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First published October 2008

ISBN 978 1 84099 154 3

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## Factors linked to reoffending: a one-year follow-up of prisoners who took part in the Resettlement Surveys 2001, 2003 and 2004

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The Resettlement Surveys Reoffending Analysis (RSRA) study was conducted to add to the evidence in relation to resettlement factors and the role they play in reducing reoffending. Resettlement factors such as having accommodation and obtaining education, training and employment (ETE) should help offenders embark upon more stable lives and access mainstream services. However, the relationships between reoffending, accommodation and employment problems are complex, and have not been widely researched.

### Key Points

- Three surveys of prisoners, conducted in 2001, 2003 and 2004 shortly before release from prison, were combined and matched with criminal history and reoffending information from the Police National Computer (PNC). A representative sample of 4,898 prisoners was available for analysis.
- RSRA builds on the existing evidence by showing that accommodation and employment were significantly associated with an increased likelihood of reoffending, but only when a prisoner had problems with both of these on release. Having a drug problem was also associated with an increased chance of reoffending.
- Receiving family visits while in prison has been associated with successful employment and accommodation outcomes (Niven and Stewart, 2005). RSRA found that receiving family visits was associated with reduced chances of prisoners reoffending after release.
- Three types of intervention in prisons were significantly associated with a reduced likelihood of reoffending. These were: contact with a probation officer; attending a prison job club; and attending a victim awareness course. Other interventions entered into the analysis (including education, offending behaviour programmes and drugs programmes) were not predictive of reoffending in this model. Other research, however, recognises that prisoners have a range of criminogenic needs that are likely to require a number of interventions and support both within prison and after release (Elliott-Marshall *et al.*, 2005).
- These findings must be interpreted with caution. It is not possible to conclude that these interventions caused observed reductions in reoffending. This is because of selection effects. Prisoners who participated in an intervention were likely to exhibit different characteristics from those who did not, and at least some of those characteristics were likely to be related to reoffending.
- Nevertheless, the study has confirmed many of the links between offenders' characteristics, history and circumstances and reoffending known from previous research. The findings highlight which factors may play the most important role in decreasing the likelihood of reoffending in the first year after release from prison.

## Background

The majority of offenders enter prison with a variety of health and social problems, including drug and alcohol misuse and high levels of unemployment (Niven and Olagundoye, 2002; Singleton *et al.*, 1998; Stewart, 2008). Limited employment prospects, a low skills base, lack of social supports and unstable accommodation arrangements often mean that offenders experience difficulty in reintegrating with society once they are released from prison. Together these factors may increase the risk of reoffending.

There is limited knowledge about the impact of prison interventions on reoffending after release. There is a body of evidence from North America that particular programmes are effective in reducing reoffending but rather less evidence about the impact of programmes provided by the Prison Service in England and Wales. The evidence base supports the role of cognitive behavioural and drug treatment programmes in reducing reoffending, but is weaker for resettlement interventions to assist prisoners find accommodation and employment after release (Elliott-Marshall *et al.*, 2005). However, a recent review concluded that vocational training for prisoners is an effective means of promoting employment (Hurry *et al.*, 2006). There is also a growing consensus that broader, multi-modal approaches, going beyond individual interventions, are what work best (Elliott-Marshall *et al.*, 2005). This perspective recognises that prisoners have a range of criminogenic needs that are likely to require interventions and support both within prison and after release.

The present study examines reoffending following release from prison in order to try to reach a better understanding of the possible links between resettlement factors and reoffending.

## Methods

This study draws upon three resettlement surveys of prisoners conducted in 2001, 2003 and 2004 (see Niven and Olagundoye (2002) and Niven and Stewart (2005) for reports on the first two surveys). The surveys asked prisoners who were in the last three or four weeks of custody about their circumstances both before and during prison in areas such as education, training, employment, accommodation, alcohol and drug use and family

ties. The surveys also asked about interventions attended and help received while in prison to aid reintegration into the community after release. Factors such as emotional wellbeing, thinking and behaviour and mental health were not measured in the original surveys.

