

Built environment vocational training for justice-involved youth in Australia: a systematic review of recidivism and workforce outcomes

Johari Hussein Nasser Amar and Waled Shehata
*Built Environment, Faculty of Society and Design, Bond University,
Robina, Australia*
Terry Goldsworthy
*Criminology, Faculty of Society and Design, Bond University,
Robina, Australia, and*
David Afrin
*Built Environment, Faculty of Society and Design, Bond University,
Robina, Australia*

Abstract

Purpose – This study investigates whether vocational training programs in Australia's built environment sector can reduce recidivism among justice-involved youth whilst simultaneously addressing construction skills shortages.

Design/methodology/approach – A systematic review was conducted following PRISMA 2020 guidelines. Criminological and interdisciplinary databases were searched for studies published between 2008 and 2023. Thirty-four studies on vocational programs for justice-involved youth were included and synthesised narratively across intervention types and built environment sectors, with structured narrative appraisal applied to assess methodological quality.

Findings – Programs aligned with labour market demand, liveable wages and culturally responsive wraparound support achieved the strongest outcomes. Construction-focused interventions dominated the evidence base ($n = 9$), whilst pathways in property, urban planning and project management remained underrepresented. Aboriginal and Torres Strait Islander youth comprise 63% of those detained but represented only 24% of program participants, revealing a significant equity gap in vocational program access.

Research limitations/implications – Most included studies involved small samples and short follow-up, limiting causal claims. Future research should prioritise longitudinal, comparative designs across the built environment sector, with equity-informed analysis across gender, geography and jurisdiction.

Practical implications – Policy frameworks should integrate correctional education with workforce development at national, state and industry levels, with youth justice professionals, vocational education and training providers and construction industry partners each sustaining distinct roles in aligning training with real employment opportunities and throughcare support. Findings carry transferable implications for comparable jurisdictions addressing the intersection of youth justice and labour market integration.

Originality/value – This is the first known systematic review examining both recidivism reduction and workforce benefits from built environment vocational programs for justice-involved youth in Australia.

Keywords Aboriginal and Torres strait islander overrepresentation, Built environment, Justice-involved youth, Recidivism, Vocational programs, Workforce development

Paper type Research article

1. Introduction

Reducing recidivism by effectively reintegrating justice-involved youth into their communities remains a persistent challenge within the Australian juvenile detention system



(Dawes, 2011). High recidivism rates impose significant social and economic burdens and indicate ongoing systemic issues in supporting rehabilitation. Whilst long-term adult recidivism data illustrates the systemic scale of the challenge – with Australian Bureau of Statistics (2023) reporting prior incarceration rates of 50–62.1% among adult prisoners from 1993 to 2022 – the most acute concern lies with justice-involved youth, for whom early intervention offers the greatest potential for lasting behavioural change. Recent attention to youth crime in Australia has intensified pressure on the justice system, including moves to legalise holding children indefinitely in adult prisons and watch houses in Queensland (Goldsworthy *et al.*, 2023).

In 2023–24, the Australian Bureau of Statistics (2025) reported that 46,798 young people aged 10–17 were processed by police, with males representing 69%. Approximately one-third faced multiple police proceedings, with Queensland and Tasmania recording higher repeat rates, around 2.5 times greater than other states and territories (Australian Bureau of Statistics, 2025), and notably, Aboriginal and Torres Strait Islander youth face acute barriers accessing post-release employment, exacerbating recidivism risk (Weatherburn and Canberra, 2014). The Australian Institute of Health and Welfare (AIHW, 2023) highlights their overrepresentation in youth detention, constituting only 5.7% of the Australian youth population yet accounting for approximately 63% of juvenile detention populations in 2022–23. Factors including homelessness, limited training access and inadequate post-release income intensify reoffending cycles (Newton *et al.*, 2018). For the purposes of this review, “justice-involved youth” encompasses young people aged 12–24 years across the continuum of youth justice contact, including those serving custodial sentences, community-based orders and diversion program participants, recognising that programmatic eligibility and delivery context differ significantly across these settings. The 12–24 age range aligns with the Australian Institute of Health and Welfare’s definition of young people (Australian Institute of Health and Welfare, 2021). Although the statutory upper age for youth justice is typically 17 at the time of offence, supervision frequently extends beyond this: in 2023–24, about one-quarter of those under supervision were aged 18 or over (AIHW, 2023). Jurisdictional arrangements further allow continued involvement into the early twenties, and up to 24 in some cases (Productivity Commission, 2026). The 12–24 range therefore captures both the legislated youth cohort and the substantial transitional population remaining in youth justice frameworks.

Employment is recognised as a predictor of recidivism, with justice-involved individuals more likely to reoffend if unemployed (Dias *et al.*, 2018; Lockwood *et al.*, 2012; Verbruggen *et al.*, 2015). Engagement in employment projects decreases reoffending (Long *et al.*, 2019), whilst longer unemployment durations correlate with increased likelihood of criminal behaviour (Fergusson *et al.*, 1997). Gaining stable employment offering liveable wages provides an effective protective factor against recidivism (Ramakers *et al.*, 2017). Multiple criminological theories support this relationship, including social control theory, which posits that bonds to conventional institutions such as employment prevent delinquency (Hirschi, 1969), and desistance theory, which identifies stable employment as a pivotal “turning point” for transitioning from criminal behaviour to prosocial identity transformation (Sampson and Laub, 2003; Maruna, 2007). Strain theory suggests that providing legitimate opportunities can reduce criminogenic pressures (Agnew, 1992; Merton, 1938), whilst social learning theory proposes that workplace socialisation fosters prosocial attitudes (Akers, 1998). For justice-involved youth, educational disengagement often precedes and intensifies contact with the justice system. As a result, vocational pathways should be seen not merely as employment preparation, but as critical re-engagement strategies that help repair interrupted educational trajectories. Educational disengagement has been identified as a key risk factor that can negatively affect the future employment outcomes of justice-involved youth (Unruh *et al.*, 2009). Collectively, these theories propose structured vocational training and meaningful employment as critical mechanisms for reducing recidivism (Stickle and Schuster, 2023), particularly jobs providing income stability (Bledowski *et al.*, 2023; Uggen, 1999).

Parallel challenges in Australia's built environment sector create opportunities for dual-benefit solutions. The sector experiences significant skills shortages, especially in construction, due to an ageing workforce and complex policy challenges (Ding *et al.*, 2023). Australia has historically relied on skilled migration to address workforce shortages (Lyu *et al.*, 2025); however, this strategy alone proves inadequate (Tan and Cebulla, 2023). Vocational training programs for justice-involved youth have emerged as a promising dual solution. International evidence that construction employment reduces reoffending through wage premiums approximately double those available in lower-paid sectors like food and retail (Schnepel, 2018), suggesting built environment vocational training represents a viable dual-benefit opportunity for justice-involved youth in Australia (Amar *et al.*, 2024).

Despite robust evidence, Australian policy frameworks show substantial disconnection between correctional goals and industry workforce development (Productivity Commission, 2021). Analysis across New South Wales (NSW), Victoria and Queensland, which accommodated 72% of Australia's detained population in 2023–24 (Australian Bureau of Statistics, 2025), reveals minimal integration with built environment sector pathways (Ooi, 2021). Although pilot programs offer evidence-based vocational training strategies (Productivity Commission, 2021; Sullivan *et al.*, 2019; Payne, 2007), built environment pathways remain poorly integrated within recidivism program offerings (Arbour *et al.*, 2023). This implementation gap contradicts criminological evidence showing that skilled construction employment with defined career trajectories reduces reoffending by 26–32% compared to casual employment among justice-involved individuals (Uggen, 2001; Duwe, 2015). A critical gap exists regarding collaboration between built environment institutes and corrective services, particularly in culturally grounded approaches for Aboriginal and Torres Strait Islander communities (Amar *et al.*, 2024).

