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Study in prison reduces recidivism and welfare dependence: A case study from Western Australia 2005–2010

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Abstract | *Using a longitudinal dataset of prisoners in Western Australia, this paper describes the effectiveness of correctional education in improving post-release outcomes. The report shows that the more classes completed by prisoners the lower the rate of re-incarceration and the less likely they are to increase the seriousness of their offending. These, and other personal and societal benefits such as a reduction in welfare dependence, were positively associated with the number of classes prisoners successfully completed—that is, the more classes the inmate successfully completes, the less likely they are to reoffend and to access unemployment benefits.*

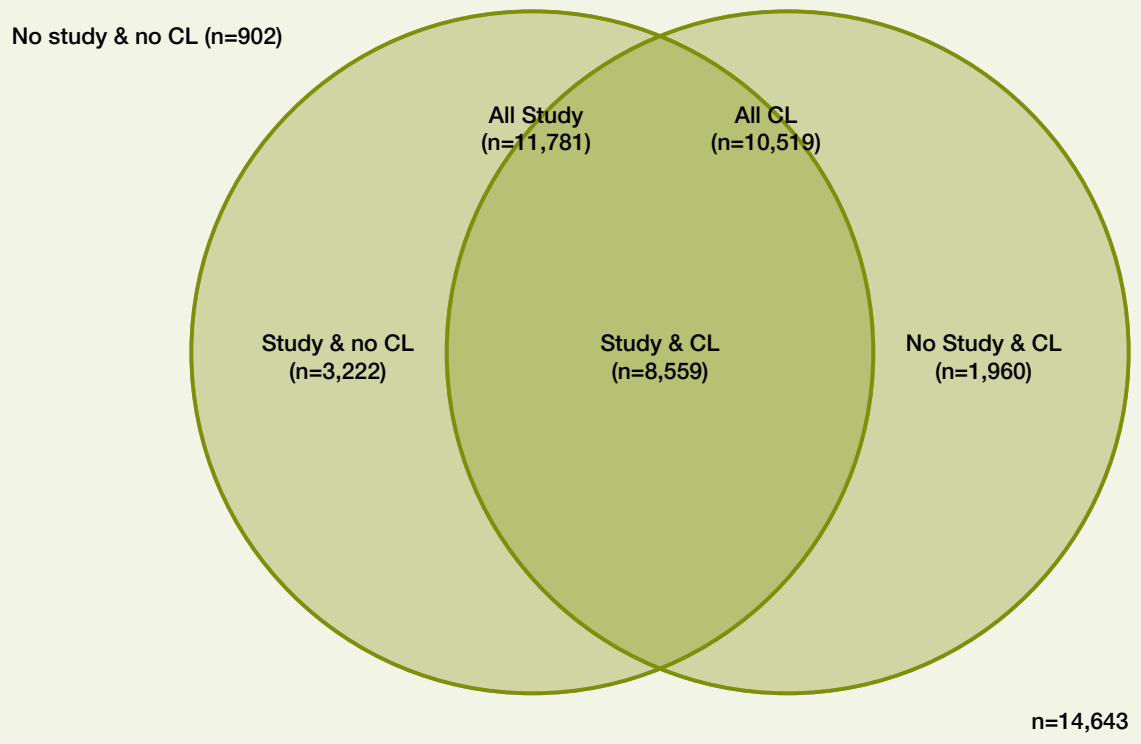
Much has been written about how correctional education contributes to post-release outcomes for ex-prisoners. In their systematic review of 50 studies of the effectiveness of correctional education, Davis et al. (2013) found that study in prison unequivocally reduces post-release recidivism and, on average, increases post-release employment. Unlike most earlier studies of the impact of correctional education on recidivism and employment, including the primary studies included in the Davis et al. (2013) meta-analysis, this study uses five years of linked prison history, correctional education and income support payments data.

Improved employment and offending outcomes may better enable offenders to successfully reintegrate into their communities, and could produce cost savings into the future for justice authorities and social welfare services. This paper reports on the contribution of correctional education to reducing recidivism and welfare dependence (as a proxy for unemployment) for ex-prisoners in Western Australia.

