sentence of 6 months or less) (W1)												
Up to 1 year	0.06	0.20	0.76	1.07	0.71	1.59	-0.12	0.21	0.58	0.89	0.59	1.35
Over 1 year up to 18 months	-0.90	0.33	0.01	0.41	0.21	0.78	-0.70	0.31	0.03	0.50	0.27	0.92
Over 18 months up to 2 years	-1.51	0.38	<0.01	0.22	0.11	0.47	-1.32	0.34	<0.01	0.27	0.14	0.52
Over 2 years up to 3 years	-1.39	0.36	<0.01	0.25	0.12	0.51	-0.97	0.32	<0.01	0.38	0.20	0.72
Over 3 years up to 4 years	-1.16	0.51	0.02	0.31	0.11	0.85	-1.55	0.50	<0.01	0.21	0.08	0.57
Offence type (compared to Acquisitive offence – robbery, burglary, theft and handling) (W1)												
Violence	-0.31	0.22	0.16	0.73	0.47	1.13	-0.52	0.23	0.02	0.59	0.38	0.93
Drug offences	-0.98	0.37	0.01	0.38	0.18	0.78	-0.77	0.34	0.02	0.46	0.24	0.89
Vehicle-related offences	-0.62	0.21	<0.01	0.54	0.35	0.82	-0.77	0.23	<0.01	0.46	0.29	0.73
Other (incl. sexual offences, fraud and forgery)	-0.54	0.19	0.01	0.59	0.40	0.86	-0.47	0.22	0.03	0.63	0.41	0.96
Offence not recorded	-0.37	0.31	0.23	0.69	0.38	1.26	-0.67	0.31	0.03	0.51	0.28	0.94
BAME prisoner (W1)	-0.06	0.20	0.78 ^B	0.95	0.64	1.40	0.01	0.20	0.94	1.01	0.69	1.49
Copas rate (PNC)	0.93	0.14	<0.01	2.53	1.92	3.34	1.06	0.14	<0.01	2.88	2.19	3.80
First prison sentence (PNC)	-0.59	0.22	0.01	0.55	0.36	0.84	-0.36	0.20	0.08	0.70	0.47	1.04
Regular truant from school (W1)	0.41	0.14	<0.01	1.51	1.14	2.00	0.04	0.15	0.77	1.04	0.78	1.40
Worried/confused about prison (W1)	-0.33	0.14	0.02	0.72	0.55	0.95	-0.10	0.15	0.50	0.91	0.68	1.21
Worked in 12 months before custody (W1)	-0.30	0.15	0.04	0.74	0.56	0.99	-0.44	0.16	0.01	0.64	0.47	0.87
Homeless or temporary accommodation before custody (W1)	0.62	0.21	<0.01	1.86	1.23	2.82	0.34	0.24	0.16	1.41	0.88	2.27
Received additional punishment in prison (W2)	0.50	0.22	0.03	1.65	1.07	2.55	0.58	0.22	0.01	1.78	1.15	2.77
Class A drug user since release (W3)	0.46	0.21	0.03	1.58	1.04	2.42	0.25	0.23	0.28	1.28	0.81	2.03
Constant	1.09	0.24					2.30	0.27				
<i>Non-imputed sample size (imputed)</i>	569 (1,307)						569 (1,307)					

^A Although not significant, gender was left in the model so that it could be controlled for.

^B As above.

The following section considers the findings in more detail.

Childhood factors and re-offending

One childhood factor, regularly playing truant from school, was identified as having a direct relationship with re-offending: approximately 51% higher odds of re-offending at one year were observed amongst regular truants compared with those who were not regular truants (although this was not sustained at two years). This factor may also be directly related to the commencement of a criminal career, and therefore could be considered an indicator of potential criminality.