Recognising the role of employment in reducing recidivism and the urgent construction skills shortage, this systematic literature review examines whether justice-system-engaged programs – spanning custodial, community-based and diversion settings – that provide built environment sector training can address both challenges simultaneously. Specifically, this review addresses these research questions: (1) Can diversion programs focused on the built environment sector vocational training effectively support skills development and employment pathways for justice-involved youth? and (2) Can these simultaneously reduce recidivism through purposeful engagement and structured re-entry support? By exploring the theoretical foundations and practical implementations of these programs, this review provides critical insights for policymakers, rehabilitation practitioners and industry stakeholders.

2. Methods

A systematic literature review was adopted adhering to PRISMA 2020 standards (Page *et al.*, 2021) and consistent with recommendations of Xiao and Watson (2019). The review protocol guided identification of critical aspects to examine, informing formulation of research questions (Munn *et al.*, 2018) and determination of search strategy, inclusion and exclusion criteria, and data-extraction processes (Mohamed Shaffril *et al.*, 2021). This comprehensive approach ensured methodological rigour throughout the review process detailed in the following subsections.

2.1 Search strategy

The systematic search strategy was developed using the Population, Phenomena of Interest and Context (PICO) framework (Munn *et al.*, 2018; Mohamed Shaffril *et al.*, 2021) to comprehensively identify literature relevant to justice-involved youth, recidivism, employment and training in the Australian built environment sector. Consultation with a faculty librarian informed targeted selection of keywords and Boolean operators aligned with PICO components shown in Table 1 (Cooper *et al.*, 2018; Petticrew and Roberts, 2006).

Table 1. The PICo research question framework

Component	Description	Criteria for SLR	Key variables
Population (P)	The group of individuals or objects being studied	Young people aged 10–24 years engaged across the youth justice continuum, including those serving custodial sentences, community-based orders and diversion program participants	Justice-involved youth
Phenomena of interest (I)	The specific situation or condition being studied	Diversion programs offering built environment training	Skill acquisition and employment
Context (Co)	The setting where the study takes place	Australia, including all states and territories	Community-based or correctional settings where training programs are implemented

Source(s): Authors' own work

Cross-disciplinary databases (Scopus, ProQuest, Web of Science) and specialist databases covering social and criminological literature (EBSCOhost, Informit, including the Australian Criminology Database) were systematically searched between 16th and 19th October 2023 (Kuckertz and Block, 2021; Gusenbauer and Haddaway, 2020). Explicit inclusion and exclusion criteria were established to ensure methodological rigour during screening, selection and extraction of relevant studies (Munn *et al.*, 2018), with Table 2 presenting the predefined eligibility criteria that clearly delineate the study scope.

2.2 Study selection and data extraction

Initial search results (972 records) were imported into EndNote 21, with duplicate references (110) removed. Title and abstract screening of the remaining 862 records were independently performed by two reviewers using the eligibility criteria, excluding studies focusing solely on international settings or adult populations. Discrepancies were resolved through discussion with a third reviewer, achieving strong inter-rater reliability (Cohen's kappa $\kappa = 0.93$). Full-text screening identified 108 studies explicitly focusing on vocational and employment training programs. A detailed evaluation form based on the PICo framework systematically identified 34 studies suitable for inclusion as presented in Figure 1. Studies were excluded during full-text review due to lack of relevance to the built environment sector, absence of justice-involved populations or descriptive commentary without primary data.

Data were extracted independently using a standardised Excel form aligned with the PICo framework. Extracted items included publication details, participant characteristics, sector alignment, intervention type and outcomes related to recidivism or employment. To support narrative synthesis, studies were grouped by intervention type (employment-focused, vocational training, rehabilitation), target population (Indigenous or general justice-involved youth) and sector (construction, property, urban planning, project management and other built environment sectors). This approach enabled structured comparison across models, subgroups and workforce pathways.

2.3 Synthesis and quality appraisal

A narrative synthesis approach was used to integrate findings from included studies, consistent with PRISMA 2020 guidelines (Page *et al.*, 2021; Popay *et al.*, 2006). Given heterogeneity in study designs, populations and outcomes, meta-analysis was not appropriate; instead, a thematic integration strategy grouped findings into conceptually similar areas aligned with the

Table 2. Examples of inclusion and exclusion criteria

Criteria	Inclusion criteria (IC)	Exclusion criteria (EC) Studies rejected	Reasons
Period	2008 to 2023	Published before 2008	Recommended reasonable search time of 10–20 years enhances the robustness and reliability of the conclusions drawn while balancing workload and bias (Xu et al., 2022)
Language	English	Language other than English	There are no practical guidelines for reviewing studies written in languages other than English, which can make translating these texts costly and time-consuming (Neimann Rasmussen and Montgomery, 2018)
Availability	Full text accessible	Full text not accessible; abstract only	Only accessible full-text papers are included to maintain the feasibility of the SLR process and reduce the error rate as other researchers can verify the included studies (Saif-Ur-Rahman et al., 2022)
Source	Journal papers; conference proceedings; government and university reports	Book; book chapter; grey literature, e.g. papers policy, reports, working websites, dissertations/theses, newsletters and other similar sources	Each source will require the research team to curate the source quality thresholds for inclusion in the study (Paul et al., 2021)
Relevancy	Align with PICO, including youth-specific populations (aged 10–24 years) engaged with the Australian justice system	Does not align with the study’s PICO framework	To provide adequate details about the conceptual and theoretical aspects of the topics to enable reviewers to make reliable decisions when including studies in SLR (Munn et al., 2018)
Source(s): Authors own work			

review questions. Selected studies were assessed for relevance to recidivism, employment or both, and synthesised accordingly. Results were tabulated in Excel to support cross-study comparison by intervention type, population subgroup and vocational sector. No statistical effect measures were calculated; data were used as reported in source studies without transformation, with missing or incomplete data described narratively.

To assess methodological quality, a structured narrative appraisal was conducted for all included studies, systematically evaluating each against four criteria: sample size adequacy, study design rigour, control for confounding variables and transparency of funding disclosure ([Popay et al., 2006](#); [Flemming and Noyes, 2021](#)). The Mixed Methods Appraisal Tool (MMAT) was considered, given its design for heterogeneous review corpora; however, MMAT does not provide appraisal criteria for policy reports and government documents, which comprise 26% of this review’s included studies ($n = 9$). Applying MMAT to the remaining studies, whilst excluding policy reports from quality appraisal would have produced an inconsistent and incomplete evidence assessment.

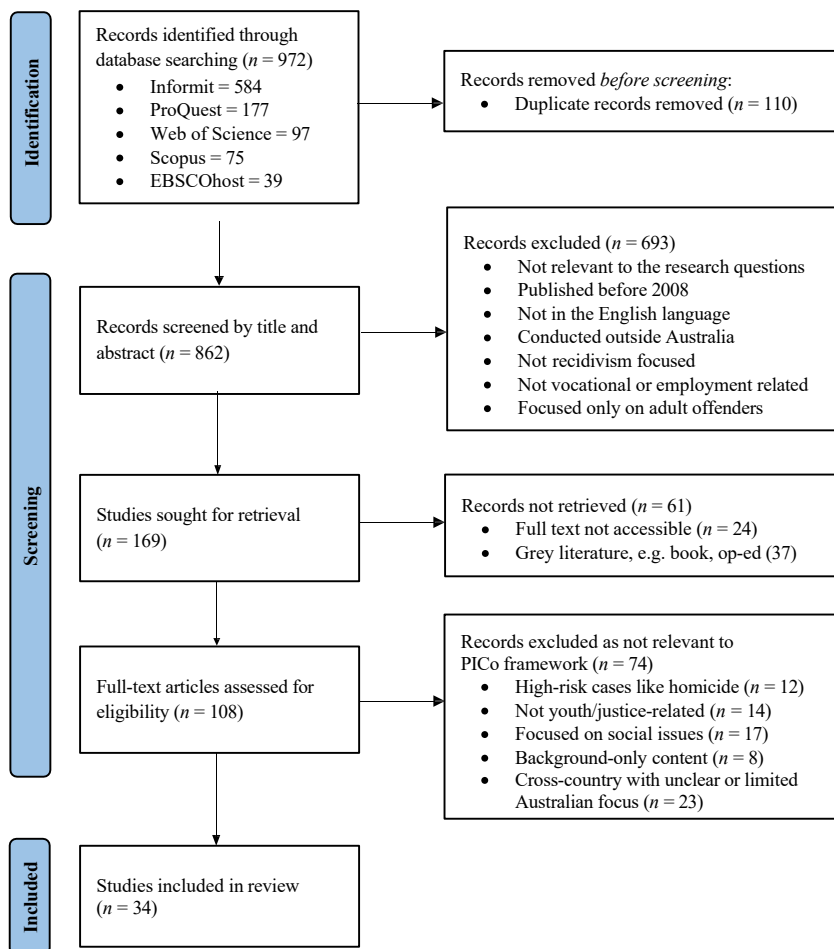


Figure 1. PRISMA 2020 flow diagram for identification of systematic review studies. Source: Authors' own work; PRISMA Flow diagram adopted from Page MJ *et al.* BMJ 2021; 372:n71, doi: 10.1136/bmj.n71. CC BY 4.0