Data

The data analysed for this paper were taken from the WA prisoner education and welfare dataset (Giles & Whale 2014), which contains records for all adult prisoners in WA between 1 July 2005 and 30 June 2010. This is a longitudinal dataset of 14,643 prisoners, 22,434 prison terms, 140,532 class enrolments and 91,319 income support payment records. Eighty percent of prisoners undertook study during any of their prison terms and 72 percent had at least one Centrelink payment record (Figure 1).

Figure 1: Prisoners—study and/or Centrelink (CL; number of prisoners in brackets)



Source: Giles MJ & Whale J 2015

As the dataset is truncated, these prison histories are incomplete. For example, it is not known if any prisoners who were imprisoned and released between 1 July 2005 and 30 June 2010 were re-incarcerated after 30 June 2010, nor is information on prison terms completed before 1 July 2005 available. Nonetheless the dataset provides a comprehensive profile of the prison and post-release characteristics of a sufficiently large cohort of adult prisoners. Each prisoner's profile includes socio-demographic data such as:

- date of birth, gender, Indigenous status and place of residence at time of imprisonment for each prison term;
- number of prison terms served and prison data for each, including sentence type, most serious offence category (under both Australian National Classification of Offences [ANCO] and Australian Standard Offence Classification [ASOC]) and number of days served;
- class enrolment data with subject, level and type of study for each class taken, as well as whether each class was successfully completed, incomplete or repeated; and
- welfare data including commencement and end dates of each period on income support, the allowance type and the reason for exit from welfare, if applicable.

Analyses of the WA prisoner education and welfare dataset previously reported in Giles and Whale (2014, 2013) show the majority of prisoners were male (88%), with a mean age at 30 June 2010 of 35 years. Most prisoners lived in metropolitan Perth prior to incarceration and about two in five were of Indigenous (Aboriginal and/or Torres Strait Islander) background (39%).

One third of prisoners had served more than one prison term in full or in part, and over 13 percent of prisoners had served three or more prison terms. Female prisoners served shorter sentences on average (median of 7 months) than male prisoners (median of 12 months). Three in 10 prisoners were incarcerated for offences in the ANCO category of Offences Against the Person and one in 10 for offences in the ANCO category Drug Offences. The constructed variable Economic Crime, covering 34 percent of prisoners, included offences for which economic gain was the primary incentive and included the ANCO categories Robbery and Extortion, Property Offences and Drug Offences.

The average gap between most-recent prison terms was slightly higher for females (12.8 months) than males (12.3 months), and increased with age—an average of nine months for those aged 18 to 25 years compared with an average of 12.6 months and 14.5 months for those aged 26 to 40 years and 41 or more years, respectively.

Many prisoners in the dataset had taken at least one class of study, with the proportion of male prisoners who studied (81%) higher than that of female prisoners who studied (76%), and the proportion of Indigenous prisoners who studied (82%) higher than that of non-Indigenous prisoners who studied (80%). Most prisoners who had served three or more prison terms had

studied (98%), compared with those who had served a single prison term only (73%). Prisoners who studied had, on average, taken 11.9 classes across all their prison terms and 9.4 classes in their most recent prison term.

The profiles of prisoners with and without welfare payment records differ across a number of criteria. Non-Indigenous prisoners are more likely than Indigenous prisoners to have at least one Centrelink record. This is surprising, given the unemployment rate of Indigenous workers is higher than that of non-Indigenous workers. However, income support in Indigenous communities comes in other forms such as, for example, Community Development Employment Projects funding; not receiving Centrelink payments is, therefore, not necessarily a sign of welfare independence.

The average age at 30 June 2010 of prisoners who received Centrelink payments was 35 years, slightly younger than that of those with no payment records (37 years). Prisoners who last resided in the metropolitan area were more likely to have received income support payments. The proportion of prisoners who had served more than one term who had ever received Centrelink payments (76%) was greater than the proportion of those serving a single term (70%). Finally, 70 percent of prisoners with short sentences—less than 12 months—had Centrelink records, compared with 74 percent of prisoners serving longer sentences.

