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Author

Ogilvie, James M, Thompson, Carleen, Lockwood, Krystal, Little, Simon, Allard, Troy, Thomsen, Lisa, Dennison, Susan

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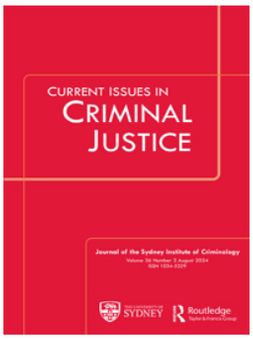

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Examining the characteristics of children who experience contact with the youth justice system in Queensland: implications for the minimum age of criminal responsibility

James M. Ogilvie [a,b], Carleen Thompson [a,b], Krystal Lockwood [a,b], Simon Little [b], Troy Allard [a,b], Lisa Thomsen [b] and Susan Dennison [a,b]

[a]School of Criminology and Criminal Justice, Griffith University, Brisbane, Australia; [b]Griffith Criminology Institute, Griffith University, Brisbane, Australia

ABSTRACT

In jurisdictions such as Queensland, where the minimum age of criminal responsibility (i.e., 10 years of age) is out of step with international law and Australian human rights obligations, there are significant concerns about the criminalisation of children. These concerns include the potential for ensnaring young people, particularly First Nations children, into the criminal justice system rather than addressing their underlying needs. We use a birth cohort of individuals registered as born in Queensland in 1990 and followed up to age 24 years to examine the characteristics of young people who experienced their first youth justice system contact between ages 10 and 16 years. First Nations youth were significantly overrepresented among those with the earliest ages of contact (i.e., 10–13 years). Early youth justice contact was largely for minor and less serious forms of offending (i.e., property-related), but those with the earliest ages of onset typically went on to experience more persistent and serious offending outcomes up to age 24 years. Raising the minimum age of criminal responsibility alongside the implementation of culturally relevant early intervention, diversion and support services is likely to significantly reduce the overrepresentation of First Nations people in the criminal justice system.

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Administrative data; birth cohort; Indigenous youth; minimum age of criminal responsibility; raise the age; youth justice.

Introduction

Recently, calls to raise the minimum age of criminal responsibility (MACR) have intensified in Australia to conform to international human rights standards (Crofts, 2023; Haysom, 2022; United Nations Committee on the Rights of the Child, 2007, 2019). In Australia, these calls have emphasised that a younger MACR discriminates against and disproportionately criminalises First Nations children, who are dramatically

CONTACT James M. Ogilvie j.ogilvie@griffith.edu.au School of Criminology and Criminal Justice Griffith Criminology Institute, Griffith University, 176 Messines Ridge Road, Mount Gravatt, QLD, 4122

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overrepresented in youth justice (YJ) systems across all jurisdictions (Cunneen, 2020; Haysom, 2022; Singh, 2023). However, there is limited research across Australian jurisdictions that has examined the characteristics of children who experience contact with the YJ system at the earliest ages of criminal responsibility and the offences associated with these contacts. This information is needed to inform debates about the MACR, guide possible legislative changes, and develop appropriate prevention and diversion strategies. This study uses linked administrative data for a cohort of individuals registered as born in Queensland in 1990 to examine the demographic characteristics of children experiencing contact with the YJ system between the ages 10–16 years, the offences occurring at first contact, and long-term offending outcomes up to age 24 years.

The minimum age of criminal responsibility

In most Australian jurisdictions the MACR is 10 years of age, with calls to increase this to age 12 or 14 years like other international jurisdictions, such as in Scotland which recently increased their MACR from 8 to 12 years of age (Hidderley et al., 2023). There is considerable variation in the MACR internationally, varying from 7 years of age in some jurisdictions within the United States to 16 years of age in Scandinavian countries (Crofts, 2023). Typically, having a MACR is regarded as appropriate because there is an age below which children are viewed as not knowing right from wrong, and therefore it is argued that they should not be held legally responsible for their actions (Hidderley et al., 2023).