A number of childhood factors (abuse in childhood, observing violence in the home as a child, being taken into care, being expelled from school) were associated with re-offending at the bivariate (two-factor) analysis stage; however they did not remain so in the final multivariate model. This is evidence of an *indirect* relationship between these factors and re-offending. These factors may be directly associated with the commencement of a criminal career (Farrington, 2007; 2013), which was not specifically measured here. The prevalence of these factors was higher amongst SPCR prisoners compared with the general population (see **Annex A**), and the events (childhood experiences and starting a criminal career) occurred closer in time than the re-offending measured here. For example, self-reported median age of first arrest was around 15 years old amongst the SPCR re-offending sample (Boorman and Hopkins, 2012). This age of first arrest is closer in time to many of the background risk factors reported by SPCR prisoners, which also occurred in childhood (e.g. being expelled from school).

In order to quantify the association between background (particularly childhood) factors and the commencement of a criminal career, longitudinal data from the general population would need to be collected, including a valid record of adverse (and other) factors in childhood and later commencement of criminal activity. This would give an indication of the size of any relationship between these factors and criminality. Many individuals who experience adverse childhood events do not become criminals. This research has shown that there is likely to be an association between particular background factors and criminality (because there is an indirect association between these factors and re-offending on release from prison amongst prisoners), however, the strength of the association remains unknown.

Recent research (Farrington, 2013) has demonstrated a link between childhood risk factors and offending, with the most chronic offenders (to age 56) amongst a sample of 411 men in South London, who were first studied at age 8 in 1961, having the highest scores based on

childhood risk. These risk factors included poor childhood behaviour, family criminality, low intelligence or school attainment, poor child-rearing, impulsiveness, and economic disadvantage. Childhood factors identified in the current research as being associated with re-offending could strengthen risk-assessment tools for the early identification of potential future criminal behaviour.

Criminal history and re-offending

Offending history was found to be strongly predictive of subsequent offending amongst the SPCR re-offending sample. Higher odds of being reconvicted were evident amongst those with more extensive offending histories: each unit increase in Copas rate was associated with a 153% increase in the odds of re-offending at one year, and a 188% increase in the odds of re-offending at two years. For those who were serving their first prison sentence, the odds of being reconvicted at one year were 45% less than those who were not in prison for the first time, and the odds of being reconvicted at two years were 30% lower.

SPCR re-offending sample prisoners serving sentences of more than one year had more than 50% lower odds of re-offending one year after release than those serving shorter sentences, and these findings were sustained at the two-year point. Lower re-offending rates for those on longer sentences are observed amongst all prisoners released in England and Wales. The proven re-offending rate of all those sentenced to less than 12 months in 2006⁵⁰ was 57%, compared with 37% for those sentenced from 12 months to four years, 26% for those sentenced from four to ten years, and 9% for those sentenced over ten years (MoJ 2012a; 2012b; 2012c; 2012d). This difference is likely to be due to the offence types for which these prisoners were sentenced: offences which attract short sentences tend to be frequently repeated crimes (e.g. shoplifting) whilst those which attract long sentences tend not to be frequently repeated (e.g. murder). The difference may also be due to differences in the characteristics and rehabilitative opportunities of longer sentenced prisoners which were not controlled for in the model.

Prisoners serving sentences for drug, vehicle-related and other offences (including sexual offences, fraud and forgery, arson, criminal damage, and breach of prior sentences) had lower odds of re-offending within one year than those serving sentences for acquisitive crime, and this was sustained at the two-year re-offending point. This may be because acquisitive crimes tend to be more frequently repeated than other types of crime (see above).

Prisoners serving sentences for violence and those with no offence recorded had similar odds of re-offending at one year after release, compared with prisoners serving sentences for acquisitive crime. At two years after release, each of these groups was less likely to re-offend than prisoners serving sentences for acquisitive crime.