Measures of study, recidivism and welfare dependence

Study measures

Measures of study, recidivism and welfare dependence, either available in the data or able to be constructed from it, were determined prior to running the multivariate analyses. The class enrolment data is very complex, showing concurrent and consecutive classes taken by each prisoner in each prison term served. During the period covered by the dataset, changes to the Vocational Education and Training (VET) system affected the labelling and content of VET courses and classes on offer in WA prisons (which make up 95% of all class enrolments in the dataset), with four particular consequences:

- classes or modules in a particular subject from earlier in the dataset are not strictly comparable with classes of the same name later in the dataset;
- some classes from later in the dataset might have different names, but the same content as classes from earlier in the dataset;
- classes might be part of one particular course earlier in the dataset, but of a different course later; and
- courses may have been rebadged at different times across the dataset; these classes cannot be credibly aggregated into recognisable courses or qualifications.

In addition, prisoners enrolled in 1,924 classes at tertiary level, 88,012 classes at VET level and 9,170 non-Australian Qualification Framework (AQF) classes during their most recent prison term and the resulting heterogeneity of the data prevented the construction of study measures from content, course level or course type information.

What remains useful in the dataset are four measures of in-prison study. Three of these measures are binary variables that attempt to describe a prisoner's study qualitatively. The first of these denotes prisoners who enrolled in any class at any time in their prison history (S1=1); this is the simplest categorisation of in-prison education and training. For analysis purposes, however, it is not very helpful. For example, it gives the same weight to a prisoner who enrols in one class but does not successfully complete it and a prisoner who enrols in and successfully completes 10 classes. The latter will have a better educational profile and therefore be more likely to succeed in the labour market or otherwise reintegrate, post-release, than the former.

Following this train of thought, two further binary variables were constructed: prisoners who successfully completed all class enrolments (S2=1) and prisoners who repeated or withdrew from at least one class (ie who did not successfully complete the class; S3=1). A fourth quantitative study variable is the number of successful classes (S4), with this number expected to correlate positively with the probability of improved post-release outcomes.

In addition to deciding measures of in-prison study, it was necessary to choose the sample these measures applied to, particularly given that one third of prisoners in the dataset (n=4,941) had served multiple prison terms (Giles & Whale 2013). Due to the importance of qualification currency, particularly in the vocational training environment, the study measures were constructed from class information from the most recent term, for prisoners who studied in that term. Some prisoners who had served multiple imprisonments had studied in earlier prison terms but not in later terms (11% of prisoners who studied). The skills these prisoners acquired may no longer have been current when they completed their most recent sentence and exited prison. The numbers of prisoners who studied in any term and in their most recent term are 11,781 and 10,485, respectively.

Recidivism measures

Various types of recidivism measures are noted in the literature. In its most uncomplicated form, reoffending behaviour can include being caught offending, being charged, being sentenced and being incarcerated. There is usually a timeframe within which the re-incarceration definition of recidivism is constrained, and this can be returning to prison within one year or as long as seven years (Petersilia 2009). This timeframe is usually imposed by the data source; for example, two years of data might allow one year of post-release activity at most, and five years of data could allow one to four years of such follow-up. Broader definitions of recidivism are increased severity of offences and reduced time in the community between offences for repeat offenders (Tripodi et al. 2010).

Three measures of recidivism were constructed for the data in the WA prisoner education and welfare dataset. These were:

- re-incarceration within four to five years of release for prisoners released between 1 July 2005 and 30 June 2006;
- re-incarceration for a more serious offence (defined in terms of a longer sentence) for prisoners who served more than one prison term; and
- re-incarceration after having spent a shorter amount of time in the community than during the previous spell of freedom, for prisoners who had served more than two prison terms.

Welfare dependence measures

For measures of welfare dependence, two definitions and two types of benefits were considered. First, being in receipt of at least one welfare payment at any time could be used to measure whether or not a prisoner was welfare dependent. However, seven in every 10 prisoners had accessed at least one income support payment at some point, either before or after their most recent prison term. The latter reflects that most prisoners who are about to be released from WA prisons are automatically enrolled for welfare benefits, thus ensuring that ex-prisoners—who may be work-ready—are still able to access funds, job support and housing before they start their first job and receive their first pay. This measure is therefore not useful as a measure of the outcome of in-prison study. Second, welfare dependence can be measured by the length of time the prisoner was on benefits post-release. For example, a longer period of time on income support post-release could indicate greater welfare dependence and difficulty in obtaining employment; a shorter time could show reduced welfare dependence or improved labour-market engagement.

