Re-offending on parole

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Aim: *To measure the rate of re-offending on parole and identify the predictors of both general and violent offending on parole. To describe the types of offences committed on parole.*

Method: *The analysis was based on 9,604 offenders released on parole in 2010 or 2011. Multinomial logistic regression was used to identify demographic and criminal history characteristics independently associated with re-offending or re-imprisonment while on parole.*

Results: *Just under 61 per cent (60.8%) of parolees neither re-offended nor were re-imprisoned during their parole period. About twenty-eight per cent (28.4%) of the sample re-offended on parole. A further 10.8 per cent were re-imprisoned on parole without having first re-offended. Approximately 7 per cent (7.1%) of the sample committed a violent offence on parole. Parolees were more likely to offend on parole if they were male; Indigenous; young; had spent less than 180 days in prison (during the current episode); had a higher Level of Service Inventory - Revised score had a non drug offence as their principal offence; had six or more prior court appearances, had been imprisoned before; or had a prior conviction for drug use and/or possession. The correlates of violent re-offending on parole were very similar but also included prior conviction for a serious violent offence. Those who re-offended on parole committed a broad spectrum of offences, including: break and enter, assault, possess illicit drugs, receive/handle proceeds of crime, drive while licence disqualified, breach apprehended violence order and property damage.*

Conclusion: *Offending on parole is less common than previous studies have suggested. Future research should focus on three issues: whether it is possible to improve the accuracy of the parole risk assessment process; whether post release supervision/support reduces the risk of re-offending following release from prison; and whether offenders released to parole are less likely to re-offend if released to parole by the State Parole Authority than if released on parole by a court.*

INTRODUCTION

The United States Department of Justice recently published a review of re-offending among released prisoners in 30 American states. About two-thirds (67.8%) were arrested for a new crime within 3 years of release, while three-quarters were arrested within 5 years (Durose, Cooper, & Snyder, 2014). No similar studies have ever been conducted in Australia. Indeed, by comparison with the United States, studies of re-offending among released prisoners in Australia are few and far between. Broadhurst and his colleagues carried out much of the early work in this area (Broadhurst & Loh, 1995; Broadhurst, Maller, Maller, & Duffecy, 1988; Broadhurst & Maller, 1990; Broadhurst & Maller, 1991; Broadhurst & Maller, 1992). In his review of Australian research on recidivism, Payne (2007) listed only three other studies that examined predictors of re-offending amongst a cohort of released prisoners (Jones, Hua, Donnelly, McHutchinson, & Heggie, 2006; Ross & Guarnieri, 1996;

Thompson, 1995). Only one of the three studies (Jones et al., 2006) was specifically concerned with re-offending by parolees. Jones et al. (2006) found that 52 per cent of prisoners released to parole were reconvicted of a further offence within 1 year of release, while 64 per cent were reconvicted within 2 years of release.

One limitation of the study by Jones et al. (2006) (and many overseas studies) is that, although they examine the rate of re-offending by parolees, they do not examine the rate of re-offending *while on parole*. As we shall show later in this bulletin, some of the offending they observed is likely to have occurred after the offender's parole order had expired. From the standpoint of correctional administrators (and anyone else concerned with the impact of parole supervision on risk of re-offending), there is a significant difference between re-offending that occurs when an offender is under correctional supervision and re-offending that occurs when the offender is not subject to any form of supervision. Re-offending while subject to parole

supervision raises questions about the appropriateness of a Government's parole release policies and/or the adequacy of its parole supervision process. Parole supervision, however, cannot continue indefinitely for all offenders. It would not be surprising, therefore, if the risk of re-offending increased once parole supervision and support stops. A second limitation of both the Jones et al. (2006) study and other studies of offending by released prisoners in Australia is that they do not report the nature of the offences committed by parolees. This is unfortunate because the type of offence likely to be committed on parole is just as important a consideration when deciding to release an offender from custody as the risk of offending on parole.

This study makes three contributions to our understanding of parole in Australia. It provides the first (Australian) estimate of re-offending on parole, as opposed to re-offending by (current and former) parolees. It describes the types of offending committed on parole. Finally, it provides the first Australian analysis of the correlates of re-offending on parole; focussing in particular, on the correlates of violent offending. The next section provides a brief description of the parole system as it operates in NSW. The section that follows describes the methods used in the current study. The fourth section presents the results of the study. In the fifth section we summarise the findings of the study and discuss their implications.

KEY FEATURES OF PAROLE IN NSW

The legislative requirements with regard to sentencing and the issuing of parole orders are set out in the *Crimes (Sentencing Procedure) Act 1999* and the *Crimes (Administration of Sentences) Act 1999*. These two pieces of legislation establish different parole procedures for offenders given sentences of 6 months or less, offenders given sentences of 3 years or less (but more than 6 months) and offenders given sentences of more than 3 years.

Under the *Crimes (Sentencing Procedure) Act 1999*, sentences of 6 months or less do not have a parole component. Where the sentence imposed by a court is more than 6 months but 3 years or less, the court usually sets a non-parole period, which is the minimum time that an offender must spend in custody prior to release on parole. If the court sets a non-parole period for a sentence of 3 years or less, the court must also make a parole order specifying the conditions (if any) that the offender must adhere to when he or she is released at the expiry of his or her non-parole period. In this report, we refer to these parole orders issued by a court as court parole.

The parole procedures for sentences in excess of 3 years are significantly different and are set out in the *Crimes (Administration of Sentences) Act 1999*. Although a court imposing a sentence of more than 3 years may stipulate a non-parole period, the State Parole Authority (SPA) determines the offender's release date and parole conditions. In this report, we refer to parole orders granted by SPA as SPA parole. Whereas

an offender granted court parole is automatically released at the end of their non-parole period, SPA may refuse to release an offender to parole after their non-parole period has finished. Under section 135 of the *Crimes (Administration of Sentences) Act 1999* SPA must not make a parole order for an offender unless it is satisfied, on the balance of probabilities, that the release of the offender is appropriate in the public interest. In deciding whether or not the release of an offender is appropriate in the public interest, SPA must have regard to the following matters:

- the need to protect the safety of the community,
- the need to maintain public confidence in the administration of justice,
- the nature and circumstances of the offence to which the offender's sentence relates,
- any relevant comments made by the sentencing court,
- the offender's criminal history,
- the likelihood of the offender being able to adapt to normal lawful community life,
- the likely effect on any victim of the offender, and on any such victim's family, of the offender being released on parole,
- any report in relation to the granting of parole to the offender that has been prepared by or on behalf of the Probation and Parole Service.

SPA has the power to refuse or defer parole or set conditions on a parole order adapted to address specific risk factors. Information on these risk factors is usually collated and presented to SPA by NSW Corrective Services Probation and Parole officers in the form of a pre-release report. Pre-release reports for SPA also include a parole recommendation and an offender risk assessment carried out with the Level of Service Inventory-Revised (LSI-R). The LSI-R is a standard and widely used correctional risk assessment instrument developed by Andrews and Bonta (1995). The SPA takes the assessment and recommendation into account – among other information (e.g., completion of rehabilitation programs in custody) – in coming to its decision.

METHOD

DATA SOURCE

Data for the study was extracted from ROD: the NSW Bureau of Crime Statistics and Research re-offending database (Hua & Fitzgerald, 2006). ROD consists of a set of linked records of all persons cautioned, conferenced or charged with a criminal offence in NSW since 1994. Data sourced from the NSW Department of Births, Deaths and Marriages is used to identify the date of death of persons in ROD who have died.