Key limitations identified through this appraisal, including small sample sizes, absence of control groups and inconsistent funding disclosures, were systematically weighted in synthesising findings. Confidence in findings was graded accordingly: high confidence where multiple methodologically robust studies converged; moderate confidence where findings were supported by smaller or methodologically limited studies; and low confidence for single-study findings without corroboration. Findings supported by multiple studies were accorded the greatest interpretive weight, with the highest certainty assigned to construction-focused interventions given their larger combined evidence base.

3. Results

The 34 included studies featured specific interventions focused on general employment and built environment programs. Construction interventions comprised the majority of the evidence base ($n = 9$), whilst property ($n = 2$), urban planning ($n = 1$) and project

management ($n = 1$) were underrepresented among the included studies. Part of this distribution reflects qualification structure rather than research neglect alone: property, urban planning and project management are typically degree-level professions less compatible with the relatively short custodial sentences served by most justice-involved youth. VET-level pathways within these subsectors, such as property services, planning support and project administration, nonetheless warrant comparative research, as they may offer accessible entry points without the qualification length that limits trade-equivalent options. The dominance of construction-focused research reflects both the sector's accessibility for entry-level workers and persistent industry skills shortages documented across Australian states.

Research activity evolved across four chronological phases: an early focus period (2008–2010, $n = 5$) establishing theoretical foundations; a transitional period (2011–2015, $n = 10$) emphasising skills-based programs; a contemporary period (2016–2020, $n = 14$) documenting both outcomes and systemic barriers; and an economic uncertainty period (2021–2023, $n = 5$) focused on sustainable employment in volatile labour markets (see Figure 2). This temporal progression demonstrates growing recognition that vocational training alone is insufficient without addressing systemic barriers, including employer bias and inadequate post-release support.

3.1 Study population distribution

Analysis of the 34 studies revealed distinct geographic patterns. Nearly half ($n = 16$) examined Australia nationally, with state-specific research concentrated in NSW and Victoria ($n = 5$ each), Western Australia ($n = 4$), Queensland ($n = 3$) and Tasmania ($n = 1$). No studies were identified from South Australia, the Northern Territory or the Australian Capital Territory (ACT), highlighting notable regional gaps in jurisdictions where detention populations and recidivism challenges persist. Demographically, half of all studies ($n = 17$) did not specify targeted groups beyond general justice-involved populations, limiting understanding of intervention effectiveness across demographic subgroups. Aboriginal and Torres Strait Islander justice-involved youth received the most research attention among specified populations ($n = 8$), appropriately reflecting their significant overrepresentation in the youth detention system. Limited research specifically examined justice-involved youth aged 12–24 years ($n = 4$), representing a critical gap given the importance of early intervention. The absence of gender-specific analysis further limits understanding despite well-documented differences in offending pathways and rehabilitation needs.

The feasibility of vocational program delivery varies substantially across justice contact settings. Studies examining custodial programs necessarily engaged smaller and more transient populations, given that fewer than 1,000 young people are detained on any given day nationally (Australian Institute of Health and Welfare, 2023), many on short-term remand. By

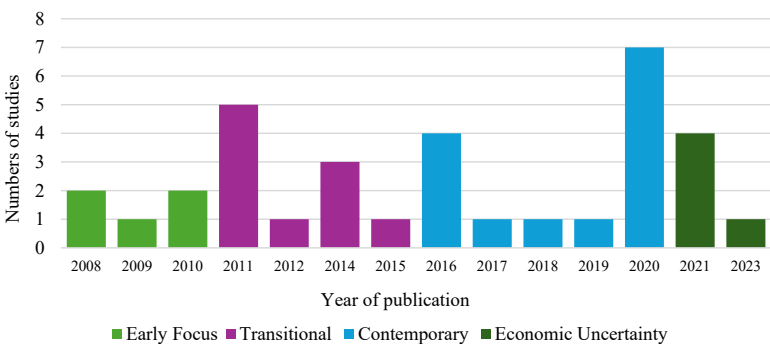


Figure 2. Annual publication trends grouped by thematic periods ($n = 34$). Source: Authors' own work

contrast, community-based orders and diversion programs reach a substantially larger proportion of the 46,798 young people processed by police in 2023–24 (Australian Bureau of Statistics, 2025), making these settings the more viable delivery context for vocational training at scale. Methodological limitations persist across this evidence base, including small sample sizes (Dawes, 2011), narrow geographic focus (Tubex *et al.*, 2020a) and reliance on short-term recidivism measures (Ooi *et al.*, 2020).

3.2 Methodological approaches

Qualitative approaches were most common (50%), followed by quantitative (24%), mixed methods (15%) and unspecified methodologies (11%). This distribution reflects the field's emphasis on contextual factors and participant experiences, with relatively limited focus on quantitative outcomes measurement. Quantitative studies employed prospective cohort designs (Borschmann *et al.*, 2021) and program evaluations using administrative data (Ooi, 2021) and employer surveys (Loosemore *et al.*, 2020). Graffam *et al.* (2014) demonstrate statistically significant reductions in reoffending using logistic regression, whilst Ooi (2021) linked industry-recognised credentials – including construction white cards and trade certificates – to reduced recidivism. Qualitative studies used longitudinal tracking (Dawes, 2011), discourse analyses (Schwartz, 2010), literature syntheses (Young and Solonec, 2011) and case-based evaluations (Bahn, 2011). Mixed-methods studies combined quantitative recidivism metrics with qualitative participant accounts of wraparound service (Nisbet *et al.*, 2011) and educational outcomes (J-F *et al.*, 2014, Reimer and Pangrazio, 2020).

3.3 Intervention types and frequencies

Five distinct intervention types, differing in frequency, intensity and employability alignment, reflecting varied theoretical assumptions about desistance pathways (Dawes and Davidson, 2019; Cherney and Fitzgerald, 2016; Loosemore *et al.*, 2020). Employment-focused programs were the most common intervention type ($n = 13$), offering structured pathways through job placement services, employer partnerships and supported employment models. These programs showed considerable efficacy: Edwards (2017) reported recidivism rates as low as 7.46% among construction-focused employment program participants over 24 months, compared to baseline rates exceeding 40% in comparable populations. Community-based initiatives ($n = 8$) included throughcare programs, justice reinvestment strategies and transitional support addressing immediate post-release needs (Victorian Auditor-General, 2020). Vocational education and training (VET) programs ($n = 7$) focused on accredited training, apprenticeships and industry certification, with Graffam *et al.* (2014) reporting a 28% reduction in reoffending likelihood among VET participants when controlling for demographic factors and offence history.

Rehabilitation services targeting criminogenic needs ($n = 4$) included cognitive-behavioural therapy and substance abuse treatment (Cherney and Fitzgerald, 2016), whilst comprehensive case management models offering integrated wraparound assistance ($n = 2$) represented the least frequent intervention type (Victorian Auditor-General, 2008; Schwartz, 2010). This distribution pattern suggests greater emphasis on employment pathways relative to therapeutic or case management approaches.