The United Nations Committee on the Rights of the Child (UNCRC, 2019) provides that holding children legally responsible below the age of 12 is not acceptable, with the age of 14 being more appropriate. Arguments to increase the MACR are typically based on evidence about children and young people being developmentally immature, vulnerable or unstable (Cauffman & Steinberg, 2000; Singh, 2023). Evidence is cited that children and young people have heightened reward seeking and risk taking at these earlier ages, and the pre-frontal cortex area of the brain, which is responsible for executive function and decision making, is slow to develop, altering their capacity to regulate impulsive behaviours and reason the long-term consequences of behaviour (Bateman, 2013; Brown & Charles, 2021; Delmage, 2013; Walsh et al., 2021; Wishart, 2018).

Early criminal justice system contacts

There is extensive evidence documenting that the younger the age of first contact with the YJ system, the greater likelihood a child will become entrenched in the criminal justice system (CJS; McAra & McVie, 2010; Payne, 2007). In the Australian context, there is evidence from New South Wales (NSW; Chen et al., 2005; Payne & Weatherburn, 2015) and Western Australia (WA; Broadhurst & Loh, 1995) that a younger age of first contact is associated with an increased likelihood of repeated, more frequent and more intensive contact with the CJS into adulthood. For example, Chen et al. (2005) examined the reoffending outcomes for a cohort of young people aged 10–18 who appeared in the New South Wales Childrens Court. Individuals whose first court appearance occurred at the youngest ages (i.e., 10–14 years) had the highest number of court reappearances during eight years of follow-up compared to those first appearing at older ages (i.e.,

15–16 and 17–18 years). This effect was most pronounced for Indigenous males who appeared in court between 10 and 14 years. The odds of an Indigenous young person reappearing in an adult court within eight years of their first juvenile court appearance was nine times higher than those for a non-Indigenous young person. Chen et al. (2005) also found that individuals appearing at the youngest ages were more likely to experience a custodial sentence during follow-up. These findings have not been replicated in Queensland, and there is yet to be a detailed analysis of how offence types and reoffending rates may differ across age at first contact with the CJS.

Cunneen (2020) argues that evidence linking early CJS contact to long-term system entrenchment demonstrates the potentially criminogenic nature of CJS contact. He further suggests that raising the age of criminal responsibility to 14 years or higher has the potential to reduce the risk of ongoing life course interactions with the CJS. Available evidence highlights that children aged under 14 years do not offend in large numbers and largely do not commit serious and/or violent offences (Australian Bureau of Statistics, 2023; Crofts, 2023). In a descriptive analysis of cases sentenced in Queensland's criminal courts between 2005 and 2022, Hidderley et al. (2023) found that children under the age of 14 years accounted for a very small proportion of all sentenced cases and were more likely to be male and First Nations. Further, the offending committed by this cohort was mostly non-serious and property-related, with these children rarely sentenced to detention (Hidderley et al., 2023). Overall, based on available evidence it appears that although an early age of contact with the CJS is strongly linked to persistence in offending, early contact is for minor forms of offending. This brings into question the efficacy of current YJ responses in preventing reoffending.

Developmental life course perspective on early onset offending

Utilising developmental and life course criminology (DLC) approaches, it is firmly established that a significant proportion of individuals will experience contact with the CJS by late adolescence/early adulthood (DeLisi & Piquero, 2011). Most of these individuals' contact with the CJS is transitory and has minimal impact on long term developmental outcomes (DeLisi & Piquero, 2011). However, there is a small group of young people who come into early contact with the YJ system, persist in their offending, and experience multiple and complex needs that are often associated with developmental adversity (Baglivio et al., 2015; DeLisi & Piquero, 2011). Therefore, the impact of early life circumstances is central to understanding offending, particularly for young people whose antisocial involvement begins early in life. Moffit's (1993) developmental taxonomy posits that youth offending that begins in childhood can be attributed to neuropsychological deficits, which interact with problematic family environments. Fairchild and colleagues (2013) found evidence for this position in a review of 61 studies, concluding that antisocial behaviours which began in childhood rather than adolescence were a consequence of neurodevelopmental disorders characterised by individual-level vulnerability and environmental disadvantage.