An important feature of ROD is that it contains data on time spent by a person in custody. It also contains information on

the date on which each offender's parole order commenced and concluded. This data is sourced from OIMS: the Offender Integrated Management System maintained by Corrective Services NSW. An offender was taken to have been released to parole if their recorded discharge type in OIMS was 'parole'. The parole order commencement date is defined as the discharge date for offenders whose discharge type is 'parole'. The parole order expiry date is defined as the expiry date of the aggregate sentence to which the person was subject when discharged. Note that active supervision of a parolee may terminate prior to the date of expiry of a parole order (i.e., prior to the end of the aggregate sentence). Data for the current study were extracted from ROD in June 2014 and include data up until 31 December 2013.

THE COHORT

In 2010 and 2011, there were 10,709 records relating to offenders being released to parole. To be included in the study, the parole period (the number of days between the date of release on parole and the date on which the aggregate sentence to which they were subject expires) had to be at least 30 days, with a date of expiry before 1 July 2013. Only the first occurrence of the parole order was included. A total of 9,656 records (90.2%) met these criteria. Further, a small percentage (0.4%) of offenders who died while on parole was excluded from the study. The effective sample was 9,604 parolees.

DEFINITION OF RECIDIVISM

A parolee was taken to have re-offended on parole if they were found to have committed an offence (proven in court) between the date of release on parole and the date on which the aggregate sentence to which they were subject expires. This definition does not encompass persons returned to custody for 'technical' breaches of their parole order. It does, however, include breaches which are themselves criminal offences and which are dealt with by a court (e.g., breaches of apprehended violence orders). Parolees may have been returned to custody during their parole period for a prior offence or for an offence not later proven in court. Persons who were returned to custody prior to committing a re-offence of interest were classified as having being returned to custody rather than as having re-offended during their parole period.[1]

The Australian and New Zealand Standard Offence Classification (ANZSOC; Australian Bureau of Statistics, 2011) recognises several groups of offences against the person. They are: homicide and related offences; acts intended to cause injury; sexual assault and related offences; dangerous and negligent acts endangering persons; abduction, harassment and other offences against the person; and robbery, extortion and related offences. Violent re-offending is defined in this study as any proven offence on parole falling into one of the following ANZSOC groups:

- 111-131 (murder, attempted murder and manslaughter)
- 211-213 (serious assault resulting in injury, serious assault not resulting in injury and common assault)
- 311-312 (aggravated sexual assault and non-aggravated sexual assault)
- 511-521 (abduction and kidnapping and deprivation of liberty/false imprisonment)
- 611-621 (aggravated robbery, non-aggravated robbery, and blackmail/extortion)

DEPENDENT VARIABLES

The outcome of interest was whether a parolee:

- re-offended on parole (identified by an offence proven in court);
- returned to custody (for more than 1 day) while on parole and prior to re-offending; or
- did not re-offend or return to custody while on parole.[2]

Two re-offending outcomes were examined: re-offending overall and violent re-offending.

INDEPENDENT VARIABLES

The independent variables included in the study were essentially those included in Jones et al. (2006) but also included the LSI-R score. The LSI-R involves 10 subscales measuring aspects of an offender's criminal history, education/employment, financial situation, family/marital relationships, accommodation, leisure/recreation activities, companions, alcohol/drug use, emotional/personal features, and attitudes/orientation. Overall risk scores are produced which are then usually categorised into five levels of recidivism risk: low, low-medium, medium, medium-high and high.

Independent variables included in the analyses were:

- Gender (male vs. female)
- Indigenous status (Indigenous vs. non-Indigenous/unknown)
- Age (in years at release from prison)
- Year of release (whether the offender was released to parole in 2010 or 2011)
- Length of custodial episode (the length of time in prison in the current episode of imprisonment)
- Length of parole period (the length of time from release from prison to the expiry of the parole period)
- Release authority (whether the offender was released to parole by SPA or whether the release authority was a court or unknown)
- LSI-R score (based on the assessment closest to release from prison and restricted to assessments between 18 months prior to release and 3 months post release; low if an offender's LSI-R score fell between 0 and 13 (inclusive), low-medium if the LSI-R score fell between 14 and 23, medium if the LSI-R

score fell between 24 and 33, medium-high if the LSI-R fell between 34 and 40, and high if the LSI-R score fell between 41 and 54)

- Index offence (based on the most serious offence related to the custodial episode as identified by Corrective Services NSW; categorised as a violent offence if ANZSOC group = 111-213 or 511-532; a sexual offence if ANZSOC = 311-329; robbery if ANZSOC = 611-621; a property/deception offence if ANZSOC = 711-999; a drug offence if ANZSOC = 1011 to 1099; a driving offence if ANZSOC = 411-412 or 1411-1441; a justice procedure offence if ANZSOC = 1511-1569; remaining offences were categorised as 'other')

- Prior court (the number of times the offender had appeared in court on criminal charges, regardless of whether charges were proven)

- Prior prison (the number of prior court appearances at which the offender was given a prison sentence)

- Prior serious violent offence (whether the offender had a prior proven offence under ANZSOC group 111,121, 131, 211, 212, 311, 312, 511, 521, 611 or 612)

- Prior drug (whether the offender had a prior proven drug use and/or possession offence, ANZSOC group 1041 or 1042)

- Prior breach (whether the offender had a prior proven record relating to breaching a court order, ANZSOC group between 1511 and 1532, inclusive)

All 'prior' variables relate to matters which were finalised prior to release from prison, and within 10 years prior to the start of the custodial episode (where data was available).

STATISTICAL ANALYSIS

Two primary sets of analyses were carried out. The first was designed to determine the risk factors for re-offending on parole. The second was designed to determine the risk factors for violent re-offending on parole. Both sets of analyses were conducted using a similar approach. First, bi-variate relationships between each of the independent variables (covariates) and the dependent variable were examined. Covariates were then included in a multinomial logistic regression to determine which variables independently predicted re-offending or re-imprisonment on parole.

In addition to these analyses, the types of offences committed while on parole (and proven in court) were also examined. The ANZSOC groups of the top 20 most common offences and most common 'principal' offences are presented (where the 'principal' offence is identified as the re-offence that attracted the most serious penalty).

RESULTS

SAMPLE DESCRIPTION

Table 1 provides descriptive statistics for the sample.

Table 1. Descriptive statistics for sample (N=9,604)

	n	%
Sex		
Male	8,701	90.6
Female	903	9.4
Indigenous status		
Not Indigenous	6,067	63.2
Indigenous	3,537	36.8
Age group (years)		
<25	2,132	22.2
25-34	3,558	37.0
35-44	2,569	26.7
45+	1,345	14.0
Year of release		
2010	5,107	53.2
2011	4,497	46.8
Length of custodial episode		
<180 days	2,705	28.2
180-365 days	3,832	39.9
>365 days	3,067	31.9
Length of parole		
<180 days	2,999	31.2
180-365 days	4,233	44.1
>365 days	2,372	24.7
Release authority		
SPA	1,430	14.9
Court	7,728	80.5
Missing	446	4.6
LSI-R risk level		
Low	506	5.3
Low-medium	1,607	16.7
Medium	3,412	35.5
Medium-high	2,317	24.1
High	670	7.0
Missing	1,092	11.4
Index offence type		
Violent	2,794	29.1
Sexual	395	4.1
Robbery	625	6.5
Property/deception	1,962	20.4
Drugs	837	8.7
Driving	1,091	11.4
Justice procedures	1,188	12.4
Other	712	7.4
Prior court appearances		
0, 1	1,140	11.9
2 – 5	2,867	29.9
6 – 9	2,571	26.8
10+	3,026	31.5
Prior imprisonment		
0, 1	3,793	39.5
2, 3	2,681	27.9
4+	3,130	32.6
Prior serious violent offence		
No	3,649	38.0
Yes	5,955	62.0
Prior drug offence		
No	5,915	61.6
Yes	3,689	38.4
Prior breach		
No	3,627	37.8
Yes	5,977	62.2