3.4 Overall study reliability and credibility assessment

Funding transparency was inconsistent, with 16 studies omitting any funding disclosure; of those making disclosures, seven were government-funded, three received non-government or mixed funding and eight reported no external funding, falling below PRISMA 2020 expectations. Longitudinal evaluation was almost entirely absent, with Dawes (2011) representing the sole study including post-release follow-up beyond 12 months. Sample sizes varied considerably: six studies involved fewer than 30 participants, whilst larger studies

demonstrated more robust sampling: [Giles et al. \(2016\)](#) tracked 14,643 prisoners, [Ooi et al. \(2020\)](#) examined 1,879 participants and [Ooi \(2021\)](#) analysed 985 participants. None of the included studies used control groups or quasi-experimental designs, limiting internal validity. These methodological gaps highlight an urgent need for comparative designs, longitudinal tracking and greater transparency in future research.

4. Discussion

The evidence from 34 studies reveals complex interactions between program design, implementation context and outcomes. This discussion examines vocational training efficacy, sector alignment with labour market needs, implementation barriers and the critical role of cultural responsiveness. These elements inform policy integration of correctional education with workforce planning.

4.1 Vocational training efficacy and recidivism reduction

Structured vocational training in the built environment sectors demonstrates a consistent impact on reducing reoffending. These findings strongly align with social control theory ([Hirschi, 1969](#)), which proposes that bonds to conventional institutions like employment prevent delinquency through strengthened social attachment and commitment. A significant dose-response relationship between training intensity and outcomes was evident, with program completion strongly associated with rehabilitation success and reduced severity in any subsequent offending. For justice-involved youth specifically, desistance was strongly associated with re-engagement in education, training or employment, with structured pathways in built environment fields offering particularly impactful trajectories ([Dawes, 2011](#)).

For instance, justice-involved youth responded positively to education programs that included soft forms of career planning such as work experience, interview practice and career exploration, which were seen to have a likely positive effect in increased engagement in developing employment and occupational skills ([Strnadová et al., 2017](#)). Despite these positive outcomes, program effectiveness varied significantly depending on design and integration with broader support services, underscoring the importance of holistic models that combine technical training with tailored rehabilitation supports ([OICS, 2014](#)). These findings also invite engagement with broader sociological debates about the structural conditions shaping correctional education. Vocational training programs in custodial settings do not operate in a political vacuum; they are shaped by competing institutional logics in which correctional objectives, workforce development imperatives and welfare policy interact in ways that do not always align ([Productivity Commission, 2021](#)).

The dominance of employment-focused interventions identified in this review reflects a broader shift in welfare governance towards responsibilisation – the expectation that individuals will actively invest in their own human capital to secure labour market participation, reducing reliance on state support ([Garland, 2002](#); [Rose, 2000](#)). For justice-involved youth, this expectation intersects with structural disadvantage, meaning that vocational training without accompanying systemic reform risks placing the burden of rehabilitation on individuals whose circumstances are shaped by forces well beyond individual agency.

4.2 Built environment sector alignment and skills gap opportunities

The construction sector presents promising opportunities for employment within the built environment for three key reasons: persistent documented skills shortages, entry-level accessibility and demonstrated receptiveness to employing justice-involved graduates. This economic advantage aligns with the construction industry's needs, where roles often combine accessible entry points with clear advancement pathways into trades certification and

supervision (Uggen, 2001; Graffam and Shinkfield, 2012). Industry receptiveness represents a significant opportunity, with construction employers citing pragmatic business drivers including acute skills shortages in carpentry, bricklaying and concreting, observed reliability of justice-involved graduates and increasing social procurement requirements (Loosemore *et al.*, 2020). For construction firms facing persistent recruitment challenges, justice-involved individuals completing vocational training represent an untapped talent pool that simultaneously addresses corporate social responsibility objectives.

Program success depends heavily on aligning training content with actual employment opportunities. Troubling mismatches between training and the needs of local construction markets were identified, affecting Aboriginal and Torres Strait Islander participants whose training did not correspond with job availability in their communities (Giles *et al.*, 2016). Many individuals leave custody with qualifications that fail to lead to employment as qualifications do not match regional industry demands (Tubex *et al.*, 2020b). The most effective programs aligned training with construction industry needs, linking foundational skills to real job opportunities (Chapman and Dhillon, 2021). Traineeships tailored to specific needs and matched to construction skills shortages were associated with lower rates of recidivism (Ooi, 2021). These findings are supported by strain theory (Agnew, 1992; Merton, 1938), which suggests that access to legitimate economic opportunities can reduce the pressures that contribute to reoffending. The emphasis on career pathways also aligns with desistance theory's conceptualisation of employment as a critical "turning point" enabling identity transformation from offending to prosocial roles (Sampson and Laub, 2003).

4.3 Program evolution and implementation challenges

The evolution of built environment sector training programs shows clear progression over four distinct phases, from theoretical foundations (2008–2010) to increasingly sophisticated industry engagement models (2021–2023). Whilst five program types were identified, employment-focused and VET models dominated, with construction-specific programs far outnumbering other built environment disciplines. This concentration in construction reflects practical implementation considerations in that this sector offers accessible entry-level opportunities with clear advancement pathways (Loosemore *et al.*, 2020).

Despite promising outcomes, significant implementation barriers persist. The review identified three main barriers: systemic disconnects between correctional and industry objectives, employer hesitancy and regional misalignment between training content and local employment opportunities. Misalignment between correctional objectives and workforce development weakens rehabilitation outcomes, with nearly half reoffending within two years due to restricted rehabilitation access from resource limitations, eligibility constraints and poor governance (Doyle *et al.*, 2021). Youth detainees were frequently denied the services needed to transition into employment (Victorian Auditor-General, 2018). Community-based rehabilitation rarely functions as planned in practice, highlighting the need for robust implementation frameworks, quality assurance and early involvement of construction stakeholders to maintain program fidelity (Astbury, 2008).

Whilst many employers are open to hiring justice-involved graduates, substantial barriers persist, including concerns about reoffending risk, behavioural reliability and stigma (Loosemore *et al.*, 2020). These concerns reflect labelling theory's prediction that criminal justice system involvement creates enduring stigma affecting employment access (Lieberman *et al.*, 2014). Technical training alone cannot overcome these perceptual barriers without addressing employer hesitancy. Strategies addressing employer hesitancy include graduated employment models, subsidised trial placements and structured retention supports. Co-designed programs that engage employers early, foster trust and improve outcomes. Industry peak bodies should support inclusive hiring through social procurement frameworks that incentivise rehabilitative employment practices.

Regional and remote communities face significant training alignment challenges. Tasmania accounted for just 3% of reviewed studies and the Northern Territory, South Australia and the ACT also had very minimal coverage. Training often failed to match regional construction needs, especially for Aboriginal and Torres Strait Islander communities (Tubex *et al.*, 2020a; Giles *et al.*, 2016). Delivery challenges are amplified by remote housing, mining and climate-adapted infrastructure demands. The importance of culturally responsive design and community governance was underscored (Young and Solonec, 2011; Schwartz, 2010). These findings call for place-based planning, regional labour mapping and context-specific program models responsive to local construction economies, consistent with desistance and labour market segmentation theory. The limited focus on property, urban planning and project management suggests untapped potential for broadening pathways across the wider built environment sector, potentially offering additional routes for individuals with different aptitudes and interests.

Whilst this review focuses on the Australian context, the structural challenges identified have clear international resonance. Justice reinvestment as a policy mechanism – redirecting resources from incarceration towards community-based rehabilitation and employment – has been implemented across comparable jurisdictions, including the United Kingdom, Canada, New Zealand and the United States, with vocational training forming a central component of these models (Dawes and Davidson, 2019; Schwartz, 2010). The relationship between construction skills shortages and justice-involved populations is not uniquely Australian; comparable labour market dynamics in post-industrial economies create similar opportunities for dual-benefit vocational programs. The barriers identified in this review – employer hesitancy, training-employment misalignment and inadequate post-release support – are documented across these jurisdictions (Newton *et al.*, 2018; Loosemore *et al.*, 2020), suggesting that the Australian evidence base offers transferable insights for international policy development. Comparative research across these contexts would strengthen the evidence base for vocational pathways as a global policy mechanism for reducing recidivism whilst addressing structural workforce gaps.

