

# Prisoner Education and Employment

## EVIDENCE BRIEF

Education programmes, including vocational training, are offered to prisoners as part of their rehabilitation. International and New Zealand evidence shows that correctional education both reduces reoffending and increases the likelihood of obtaining and maintaining employment upon release.

### OVERVIEW

- Prisoners face a number of barriers to gaining employment post-release, such as poor literacy and numeracy, educational under-achievement and a history of unemployment.
- These barriers can make it difficult for prisoners to successfully achieve the transition to a law-abiding lifestyle.
- In New Zealand, the Department of Corrections (Corrections) funds a range of education and employment programmes for prisoners to help reduce the barriers to employment post-release.
- For example, the Employment Support Service programme provides assistance to obtain a job and in-work support.<sup>i</sup>
- International evidence shows that correctional education reduces the risk of reoffending. New Zealand evidence indicates that reconviction rates can be reduced by up to 5.9 percentage points.
- Correctional education also improves employment prospects post-release.
- International studies generally find that the greater the effect of educational/vocational programmes on obtaining (and maintaining) employment post release, the greater the reduction in recidivism.

- International evidence also shows that adult offenders (>26 years old) tend to benefit more from these programmes and increase their chances of maintaining employment post-release.

### EVIDENCE BRIEF SUMMARY

Evidence rating:	Strong
Unit cost:	Approximately \$1200 (based on 2016/17 Budget)
Effect size (number needed to treat):	For every 14-29 offenders participating in a NZ correctional education programme, one fewer will be reconvicted, on average.
Current justice sector spend:	Training & education: \$6m Offender employment: \$46m (2016/17 Budget)
Unmet demand:	Unknown, but likely to be large given the backlog of offenders who haven't had/refuse to have their educational needs assessed (54% in 2013/14). <sup>ii</sup>

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## WHAT IS PRISONER EDUCATION AND EMPLOYMENT?

Prisoner education is a form of rehabilitation to prepare offenders for re-entry to society. Ultimately it is intended that education and vocational training will improve the likelihood of offenders obtaining a job post-release, and subsequently lower the risk of reoffending.

Prisoners tend to be less educated than the general population, have fewer skills to offer in the legitimate job market, and have high rates of illiteracy compared with the general population.<sup>iii</sup>

In New Zealand, around 30% of prisoners have significant literacy challenges, and a further 40% have limitations in their reading ability.<sup>iv</sup>

The disproportionately high literacy and numeracy needs of the prison population (compared with the general population) suggest that there is a relationship between education and crime. Low education levels may not be a criminogenic factor in and of themselves, but they do make it more difficult for offenders to reintegrate into society post-release. Without desirable skills and experience to offer employers, it becomes challenging to enter the workforce.

Correctional education services are offered to prisoners in an effort to improve employability, reduce recidivism, and generally to improve their ability to function adequately in the community. These services include:

- literacy and numeracy support services – programmes to support prisoners to improve their literacy and numeracy skills in preparation for education and employment progression
- foundation education – instruction to complete entry-level qualifications

- post-secondary education – university level instruction to obtain a tertiary qualification
- vocational education – training in employment skills and skills for specific job industries
- “life skills” training – a variety of services ranging from instruction on how to search for a job to budgeting, making decisions and setting goals.<sup>v</sup>

For the purpose of this evidence brief, we will be excluding the life skills training as an independent service due to the lack of research in this area and the variability in programmes offered. Life skills training will be the subject of a separate evidence brief when evidence becomes available.

However, it should be noted that elements of life skills training are sometimes included in vocational education programmes.

Educational programmes can be offered during incarceration, post-release, or while on a community sentence.

It is generally assumed that education and training are not sufficient as “standalone” rehabilitative interventions. Instead, educational input typically is offered as an element in a suite of rehabilitative services for individual prisoners, which usually prioritises offending-focused Cognitive Behavioural Therapy (CBT) programmes and Alcohol and other Drug (AoG) treatment, alongside cultural services (where appropriate) and post-release reintegrative support.

# DOES PRISONER EDUCATION AND EMPLOYMENT REDUCE REOFFENDING?

## International evidence

Reviews of the international evidence find consistent support for the effect of correctional education on recidivism and employment<sup>vi vii viii ix</sup>.