All variable values are well represented. The only variables with more than 1 per cent of values missing are: Release authority, where 4.6 per cent of cases have missing values and LSI-R risk level, where 11.4 per cent of cases have missing values. As one would expect, the vast majority (90.6%) of parolees are male and relatively young (mean age = 33.8 years, standard deviation = 10.2). A substantial proportion (36.8%) is Indigenous. The two most common categories of index offence associated with the current episode of imprisonment are violent offences (29.1%) and property/deception offences (20.4%). The majority of offenders (60.5%) had been imprisoned two or more times previously. Substantial proportions of parolees have a prior conviction for drug use and/or possession (38.4%), or a prior conviction for a serious violent offence (62.0%). Not surprisingly, most of the sample has appeared repeatedly in court before (mean no. prior court appearances = 7.5, standard deviation = 5.5). Most parolees (80.5%) were released on court parole rather than SPA parole. Those included in the study had been released from custody after a custodial episode ranging between 1 and 7,716 days; the median length was 272 days. The length of parole ranged from 30 to 1,188 days, with a median length of 284 days. The majority of offenders are in the medium, medium-high or high LSI-R risk categories.

BI-VARIATE CORRELATES OF RE-OFFENDING

Taken overall, 28.4 per cent of those released to parole re-offended on parole, while 10.8 per cent were re-imprisoned on parole without having first re-offended; 60.8 per cent of parolees neither re-offended nor were re-imprisoned.[3] Table 2 shows the proportions of parolees who re-offended or were re-imprisoned while on parole, and those who neither re-offended nor were re-imprisoned, by the range of covariates.

All covariates are significantly associated with the risk of re-offending or re-imprisonment, except year of release. The direction of the relationship in most cases is as one would expect. Higher proportions of re-offending are apparent for those who are male, Indigenous or young. The proportion re-offending is slightly higher for those whose current episode of imprisonment lasted more than a year, higher for those released on SPA parole rather than court parole and higher for those who have higher LSI-R scores. It is also higher for those who had multiple prior court appearances, previous episodes of imprisonment or prior convictions for serious violent, breach and drug use/possession offences. Similarly, higher proportions of re-imprisonment are found for those who are Indigenous and for those who have had multiple court appearances, previous episodes of imprisonment or prior convictions for serious violent, breach and drug use/possession offences. The proportion re-imprisoned is also higher for those with longer parole periods, those released on SPA parole and those who have higher LSI-R scores.

PREDICTORS OF RE-OFFENDING ON PAROLE

Table 3 shows results from the multinomial logistic regression examining whether parolees re-offended or were re-imprisoned on parole, or neither re-offended nor were re-imprisoned while on parole. As the table is complex, some preliminary comments may help readers unacquainted with regression analysis to understand the table better.

The far left hand column of Table 3 gives the variable and the values of the variable being compared. In the case of the variable Sex, for example, we can see that males are being compared with females. The first column labelled 'relative risk ratio' under the heading 'Re-offending versus no re-offending/re-imprisonment' gives the risk of re-offending on parole for the first mentioned value of the variable Sex (being male) compared with the second (being female). A relative risk ratio greater than one indicates that the risk of re-offending for the first-mentioned member of the contrast is higher than for the second. In the case of Sex, the relative risk ratio column in Table 3 tells us that, controlling for all other variables included in the table, the risk of a male re-offending on parole are estimated to be 1.23 times higher than the risk of a female re-offending on parole. Skipping the next two columns[4], the fourth column indicates the strength of evidence for a true difference in the risk of re-offending (e.g., for males vs. females). The smaller the p-value, the stronger the evidence for a true difference; $p < .05$ is often used as a benchmark indicating 'statistical significance'.

The columns under the heading 'Re-imprisonment versus no re-offending/re-imprisonment' are interpreted in a manner parallel to that for re-offending, but this time the focus is on re-imprisonment. The first column tells us that the risk of a male being re-imprisoned while on parole are estimated to be 1.16 times higher than for a female. The column labelled *p*-value, under the heading 'Re-imprisonment versus no re-offending/re-imprisonment' indicates the strength of evidence for this difference. The final column labelled *p*-value indicates the strength of evidence for whether the relative risk ratio associated with the variable Sex for re-imprisonment differs from the relative risk ratio for the variable Sex in relation to re-offending. Comparing relative risk ratios for re-offending and re-imprisonment for this variable it can be seen that while the relative risk ratio for re-imprisonment is smaller (suggesting that Sex has less effect on re-imprisonment than it does on re-offending), the *p*-value of .666 in the final column provides no evidence that the effect of Sex on re-offending and re-imprisonment is different.

Proceeding on this basis it is apparent that:

- sex: males were more likely to re-offend than females;
- Indigenous status: Indigenous offenders were more likely to re-offend and were more likely to be re-imprisoned than were non-Indigenous offenders;

Table 2. Relationships between independent variables and re-offending or re-imprisonment (prior to re-offending) on parole

		n	Re-offence (%)	Re-imprisonment (>1 day) (%)	No re-offence or re-imprisonment (%)
Total		9,604	28.4	10.8	60.8
Sex	Male	8,701	28.8	10.8	60.4
	Female	903	24.6	10.9	64.6
Indigenous status	Non-Indigenous/unkown	6,067	24.5	8.9	66.6
	Indigenous	3,537	35.2	14.0	50.8
Age group (years)	<25	2,132	36.4	11.2	52.5
	25-34	3,558	31.6	11.4	57.0
	35-44	2,569	24.9	11.7	63.5
	45+	1,345	14.4	6.6	79.0
Year of release	2010	5,107	27.6	10.8	61.6
	2011	4,497	29.4	10.7	59.9
Length of custodial episode	<180 days	2,705	28.3	11.4	60.3
	180-365 days	3,832	26.5	9.5	63.9
	>365 days	3,067	30.9	11.8	57.3
Length of parole	<180 days	2,999	22.6	7.3	70.1
	180-365 days	4,233	30.5	11.6	57.9
	>365 days	2,372	32.2	13.6	54.2
Release authority	SPA	1,430	33.6	15.1	51.3
	Court	7,728	27.9	10.1	62.1
	Missing	446	21.5	9.0	69.5
LSI-R risk level	Low	506	3.6	0.8	95.7
	Low-medium	1,607	15.0	4.2	80.8
	Medium	3,412	28.6	8.7	62.7
	Medium-high	2,317	37.9	15.5	46.6
	High	670	48.1	20.8	31.2
	Missing	1,092	27.0	15.3	57.7
Index offence type	Violent	2,794	29.0	11.0	60.1
	Sexual	395	17.2	6.3	76.5
	Robbery	625	35.8	17.1	47.0
	Property/deception	1,962	35.3	11.3	53.4
	Drugs	837	16.0	5.9	78.1
	Driving	1,091	19.5	5.5	75.0
	Justice procedures	1,188	35.0	16.8	48.2
	Other	712	24.3	9.3	66.4
Prior court appearances	0, 1	1,140	14.7	8.5	76.8
	2 – 5	2,867	21.9	9.0	69.2
	6 – 9	2,571	29.1	10.8	60.1
	10+	3,026	39.3	13.3	47.4
Prior imprisonment	0, 1	3,793	14.8	7.4	77.8
	2, 3	2,681	29.4	11.1	59.5
	4+	3,130	44.1	14.5	41.4
Prior serious violent offence	No	3,649	21.4	8.4	70.2
	Yes	5,955	32.7	12.2	55.0
Prior drug offence	No	5,915	23.3	9.9	66.8
	Yes	3,689	36.7	12.1	51.2
Prior breach	No	3,627	21.3	8.9	69.8
	Yes	5,977	32.8	11.9	55.3