The convergence of evidence across settings, barriers and jurisdictions supports a transferable dual-benefit framework applicable beyond the Australian context. Three conditions appear necessary for vocational built environment programs to simultaneously reduce recidivism and address workforce shortages: alignment between training content and real regional labour market demand; culturally and individually responsive wraparound support spanning custody through to community employment; and structural employer engagement mechanisms, including social procurement requirements, that reduce dependence on individual goodwill. Where these conditions are absent, the evidence consistently shows that programs fail regardless of their technical quality. This framework offers a diagnostic tool for policymakers across comparable jurisdictions designing or evaluating vocational justice programs.

4.4 Cultural responsiveness and community engagement

Cultural responsiveness emerged as a critical success factor in construction training programs, particularly for Aboriginal and Torres Strait Islander participants, who comprised 24% of the reviewed studies. Effective program design requires more than a one-size-fits-all approach; each jurisdiction must reflect cultural, regional, gender and age-related differences, recognising that marginalised groups often experience multiple, compounding disadvantages. Aboriginal and Torres Strait Islander justice-involved youth face not only ordinary reintegration obstacles, but also systematic racism and cultural isolation. Tailored programs should be developed in collaboration with marginalised populations to guarantee cultural relevance and responsiveness to unique needs.

Programs embedding Aboriginal and Torres Strait Islander knowledge systems and cultural protocols achieved stronger engagement and employment outcomes than generic models.

Effective programs must adopt place-based approaches tailored to local contexts and cultural values rather than standardised models lacking relevance in Aboriginal and Torres Strait Islander communities (Tubex *et al.*, 2020a). Construction industry stakeholders can improve program outcomes by engaging meaningfully with Aboriginal and Torres Strait Islander communities and supporting local governance structures. Justice reinvestment initiatives must be safeguarded against bureaucratic or metrocentric approaches to ensure resources stay within communities and reflect local cultural values (Schwartz, 2010). The benefits of redirecting funds from prison construction to community-led building projects were documented, reducing juvenile detention rates whilst producing essential infrastructure for local communities (Young and Solonec, 2011).

The emphasis on cultural responsiveness is especially important given the overrepresentation of Aboriginal and Torres Strait Islander youth in the justice detention system (Australian Institute of Health and Welfare, 2023). Programs that lack meaningful Aboriginal and Torres Strait Islander community input frequently fail to achieve long-term engagement or employment outcomes. This issue is more common in regional and remote areas where cultural expectations and construction labour demands differ significantly from those in metropolitan settings. Addressing these disparities requires sustained commitment to community-led program design and culturally informed implementation frameworks.

4.5 Wraparound services and holistic support

The review identified that whilst technical skills development forms the foundation of successful construction training programs, effective interventions extend beyond vocational training to incorporate comprehensive support structures. Employment-focused programs predominated, but the most effective construction pathways integrated multiple support elements. These elements included individualised case management with industry liaison, accommodation support and coordinated substance use and mental health treatment. Additional components comprised family reintegration assistance and industry mentorship (Ooi, 2021; Doyle *et al.*, 2021; Youssef, 2023; Baldry, 2010; OICS, 2014; Tubex *et al.*, 2020a).

Whole-of-family, whole-of-community and whole-of-government approaches address the complex drivers of recidivism whilst promoting community wellbeing and employment readiness. This integrated strategy reflects the multifaceted nature of rehabilitation and aligns with social learning theory (Akers, 1998), which posits that prosocial behaviour modelled in work environments can reinforce long-term behavioural change (Ravulo, 2019). These findings also intersect with social control theory (Hirschi, 1969), which emphasises the stabilising influence of structured social bonds such as employment. Additionally, strain theory (Agnew, 1992; Merton, 1938) highlights how access to legitimate economic opportunities can reduce criminogenic pressures.

Throughcare – sustained support from custody through to community employment – was essential for ensuring low rates of recidivism (Youssef, 2023). Significant systemic gaps in service delivery remain, with remand and short-stay detainees frequently denied access to intensive post-release support, undermining rehabilitation and job retention (Victorian Auditor-General, 2020). These findings carry direct implications for youth justice professionals. Detention centre managers and corrective services program coordinators should prioritise early vocational assessment and program enrolment at the point of sentence commencement, rather than in the final weeks of custody, to maximise training completion. VET providers and built environment industry partners should co-design training curricula with employers to ensure qualification pathways correspond to real job opportunities in local construction labour markets (Ooi, 2021; Giles *et al.*, 2016). Youth justice caseworkers should integrate employment planning into throughcare frameworks from the point of first contact, with explicit milestones for employer engagement and post-release follow-up. Policymakers should mandate social procurement requirements for government-funded construction projects, creating structural incentives for employers to engage justice-involved youth

5. Implications

The findings of this review are consistent with the broader international literature on employment and recidivism beyond the built environment sector. Research across multiple industries confirms that stable, quality employment reduces reoffending, with income stability and job quality emerging as stronger predictors than employment alone (Ramakers *et al.*, 2017; Uggen, 1999). Correctional education programs more broadly have demonstrated positive effects on post-release employment and recidivism reduction (Lockwood *et al.*, 2012; Stickle and Schuster, 2023), and engagement in structured employment projects is associated with decreased reoffending across diverse settings (Long *et al.*, 2019). The present review extends this evidence base by demonstrating that built environment vocational training, with its distinctive combination of accessible entry points, defined career trajectories and wage premiums (Schnepel, 2018), offers a particularly promising mechanism for translating these general employment-recidivism relationships into sector-specific workforce outcomes.

The methodological limitations identified in Section 3.4 point to clear priorities for future research. Given that Dawes (2011) remains the sole study with post-release follow-up beyond 12 months, longitudinal, mixed-methods studies tracking both employment and recidivism outcomes over a minimum of two years are urgently needed. The concentration of research in NSW and Victoria, and the near-complete absence of studies from South Australia, the Northern Territory and the ACT, signals a geographic gap requiring targeted investment in jurisdiction-specific evaluations. The absence of gender-disaggregated findings across all 34 included studies represents a critical equity gap, given well-documented differences in offending pathways and rehabilitation needs between young men and women. Comparative research across built environment subsectors beyond construction – particularly property, urban planning and project management – is needed to assess whether these pathways are genuinely unsuitable for justice-involved youth or simply under-researched. Cost-effectiveness analysis comparing wraparound models against standalone vocational training would further strengthen the evidence base for policy investment.

Policy frameworks must better integrate correctional education with workforce development strategies at national, state and industry levels. At the national level, the Productivity Commission (2021) identified substantial disconnection between correctional goals and industry workforce development, signalling an urgent need for coordinated policy reform linking youth justice, vocational education and employment portfolios. At the state level, jurisdictions accommodating the majority of Australia's detained youth population (NSW, Victoria and Queensland) should prioritise built environment vocational pathways within custodial education frameworks, with funding contingent on demonstrated alignment between training content and regional labour market demand (Ooi, 2021). At the industry level, peak bodies in construction and related built environment sectors should formalise social procurement commitments, creating structural incentives for employers to engage justice-involved youth graduates beyond individual employer goodwill (Loosemore *et al.*, 2020). Collectively, these policy actions offer a pragmatic, equity-driven approach to reducing recidivism whilst addressing structural workforce gaps in Australia's built environment sector.

6. Conclusion

This systematic review of 34 studies provides strong evidence that employment-focused vocational training in the built environment sector can reduce recidivism among justice-involved youth whilst addressing Australia's construction skills shortages. Programs aligned with local labour market needs, offering liveable wages and culturally responsive wraparound support, were associated with the most favourable outcomes. However, vocational pathways

within correctional settings remain substantially underutilised, with construction-focused interventions dominating whilst pathways in property, urban planning and project management received limited attention. These findings affirm the dual benefits of such programs for both youth rehabilitation and workforce development. Whilst grounded in the Australian context, the structural challenges and program design principles identified in this review carry transferable implications for comparable jurisdictions grappling with the intersection of youth justice, vocational education and labour market integration.