Neuropsychological challenges frequently found amongst youths with early onset offending include issues related to temperament and self-control (DeLisi & Vaughn, 2011; DeLisi et al., 2013; Murray & Farrington, 2010; Staff et al., 2015) and poorer intellectual functioning (Moffitt, 2006; Thomas et al., 2014), as well as neurodisabilities such

as intellectual disability, attention deficit hyperactivity disorder, and autism spectrum disorder (Baidawi & Piquero, 2021; DeLisi et al., 2013). In addition, early onset offenders experience higher rates of mental health problems (DeLisi et al., 2013), and have been found to be more likely to be hospitalised at least once for a mental health related condition than both the general public and youths whose first contact with the justice system occurs from age 14 or older (Malvaso et al., 2024).

Neuropsychological difficulties frequently feature within environments characterised by social disadvantage and family dysfunction where parenting can be problematic (Baidawi & Piquero, 2021; DeLisi et al., 2013; Moffitt, 2006; Staff et al., 2015). Poor parental monitoring and inappropriate disciplinary techniques throughout childhood have been linked to early onset offending (Australian Institute of Family Studies, 2011; Malvaso et al., 2024). When poor parenting extends into maltreatment, risk of early delinquency and justice system contact is heightened (Baidawi & Sheehan, 2019; Cho et al., 2019; Kim et al., 2023). For example, a 2019 study of 58,193 Australian youths found that 62% of young people aged 10 and 69% of those aged 11 at their first YJ supervision had child protection services involvement between the ages of 10 and 14, compared to 27% of those aged 17 at first YJ supervision (Australian Institute of Health Welfare, 2019). Further, more extensive maltreatment (three or more instances) has been demonstrated to increase likelihood of contact with the justice system at an early age (Cho et al., 2019; Mathews et al., 2023).

The concentration of intersecting neuropsychological difficulties and childhood maltreatment among children who experience early contact with the CJS is likely to impair brain function, which has direct relevance to the MACR. This impairment is likely to have a detrimental impact on decision-making, morality and judgement, as well as increase impulsivity, risk-taking and aggression, impacting an individual's competence/capacity in either restraining offending behaviour, understanding their behaviour as wrong, or both. For these individuals, punishment and custodial responses are likely to be ineffective in deterring future criminal behaviour and may serve to criminalise childhood trauma, disadvantage and mental health challenges (Malvaso et al., 2024). Overall, available research clearly demonstrates that children who experience early contact with the CJS have multiple complex and compounding difficulties that shape their behaviour.

Early onset offending and first nations youth

First Nations children are the most vulnerable and disadvantaged in the YJ system (Cunneen & Tauri, 2019), making up the majority of children under the age of 14 years who come before youth courts in Australia and are sentenced to either a community-based sanction or youth detention (Australian Institute of Health and Welfare, 2023; Cunneen, 2020; Singh, 2023). For example, at a national level more than half (55.0%) of the young people in detention on an average day in 2021–2022 were First Nations (Australian Institute of Health and Welfare, 2023). Available data indicates this overrepresentation is even more stark in Queensland, where 66.4% of the young people in detention on an average day in 2021–2022 were First Nations (Australian Institute of Health and Welfare, 2023).

The roots of the overrepresentation crisis of First Nations youth in the YJ system can be traced back to colonisation that disrupted traditional cultural practices and resulted in

ongoing discrimination and exploitation (Pfeifer et al., 2018). From a more proximal perspective, colonisation has led to First Nations communities experiencing ongoing and extreme socioeconomic marginalisation, that Cunneen and Tauri (2019) argue also includes newer forms of domination where crime control policies have created more punitive approaches to policing and sentencing, including the criminalisation of Indigenous youth. The needs of First Nations young people who encounter the YJ system are multiple and complex. They often come from communities characterised by entrenched socio-economic disadvantage and experience fragmented education marked by periods of exclusion and expulsion, resulting in poor educational outcomes (Cunneen & White, 2007). In this regard, First Nations youth contact with the YJ system represents the failure of other social systems, highlights already entrenched difficulties experienced by youths and their communities, and emphasises the necessity of addressing wider psychosocial needs.