Table 3. Factors associated with re-offending or re-imprisonment on parole

	Re-offending versus No re-offending/re-imprisonment			Re-imprisonment versus No re-offending/re-imprisonment			
	Relative risk ratio	95% confidence interval	p-value	Relative risk ratio	95% confidence interval	p-value	p-value*
Sex							
Male vs. Female	1.23	(1.02, 1.47)	.028	1.16	(0.91, 1.48)	.232	.666
Indigenous status							
Indigenous vs. non-Indigenous.unknown	1.14	(1.02, 1.27)	.023	1.32	(1.14, 1.54)	<.001	.052
Age group (years)							
18-24 vs. 45+	3.53	(2.88, 4.33)	<.001	1.98	(1.49, 2.62)	<.001	.001
25-34 vs. 45+	1.83	(1.52, 2.21)	<.001	1.55	(1.19, 2.00)	.001	.244
35-44 vs. 45+	1.40	(1.15, 1.70)	.001	1.58	(1.21, 2.06)	.001	.418
Year of release							
2011 vs. 2010	1.16	(1.04, 1.28)	.008	1.11	(0.96, 1.29)	.154	.640
Length of custodial episode (days)							
180+ vs. <180	0.70	(0.62, 0.79)	<.001	0.62	(0.53, 0.74)	<.001	.208
Length of parole (days)							
180-365 vs. <180	2.23	(1.98, 2.52)	<.001	2.62	(2.19, 3.14)	<.001	.094
>365 vs. <180	4.03	(3.41, 4.76)	<.001	5.10	(4.05, 6.42)	<.001	.048
Release authority							
Court vs. SPA	0.87	(0.74, 1.02)	.091	0.80	(0.65, 0.99)	.037	.434
Unknown vs. SPA	0.67	(0.50, 0.90)	.007	0.54	(0.36, 0.81)	.003	.333
LSI-R risk level							
Medium vs. Low/Low-medium	2.07	(1.75, 2.44)	<.001	2.92	(2.20, 3.87)	<.001	.027
Medium-high vs. Low/Low-medium	2.76	(2.30, 3.32)	<.001	5.94	(4.44, 7.97)	<.001	<.001
High vs. Low/Low-medium	4.65	(3.63, 5.95)	<.001	10.92	(7.66, 15.56)	<.001	<.001
Missing vs. Low/Low-medium	2.41	(1.95, 2.98)	<.001	5.93	(4.35, 8.08)	<.001	<.001
Index offence							
Violent vs. Drugs	1.46	(1.16, 1.83)	.001	1.53	(1.09, 2.15)	.014	.800
Sexual vs. Drugs	1.48	(1.03, 2.11)	.032	1.23	(0.73, 2.08)	.441	.528
Robbery vs. Drugs	1.70	(1.28, 2.25)	<.001	2.34	(1.58, 3.46)	<.001	.130
Property/deceptions vs. Drugs	1.95	(1.55, 2.47)	<.001	1.85	(1.30, 2.61)	.001	.765
Driving vs. Drugs	1.12	(0.86, 1.47)	.398	0.94	(0.62, 1.42)	.762	.434
Justice procedures vs. Drugs	2.87	(2.22, 3.72)	<.001	3.60	(2.49, 5.19)	<.001	.259
Others vs. Drugs	1.33	(1.00, 1.77)	.048	1.44	(0.95, 2.18)	.084	.732
Prior court appearances							
2-5 vs. 0,1	1.10	(0.89, 1.36)	.381	0.87	(0.66, 1.15)	.326	.134
6-9 vs. 0,1	1.30	(1.04, 1.64)	.022	0.87	(0.65, 1.16)	.335	.012
10+ vs. 0,1	1.66	(1.30, 2.12)	<.001	1.01	(0.73, 1.39)	.958	.004
Prior prison sentences							
2,3 vs. 0,1	2.06	(1.78, 2.38)	<.001	1.59	(1.30, 1.95)	<.001	.020
4+ vs. 0,1	3.45	(2.94, 4.06)	<.001	2.24	(1.79, 2.79)	<.001	.001
Prior drug conviction							
Yes vs. no	1.36	(1.22, 1.52)	<.001	1.12	(0.96, 1.31)	.162	.015

* This p-value relates to the comparison of the relative risk ratio for re-offending with the relative risk ratio for re-imprisonment.

- age: with increasing age offenders were less likely to re-offend and less likely to be re-imprisoned;
- year of release: those released in 2011 were more likely to re-offend than those released in 2010;
- length of custodial episode: those with a custodial episode of 180 days or more were less likely to re-offend than those with a custodial episode less than 180 days;
- length of time on parole: those with longer parole periods were more likely to re-offend and were more likely to be re-imprisoned;
- release authority: those released by the court were less likely to be re-imprisoned than those released by SPA;
- LSI-R risk level: with increasing risk offenders were more likely to re-offend and were more likely to be reimprisoned;
- index offence type: those with violent index offences, robbery, property/deception and justice procedures offences were more likely to re-offend and more likely to be re-imprisoned than those with drug offences;
- prior court appearances: those with more prior court appearances were more likely to re-offend;
- prior prison sentences: those with more prior prison sentences were more likely to re-offend and more likely to be re-imprisoned;
- prior drug conviction: those with prior drug convictions were more likely to re-offend while on parole.

It is also apparent that there are differences between the following variables in their effect on re-offending compared with their effect on re-imprisonment:

- Indigenous status: effect of Indigenous status on re-imprisonment greater than on re-offending (but difference is borderline);
- age: effect of being young (18-24 years) on re-offending is greater than on re-imprisonment;
- length of time on parole: effect of long periods on parole on re-imprisonment greater than on re-offending (but difference is borderline);
- LSI-R risk level: effect of high LSI-R risk score on re-imprisonment greater than on re-offending;
- prior court appearances: the effect of having more prior court appearances on re-offending is greater than its effect on re-imprisonment;
- prior prison sentences: the effect of having more prior prison sentences on re-imprisonment is smaller than its effect on re-offending;
- prior drug conviction: the effect of having a previous conviction for drug use/possession is smaller on re-imprisonment than on re-offending.

To illustrate the effect of some of the more important factors in Table 3, we plot the probability of re-offending against offender age group and number of prior court appearances and imprisonments. For the purpose of this comparison, the parolee is assumed to be a male, non-Indigenous parolee, who has a violent index offence, who was released to parole in 2010 by a court, with a parole period between 6 and 12 months, and who has a medium LSI-R score. The result is shown in Figure 1.