Those prisoners who reported that they were worried/confused about being in prison when interviewed on reception (at Wave 1) were also less likely to be reconvicted within one year (28% lower odds of re-offending), but this was no longer significant at two years. Worry or confusion about prison is associated with criminal history: those with more previous prison sentences are less likely to be worried or confused about prison (39%⁵¹ of those who reported a previous prison sentence reported being worried or confused compared with 72% of those who did not report a previous prison sentence).

Criminal history variables may be strongly predictive of re-offending in logistic regression models for a number of reasons. They may act as 'latent' variables, measuring factors that were not directly observed, such as anti-social personality or other psychological traits, which may be the 'true' predictors of re-offending. Another explanation is the 'vicious circle' of offending: the more extensive the criminal history, the more difficult it is to obtain employment and accommodation (which are also associated with re-offending), which then leads to further offending.

Employment and accommodation status prior to custody and re-offending

Employment and accommodation were found to be predictive of re-offending even after criminal history was taken into account in the model, demonstrating that these factors predict re-offending *independently* of criminal history. This means that prisoners with extensive criminal histories but without accommodation and employment problems are less likely to re-offend on release than prisoners with similar criminal histories with accommodation and employment problems.

Those SPCR re-offending sample prisoners who reported sleeping rough or living in temporary accommodation prior to their sentence had nearly twice as high odds of being reconvicted within one year of release (an 86% increase in the odds at one year), whilst controlling for all other factors.

⁵⁰ From 1 January to 31 December 2006.

⁵¹ Base size 1,435.

Prisoners who reported being employed in the year before their sentence were identified as having approximately 26% lower odds of re-offending at one year, and 36% lower odds of re-offending at two years, than prisoners who were not in employment during the same period. The 'protective' effect of employment before custody, therefore, was not only sustained at two years after release, but resulted in even lower odds of re-offending at two years.

While employment after release was not directly associated with re-offending in the final model, it is likely that this is because pre-custody and post-custody employment are closely related. Other research has demonstrated a link between P45 employment post-custody and lower re-offending.⁵²

In-custody factors and re-offending

SCPR re-offending sample prisoners who reported being punished during their sentence for a violation of rules were more likely to be reconvicted, with 65% higher odds of re-offending (at one year, and 78% at two years) than those who were not punished. Prisoners who are punished are likely to display behaviours that are associated with re-offending on release. No other in-custody factors were found to be predictive of re-offending on release in the final model.

Post-custody factors and re-offending

The odds of being reconvicted within one year were found to be approximately 58% higher for those who reported regularly using Class A drugs since release from prison (although this was no longer significant at two years). Previous research identified strong associations between drug use before custody and re-offending on release (MoJ, 2010a; Light *et al*, 2013). Drug use before (and during) custody is likely to be predictive of drug use after custody: therefore it is likely that drug use at any time is predictive of re-offending.

⁵² Ministry of Justice (2013b).

5. Conclusion and implications

This study identified a range of factors that are directly and indirectly associated with re-offending amongst a sample of prisoners sentenced in England and Wales to between one month and four years in 2005 and 2006. Establishing causal links is beyond the scope of this paper; nevertheless the results will be of interest to those involved in development of policy to reduce re-offending.

The findings reinforce previous research that shows that **criminal history** is an important factor in predicting re-offending on release from prison; the strongest association with re-offending observed was with Copas rate, a measure of complexity of criminal history. Criminal history factors are static and cannot be changed, and efforts should therefore be focused on the prevention of the development of criminal careers.

The research confirmed the importance of **accommodation** and **employment** prior to prison in reducing the risks of re-offending; these 'protective' factors are sustained at the two-year re-offending point. Employment and accommodation *after* custody were not directly associated with re-offending in the SPCR model.⁵³ This does not mean that these factors are not important after custody: it means that they are closely related – those without accommodation and employment before custody are likely to be without accommodation and employment after custody.

Class A drug use since release from prison was directly linked to increased chances of re-offending, confirming the need for effective strategies to tackle drug use amongst offenders.