First nations youth and research methods

Methodologies need to accommodate these multiple and complex systems that criminalise First Nations youth. Quantitative research (across multiple disciplines) has marginalised Indigenous communities and perspectives (Kukutai & Taylor, 2016; Walter & Andersen, 2013). In particular, statistical analyses tend to use comparative approaches between Indigenous (or other minoritised) and non-Indigenous populations, and moreover incorporate variables that do not reflect Indigenous peoples lived experiences (Kukutai & Taylor, 2016; Walter & Andersen, 2013). This has been particularly prevalent in criminal justice studies and datasets drawn from administrative data (Porter et al., 2022; Tauri, 2013; Williams, 2016). These methods and methodologies tend to perpetuate negative characteristics and deficit-orientated approaches of criminalised minority groups. As Walter (2016) identifies, such approaches impact the minoritised group by entrenching characteristics of the 5 'Ds' of data: disparity, deprivation, disadvantage, dysfunction, and difference. There has been significant work across multiple disciplines to address the harms of the '5Ds of data'. In particular, researchers are embedding their work within the wider theoretical frameworks that have been derived from or reflect Indigenous communities, and statistical models and outcomes are incorporating the realities of the impact of systems, including statistical analyses that avoid comparative and deficit approaches (Anderson et al., 2024; Kukutai & Taylor, 2016; Reeve et al., 2024).

Current study

To date in Queensland, there is limited information available about the demographic characteristics of children who experience early YJ system contact, the offences these children are responsible for and their long-term offending outcomes. This knowledge is critical to inform debates about the MACR. We use linked administrative data for a Queensland 1990 birth cohort to examine differences in demographic characteristics and offending outcomes across children who have their first contact with the YJ system at different ages (i.e., 10–11; 12–13; and 14–16 years). Specifically, we address three research questions:

1. Are there demographic differences (i.e., sex, Indigenous status, location) across individuals who have their first contact with the YJ system at different ages?
2. Are there differences across different age of onset groups in offending (e.g., types of offences) and sentence (e.g., custodial or supervised sentences) outcomes at the time of onset?
3. Are there differences across different age of onset groups in long term offending and sentencing outcomes up to age 24?

Methods

Data sources and cohort

We use data from the Queensland Cross-sector Research Collaboration (QCRC) repository (Stewart et al., 2015; Stewart et al., 2021), which consists of linked administrative data for all individuals registered as being born in Queensland in 1990. The current study draws longitudinal administrative records from the following government agencies: Queensland Registry of Births, Deaths and Marriages (births and deaths records); Queensland Police Service (youth cautions and conferences); and Queensland Department of Justice and Attorney General (child and adult court appearances). Data are stored in the Social Analytics Lab, which is a secure facility for housing sensitive data. The study was approved by the Griffith University Human Research Ethics Committee (HREC 2022/754).

The 1990 birth cohort consists of 45,422 Queensland-born individuals, including 21,998 females (48.4%) and 2,868 (6.3%) Aboriginal and/or Torres Strait Islander Peoples[1,2] There were 269 deaths recorded for the cohort (representing 0.6%), with deaths occurring before 10 years of age ($n = 89$; age of criminal responsibility) and unknown death age ($n = 2$) excluded, resulting in 45,331 individuals available for analysis.

Offending and criminal justice system contact

We extracted information about offending and CJS contact from finalised police diversions and court outcomes. Queensland Police Service data on diversions (i.e., cautions and conferences)[3] from age 10–24 years were included where an accused makes an admission of guilt to a criminal offence.[4] Court information was available from the age of criminal responsibility (i.e., 10 years in Queensland) up to age 24 years. Included offences relate to instances where an individual is found guilty or pleads guilty to an offence(s) and excludes offences with not guilty outcomes. Court system data included information on sentencing outcomes for each finalised court appearance. We coded whether individuals had ever been sentenced to youth detention (yes/no); adult incarceration (yes/no); or community-based supervision (yes/no).