In the most recent meta-analysis examining this relationship, all four types of correctional education (adult basic education, high school/GED, postsecondary education, and vocational education) had a positive effect on recidivism.<sup>x</sup>

Specifically, the risk of re-arrest within three years of release dropped by 13.2%, which is equivalent to one less offender being rearrested for every 8 offenders treated. This was based on the results of seven methodologically rigorous studies (Level 4 or Level 5 rating on the Maryland Scientific Methods Scale).

## New Zealand evidence

Corrections has conducted its own research into the role of education and training in reducing reoffending and promoting employment<sup>xi</sup>.

Their evaluation of correctional education services in New Zealand is based on all available data collected between January 2012 and December 2014, sourced from the CARS and CARE databases.

During that time, 23,526 distinct prisoners had served part or all of their sentences, with 17,886 of these having a release at some point over the period.

The evaluation found that of the 16 education/training programmes assessed, 10 of the programmes were associated with reductions in reoffending (12 month reconviction

rates) for prisoners that participated in the programmes. Three of these effects were statistically significant.

Programme	Estimated reduction in reconvictions rates	Number needed to treat to reduce reoffending by one
OE – Qualification <b>Engineering</b>	-7.4%	14
OE – Non Qualification <b>Internal Services</b>	-3.5%	29
Education “Other”	-5.8%	17

## WHAT OTHER EFFECTS DOES PRISONER EDUCATION AND EMPLOYMENT HAVE?

### Post-release employment

Correctional education increases the likelihood of obtaining employment post-release.

A recent meta-analysis found that for prisoners who participated in correctional education (either academic or vocational), the odds of obtaining employment post-release was 13% higher than the odds for those that had not participated<sup>xii</sup>.

New Zealand evidence further supports this finding. Corrections' prisoner education evaluation found that of the 14 prisoner education programmes assessed, 11 observed positive increases in post-release employment. Four of these effects were statistically significant (see table below). In particular, prisoners who completed Offender Employment (OE) qualifications in engineering were 21% more likely to find employment than a matched comparison group<sup>xiii</sup>.

Programme	Estimated increase in post-release employment	Number needed to treat to get one offender into employment
OE – Qualification <b>Internal Services</b>	4.6%	22
OE – Qualification <b>Timber</b>	4.3%	23
OE – Qualification <b>Engineering</b>	20.8%	5
Release To Work	8.3%	12

### Self-esteem and self-efficacy

Regardless of whether prisoner education leads to employment post-release, evidence suggests that completing education classes in prison increases self-esteem and self-efficacy, which relate to an individual's belief in their ability to success and impacts the way an individual approaches goals, tasks and challenges<sup>xiv</sup>.

### Reduced benefit use

Given that prisoner education improves employment prospects post-release, researchers have investigated whether this has a corresponding effect on benefit use.

An Australian study which looked at the length of time prisoners spent on welfare post-release demonstrated a correlation between education and welfare dependency, such that the more classes that were successfully completed while in prison, the shorter the time ex-prisoners spent on welfare<sup>xv</sup>.

This would result in a direct economic benefit for society, through reduced dependency on the state for financial support.

### Broader economic benefits

The combination of reduced recidivism and increased employment has strong economic benefits for society.

A US cost-benefit analysis found that even a 7 to 9 percent reduction in recidivism can result in significant cost savings.<sup>xvi</sup>

	Intervention	Cost per prisoner	Net benefits (benefits minus costs)
Aos, Miller, Drake (2006)	General education (basic and postsecondary)	\$962	\$10,669
	Vocational education	\$1,182	\$13,738
Aos et al. (2001)	Adult Basic Education	\$1,972	\$1,852 - \$9,176
	Vocational education	\$1,960	\$2,835 - \$12,017

It should be noted that these findings may or may not apply to New Zealand given the variation in cost of educational services.

## WHY DOES PRISONER EDUCATION AND EMPLOYMENT REDUCE CRIME?

Economic theories of crime<sup>xvii</sup> suggest that correctional education programmes can reduce reoffending by increasing skills and employability<sup>xviii</sup>. Having a job or skills that are valued by society are protective factors against committing crime<sup>xix</sup>.

Social control theories of crime argue that any reduction in reoffending as a result of participation in correctional education happens because employment can function as an informal form of social control<sup>xx</sup>.