The evidence base carries significant methodological limitations. Most included studies involved small samples, lacked longitudinal follow-up beyond 12 months and provided inconsistent funding disclosures, with 16 of 34 studies omitting disclosure entirely. Only one included study tracked participants beyond 12 months post-release, representing a critical gap given that recidivism risk extends well beyond the short-term windows captured in current research. The absence of control groups or quasi-experimental designs across all 34 included studies limits causal inference and the generalisability of findings to the broader justice-involved youth population.

References

- Agnew, R. (1992), "Foundation for a general strain theory of crime and delinquency", *Criminology*, Vol. 30 No. 1, pp. 47-88, doi: [10.1111/j.1745-9125.1992.tb01093.x](https://doi.org/10.1111/j.1745-9125.1992.tb01093.x).
- Akers, R.L. (1998), *Social Learning and Social Structure: A General Theory of Crime and Deviance*, Northeastern University Press, Boston.
- Amar, J.H.N., Armitage, L. and Khanjanasthiti, I. (2024), *Multi-Sectoral Systems Approach (MSSA) to Addressing Australian Social and Affordable Housing Challenges and Solutions: White Paper No. 1*, Gold Coast: Bond University.
- Arbour, W., Lacroix, G. and Marchand, S. (2023), *Prison Rehabilitation Programs and Recidivism: Evidence from Variations in Availability*, Melbourne Institute, pp. 1-56.
- Astbury, B. (2008), "Problems of implementing offender programs in the community", *Journal of Offender Rehabilitation*, Vol. 46 Nos 3-4, pp. 31-47, doi: [10.1080/10509670802143235](https://doi.org/10.1080/10509670802143235).
- Australian Bureau of Statistics (2023), "Prisoners in Australia", Series, Place, available at: <https://www.abs.gov.au/statistics/people/crime-and-justice/prisoners-australia/latest-release> (accessed 28 March 2025).
- Australian Bureau of Statistics (2025), "Recorded crime – offenders 2023-24", Series, Place, available at: <https://www.abs.gov.au/statistics/people/crime-and-justice/recorded-crime-offenders/latest-release> (accessed 11 March 2025).
- Australian Institute of Health and Welfare (2021), "Australia's youth", Place, available at: <https://www.aihw.gov.au/reports/children-youth/australias-youth> (accessed 18 April 2025).
- Australian Institute of Health and Welfare (2023), "Youth detention population in Australia 2023", Place, available at: <https://www.aihw.gov.au/reports/youth-justice/youth-detention-population-in-australia-2023> (accessed 18 April 2025).
- Bahn, S. (2011), "Community safety and recidivism in Australia: breaking the cycle of reoffending to produce safer communities through vocational training", *The International Journal of Training Research*, Vol. 9 No. 3, pp. 261-266, doi: [10.5172/ijtr.9.3.261](https://doi.org/10.5172/ijtr.9.3.261).
- Baldry, E. (2010), "Women in transition: from prison to", *Current Issues in Criminal Justice*, Vol. 22 No. 2, pp. 253-267, doi: [10.1080/10345329.2010.12035885](https://doi.org/10.1080/10345329.2010.12035885).
- Bledowski, P., Felczak, J., Galecka-Burdziak, E. and Góra, M. (2023), "Incarceration experience at older ages. Does employment protect against recidivism?", *Economics and Sociology*, Vol. 16 No. 1, pp. 11-28, doi: [10.14254/2071-789x.2023/16-1/1](https://doi.org/10.14254/2071-789x.2023/16-1/1).
- Borschmann, R., De Andrade, D. and Kinner, S.A. (2021), "Health and welfare outcomes for adolescents following release from prison in Queensland, Australia: a prospective cohort study", *Adolescents*, Vol. 1 No. 2, pp. 175-185, doi: [10.3390/adolescents1020014](https://doi.org/10.3390/adolescents1020014).

- Chapman, L. and Dhillon, T. (2021), "True prison break: thinking outside the wall", *Fine Print*, Vol. 44, pp. 13-17.
- Cherney, A. and Fitzgerald, R. (2016), "Finding and keeping a job: the value and meaning of employment for parolees", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 60 No. 1, pp. 21-37, doi: [10.1177/0306624x14548858](https://doi.org/10.1177/0306624x14548858).
- Cooper, C., Booth, A., Varley-Campbell, J., Britten, N. and Garside, R. (2018), "Defining the process to literature searching in systematic reviews: a literature review of guidance and supporting studies", *BMC Medical Research Methodology*, Vol. 18 No. 1, pp. 85-14, doi: [10.1186/s12874-018-0545-3](https://doi.org/10.1186/s12874-018-0545-3).
- Dawes, G.D. (2011), "The challenges of reintegrating indigenous youth after their release from detention", *Journal of Youth Studies*, Vol. 14 No. 6, pp. 693-707, doi: [10.1080/13676261.2011.580338](https://doi.org/10.1080/13676261.2011.580338).
- Dawes, G.D. and Davidson, A. (2019), "A framework for developing justice reinvestment plans for crime prevention and offender rehabilitation in Australia's remote indigenous communities", *Journal of Offender Rehabilitation*, Vol. 58 No. 6, pp. 520-543, doi: [10.1080/10509674.2019.1621417](https://doi.org/10.1080/10509674.2019.1621417).
- Dias, S., Kinner, S.A., Heffernan, E., Waghorn, G. and Ware, R. (2018), "Identifying rehabilitation priorities among ex-prisoners vulnerable to mental illnesses and substance abuse", *The Journal of Rehabilitation*, Vol. 84, pp. 46-56.
- Ding, M.J., Jie, F., Sisombat, S. and Bandlamudi, B.S. (2023), "Impact of the skill shortage on the construction supply chain performance in Australia", *Civil Engineering Journal*, Vol. 9 No. 2, pp. 356-371, doi: [10.28991/cej-2023-09-02-08](https://doi.org/10.28991/cej-2023-09-02-08).
- Doyle, C., Gardner, K. and Wells, K. (2021), "The importance of incorporating lived experience in efforts to reduce Australian reincarceration rates", *International Journal for Crime, Justice and Social Democracy*, Vol. 10 No. 2, pp. 83-98, doi: [10.5204/ijcjsd.1942](https://doi.org/10.5204/ijcjsd.1942).
- Duwe, G. (2015), "An outcome evaluation of a prison work release program: estimating its effects on recidivism, employment, and cost avoidance", *Criminal Justice Policy Review*, Vol. 26 No. 6, pp. 531-554, doi: [10.1177/0887403414524590](https://doi.org/10.1177/0887403414524590).
- Edwards, J. (2017), "A just system? How punitive youth justice systems increase the risk of crime", *Children Australia*, Vol. 42 No. 4, pp. 233-239, doi: [10.1017/cha.2017.39](https://doi.org/10.1017/cha.2017.39).
- Fergusson, D.M., Lynskey, M.T. and Horwood, L.J. (1997), "The effects of unemployment on juvenile offending", *Criminal Behaviour and Mental Health*, Vol. 7 No. 1, pp. 49-68, doi: [10.1002/cbm.144](https://doi.org/10.1002/cbm.144).
- Flemming, K. and Noyes, J. (2021), "Qualitative evidence synthesis: where are we at?", *International Journal of Qualitative Methods*, Vol. 20, p. 1, doi: [10.1177/1609406921993276](https://doi.org/10.1177/1609406921993276).
- Garland, D. (2002), *The Culture of Control: Crime and Social Order in Contemporary Society*, Oxford University Press, Oxford.
- Giles, M., Paris, L. and Whale, J. (2016), "The role of art education in adult prisons: the Western Australian experience", *International Review of Education*, Vol. 62 No. 6, pp. 689-709, doi: [10.1007/s11159-016-9604-3](https://doi.org/10.1007/s11159-016-9604-3).
- Goldsworthy, T., Brotto, G. and Cawthray, T. (2023), "Is Australia in the grips of a youth crime crisis? This is what the data says", *The Conversation*, [Online], available at: <https://theconversation.com/is-australia-in-the-grips-of-a-youth-crime-crisis-this-is-what-the-data-says-213655> (accessed 28 March 2025).
- Graffam, J.H. and Shinkfield, A. (2012), "Strategies to enhance employment of Indigenous ex-offenders after release from correctional institutions", Place: available at: <https://www.aihw.gov.au/getmedia/c0e0c765-b79e-4020-9bf7-f477f0853403/ctgc-rs11.pdf.aspx> (accessed 18 October 2023).
- Graffam, J., Shinkfield, A.J. and Lavelle, B. (2014), "Corrections education and employment assistance 'down under': current and emerging practices and paradigms", *London Review of Education*, Vol. 12 No. 2, pp. 221-234, doi: [10.18546/lre.12.2.07](https://doi.org/10.18546/lre.12.2.07).