Figure 1. The effects of age, the number of prior court appearances and prior prison sentences on the predicted probabilities of re-offending and re-imprisonment on parole
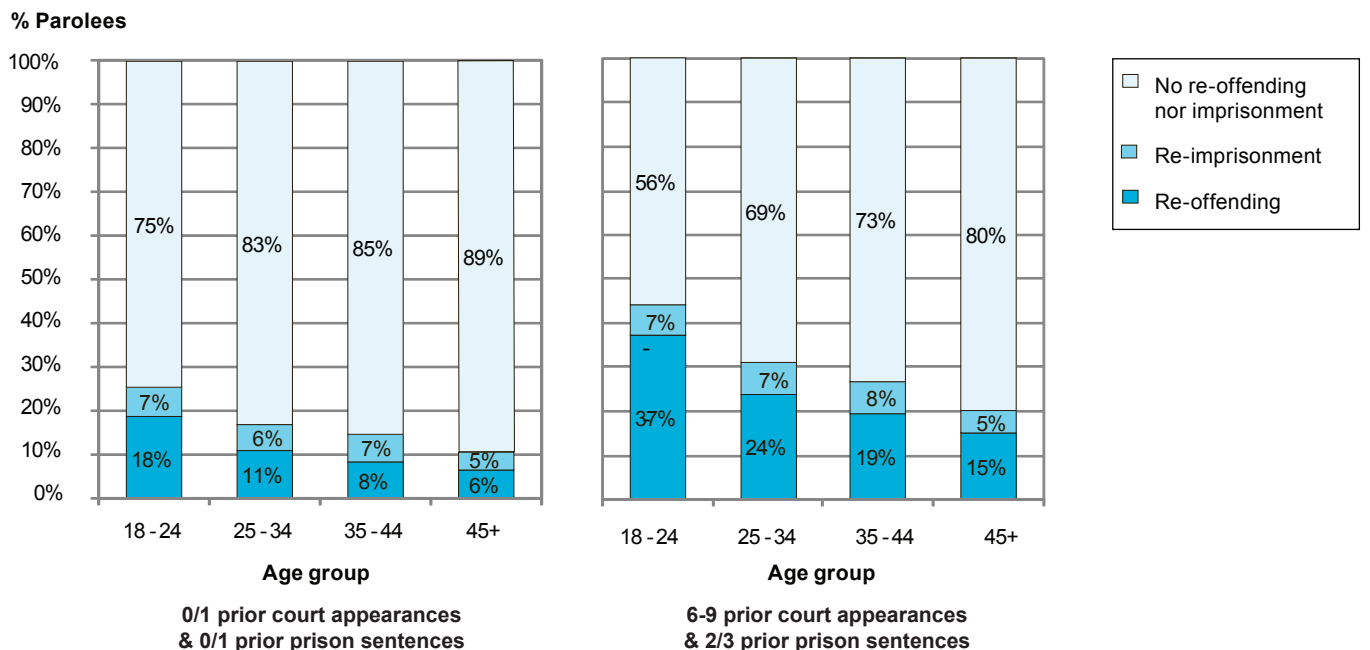
It can be seen (from the left-hand panel) that, for those with up to one prior court appearance and up to one prior prison sentence, the predicted probability of re-offending while on parole decreases with age, from 18 per cent in those aged 18-24 years to 6 per cent in those aged 45 years and over. By contrast (see right-hand panel), the predicted probability of re-offending while on parole for those with between six and nine prior court appearances and with two or three prior prison sentences is 37 per cent for those aged 18-24 years, decreasing to 15 per cent for those aged 45 years and over.

TYPES OF RE-OFFENDING ON PAROLE

Table 4 shows the offences committed on parole by those who re-offended on parole. The table is limited to the top 20 offences in terms of the frequency of offences that were proven in court. The panel on the left hand side of the table shows the most common offences (proven in court) committed on parole by those who re-offended. If an offender committed more than one offence on parole each offence is counted, regardless of whether it was the most serious offence or not. The second panel shows the most common principal offences committed by those who re-offended on parole. Offenders in this part of the table are counted only once.

Looking at the left-hand panel, it can be seen that those who re-offended committed a broad spectrum of offences. More than 10 per cent of the sample committed one or more of the following offences while on parole (based on offences proven in court):

possess illicit drugs, receive or handle proceeds of crime, drive while licence disqualified, breach of violence order, break and enter, property damage, theft or common assault. The right hand panel of the table indicates that break and enter and serious assault resulting in injury are the two most common principal offences committed on parole. More than 5 per cent had one of the following other offences as their principal offence: drive while licence disqualified, common assault, possess illicit drugs, theft and breach of violence order. Few of the offences committed on parole could be described as minor but, on the other hand, the majority do not involve violence. We discuss the issue of violent offending in more detail below.

BI-VARIATE CORRELATES OF VIOLENT RE-OFFENDING

Overall, 7.1 per cent of those released to parole committed a violent offence on parole. Table 5 shows the relationship between each of the study covariates and the proportion who committed a violent offence on parole. All of the bi-variate relationships are statistically significant, with the exception of year of release. Violent offending on parole is more likely if the offender is male, Indigenous, young, has spent more than a year in custody, has a longer parole period, was released to parole by SPA, has a higher LSI-R score, has had more previous court appearances and episodes of imprisonment, has a prior conviction for a serious violent offence or drug offence, or has previously breached a court order.

Table 4. Frequency of re-offences on parole by offence type for those who re-offended (N=2,731)

Rank	Most common offences	%	Most common principal offences	%
1	Possess illicit drugs	12.2	Break and enter	9.6
2	Receive or handle proceeds of crime	12.1	Serious assault resulting in injury	8.3
3	Drive while licence disqualified	11.9	Drive while licence disqualified	6.0
4	Breach of violence order	11.6	Common assault	6.0
5	Break and enter	11.3	Possess illicit drugs	6.0
6	Property damage, nec	10.9	Theft, nec	5.6
7	Theft, nec	10.8	Breach of violence order	5.3
8	Common assault	10.2	Theft from retail premises	4.7
9	Resist or hinder police officer or justice official	9.9	Receive or handle proceeds of crime	4.5
10	Serious assault resulting in injury	9.8	Property damage, nec	3.0
11	Theft from retail premises	7.5	Stalking	2.9
12	Drive without a licence	6.7	Aggravated robbery	2.7
13	Trespass	6.3	Dangerous or negligent operation of vehicle	2.5
14	Stalking	5.9	Serious assault not resulting in injury	2.2
15	Offensive behaviour	5.9	Drive without a licence	1.9
16	Breach of bond	5.7	Exceed the prescribed content of alcohol	1.9
17	Dangerous or negligent operation of vehicle	5.6	Breach of bond	1.9
18	Illegal use of a motor vehicle	5.5	Resist or hinder police officer or justice official	1.8
19	Regulatory driving offences, nec	4.5	Illegal use of a motor vehicle	1.8
20	Exceed the prescribed content of alcohol	4.4	Obtain benefit by deception	1.6

Note. nec: not elsewhere classified

Table 5. Relationship between independent variables and violent re-offending

		n	Violent re-offence (%)
Total		9,604	7.1
Sex	Male	8,701	7.4
	Female	903	4.1
Indigenous status	Non-Indigenous	6,067	5.3
	Indigenous	3,537	10.3
Age group (years)	<25	2,132	11.3
	25-34	3,558	7.6
	35-44	2,569	5.4
	45+	1,345	2.3
Year of release	2010	5,107	7.1
	2011	4,497	7.2
Length of custodial episode	<180 days	2,705	7.2
	180-365 days	3,832	6.5
	>365 days	3,067	7.8
Length of parole	<180 days	2,999	5.1
	180-365 days	4,233	7.8
	>365 days	2,372	8.3
Release authority	SPA	1,430	9.0
	Court	7,728	6.8
	Missing	446	7.0
LSI-R risk level	Low	506	0.2
	Low-medium	1,607	3.5
	Medium	3,412	7.3
	Medium-high	2,317	9.7
	High	670	13.1
	Missing	1,092	6.0
Index offence type	Violent	2,794	9.1
	Sexual	395	3.5
	Robbery	625	13.6
	Property/fraud	1,962	6.5
	Drugs	837	2.2
	Driving	1,091	3.2
	Justice procedures	1,188	10.2
	Other	712	3.9
Prior court appearances	0, 1	1,140	4.0
	2 – 5	2,867	6.3
	6 – 9	2,571	7.7
	10+	3,026	8.6
Prior imprisonment	0, 1	3,793	3.8
	2, 3	2,681	8.1
	4+	3,130	10.3
Prior serious violent offence	No	3,649	3.3
	Yes	5,955	9.4
Prior drug offence	No	5,915	6.4
	Yes	3,689	8.2
Prior breach	No	3,627	4.9
	Yes	5,977	8.5