When the bond to society is weak or broken, delinquent acts are more likely<sup>xxi</sup>. By providing prisoners with education and training, they presumably develop a greater attachment to their society when they become a contributing member (through gaining employment and working with others).

In a review of the evidence, the Urban Institute suggest that “education improves decision making skills and promotes pro-social thinking, thereby improving in prison behaviour and facilitating adjustment to prison. Education increases human capital, improving general cognitive functioning while providing specific skills”<sup>xxii</sup>.

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## WHEN IS PRISONER EDUCATION AND EMPLOYMENT MOST EFFECTIVE?

### Employment

The evidence suggests that prisoner education is effective at reducing recidivism when it leads to employment post-release<sup>xxiii</sup>.

Vocational education was assumed to be more effective at helping prisoners obtain employment post-release than academic education.

However, one meta-analysis investigating this assumption found that although the odds ratio for vocational programmes was higher than the odds ratio for academic programmes, they weren't significantly different from one another. This suggests that both academic and vocationally focused programmes may be equally effective at preparing prisoners for employment post-release<sup>xxiv</sup>.

Another meta-analysis investigated whether larger reductions in recidivism were associated with larger differences in post-release employment, i.e. are employment and crime causally related<sup>xxv</sup>.

The magnitude of the employment effect accounted for 38% of the recidivism effect, which means that programmes that impact on employment also tend to impact on recidivism.

This implies that employment and crime may be causally related, but it is also possible that self-selection bias is at least partially responsible for this link (i.e. people who are motivated to find a job and desist from crime are also more likely to take advantage of correctional education opportunities).

### Other factors

In a recent narrative review of prisoner education,<sup>xxvi</sup> it was emphasized that programmes that address multiple criminogenic needs are preferable over programmes that target one criminogenic factor.

Offenders often face multiple barriers to employment such as learning difficulties, mental illness, and substance abuse. Addressing these issues in conjunction with correctional education programmes is likely to be more effective at reducing recidivism than administering a correctional education programme in isolation<sup>xxvii</sup>.

Although both international and national evidence suggest that correctional education programmes are effective at reducing recidivism, it is unclear which programmes have the greatest impact. As offenders often participate in multiple educational programmes, it's difficult to attribute a reduction in recidivism to a specific treatment.<sup>xxviii</sup>

However, there is evidence to suggest that the age of the offender may affect the successfulness of correctional education programmes. Specifically, gaining employment tends to be more strongly associated with reductions in recidivism amongst older offenders (>26 years old).

Those aged under 26 may be more difficult to engage in interventions and to help into employment than older people<sup>xxix xxx xxxi</sup>. Older offenders may be more motivated to take full advantage of employment programmes to desist from a life of crime post-release.

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## CURRENT INVESTMENT IN NEW ZEALAND

Corrections provides a range of initiatives to improve prisoners' education and employment skills, training and formal qualifications while they are serving their sentence.

### Training and education programmes - \$6 million (2016/17 Budget)

Literacy and numeracy education provides offenders with the necessary building blocks to progress to more advanced forms of education. A number of services fall under this category, including:

- **Education Assessment and Learning Pathway Process** – This includes assessing Prisoners Literacy and Numeracy Needs, prior educational achievement and developing a plan for educational progression.
- **Intensive Literacy and Numeracy** – Provides literacy and numeracy services for those prisoners with the highest identified need. This aims to support prisoners to gain the skills needed to progress into qualifications.

For those with adequate levels of literacy and numeracy, the following are key elements of educational input:

- **Industry & Vocational Training** – Provides a range of qualifications related to trades-based vocations, including such areas as First Aid, Health and Safety and Building and Construction.
- **Driver's Licence**
- **Basic computer skills**
- **Other Education** – Includes qualifications delivered through a mix of self-directed learning and external providers, including NCEA and other National Certificates.

### Employment programmes - \$46 million (2016/17 Budget)

Once offenders have achieved a basic level of literacy and numeracy, they can then apply these skills to achieve higher education and skills through a range of employment related training.

The employment training programmes in prison provide training and employment opportunities that better prepare prisoners to match their skills to available employment opportunities post-release.