The research was unable to identify significant associations between **drug and alcohol interventions** in prison and reoffending on release. The analysis was not able to distinguish between specific programmes, instead making the broad distinction between accredited and non-accredited programmes. This may mask the potential impact of specific programmes targeted at particular offenders. In addition, the research was unable to control for negative selection bias (for instance, where the most serious or problematic offenders are selected onto the programme).

⁵³ Other research has demonstrated a link between post-custody employment and lower re-offending (Ministry of Justice, 2013b).

The research was not able to demonstrate an association between **other prison-based interventions** and reduced re-offending. This includes accredited offending behaviour programmes and work and education in custody (although one accredited intervention, the Enhanced Thinking Skills programme (ETS), has been found to reduce reoffending (see Sadlier 2010)). The current analysis was not designed to test the effectiveness of in-custody interventions (sample sizes were not consistently large enough) and the results observed may be due to selection effects or the grouping of programmes together in the analysis. Additionally, quality or success of implementation may be variable across the prison estate, which can reduce the overall impact on re-offending. These interventions may have an indirect effect on re-offending via other positive outcomes for prisoners including improved employment opportunities,⁵⁴ better reintegration into communities and improved attitudes to offending (McDougall *et al*, 2009).

It is challenging for a general prisoner survey of this kind to generate sufficient sample sizes to assess the impact of individual interventions, and further more targeted research, using robust approaches such as quasi-experimental matched samples or randomised control trials, would be needed to evaluate the effectiveness of particular prison- (and community-) based interventions in reducing re-offending.

A minority of SPCR re-offending sample prisoners received an **additional punishment** during their sentence, and those who did were identified as more likely to go on to re-offend than those who did not receive additional punishments. This suggests the existence of a group of offenders who are less willing to follow prison rules and who are also less likely to rehabilitate successfully on release. This group may therefore be identified as a potential focus for further engagement to reduce offending behaviour. An attitudinal factor was also important; **being worried** or confused about prison was associated with a lower likelihood of re-offending.

Finally, a large number of factors were demonstrated to be **indirectly associated** with re-offending at the bivariate (two factors only) analysis stage; many of these were not directly associated with re-offending once all factors were taken into account. This does not mean that those factors indirectly associated with re-offending are not important; they can act as markers for those who are more likely to re-offend and can indicate where early interventions might be best placed to prevent criminal careers from developing in the first place.

⁵⁴ Research into longer-sentenced SPCR prisoners (those sentenced to between 18 months and four years) demonstrated direct associations between participating in accredited interventions, vocational training, and paid work in prison and improved employment prospects on release (Brunton-Smith and Hopkins, forthcoming).

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Annex A

A SPCR Sample 1 prevalence of factors associated with re-offending on release and comparisons with the general population

Table A1.1 reports the prevalence of a number of background factors self-reported by SPCR Sample 1, which were found to be associated with re-offending on release from prison.

Table A1.1: SPCR Sample 1: prevalence of background (Wave 1) factors associated with re-offending on release

Factor		Prevalence (%) reported by SPCR Sample 1
Experienced abuse in childhood (emotional, sexual or physical) (Williams <i>et al.</i> , 2012a)	Yes	29%
	No	71%
Observed violence in the home as a child (Williams <i>et al.</i> , 2012a)	Yes	41%
	No	59%
Taken into care as a child (Williams <i>et al.</i> , 2012a)	Yes	24%
	No	76%
Family members found guilty of a non-motoring offence (Williams <i>et al.</i> , 2012a)	Yes	37%
	No	63%
Expelled from school (Williams <i>et al.</i> , 2012a)	Yes	42%
	No	58%
Regular truant from school (Williams <i>et al.</i> , 2012a)	Yes	59%
	No	41%
No academic qualifications ⁵⁵ (Hopkins, 2012)	Yes	47%
	No	53%
No employment in the year prior to sentence (Hopkins, 2012)	Yes	49%
	No	51%
Homeless or living in temporary accommodation prior to sentence (Williams <i>et al.</i> , 2012b)	Yes	15%
	No	85%
Reported needing help with finding a place to live on release (Williams <i>et al.</i> , 2012b)	Yes	37%
	No	63%
Used drugs in the four weeks prior to custody (Light <i>et al.</i> , 2013)	Yes	64%
	No	36%
Daily alcohol consumption in the four weeks prior to custody (Light <i>et al.</i> , 2013).	Yes	22%
	No	78%