Two particular types of welfare payments are those that provide income to the unemployed and other types of income support. Unfortunately, when the various income support schemes for young people 25 years and under were combined into a single scheme in 1998, the distinction between those in this age group who were in full-time study and those who were unemployed was lost. This complicates the use of the receipt of welfare payments as a measure of welfare dependence for those under 25.

A more interpretable measure of welfare dependence is the time spent on benefits in the six months post-release. Truncation at six months is considered appropriate, given that family and community influences are likely to have increased in importance relative to prison influences, including participation in correctional education, as the post-release period continues.

Factors affecting enrolment, successful completion of classes and upskilling

Correctional education in WA adult prisons is not mandatory, even if sentencing requirements include a recommendation to undertake education and training during the prison term. For example, prisoners who prefer to avoid stringent parole conditions by serving their sentence in full in prison may prefer not to study or attend behaviour-management programs. As class enrolment was included as a predictor in models of recidivism and welfare dependence, it is useful to consider whether the profile of prisoners who enrol in education and training courses is different to the profile of those who choose not to study.

Using the same data, Giles and Whale (2013) found these profiles differ in terms of age, gender, last place of residence and Indigenous status. Specifically, prisoners who study are more likely to be aged 26 to 40 years, male, from metropolitan WA and non-Indigenous (Giles & Whale 2013). Other statistically significant differences in the profiles are that prisoners with longer or more prison terms are more likely to have studied.

To discover whether these effects are sustained in a relative sense, multivariate modelling such as regression analysis is required. In the presence of other factors, estimates of coefficients in regression models indicate which particular factors are important in explaining the item of interest or dependent variable. Estimates of the model of factors affecting study in the most recent or only term are shown in Table 1.

Models A, B and C have binary dependent variables for measures of study—whether or not the prisoner enrolled in study (column 1), upskilling (defined as whether or not the most recent class is at a higher level of certification than the first class; column 2), and whether or not all classes were successfully completed (column 3). Only statistically significant regressors in Table 1 are discussed.

For Model A, relative to other factors in this model, prisoners from rural WA were more inclined to enrol in education and training classes in prison. Prisoners whose most serious offence was economic crime were also more inclined to study. Prisoners whose prison term was more recent or whose sentence type was Fine Default were less inclined to study in prison. The variables in this model predict 24 percent of the variation in the study variable as measured by the Pseudo R^2. Measures of other predictors of study enrolment, such as educational history and ability (Mincer 1974), are not available in the WA prisoner education and welfare dataset.

Many prisoners choose to study but not all those who do so successfully complete all or any of their classes or modules. Withdrawal before successful class completion is usually due to early release from prison, sentencing requirements to undertake other non-educational classes such as drug or alcohol rehabilitation programs, or lack of competency or interest. About one third of class enrolments result in withdrawals. Whether and why studying prisoners complete any or all of their classes are important questions in terms of return on investment for corrections authorities with limited education and training budgets.

Three types of classes are included in the modelling—art studies, forklift classes and resources courses—as these were of particular interest to local correctional education managers.

Table 1: Prisoners—Factors affecting study, upskilling and number of successful classes			
Independent variables	**Model A Study (1,0)**	**Model B Upskilling (1,0)**	**Model C All successful classes (1,0)**
Prisoner characteristics			
Aboriginal and Torres Strait Islander	-0.0145	-0.1039***	-0.1955*
Male	-0.1172	0.0232	0.5531***
Age	-0.0087	0.0001	0.0300*
Age squared/100	-0.0065	-0.0027	-0.0260
Rural	0.1175*	0.0308*	0.0032
Prison term characteristics			
Economic crime	0.4932***	0.0950***	-0.1494**
Number of prison terms		-0.0228***	-0.3668***
Number of days served		0.0000***	-0.0009***
Year	-0.1715***		
Fine Default	-2.5973***	-0.7651***	0.8240***
Prison study characteristics			
Art studies		0.0871***	-2.6240***
Forklift classes		0.3236***	-0.5355***
Resources courses		0.1161***	-0.9123***
Welfare characteristic			
Unemployment benefits			0.0469
Constant	346.2096***	-0.0306	
lambda		0.7012***	
Observations	**14,049**	**10,028**	**10,059**
Pseudo R^2	0.2385	0.1110†	0.0856
Degrees of freedom	8		13