Over 59% of prisoners engage in employment or industry training, such as:

- **Internal Services** (e.g., Achievement in Food Safety)
- **Primary sector** (e.g., National Certificate in Horticulture)
- **Timber** (e.g., National Certificate in Wood Manufacturing)
- **Building and Construction** (e.g., National Certificate in Building, Construction, and Allied Trades)
- **Engineering** (e.g., National Certificate in Mechanical Engineering)
- **Job Club** – supports prisoners nearing release with CV writing, job searching skills, interview techniques, and linking prisoners to potential employers
- **Release to Work** – minimum security prisoners engage in paid employment in the community while on day release from prison, in order to help them gain employment on release.

## EVIDENCE RATING AND KEY RECOMMENDATIONS

Each Evidence Brief provides an evidence rating between Harmful and Strong.

Harmful	Robust evidence that intervention increases crime
Poor	Robust evidence that intervention tends to have no effect
Inconclusive	Conflicting evidence that intervention can reduce crime
Fair	Some evidence that intervention can reduce crime
Promising	Robust international <i>or</i> local evidence that intervention tends to reduce crime
Strong	Robust international <i>and</i> local evidence that intervention tends to reduce crime

According to the standard criteria for all evidence briefs,<sup>1</sup> the appropriate evidence rating for Prisoner Education and Employment is Strong.

According to the standard interpretation, this rating means:

- There is robust international and local evidence that interventions tend to reduce crime.
- Interventions are likely to reduce crime if implemented well.
- Interventions could benefit from additional evaluation to confirm they are reducing crime and to support fine-tuning of the intervention design.

Broadly speaking, correctional education tends to have a positive effect on recidivism, such that programme participants are less likely to reoffend than non-programme participants of equivalent risk.

<sup>1</sup> Available at [www.justice.govt.nz/justice-sector/what-works-to-reduce-crime/](http://www.justice.govt.nz/justice-sector/what-works-to-reduce-crime/)

The evidence shows that correctional education is a rehabilitative initiative worth investing in. The current provision of correctional education in the US is estimated to produce net benefits of up to \$14,000 per prisoner.

However, it is important to note that job related/employment programmes may be less effective for juveniles and young adults (under 26). This type of intervention may be better suited to adult offenders who presumably may have more incentives to gain entry into the legitimate workforce, but more research needs to be done to confirm this.

There is likely to be considerable scope for expanded investment. In this regard Corrections is currently exploring the following options:

- Further expansion of the Education Assessment and Learning Pathway Process in prison to allow more prisoners' education needs to be assessed and addressed.
- Further investment to allow the Education Assessment and Learning Pathway Process to be rolled out into community, supporting not only community offenders but also prisoners transitioning into the community.
- Improved data capture to ensure full recording of prisoner educational achievement and progression information.
- Provision of short-duration industry/employment related vocational training, such as vocational drivers licence (fork lift class 2 etc), first aid, and health and safety.

Further funding could also support external evaluation of industry training, with a focus on educational practice to understand how service can be developed to further increase effectiveness (including employment outcomes).

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## FIND OUT MORE

### Go to the website

[www.justice.govt.nz/justice-sector/what-works-to-reduce-crime/](http://www.justice.govt.nz/justice-sector/what-works-to-reduce-crime/)

### Email

[whatworks@justice.govt.nz](mailto:whatworks@justice.govt.nz)

### Recommended reading

Davis, L. M., Bozick, R., Steele, J. L., Saunders, J., & Miles, J. N. (2013). *Evaluating the Effectiveness of Correctional Education*. RAND Corporation.

Brazzell, D., Crayton, A., Mukamal, D. A., Solomon, A. L., & Lindahl, N. (2009). *From the Classroom to the Community*. The Urban Institute.

MacKenzie, D. L. (2006). Academic Education and Life Skills. In D. L. MacKenzie, *What Works in Corrections: Reducing the Criminal Activities of Offenders and Delinquents* (pp. 69-89). New York: Cambridge University Press.