The data from the three surveys were matched with reoffending data from the Police National Computer. Combining the survey data with criminal history and reoffending information provided a large dataset with which to model the factors that are linked with reoffending. A representative sample of 4,898 prisoners was available for analysis (see methodological note for more details).

Factors associated with reoffending were explored using multiple logistic regression analysis. This form of analysis estimates the effect of each variable on the outcome of interest (reoffending in this instance) while controlling for the effect of other variables in the analysis. Logistic regression can, therefore, identify which of a range of variables are independently related to reoffending. The variables used in the logistic regression analysis are shown in Table 1, and included personal characteristics, criminal history, accommodation status, substance use, ETE status, family ties and interventions received during custody.

## Variables linked with reoffending

Table 2 shows the key findings from the regression analysis.<sup>1</sup> Variables were entered into the analysis one by one, in descending order of statistical significance, until the inclusion of additional variables made no further significant contribution to the model. For factors that were divided into more than two categories the odds ratio given is the comparison with a chosen reference group. For example, the odds for different age groups are compared here with the odds for those aged 40 or over. To help interpretation, Table 2 presents the factors in descending order of their strength of association in the model.

1 The tables give the 95% confidence interval associated with the odds ratio (i.e. statistically, it is 95% certain that the true odds ratio indicated lies between the lower and upper values given)

**Table 1: Variables used in the regression analyses**

| Topic   | Variables  |
|---|--|
| Accommodation   | Accommodation lost<br>Expected accommodation on release<br>Stable accommodation gained<br>Type of accommodation before custody   |
| Alcohol   | Alcohol problem before custody<br>Drinking frequency   |
| Criminal history  | First custody<br>Offence (for current prison term)<br>Predicted risk of reoffending (quartiles)<br>Previous convictions (deciles)<br>Previous custody under age 18<br>Sentence length  |
| Demographics  | Age group<br>Ethnicity<br>Sex  |
| Drugs   | Drug problem<br>Expected drug problem after release<br>Number of different drugs taken in the 12 months before custody<br>Particular drugs taken in year before custody  |
| Education   | Academic level reached<br>No qualifications before custody<br>Non-academic qualifications<br>Qualifications gained in custody  |
| Education, Training and Employment (ETE)                              | ETE before custody<br>Ever worked<br>Expected ETE after custody<br>Job lost on imprisonment<br>Paid work in prison   |
| Family ties   | Dependent children<br>Family visits<br>Household composition<br>Marital status   |
| Interactions between variables  | Particular combinations of problems  |
| Programmes and courses attended in prison to help prepare for release | Prison education classes<br>Prison workshops<br>Prison job club<br>Preparation for work course<br>Vocational training course<br>Welfare to Work course<br>Inmate Development and Pre-Release<br>Any other pre-release course<br>Careers workshop<br>Offending behaviour programme<br>Drugs programme<br>Victim awareness course<br>Any other |