The general population figures provided in Table A1.2 are a guide only, as they may not be comparable against the prisoner sample because of the different characteristics of each group. For example, the prisoner sample is mostly male, whilst the general population is approximately half female and half male. Therefore, factors more frequently reported by men may be more prevalent in the prisoner sample than in the general population. There may be

other factors explaining differences in responses. These may include the wording of the questions, or the survey coverage and timing, for example. SPCR prisoners were asked about background factors in 2005 and 2006. The general population figures were selected to be as close as possible to this time period, however, figures reported range from 2003 to 2007. See footnotes for more details.

Table A1.2: General population: prevalence of some similar background factors to those reported by SPCR Sample 1 in Table A1.1

Factor	Prevalence (%) reported by general population	
Experienced sexual abuse before the age of 16 ⁵⁶	Yes	4%
	No	96%
Experienced violence in the home before the age of 16 ⁵⁷	Yes	3%
	No	97%
Ever taken into Local Authority care as a child up to the age of 16 ⁵⁸	Yes	2%
	No	98%
Parents/guardian had been in trouble with the police ⁵⁹	Yes	5%
	No	95%
Expelled from school ⁶⁰	Yes	2%
	No	98%
No academic qualifications ^{61 62}	Yes	15%
	No	85%
Not working ⁶³	Yes	25%
	No	75%
Ever been homeless ⁶⁴	Yes	4%
	No	96%
Used drugs in the month prior to interview ⁶⁵	Yes	6%
	No	93%

⁵⁵ General Certificate of School Education (GCSE or 'O' Levels – usually taken at age 16 in England and Wales - or equivalent) or above.

⁵⁶ Based on analysis of Adult Psychiatric Morbidity Survey (2007): UK Data Archive (UKDA) study no. 6379. Unweighted base size 7,353. Questions asked of those aged 16 and over. Event occurred before the age of 16, and respondents provided information about sexual abuse only.

⁵⁷ Based on analysis of Adult Psychiatric Morbidity Survey (2007): UK Data Archive (UKDA) study no. 6379. Unweighted base size 7,357. Questions asked of those aged 16 and over. Event occurred before the age of 16, and included any violence in the home (not necessarily *observed* violence).

⁵⁸ Based on analysis of Adult Psychiatric Morbidity Survey (2007): UK Data Archive (UKDA) study no. 6379. Unweighted base size 7,361. Questions asked of those aged 16 and over.

⁵⁹ Offending, Crime, and Justice Survey (2003). Asked of those aged 18 and over. See Williams et al., (2012a).

⁶⁰ Based on analysis of Adult Psychiatric Morbidity Survey (2007): UK Data Archive (UKDA) study no. 6379. Unweighted base size 7,357. Questions asked of those aged 16 and over.

⁶¹ General Certificate of School Education (GCSE or 'O' Levels – usually taken at age 16 in England and Wales - or equivalent) or above.

⁶² Amongst the population of working age in the UK in 2003, as reported by the Office for National Statistics. See Hopkins (2012).

⁶³ UK general employment rate in 2006, reported by those of working age to the Office for National Statistics. This was not limited those who were registered unemployed and therefore includes those who were not seeking work. See Hopkins, 2012.

⁶⁴ Based on analysis of Adult Psychiatric Morbidity Survey (2007): UK Data Archive (UKDA) study no. 6379. Unweighted base size 7,353. Questions asked of those aged 16 and over.

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