*p<0.05; **p<0.01; ***p<0.001

†Pseudo R^2 is calculated as the square of the correlation between the variable upskilled and the fitted values under the model

Source: Giles MJ & Whale J 2015

The focus on upskilling (defined as consecutive classes at increasing certification levels) in prison is contentious. Correctional educators, while recognising the importance of completed qualifications, are often more interested in providing skills that can help an ex-prisoner approach the labour market more confidently. These skills are not necessarily obtained by completing a number of classes that form an accredited course; instead, an inmate may take complementary classes across a number of courses and at different certification levels. Later classes may be at lower certification levels than earlier classes—for example, enrolment in art classes at AQF level 1 or 2 (Australian Qualifications Framework Council for the Ministerial Council for Tertiary Education and Employment 2011) may be a necessary adjunct to enrolment in school-level subjects (pre-AQF levels). The prisoner education and welfare dataset does not provide completed qualification information nor is it possible, given VET sector changes over the period covered by the dataset, to accurately group classes in the WA prisoner education and welfare dataset into qualifications.

Proportionally more of the group who did not upskill were Indigenous, from rural WA or had a sentence of Fine Default. Members of this group served a higher average number of terms and served fewer days than those prisoners who upskilled during their most recent term. The analysis found that prisoners who did not choose to study had a profile different to that of prisoners who did. This selectivity bias was considered when modelling factors affecting upskilling using a sample of studying prisoners. Specifically, Heckman's two-stage selectivity bias correction estimation procedure (Heckman 1979) was used and the correction factor, lambda, is reported in the table.

Model B in Table 1 (column 2) presents an estimation of the relative contributions of prisoner and prison term characteristics to upskilling. Indigenous prisoners and female prisoners were less likely to upskill in prison. Prisoners whose most serious offence (related to their most recent prison term) was Economic Crime were more

likely to upskill. The more prison terms a prisoner served, the less likely they were to upskill. Finally, prisoners who enrolled in forklift classes or resources courses were more likely to upskill than other prisoners, reflecting the post-release employment focus of these enrolments.

These results are intuitively appealing. Indigenous prisoners tend to have a larger learning deficit than other prisoners, so their prison education is likely to be more broad than sequential. Female prisoners tend to be less interested in entering the labour market on release due to care responsibilities, so are less inclined to choose sequential, qualification-focused classes. Economic Crime is, as the name suggests, about acquiring cash; the opportunity to find legal means of earning income may encourage these prisoners to upskill in order to re-enter the labour market. Re-incarceration is deleterious to the sustainability of human capital in a way that may reduce the maintenance or improvement effects of in-prison study; this may explain why upskilling decreases as the number of prison terms served increases. Finally, the longer they are in prison the more prisoners will seek activities such as education and training and, therefore, the more likely they are to progress through sequential classes or courses.

Model C (Table 1, column 3) reports estimates of how socio-demographic and other characteristics contributed to whether or not prisoners successfully completed all the classes they enrolled in during their most recent term. Prisoners who are of Indigenous descent, have a most serious offence of Economic Crime, or who have served more or longer prison terms were less likely to successfully complete all classes. Male prisoners and prisoners with a sentence of Fine Default are more likely to successfully complete all classes. The binary variables for art studies, forklift classes and resources courses have estimated coefficients that are negative and statistically significant at the one percent level, indicating that prisoners who enrolled in any of these courses were less likely to successfully complete all their classes in these and/or other courses compared with prisoners who did not enrol in these courses. For prisoner students of art studies, this is not unexpected. That is, the desired outcome is less about successfully completing their classes and achieving specific competencies and more about attendance, creativity and participation. These prisoners may have educational deficits, and art classes could provide a useful segue to enrolment in other classes. An examination of the training data shows that 74 percent of students who enrolled in at least one art class also enrolled in Adult Basic Education (ABE) classes. Of prisoners who did not take any art classes, 61 percent also enrolled in ABE classes. This difference is statistically significant (χ^2=80.4642, p<0.001). Giles and Whale (2014) report that art studies classes may be delivered in less structured classrooms and can be more responsive to prisoner student proclivities, more individualised and less competitive.