- Gusenbauer, M. and Haddaway, N.R. (2020), "Which academic search systems are suitable for systematic reviews or meta-analyses? Evaluating retrieval qualities of Google Scholar, PubMed, and 26 other resources", *Research Synthesis Methods*, Vol. 11 No. 2, pp. 181-217, doi: [10.1002/jrsm.1378](https://doi.org/10.1002/jrsm.1378).
- Hirschi, T. (1969), *Causes of Delinquency*, University of California Press, Berkeley.
- J-F Gillies, R., Carroll, A., Swabey, K., Pullen, D., Fluck, A. and Yu, J. (2014), "The role of post-secondary education among ex-inmates living crime-free", *Joint AARE-NZARE 2014 Conference*, Brisbane, Australian Association for Research in Education.
- Kuckertz, A. and Block, J. (2021), "Reviewing systematic literature reviews: ten key questions and criteria for reviewers", *Management Review Quarterly*, Vol. 71 No. 3, pp. 519-524, doi: [10.1007/s11301-021-00228-7](https://doi.org/10.1007/s11301-021-00228-7).
- Liberman, A.M., Kirk, D.S. and Kim, K. (2014), "Labeling effects of first juvenile arrests: secondary deviance and secondary sanctioning", *Criminology*, Vol. 52 No. 3, pp. 345-370, doi: [10.1111/1745-9125.12039](https://doi.org/10.1111/1745-9125.12039).
- Lockwood, S., Nally, J.M., Ho, T. and Knutson, K. (2012), "The effect of correctional education on postrelease employment and recidivism: a 5-year follow-up study in the state of Indiana", *Crime and Delinquency*, Vol. 58 No. 3, pp. 380-396, doi: [10.1177/0011128712441695](https://doi.org/10.1177/0011128712441695).
- Long, M.A., Oswald, R., Stretesky, P.B. and Soppitt, S. (2019), "Do flood mitigation and natural habitat protection employment reduce youth offending?", *European Journal on Criminal Policy and Research*, Vol. 25 No. 2, pp. 135-151, doi: [10.1007/s10610-017-9365-y](https://doi.org/10.1007/s10610-017-9365-y).
- Loosemore, M., Daniele, F. and Lim, B.T.H. (2020), "Integrating ex-offenders into the Australian construction industry", *Construction Management and Economics*, Vol. 38 No. 10, pp. 877-893, doi: [10.1080/01446193.2019.1674449](https://doi.org/10.1080/01446193.2019.1674449).
- Lyu, S., Zhu, Q., Hu, X., Zhu, Z. and Skitmore, M. (2025), "Migrant workers in the construction industry: a bibliometric and qualitative content analysis", *Buildings*, Vol. 15 No. 5, p. 761, doi: [10.3390/buildings15050761](https://doi.org/10.3390/buildings15050761).
- Maruna, S. (2007), *Making Good: How Ex-Convicts Reform and Rebuild Their Lives*, American Psychological Association, Washington, DC.
- Merton, R.K. (1938), "Social structure and anomie", *American Sociological Review*, Vol. 3 No. 5, pp. 672-682, doi: [10.2307/2084686](https://doi.org/10.2307/2084686).
- Mohamed Shaffril, H.A., Samsuddin, S.F. and Abu Samah, A. (2021), "The ABC of systematic literature review: the basic methodological guidance for beginners", *Quality and Quantity*, Vol. 55 No. 4, pp. 1319-1346, doi: [10.1007/s11135-020-01059-6](https://doi.org/10.1007/s11135-020-01059-6).
- Munn, Z., Stern, C., Aromataris, E., Lockwood, C. and Jordan, Z. (2018), "What kind of systematic review should I conduct? A proposed typology and guidance for systematic reviewers in the medical and health sciences", *BMC Medical Research Methodology*, Vol. 18 No. 1, pp. 5-9, doi: [10.1186/s12874-017-0468-4](https://doi.org/10.1186/s12874-017-0468-4).
- Neimann Rasmussen, L. and Montgomery, P. (2018), "The prevalence of and factors associated with inclusion of non-English language studies in Campbell systematic reviews: a survey and meta-epidemiological study", *Systematic Reviews*, Vol. 7 No. 1, pp. 129-12, doi: [10.1186/s13643-018-0786-6](https://doi.org/10.1186/s13643-018-0786-6).
- Newton, D., Day, A., Giles, M., Wodak, J., Graffam, J. and Baldry, E. (2018), "The impact of vocational education and training programs on recidivism: a systematic review of current experimental evidence", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 62 No. 1, pp. 187-207, doi: [10.1177/0306624x16645083](https://doi.org/10.1177/0306624x16645083).
- Nisbet, I.A., Graham, A. and Newell, S. (2011), "Working together to reduce youth recidivism: exploring the potential of a 'Wraparound' interagency service model", *Indigenous Coordination Centre, Coffs Harbour*, available at: http://epubs.scu.edu.au/ccyp_pubs/44/ (accessed 18 October 2023).
- Oics (2014), *Recidivism Rates and the Impact of Treatment Programs*, Government of Western Australia, Perth, WA.
- Ooi, E.J. (2021), *Vocational Training in NSW Prisons : Exploring the Relationship between Traineeships and Recidivism*, NSW Bureau of Crime Statistics and Research, Sydney.