PREDICTORS OF VIOLENT RE-OFFENDING ON PAROLE

A multinomial logistic regression model was used to determine which covariates were independently associated with violent re-offending on parole. While the analysis was similar to that carried out to examine overall re-offending (where re-imprisonment was included as an outcome in addition to re-offending), for simplicity only the re-offending component of the analysis is included in Table 6; the complete table is presented in Table A2 of the Appendix. The referent categories are: offenders aged 45+, females, non-Indigenous offenders, offenders whose index offence was drugs, offenders who had no prior conviction for a serious violent offence, offenders who had no or only one prior sentence of imprisonment, offenders released to parole by SPA and offenders who had a low or low-medium LSI-R score. Compared to these offenders, violent offending on parole is more likely among younger offenders (particularly those aged 24 years or less), males, Indigenous offenders, those with a violent, robbery, property/deception or justice procedures index offence, those who have a prior conviction for a serious violent offence, those who have more than one prior episode of imprisonment, and those who had a higher LSI-R score.

To illustrate the effect of the variables in Table 6, we plot the probability of a violent offence on parole for different combinations of offender characteristics.[5] For the purposes of this analysis, we will assume that the parolee is a male, non-Indigenous parolee, aged 25-34 years of age, who has a violent index offence and a previous conviction for a serious violent offence, with 2 or 3 prior prison sentences, who was released to parole by a court, after a custodial episode of 180 days or more. Figure 2 shows the effect of the length of the parole period and the LSI-R risk category on the probability of re-offending violently while on parole.

It can be seen that for those on parole for less than 180 days (left-hand panel), with a low or low/medium risk of re-offending, the predicted probability of violently re-offending on parole is 2 per cent; those with a medium-high risk of re-offending the predicted probability of violently re-offending is 5 per cent. For those on parole for more than 180 days and up to 1 year (right-hand panel), the predicted probabilities of violently re-offending are approximately double those estimated for those on parole for less than 180 days: 4 per cent for those at low or low-medium risk of re-offending through to 10 per cent for those at medium-high risk.

Table 6. Factors associated with violent re-offending on parole (prior to re-imprisonment)

	Violent re-offending versus No violent re-offending/ re-imprisonment		
	Relative risk ratio	95% confidence interval	*p*-value
Sex			
Male vs. Female	1.78	(1.25, 2.55)	.002
Indigenous status			
Indigenous vs. non-Indigenous/unknown	1.44	(1.21, 1.72)	<.001
Age group (years)			
18-24 vs. 45+	4.27	(2.86, 6.37)	<.001
25-34 vs. 45+	2.37	(1.60, 3.51)	<.001
35-44 vs. 45+	1.73	(1.15, 2.60)	.009
Year of release			
2011 vs. 2010	1.07	(0.89, 1.27)	.476
Length of custodial episode (days)			
180+ vs. <180	0.70	(0.57, 0.85)	.001
Length of parole (days)			
180-365 vs. <180	2.33	(1.89, 2.87)	<.001
>365 vs. <180	4.94	(4.17, 5.87)	<.001
Release authority			
Court vs. SPA	0.90	(0.70, 1.15)	.386
Unknown vs. SPA	0.89	(0.56, 1.41)	.612
LSI-R risk level			
Medium vs. Low/Low-medium	2.29	(1.68, 3.12)	<.001
Medium-high vs. Low/Low-medium	3.04	(2.19, 4.23)	<.001
High vs. Low/Low-medium	5.54	(3.72, 8.25)	<.001
Missing vs. Low/Low-medium	2.37	(1.61, 3.49)	<.001
Index offence			
Violent vs. Drugs	2.34	(1.40, 3.91)	.001
Sexual vs. Drugs	1.58	(0.76, 3.32)	.223
Robbery vs. Drugs	3.13	(1.79, 5.46)	<.001
Property/deception vs. Drugs	2.15	(2.15, 2.47)	.004
Driving vs. Drugs	1.16	(0.64, 2.10)	.632
Justice procedures vs. Drugs	4.71	(2.75, 8.07)	<.001
Other vs. Drugs	1.16	(0.62, 2.18)	.636
Prior prison sentences			
2,3 vs. 0,1	2.04	(1.61, 2.59)	<.001
4+ vs. 0,1	3.10	(2.42, 3.98)	<.001
Prior serious violence conviction			
Yes vs. no	1.53	(1.21, 1.93)	.001
Prior drug conviction			
Yes vs. no	1.28	(1.07, 1.53)	<.001

Figure 2. The effects of LSI-R risk category and the number of days on parole on the predicted probabilities of violent re-offending and re-imprisonment (prior to violent re-offending) on parole
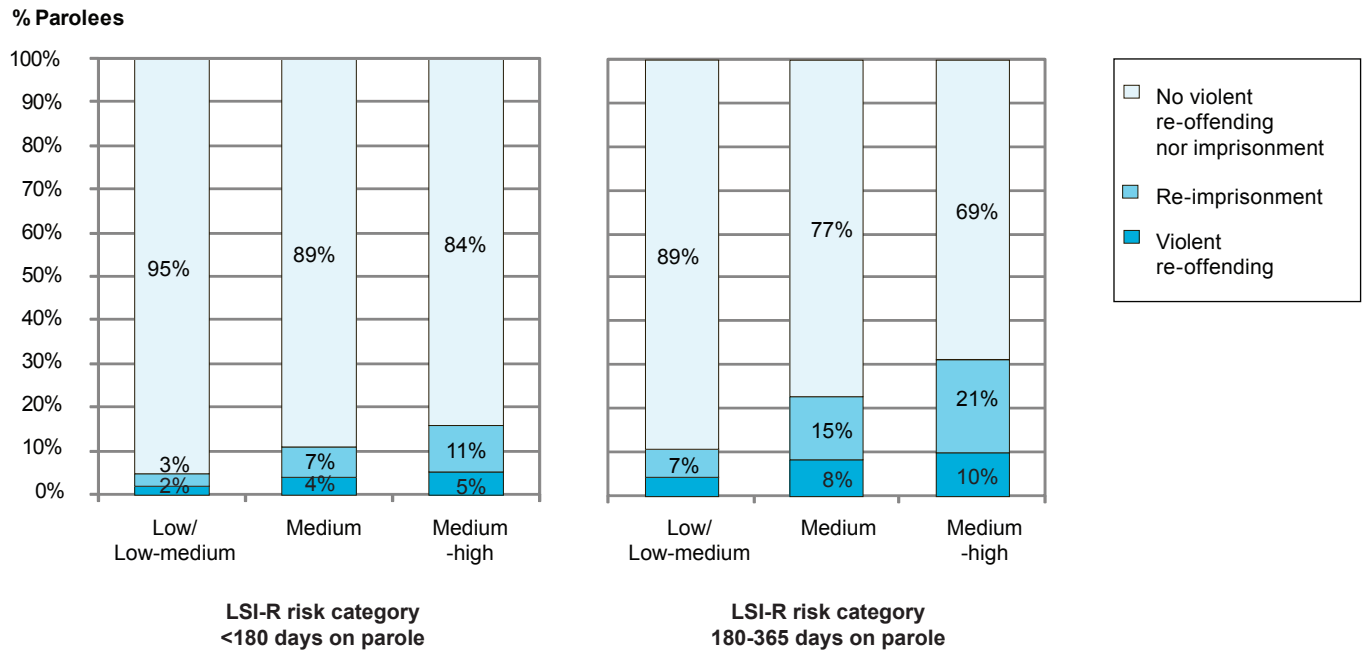
% Parolees

DISCUSSION

The purpose of this research was to obtain a more accurate estimate of re-offending on parole and to identify the principal correlates of re-offending on parole. The most salient point to emerge from the analysis is that the majority of those released to parole (61%) were not convicted of any offence while on parole and were not returned to prison for breaching the conditions of their parole. This finding stands in stark contrast to previous studies of offending by parolees, the majority of which find high rates of re-offending by parolees. As noted earlier, Jones et al (2006), for example, found that 52 per cent of NSW prisoners released to parole were reconvicted of a further offence within one year of release, while 64 per cent were reconvicted within two years of release.