Factors affecting recidivism

Post-release outcomes of reduced offending and reduced re-incarcerations are of interest to the criminal justice system. Study measures such as the number of successfully completed classes and whether or not a prisoner's study choices constituted upskilling influence recidivism in different ways. These are shown in Table 2. Factors affecting recidivism—defined as either re-incarceration within four years of release (Model A, Table 2, column 1) or increased seriousness of most serious offences in consecutive terms (Model B, Table 2, column 2)—are similar. In both models, prisoners who are Indigenous or male are more likely to recidivate. In addition, the study variable—number of successfully completed classes—has a statistically significant and negative coefficient. This suggest that more study is a good predictor of prisoners staying out of trouble. Re-incarceration (Table 2, column 1) is also predicted by a most serious offence of Economic Crime and a sentence other than Fine Default. Increased offence seriousness (Table 2, column 2) was also more likely if the number of days served was lower, the year of imprisonment was earlier in the period covered by the dataset, the sentence type was Fine Default or the prisoner did not upskill. Interestingly, the results show that fine defaulters were less likely to be re-incarcerated (Model A), but if they are they are likely to have committed a more serious offence than that recorded for their prior prison term (Model B).

These findings appear to be contradictory but can be logically explained: people who do not pay their fines (for example speeding and parking fines) are unlikely to be career criminals, at least initially. The result for Model A (Table 2, column 1) suggests that imprisonment for Fine Default may be a sufficient deterrent to repeating this behaviour and returning to prison. However, it is possible that learning 'bad ways' in prison could lead to an escalation of offending behaviour and subsequent imprisonments for more serious offences (Table 2, column 2). This is confirmed by the positive sign of the Fine Default variable in the model of recidivism defined as reduced time in the community between consecutive prison terms (Model C; Table 2, column 3).

For prisoners in the dataset who served more than two prison terms, recidivism is more likely if they upskilled during their penultimate prison term (Model C, Table 2, column 3). This result is counterintuitive, but given the poor explanatory power of the model (11%) other, excluded factors are likely to be more influential. For example, repeat offending tends to self-perpetuate—leading to criminal careers for some offenders (Farrington et al. 2006). This could be picked up in the model by including a regressor for the number of prison terms. However, as consecutive imprisonments were used to define the sample for which this model was estimated, this variable was not included in the model. Whether a prisoner is of Indigenous descent or is male, rather than non-Indigenous or female, respectively, is not a predictor of recidivism (defined as escalation of offending behaviour; Model C).

Table 2: Prisoners—Factors affecting recidivism			
Independent Variables	Model A Re-incarceration (1,0)	Model B Increased offence seriousness (1,0)	Model C Escalating offending behavior (1,0)
Prisoner characteristics			
Aboriginal and Torres Strait Islander	1.3228***	0.3205***	-0.1510
Male	0.4889***	0.4903***	-0.1746
Age	0.0310	-0.0540	0.0451
Age Squared/100	-0.1209**	0.0570	-0.0329
Rural	-0.1035	0.1546	0.0375
Prison term characteristics			
Economic Crime	0.3291***	0.1188	0.4890***
Number of days served	-0.0005	-0.0069***	0.0012***
Year	-0.0951	-0.3373***	0.6926***
Fine Default	-1.3756***	0.8023***	1.1060***
Prison study characteristics			
Number of successful classes	-0.0263*	-0.0321**	0.0191
Upskilled	-0.1125	-0.3453*	0.3922*
Constant	190.7956	678.5240***	-1391.9085***
Observations	**2,771**	**3,767**	**1,915**
Pseudo R^2	0.1339	0.2205	0.1104
Degrees of freedom	11	11	11

*p<0.05; **p<0.01; ***p<0.001

Source: Giles MJ & Whale J 2015

Factors affecting welfare dependence

Post-release outcomes of interest to correctional educators are whether ex-prisoners have, at least, improved opportunities for engagement in the labour market or, at best, paid employment in their preferred industry and occupation. The WA prisoner education and welfare dataset contains no information about post-release employment. It does, however, include unemployment benefit payment information, which can be used as a proxy for unemployment. Cessation of income support payments to an ex-prisoner could indicate that prisoner has commenced paid employment; this could be affected by the development of job and work skills in prison. Hence Model A (Table 3, column 1) includes a study variable of number of successful classes. In this model, the year variable refers to the year discharged, which can be used as a proxy for labour-market tightness. In the 2000s the strength of the Australian labour market paralleled the growth in the economy, with slower economic growth from 2000 to 2004, stronger growth from 2004 to 2008 and a return to slower growth during the global financial crisis from 2008 to 2009 (Borland 2011).