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- xxi Hirschi (1969)
  - xxii Braazell et al. (2009)
  - xxiii Wilson, Gallagher & MacKenzie (2000)
  - xxiv Davis et al. (2013)
  - xxv Wilson, Gallagher & MacKenzie (2000)
  - xxvi Braazell et al. (2009)
  - xxvii Sapouna, Bisset & Conlong (2011)
  - xxviii Davis et al. (2013)
  - xxix Hurry et al. (2005)
  - xxx Visher et al. (2006)
  - xxxi Uggen (2000)

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<sup>i</sup> Department of Corrections 2014/15 Annual Report

<sup>ii</sup> Department of Corrections Role of Education and Training in Reducing Reoffending (2015)

<sup>iii</sup> Andrews & Bonta (2003)

<sup>iv</sup> Bowman (2014)

<sup>v</sup> MacKenzie, Academic Education and Life Skills (2006)

<sup>vi</sup> Davis et al. (2013)

<sup>vii</sup> Wilson, Gallagher & MacKenzie (2000)

<sup>viii</sup> MacKenzie (2006)

<sup>ix</sup> Chappell (2004)

<sup>x</sup> Davis et al. (2013)

<sup>xi</sup> Department of Corrections Role of Education and Training in Reducing Reoffending (2015)

<sup>xii</sup> Davis et al. (2013)

<sup>xiii</sup> Department of Corrections Role of Education and Training in Reducing Reoffending

<sup>xiv</sup> Allred, Harrison & O'Connell (2013)

<sup>xv</sup> Giles & Whale (2014)

<sup>xvi</sup> Aos, Miller & Drake (2006)

<sup>xvii</sup> Piehl (1998)

<sup>xviii</sup> Wilson et al. (2000)

<sup>xix</sup> Raphael (2011)

<sup>xx</sup> Wilson, Gallagher & MacKenzie (2000)

## SUMMARY OF EFFECT SIZES FROM META-ANALYSES

Treatment type	Outcome measure	Meta-analysis	Reported average effect size	Number of estimates meta-analysis based on	Percentage point reduction in offending (assuming 50% untreated recidivism)	Number needed to treat (assuming 50% untreated recidivism)
Post secondary education	Recidivism	Chappell 2004	46.3% reduction in crime outcomes	15	0.27	4
Post secondary education	Recidivism	Davis et al 2013	Inv(OR)=0.49*	19	0.17	6
Post secondary education	Recidivism	Wilson et al 2000	OR=1.74*	13	0.14	7
Vocational education	Recidivism	Davis et al 2013	Inv(OR)=0.64*	34	0.11	9
Vocational training	Recidivism	Wilson et al 2000	OR=1.55*	17	0.11	9
All treatments	Recidivism	Wilson et al 1999	OR=1.53*	53	0.10	10
Adult basic education	Recidivism	Davis et al 2013	Inv(OR)=0.67*	13	0.10	10
Adult basic education and general equivalency diploma	Recidivism	Wilson et al 2000	OR=1.44*	14	0.09	11
High school/GED	Recidivism	Davis et al 2013	Inv(OR)=0.70*	22	0.09	11
Vocational education programmes	Recidivism	MacKenzie 2006	OR=1.36 NR	7	0.08	13
Vocational education	Recidivism	Aos, Miller & Drake 2006	9% reduction in crime outcomes NR	4	0.05	22
Academic - juveniles	Recidivism	Lipsey 2009	$\Phi$ =.051 NS	41	0.05	22
Academic education programmes	Recidivism	MacKenzie 2006	OR=1.16 NR	16	0.04	27
General Education (basic and post-secondary)	Recidivism	Aos, Miller & Drake 2006	7% reduction in crime outcomes NR	17	0.04	29
Job related - juveniles	Recidivism	Lipsey 2009	$\Phi$ =.028 NS	70	0.03	39
Employment Programmes	Recidivism	Visher, Winterfield & Coggeshall 2006	D=0.03 NS	10	0.01	74

\* Statistically significant at a 95% threshold

Treatment type	Outcome measure	Meta-analysis	Reported average effect size	Number of estimates meta-analysis based on	Percentage point increase in employment (assuming 50% untreated employment)	Number needed to treat (assuming 50% untreated employment)
Vocational training	Employment	Wilson et al 2000	OR=2.02*	8	0.17	6
Education programme	Employment	Wilson et al 2000	OR=1.70*	4	0.13	8
Vocational education	Employment	Davis et al 2013	OR=1.28*	9	0.06	16
Academic education	Employment	Davis et al 2013	OR=1.08*	13	0.02	52

\* Statistically significant at a 95% threshold

OR=Odds ratio

d=Cohen's d or variant (standardised mean difference)

Φ=phi coefficient (variant of correlation coefficient)

NA=Not applicable (no positive impact from treatment)

NS: Not significant

NR: Significance not reported

RRR: Relative risk

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