**Table 2: Logistic regression results for the model of one-year reoffending**

| Factor                                     | Odds ratio | Confidence interval (lower) | Confidence interval (upper) |
|--|------------|-----------------------------|-----------------------------|
| <b>Previous convictions (deciles)</b>      |            |                             |                             |
| 1 (lowest number of convictions)           | 0.03       | 0.02                        | 0.05                        |
| 2  | 0.08       | 0.06                        | 0.12                        |
| 3  | 0.13       | 0.09                        | 0.19                        |
| 4  | 0.20       | 0.14                        | 0.28                        |
| 5  | 0.20       | 0.14                        | 0.28                        |
| 6  | 0.30       | 0.21                        | 0.43                        |
| 7  | 0.28       | 0.20                        | 0.40                        |
| 8  | 0.36       | 0.26                        | 0.51                        |
| 9  | 0.56       | 0.40                        | 0.80                        |
| 10 (reference category)                    | 1          |                             |                             |
| <b>Age group</b>                           |            |                             |                             |
| 18-20                                      | 7.35       | 5.39                        | 10.02                       |
| 21-24                                      | 3.43       | 2.60                        | 4.51                        |
| 25-29                                      | 2.01       | 1.54                        | 2.62                        |
| 30-39                                      | 1.51       | 1.17                        | 1.93                        |
| 40 or older (reference category)           | 1          |                             |                             |
| Drug problem before custody                | 1.87       | 1.59                        | 2.20                        |
| <b>Offence</b>                             |            |                             |                             |
| Theft and handling                         | 1.48       | 1.16                        | 1.89                        |
| Drug offences                              | 0.63       | 0.45                        | 0.89                        |
| Violence (reference category)              | 1          |                             |                             |
| <b>Sentence length</b>                     |            |                             |                             |
| Up to 3 months                             | 1.64       | 1.14                        | 2.36                        |
| 3 months to under 6 months                 | 1.75       | 1.22                        | 2.51                        |
| 6 months to under a year                   | 1.86       | 1.31                        | 2.72                        |
| 4 years or more (reference category)       | 1          |                             |                             |
| First custody                              | 0.65       | 0.54                        | 0.79                        |
| Both accommodation and employment problems | 1.43       | 1.20                        | 1.70                        |
| No family visits                           | 1.39       | 1.17                        | 1.64                        |
| Probation officer contact in prison        | 0.80       | 0.69                        | 0.93                        |
| Victim awareness course/programme          | 0.70       | 0.53                        | 0.92                        |
| Job club                                   | 0.71       | 0.53                        | 0.94                        |

## Previous convictions

The likelihood of reoffending increased with the number of previous convictions. There was a definite trend in this variable ranging from 11% of those with the lowest numbers of reconvictions likely to reoffend which gradually increased to 86% for those with the highest number of previous convictions.

## Age

Generally, the likelihood of reoffending reduced with increasing age. Table 3 shows that the reoffending rate was highest (70%) for those aged from 18 to 20, and lowest (36%) for those aged 40 and over.

**Table 3: Age and reoffending**

| Age group   | One year re-offending rate | n     |
|-------------|----------------------------|-------|
| 18 – 20     | 70%                        | 801   |
| 21 – 24     | 62%                        | 1,088 |
| 25 – 29     | 59%                        | 1,057 |
| 30 – 39     | 56%                        | 1,341 |
| 40 or older | 36%                        | 611   |
| All         | 58%                        | 4,898 |

## Drug problems

In the surveys, prisoners were asked if they had a problem staying off drugs before custody. The odds of reoffending for those reporting a drug problem before custody were 1.87 times higher than those not reporting a drug problem. As Table 4 shows, three-quarters (75%) of prisoners saying they had a problem before custody went on to reoffend within a year of release.

**Table 4: Pre-custody drug use and reoffending**

| Problem staying off drugs before custody? | One year re-offending rate | n     |
|---|----------------------------|-------|
| No  | 46%                        | 2,825 |
| Yes                                       | 75%                        | 2,073 |
| All                                       | 58%                        | 4,898 |

## Offence type

Two index offences were predictive of reoffending (note: the odds ratio given is the comparison with a chosen reference group of violent offenders). Theft and handling was associated with increased reoffending and drug offences were associated with reduced reoffending. Although having a drug problem was strongly associated with reoffending this last finding is surprising, previous research (Cunliffe and Shepherd, 2007) has also shown that reoffending rates for those guilty of supplying drugs (those offenders most likely to receive a custodial sentence) are below average.

As Table 5 shows, prisoners convicted of theft and handling and burglary had the highest rates of reoffending. The lowest rates were for fraud and forgery, drug offences and sex offences. The offences with rates closer to the average were violence, robbery and other offences.