There is no reason to believe that previous research incorrectly estimated rates of reconviction. The discrepancy between our findings and those of earlier studies most likely reflects the fact that we examined re-offending while on parole, whereas earlier studies examined re-offending by parolees, some of whom may have completed their parole order. The contrast in findings suggests that much of the offending observed among released prisoners in earlier studies may have occurred after their parole orders had expired. This may be of little comfort to victims of crime but it does suggest that parole supervision may be more effective in reducing the risk of offending than previously thought. This conclusion is supported by two other recent studies; one conducted by the Bureau comparing unconditional release on parole with supervised release (Wan, Poynton, van Doorn, & Weatherburn, "in press") and the other conducted by Kuziemko (2013).

The correlates of re-offending on parole are for the most part similar to those found by Jones et al. (2006) and many other studies. Even so, the influence of age on risk of re-offending on parole is striking. The base comparison for our assessment of the effects of age was a fairly typical parolee; that is, one who is male, non-Indigenous, who has a violent index offence, who was released to parole in 2010 by a court, with a parole period of more than 180 days and up to 1 year, and who has a medium LSI-R score. Our results show that, if a parolee fitting this description has had a maximum of one prior court appearance and one prior episode of imprisonment, a shift from the 18-24 year old age bracket to the 35-44 year old age bracket more than halves their re-offending risk (from 18% to 8%). Perhaps more surprising still, even if the same parolee has had up to nine prior court appearances and two or three prior episodes of imprisonment, a shift in his age from the 18-24 year old age bracket to the 35-44 year old age bracket nearly halves the re-offending risk (from 37% to 19%). By the time they reach 45 years of age, almost 90 per cent of parolees in the first group (those with a maximum of one prior court appearance and one prior imprisonment) and 80 per cent of parolees in the second group (those with up to nine prior court appearances and up to three prior imprisonments) will make it through their parole order without reconviction or re-imprisonment.

Although the correlates of re-offending on parole are largely unsurprising, there was one notable exception. Re-offending was found to be more common among those with longer parole periods. This appears to contradict our earlier observation that parole supervision reduces the risk of re-offending. The explanation for the finding probably lies in the fact that individuals on long parole orders have more opportunity to re-offend while on parole. In other words, even if the daily risk of parole failure is the same for those on long versus short parole orders, the fact that those on longer orders (by definition) spend more time on parole means that more of them are likely to fail. The correlates of re-imprisonment on parole (versus no re-imprisonment or re-offending) were almost all of identical sign to those for re-offending. The one notable exception was that, offenders released on SPA-ordered parole were more likely to be re-imprisoned than those released on court-ordered parole. One possible explanation for this finding is that offenders on SPA-ordered parole may be more likely to have their parole revoked for a technical breach than offenders on court-ordered parole.

Although most variables affect risk of re-offending and re-imprisonment in the same way, the magnitude of their effects varied widely. Many of the differences in magnitude were non-significant or borderline (e.g. Indigenous status, year of release, length of custodial episode, length of parole, release authority, index offence) but there were two significant and large differences in effect size. The effect on the risk of reconviction of being aged 18-24 (compared with being aged 45+) was substantially larger than the same effect on the risk of re-imprisonment (relative risk ratio 3.43 compared with 1.98). On the other hand, the effect of having a high LSI-R score on the risk of re-offending (compared with having a low or low-medium score) was substantially smaller than the same effect on the risk of re-imprisonment. One can only speculate on the reasons for these differences. So far as the first is concerned, perhaps SPA for some reason pays less attention to the relationship between age and risk of re-offending when deciding whether or not to revoke parole than it does to other factors, such as the nature of the breach on parole. The LSI-R effect, on the other hand, may reflect the importance attached to LSI-R scores by parole officers when contemplating whether or not to recommend a revocation of parole, or SPA when contemplating whether or not to revoke parole.

The offences committed on parole by those who did re-offend varied widely, with no one offence dominating all others. Perhaps the most distinctive thing about offences committed on parole is that only 7 per cent of the sample released to parole committed a violent offence while on parole. The most common principal offence (among those who re-offended) was break and enter, however only about one in 10 of those released to parole committed this offence. The other offences committed on parole ranged from the very serious; such as aggravated robbery,

to the comparatively minor; such as trespass or possessing illicit drugs. In most respects, the analysis of violent offending on parole confirms what one would expect. As noted earlier, violent offending on parole was more likely among younger offenders (particularly those aged 24 or less), males, Indigenous offenders, those who had a higher LSI-R score, those with a violent, robbery or justice procedure index offence, those who have more than one prior episode of imprisonment, those who have a prior conviction for a serious violent offence and those with a prior conviction for drug use/possession. Perhaps the most important point to emerge from this part of the analysis is the importance of the LSI-R score in judging the risk of violent re-offending. The base case for our assessment of the effects of this variable was a male, non-Indigenous parolee, aged 25-34 years of age, who has a violent index offence and a previous conviction for a serious violent offence, with 2 or 3 prior prison sentences, who was released to parole by a court, after a custodial episode of more than 180 days. Shifting an offender fitting this description from a low/low-medium LSI-R category to a medium-high category has the effect of more than doubling the risk of a violent offence on parole. This is true, regardless of whether the offender has spent less than 180 days on parole or between 180 and 365 days on parole.

Stories about the failure of the parole system to protect citizens from serious crime by former prisoners figure frequently in the media. Many in the community appear to believe that the parole system is a failure and that most offenders released on parole commit further serious offences soon after they are released. There is no doubt that offenders released on parole do sometimes commit serious crimes on parole, up to and including murder. The present study, however, suggests that most offenders released on parole complete their parole order without re-offending or being returned to prison. Few of those who do offend on parole commit violent offences. Whether these surprising outcomes are attributable to the parole system is beyond the scope of the present study (although, as noted earlier, there is mounting evidence that supervised release of prisoners results in lower rates of re-offending than unsupervised release). Whatever the explanation for the current findings, at the very least they should help policy makers and correctional officials correct the impression that most offenders released on parole commit further offences while they are on parole. They may also be helpful in fashioning better parole instruments for gauging the risk of re-offending on parole.

ACKNOWLEDGEMENTS

NOTES

1. Parolees may have had multiple periods of imprisonment prior to their parole expiry date, with re-offences interspersed throughout this period. In this study, parolees are classified according to which event took place first while on parole, re-imprisonment or a re-offence.