- Ooi, E.J., Poynton, S. and Halloran, N. (2020), "Social impact investment and recidivism: a field experiment with high-risk parolees", *Crime and Justice Bulletin*, Vol. 234, p. 19.
- Page, M.J., Mckenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Id_Orcid, Mulrow, C.D., Shamseer, L., Tetzlaff, J.M., Akl, E.A., Brennan, S.E., Chou, R., Glanville, J., Grimshaw, J.M., Hróbjartsson, A., Lalu, M.M., Li, T., Loder, E.W., Mayo-Wilson, E., Mcdonald, S., McGuinness, L.A., Stewart, L.A., Thomas, J., Tricco, A.C., Welch, V.A., Whiting, P. and Moher, D. (2021), "The PRISMA 2020 statement: an updated guideline for reporting systematic reviews", *BMJ*, Vol. 372, n71, doi: [10.1136/bmj.n71](https://doi.org/10.1136/bmj.n71).
- Paul, J., Lim, W.M., O'cass, A., Hao, A.W. and Bresciani, S. (2021), "'Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR)", *International Journal of Consumer Studies*, Vol. 45 No. 4, p. 1147, doi: [10.1111/ijcs.12695](https://doi.org/10.1111/ijcs.12695).
- Payne, J. (2007), *Recidivism in Australia: Findings and Future Research*, Australian Institute of Criminology, Canberra.
- Petticrew, M. and Roberts, H. (2006), *Systematic Reviews in the Social Sciences : A Practical Guide*, Blackwell Pub, Malden, MA.
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K. and Duffy, S. (2006), *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews: A Product from the ESRC Methods Programme*, Lancaster University, Lancaster, doi: [10.13140/2.1.1018.4643](https://doi.org/10.13140/2.1.1018.4643).
- Productivity Commission (2021), "Australia's prison dilemma: Commission research paper. Series, Place: Productivity Commission", available at: <https://www.pc.gov.au/inquiries-and-research/prison-dilemma/> (accessed 20 April 2026).
- Productivity Commission (2026), "Report on government services 2026. Series, place: productivity commission", available at: <https://www.pc.gov.au/ongoing/report-on-government-services/community-services/youth-justice/> (accessed 20 April 2026).
- Ramakers, A., Nieuwebeerta, P., Van Wilsem, J. and Dirkzwager, A. (2017), "Not just any job will do: a study on employment characteristics and recidivism risks after release", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 61 No. 16, pp. 1795-1818, doi: [10.1177/0306624x16636141](https://doi.org/10.1177/0306624x16636141).
- Ravulo, J. (2019), "The role of holistic approaches in reducing the rate of recidivism for young offenders", *Journal of the Judicial Commission of New South Wales*, Vol. 14, pp. 125-145.
- Reimer, K. and Pangrazio, L. (2020), "Educating on the margins: young people's insights into effective alternative education", *International Journal of Inclusive Education*, Vol. 24 No. 5, pp. 479-495, doi: [10.1080/13603116.2018.1467977](https://doi.org/10.1080/13603116.2018.1467977).
- Rose, N. (2000), "Government and control", *British Journal of Criminology*, Vol. 40 No. 2, pp. 321-339, doi: [10.1093/bjc/40.2.321](https://doi.org/10.1093/bjc/40.2.321).
- Saif-Ur-Rahman, K.M., Hasan, M., Hossain, S., Anwar, I., Hirakawa, Y. and Yatsuya, H. (2022), "Prioritization and sequential exclusion of articles in systematic reviews", *Campbell Systematic Reviews*, Vol. 18 No. 2, pp. e1229-n/a, doi: [10.1002/cl2.1229](https://doi.org/10.1002/cl2.1229).
- Sampson, R.J. and Laub, J.H. (2003), "Life-course desisters? Trajectories of crime among delinquent boys followed to age 70", *Criminology*, Vol. 41 No. 3, pp. 555-592, doi: [10.1111/j.1745-9125.2003.tb00997.x](https://doi.org/10.1111/j.1745-9125.2003.tb00997.x).
- Schnepel, K.T. (2018), "'Good jobs and recidivism", *Economic Journal*, Vol. 128 No. 608, pp. 447-469, doi: [10.1111/ecoj.12415](https://doi.org/10.1111/ecoj.12415).
- Schwartz, M. (2010), "Building communities, not prisons : justice reinvestment and Indigenous over-imprisonment", *Australian Indigenous Law Review*, Vol. 14, pp. 2-17.
- Stickler, B. and Schuster, S.S. (2023), "Are schools in prison worth it? The effects and economic returns of prison education", *American Journal of Criminal Justice*, Vol. 48 No. 6, pp. 1263-1294, doi: [10.1007/s12103-023-09747-3](https://doi.org/10.1007/s12103-023-09747-3).
- Strnadová, I., O'neill, S.C. and Cumming, T.M. (2017), "A snapshot of education behind the fence: supporting engagement in education of incarcerated youth in Australia", *International Journal of Educational Research*, Vol. 85, pp. 33-42, doi: [10.1016/j.ijer.2017.06.004](https://doi.org/10.1016/j.ijer.2017.06.004).

- Sullivan, E., Ward, S., Zeki, R., Wayland, S., Sherwood, J., Wang, A., Worner, F., Kendall, S., Brown, J. and Chang, S. (2019), "Recidivism, health and social functioning following release to the community of NSW prisoners with problematic drug use: study protocol of the population-based retrospective cohort study on the evaluation of the Connections Program", *BMJ Open*, Vol. 9 No. 7, e030546, doi: [10.1136/bmjopen-2019-030546](https://doi.org/10.1136/bmjopen-2019-030546).
- Tan, G. and Cebulla, A. (2023), "When what you have is not enough—acquiring Australian qualifications to overcome non-recognition of overseas skills", *International Migration*, Vol. 61 No. 3, pp. 175-195, doi: [10.1111/imig.13030](https://doi.org/10.1111/imig.13030).
- Tubex, H., Rynne, J. and Blagg, H. (2020a), *Building Effective Throughcare Strategies for Indigenous Offenders in Western Australia and the Northern Territory*, ACT: The Australian Institute of Criminology, Canberra.
- Tubex, H., Rynne, J. and Blagg, H. (2020b), "Throughcare needs of indigenous people leaving prison in Western Australia and the Northern territory", *Trends and Issues in Crime and Criminal Justice*, pp. 1-14.
- Uggen, C. (1999), "Ex-offenders and the conformist alternative: a job quality model of work and crime", *Social Problems*, Vol. 46 No. 1, pp. 127-151, doi: [10.1525/sp.1999.46.1.03x0245k](https://doi.org/10.1525/sp.1999.46.1.03x0245k).
- Uggen, C. (2001), "Work as a turning point for criminal offenders", *Corrections management quarterly*, Vol. 5, pp. 1-16.
- Unruh, D., Povenmire-Kirk, T. and Yamamoto, S. (2009), "Perceived barriers and protective factors of juvenile offenders on their developmental pathway to adulthood", *Journal of correctional education*, Vol. 60 No. 1974, pp. 201-224.
- Verbruggen, J., Apel, R., Van Der Geest, V.R. and Blokland, A.A.J. (2015), "Work, Income support, and crime in the Dutch welfare state: a longitudinal study following vulnerable youth into adulthood", *Criminology*, Vol. 53 No. 4, pp. 545-570, doi: [10.1111/1745-9125.12080](https://doi.org/10.1111/1745-9125.12080).
- Victorian Auditor-General (2008), "Services to young offenders", Session 2006-08, Victorian Auditor-General's Office, Melbourne, available at: <https://www.audit.vic.gov.au/report/services-young-offenders?section=> (accessed 18 October 2023).
- Victorian Auditor-General (2018), "Managing rehabilitation services in youth detention", PP no 425, Session 2014-18, Victorian Auditor-General's Office, Melbourne, available at: <https://www.audit.vic.gov.au/report/managing-rehabilitation-services-youth-detention> (accessed 17 October 2023).
- Victorian Auditor-General (2020), "Ravenhall prison: rehabilitating and reintegrating prisoners", PP no 118, Session 2018-20, Victorian Auditor-General's Office, Melbourne, available at: <https://www.audit.vic.gov.au/report/ravenhall-prison-rehabilitating-and-reintegrating-prisoners?section=> (accessed 18 October 2023).
- Weatherburn, D.J. and Canberra, A.C.T. (2014), *Arresting Incarceration: Pathways Out of Indigenous Imprisonment*, Aboriginal Studies Press.
- Xiao, Y. and Watson, M. (2019), "Guidance on conducting a systematic literature review", *Journal of Planning Education and Research*, Vol. 39 No. 1, pp. 93-112, doi: [10.1177/0739456x17723971](https://doi.org/10.1177/0739456x17723971).
- Xu, C., Ju, K., Lin, L., Jia, P., Kwong, J.S.W., Syed, A. and Furuya-Kanamori, L. (2022), "Rapid evidence synthesis approach for limits on the search date: how rapid could it be?", *Research Synthesis Methods*, Vol. 13 No. 1, pp. 68-76, doi: [10.1002/jrsm.1525](https://doi.org/10.1002/jrsm.1525).
- Young, W.-R. and Solonec, T. (2011), "Epidemic incarceration and justice reinvestment : it's time for change", *Indigenous Law Bulletin*, Vol. 7, pp. 15-21.
- Youssef, C. (2023), "Prison to desistance: (re)integration and aftercare for those released from prison", *Journal of Forensic Practice*, Vol. 25 No. 4, pp. 356-374, doi: [10.1108/jfp-04-2023-0013](https://doi.org/10.1108/jfp-04-2023-0013).

Corresponding author

Johari Hussein Nassor Amar can be contacted at: jamar@bond.edu.au