**Table 5: Offence and reoffending**

| Current offence    | One year reoffending rate | n     |
|--------------------|---------------------------|-------|
| Theft and handling | 78%                       | 1,165 |
| Burglary           | 70%                       | 636   |
| Unknown            | 60%                       | 92    |
| Other*             | 56%                       | 1,441 |
| Robbery            | 52%                       | 238   |
| Violence           | 46%                       | 764   |
| Drugs              | 29%                       | 313   |
| Fraud and forgery  | 25%                       | 136   |
| Sex                | 15%                       | 113   |
| All                | 58%                       | 4,898 |

\* This category includes such offences as criminal damage, arson, disorder and motoring offences.

## Sentence length

Sentence length was also a statistically significant predictor of reoffending. Compared to prisoners sentenced to four years or more, the odds of reoffending were significantly higher for those sentenced for up to three months, three months to under six months and six months to under a year. Rates of reoffending for sentence length bands are shown in Table 6. Those with long sentences included convictions for serious sexual offences and murder and manslaughter, for which it is known that reoffending is low; see Taylor (1999). The odds of reoffending were reduced for prisoners who were in custody for the first time (n=2,832). The rate of reoffending for these prisoners was 32% compared to 69% for those with previous experience of custody.

**Table 6: Sentence length and reoffending**

| Sentence length               | One year re-offending rate | n     |
|-------------------------------|----------------------------|-------|
| Up to 3 months                | 62%                        | 1,166 |
| From 3 months and less than 6 | 69%                        | 1,061 |
| 6 months to under a year      | 65%                        | 879   |
| One year to under four        | 47%                        | 1,498 |
| Four years or more            | 35%                        | 294   |
| All                           | 58%                        | 4,898 |

## Employment and accommodation

There was an interaction between employment and accommodation problems, such that employment (measured here as not having a job arranged on release) was statistically significant in the model only when present with an accommodation problem (not having an address arranged on release). The odds of reoffending were increased by 43% if prisoners reported both employment and accommodation problems on release. Three quarters (74%) of prisoners with both these problems reoffended during the year after custody (Table 7).

**Table 7: Employment and accommodation problems and reoffending**

| Problem status                                  | One year re-offending rate | n     |
|---|----------------------------|-------|
| No problem with employment or accommodation     | 43%                        | 1,006 |
| Problem with either employment or accommodation | 55%                        | 2,488 |
| Problem with both employment and accommodation  | 74%                        | 1,404 |

Whether accommodation arranged on release was stable or temporary did not affect reoffending rates (51% for both). However, there were differences in reoffending rates by categories of employment status. Table 8 shows that work intentions after release were related to reoffending rates. The lowest reoffending rate was for those with a paid job to go to, over ten per cent lower for those with training or education arranged for release. The small number (2% of the sample) who reported not wanting to work or train had the highest average reoffending rate. There was also a distinction in reoffending between those who had a job to go to and those who intended to look for one.

**Table 8: Expected employment after release and reoffending**

| Expected employment or other status after release | One year re-offending rate | n     |
|---|----------------------------|-------|
| Paid job to go to                                 | 45%                        | 1,105 |
| Training or education to go to                    | 56%                        | 282   |
| Looking after home or family                      | 53%                        | 53    |
| Long-term sick or disabled                        | 58%                        | 413   |
| Looking for job or course                         | 62%                        | 2,683 |
| Do not want to work or train                      | 75%                        | 103   |
| Other including retired                           | 64%                        | 259   |
| Total   | 58%                        | 4,898 |

## Prison visits

One measure of family ties is whether a prisoner was visited in prison by a partner or family member. Those who were visited by one or the other had a significantly lower reoffending rate (52%, n=3,281) than those who were not visited (70%, n=1,617). The odds of reoffending were 39% higher for prisoners who had not received visits compared to those who had.