2. It may be that a parolee re-offended on parole after having first been re-imprisoned or, conversely, that a parolee may have been re-imprisoned while on parole after having re-offended; parolees were classified according to the first of these events, and therefore the estimates of re-offending or re-imprisonment while on parole presented in this are likely to be under-estimates. Additional analyses were conducted with a definition of re-offending based on any re-offending that occurred during the parole period, regardless of whether it occurred prior to re-imprisonment.

3. When re-offending was examined during the parole period, regardless of whether the re-offence occurred prior to re-imprisonment, it was found that 29.7 per cent of parolees re-offended while on parole; 70.3 per cent did not re-offend during their parole period.

4. The relative risk ratio presented is an estimate of the true effect. The third and fourth columns, labelled '95% confidence interval', give information on the range of values within which the true value of the relative risk ratio may lie.

5. The combinations presented are limited to combinations observed in the data for a parolee with the specified characteristics.

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APPENDIX

Table A1. Relationships between independent variables and violent re-offending or re-imprisonment (prior to any violent re-offending) on parole

		n	Violent re-offence (%)	Re-imprisonment (>1 day) (%)	No re-offence or re-imprisonment (%)
Total		9,604	7.1	25.1	67.8
Sex	Male	8,701	7.4	25.1	67.5
	Female	903	4.1	25.5	70.4
Indigenous status	Not Indigenous	6,067	5.3	21.3	73.4
	Indigenous	3,537	10.3	31.6	58.2
Age group (years)	<25	2,132	11.3	27.4	61.3
	25-34	3,558	7.6	28.3	64.1
	35-44	2,569	5.4	24.2	70.4
	45+	1,345	2.3	14.6	83.1
Year of release	2010	5,107	7.1	24.6	68.4
	2011	4,497	7.2	25.7	67.2
Length of custodial episode	<180 days	2,705	7.2	24.7	68.1
	180-365 days	3,832	6.5	23.2	70.3
	>365 days	3,067	7.8	27.8	64.4
Length of parole	<180 days	2,999	5.1	18.1	76.8
	180-365 days	4,233	7.8	26.5	65.6
	>365 days	2,372	8.3	31.4	60.3
Release authority	SPA	1,430	9.0	34.1	56.9
	Court	7,728	6.8	23.9	69.3
	Missing	446	7.0	16.6	76.5
LSI-R risk level	Low	506	0.2	2.8	97.0
	Low-medium	1,607	3.5	9.4	87.1
	Medium	3,412	7.3	22.2	70.6
	Medium-high	2,317	9.7	35.7	54.6
	High	670	13.1	50.2	36.7
	Missing	1,092	6.0	29.8	64.3
Index offence type	Violent	2,794	9.1	23.2	67.7
	Sexual	395	3.5	13.9	82.5
	Robbery	625	13.6	31.0	55.4
	Property/fraud	1,962	6.5	32.3	61.2
	Drugs	837	2.2	14.6	83.3
	Driving	1,091	3.2	14.9	81.9
	Justice procedures	1,188	10.2	37.0	52.9
	Other	712	3.9	21.6	74.4
Prior court appearances	0, 1	1,140	4.0	15.8	80.2
	2 – 5	2,867	6.3	18.5	75.2
	6 – 9	2,571	7.7	24.3	68.0
	10+	3,026	8.6	35.5	56.0
Prior imprisonment	0, 1	3,793	3.8	13.1	83.1
	2, 3	2,681	8.1	24.0	68.0
	4+	3,130	10.3	40.6	49.1
Prior serious violent offence	No	3,649	3.3	20.3	76.4
	Yes	5,955	9.4	28.0	62.6
Prior drug offence	No	5,915	6.4	20.3	73.3
	Yes	3,689	8.2	32.8	59.0
Prior breach	No	3,627	4.9	19.2	75.9
	Yes	5,977	8.5	28.7	62.9

Table A2. Factors associated with violent re-offending or re-imprisonment (prior to any violent re-offending) on parole

	Violent re-offending versus No violent re-offending /re-imprisonment			Re-imprisonment (prior to any violent re-offending) versus No violent re-offending /re-imprisonment			
	Relative risk ratio	95% confidence interval	*p-value*	Relative risk ratio	95% confidence interval	*p-value*	*p-value*
Sex							
Male vs. Female	1.78	(1.25, 2.55)	.002	1.02	(0.85, 1.22)	.848	.003
Indigenous status							
Indigenous vs. non-Indigenous	1.44	(1.21, 1.72)	<.001	1.19	(1.06, 1.33)	<.001	.040
Age group (years)							
18-24 vs. 45+	4.27	(2.86, 6.37)	<.001	2.16	(1.75, 2.65)	<.001	.001
25-34 vs. 45+	2.37	(1.60, 3.51)	<.001	1.60	(1.32, 1.94)	<.001	.061
35-44 vs. 45+	1.73	(1.15, 2.60)	.009	1.33	(1.09, 1.62)	.005	.230
Year of release							
2011 vs. 2010	1.07	(0.89, 1.27)	.476	1.20	(1.08, 1.34)	.154	.203
Length of custodial episode (days)							
180+ vs. <180	0.70	(0.57, 0.85)	.001	0.70	(0.61, 0.79)	<.001	.999
Length of parole (days)							
180-365 vs. <180	2.33	(1.89, 2.87)	<.001	2.37	(2.08, 2.69)	<.001	.884
>365 vs. <180	4.94	(4.17, 5.87)	<.001	4.94	(4.17, 5.87)	<.001	.048
Release authority							
Court vs. SPA	0.90	(0.70, 1.15)	.386	0.81	(0.69, 0.95)	.010	.434
Unknown vs. SPA	0.89	(0.56, 1.41)	.612	0.49	(0.36, 0.67)	<.001	.333
LSI-R risk level							
Medium vs. Low/Low-medium	2.29	(1.68, 3.12)	<.001	2.63	(2.17, 3.19)	<.001	.027
Medium-high vs. Low/Low-medium	3.04	(2.19, 4.23)	<.001	4.36	(3.55, 5.35)	<.001	<.001
High vs. Low/Low-medium	5.54	(3.72, 8.25)	<.001	8.21	(6.33, 10.64)	<.001	<.001
Missing vs. Low/Low-medium	2.37	(1.61, 3.49)	<.001	4.19	(3.34, 5.24)	<.001	<.001
Index offence							
Violent vs. Drugs	2.34	(1.40, 3.91)	.001	1.33	(1.04, 1.70)	.025	.800
Sexual vs. Drugs	1.58	(0.76, 3.32)	.223	1.20	(0.82, 1.77)	.357	.528
Robbery vs. Drugs	3.13	(1.79, 5.46)	<.001	1.53	(1.13, 2.06)	.005	.130
Property/deception vs. Drugs	2.15	(2.15, 2.47)	.004	1.96	(1.54, 2.49)	<.001	.765
Driving vs. Drugs	1.16	(0.64, 2.10)	.632	1.06	(0.80, 1.40)	.701	.434
Justice procedures vs. Drugs	4.71	(2.75, 8.07)	<.001	3.66	(2.80, 4.77)	<.001	.259
Other vs. Drugs	1.16	(0.62, 2.18)	.636	1.40	(1.04, 1.88)	.084	.025
Prior prison sentences							
2,3 vs. 0,1	2.04	(1.61, 2.59)	<.001	1.83	(1.58, 2.12)	<.001	.020
4+ vs. 0,1	3.10	(2.42, 3.98)	<.001	3.51	(3.01, 4.09)	<.001	.001
Prior serious violence conviction							
Yes vs. no	1.53	(1.21, 1.93)	.001	0.96	(0.84, 1.09)	.507	<.001
Prior drug conviction							
Yes vs. no	1.28	(1.07, 1.53)	<.001	1.37	(1.23, 1.54)	.162	.015