The annual seasonally adjusted unemployment rate in WA for the period covered by the WA prisoner education and welfare dataset was 4.6 percent, 2.9 percent, 3.2 percent, 3.0 percent, 5.6 percent and 4.5 percent for July 2005 to July 2010 (Australian Bureau of Statistics 2014). It could be expected that ex-prisoners might spend longer on income support if they were released later in the period covered by the dataset, compared with earlier years, which is shown by the positive coefficient for the year variable.

Model A (Table 3, column 1) reports the estimation of Heckman's (1979) two-stage selectivity bias correction model. The selection term lambda is not statistically significant, which suggests the profile of prisoners for whom Centrelink payment information is available in the WA prisoner education and welfare dataset is not different to the profile of prisoners without Centrelink payment information. Ex-prisoners of Indigenous descent and those discharged later in the period covered by the dataset were on welfare longer than non-Indigenous ex-prisoners and those discharged earlier, respectively. Finally, the estimates show the more classes successfully completed, the less time ex-prisoners spent on welfare. However, this model explains less than five percent of the variation in time on benefits.

Table 3: Prisoners—Factors affecting welfare dependence	
	Model A
Prisoner characteristics	
Aboriginal and Torres Strait Islander	0.2364***
Male	-0.1553
Age	-0.0256
Age squared/100	0.0475
Rural	0.0664
Prison term characteristics	
Economic Crime	-0.0608
Year discharged	0.0361**
Number of days served	-0.0001
Fine Default	0.3543
Prison study characteristics	
Number of successful classes	-0.0031**
Constant	-70.9374**
lambda	-0.8131
Observations	3,797
R^2	0.0445†
Degrees of freedom	10

*$p<0.05$; **$p<0.01$; ***$p<0.001$

†Pseudo R^2 is calculated as the square of the correlation between the variable proportion of post-release period on benefit (dependent variable) and the fitted values under the model

Source: Giles MJ & Whale J 2015

Discussion

The study was constrained by the variables included in each of the contributing datasets—the prisoner management and prisoner training data from the WA Department of Corrective Services, and the income support data from Centrelink provided by the then Department of Education, Employment and Workplace Relations. All these were intended for administrative purposes; they were not necessarily purposeful to the research intentions and methodology of the study reported in this paper, and the education and training, recidivism, and welfare dependence measures required for the research were therefore constructed from characteristics of items in the combined dataset.

Despite the idiosyncratic nature of the WA prisoner education and welfare dataset, there is sufficient integrity in the data to have confidence in the results, which confirm the usefulness of prison study in reducing reoffending and improving post-release outcomes. Specifically:

- ex-prisoners who have upskilled in prison are less likely to commit more serious offences over time;
- the more classes prisoners successfully complete, the less likely they are to reoffend; and
- ex-prisoners who successfully complete classes in prison are more likely to remain in the community for longer.

In addition, the more classes ex-prisoners completed successfully in prison, the less time they subsequently spent on unemployment benefits, and prisoners who upskilled in prison ceased receiving income support sooner.

To improve the model fit and strengthen the conclusions, future research on the post-release outcomes of WA prisoners could obtain de-identified prisoner reception data (obtained as self-report information, including employment and schooling histories, via interview) and learning disability diagnostic data (obtained from routine testing by educational psychologists early in the prison term). Such data have been shown, in the labour economics literature, to be important confounding factors for labour market success. Merging these data with records in the WA prisoner education and welfare dataset would allow analyses at a more disaggregated and detailed level.

Other jurisdictions intent on examining their own correctional education interventions would benefit from linking as many justice databases as possible. This is the approach in the UK where police, justice and court records for 10 million individuals have been linked by the UK Ministry of Justice (MoJ) with data from the UK Department of Works and Pensions and Her Majesty's Revenue and Customs. Analyses of these linked data have provided the MoJ with a much better understanding of the links between offending, benefits and employment (Cox personal communication 2013).

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