## Prison interventions

In the surveys, prisoners were asked which interventions they had attended (see Table 1) and these variables were used in the regression analysis. Two of these interventions were significant in the regression model: attending a victim awareness course and attending a prison job club (Table 9). Contact with a probation officer in prison was also found to be significantly related to reduced reoffending. These findings need to be interpreted with caution. For example, there is the possibility of selection effects, whereby those who go on such courses are self-selecting and by the mere fact of choosing to participate may be less likely to reoffend. Prisoners who participated in an intervention were likely to exhibit different characteristics from those who did not, and at least some of those characteristics were likely to be related to reoffending. In addition, the survey data only measured whether prisoners participated in programmes, but not the extent to which programmes were completed.

**Table 9: Interventions and rates of re-offending**

| Interventions in prison                        | One year re-offending rate | n     |
|--|----------------------------|-------|
| Job club attended                              | 49%                        | 305   |
| Job club <b>not</b> attended                   | 58%                        | 4,594 |
| Victim Awareness programme attended            | 42%                        | 372   |
| Victim Awareness programme <b>not</b> attended | 59%                        | 4,527 |
| Contact with a Probation Officer               | 51%                        | 2,378 |
| No contact with a Probation Officer            | 64%                        | 2,505 |

## Conclusions

This study highlights which factors may play the most important role in decreasing the likelihood of reoffending in the first year after release. It is one of the first to use reoffending data from the Police National Computer; the advantage of this is that the date of actual reoffending is known, rather than the date of conviction used in most previous studies. The results confirm many of the links between reoffending and offenders' characteristics, history and circumstances known from previous research (for example, Howard *et al.*, (2006) and Harper and Chitty (2005)), but also quantify the role of resettlement factors whilst controlling for these variables. This analysis cannot show that any link with interventions and reoffending is causal or uncover the nature of the mechanism causing the association. However these findings do indicate that interventions might be having some effect, and that there is value in undertaking additional research to examine this further.

## Methodological note:

- Not all cases from the three resettlement surveys could be matched with reconviction records. Tests were undertaken to check for any possible bias introduced by missing cases. There was no apparent bias by age or sex, but White prisoners were slightly over-represented in the match. The data were weighted to adjust for this.

- Studies of reoffending have generally taken a standard period of two years after release within which to examine reconvictions. However, at the time of analysis sufficient time had not elapsed since the 2004 survey to cover a two-year period plus time for reoffending data to be collated. Data from the first two surveys showed that of those who reoffended within two years, 86% had already offended by the end of one year after release. This high percentage and the need to examine data for all years supports the decision to base the analysis on a one-year period. A one-year follow up is now the accepted national approach.
- For the analysis of reoffending the survey data were combined with prison discharge and PNC data. The identifiers required for matching with PNC data were missing for a proportion of cases. For example, the forename was missing for nearly nine per cent of cases. However, it was possible to retrieve much of the missing information from prison discharge data. After matching, 61 juveniles (under 18 years old) were identified in the dataset who should not have been included in the surveys and were removed from the data.
- No bias by age or sex was apparent, but non-White prisoners were over-represented in the cases that could not be matched with reoffending information. This may have been caused by the greater likelihood of alternative spellings or misspellings of non-British names. A weight was calculated to adjust for this over-representation.
- Strong correlations between variables can cause statistical and computational problems in the regression analyses. Further statistical tests (collinearity diagnostics) indicate that the relationships between these variables are not such as to cause these kinds of difficulty.
- Some limitations to the data should be noted. In particular, as prisoners were interviewed in the weeks before release only expectations of employment and accommodation after release could be gathered. Also, almost two thirds of the sample was serving sentences of less than 12 months. This would make them ineligible

for many programmes (including offending behaviour and intensive drug programmes).

- The research did not assess the risk factors specifically targeted by accredited programmes (attitudes, thinking and behaviour and emotional wellbeing).

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