[1]Given the data used to define the cohort, the overall identified Indigenous cohort size is likely to have been an underestimation of the actual Indigenous population (see limitations for further information).
[2]In this article, we respectfully refer to Aboriginal and Torres Strait Islander Peoples as First Nations people or Indigenous Australians.
[3]At the time of data recording, diversions in Queensland were primarily available for youths, though were available in a very limited capacity for adults.
[4]To be eligible for diversion, individuals must admit to the offence.

Multiple offences and offence occurrences (i.e., offences occurring on separate dates) can be finalised on a single date. Offending was measured as the distinct number of offences across all recorded finalised court appearances. Offences were coded according to the Australian and New Zealand Standard Offence Classification (ANZSOC), Queensland Extension (QASOC; Office of Economic and Statistical Research, 2008) and classified into the four broad categories of sexual, violent, nonviolent and other minor offences (see supplementary material for detailed divisions, subdivisions and corresponding QASOC codes for offences within these categories). Seriousness of offending was measured using the National Offence Index (NOI; Australian Bureau of Statistics, 2018b) that ranks ANZSOC codes by their level of seriousness (ranked 1–185, with 1 representing the most serious offence). Based on previous research (Thompson et al., 2014), we coded for the presence of a serious offence if an individual had been finalised with an offence representing NOIs 1–30.

Ages of contact with the CJS were determined from offence finalisation dates. Finalised offence dates were used since these were the most consistently and accurately recorded dates available in the datasets (i.e., actual offence dates are not consistently available), and therefore time at contact will be delayed from actual offence dates. Further, there is a higher possibility of a greater lag between offence and finalisation dates for more serious offences due to more intensive legal processes.

Sociodemographic characteristics

Demographic information included sex (male/female) and Indigenous status (Indigenous/non-Indigenous). Sex was assigned as the most commonly appearing across the QCRC databases. Consistent with guidelines for identifying Indigenous status in linked data (Australian Institute of Health and Welfare, 2012), Indigenous status was assigned if an individual had ever identified as Indigenous in any of the QCRC databases. Sociodemographic information included court location at first offence and the associated Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) score for that location (Australian Bureau of Statistics, 2011). Location of court at first contact was coded according to the Australian Standard Geographical Classification – Remoteness Area classification (Australian Bureau of Statistics, 2018a); with three classes (metropolitan; inner/outer regional; and remote/very remote). IRSAD ranges from 1 to 10, where lower scores indicate greater disadvantage and lack of advantage, and higher scores indicate a relative lack of disadvantage and greater advantage.

Analytical strategy

Analyses were conducted using R version 4.1.1 (R Core Team, 2021). The study sample consisted of all individuals in the eligible cohort (N = 45,331) who had experienced at least one proven offence in the YJ system (n = 4,883), which for the 1990 cohort represented ages 10–16 years.[5] The demographic composition of the sample is described,

[5]During the observation period, individuals who offended between the ages 10–16 years were dealt with by the youth justice system in Queensland. In February 2018, the *Youth Justice and Other Legislation (Inclusion of 17-year-old Persons) Amendment Act 2016* and the Youth Justice (Transitional) Regulation 2018 commenced, resulting in 17-year-old offenders in Queensland being dealt with in the youth justice system, in line with other Australian states and territories.

followed by a descriptive comparison of the age at first contact across demographic groups defined by sex and Indigenous status. We then classified individuals into three groups based on their first finalised contact date for a proven offence: 10–11 years; 12–13 years; and 14–16 years. We then examined differences in the demographic composition of age of onset groups using Chi-square tests, including groups defined by sex and Indigenous status, and the location of finalisation. Third, offending at the age of onset is described and compared across age of onset groups, including the top 10 offence types by count for each group, the proportion of individuals to have a serious offence at onset, and sentence outcomes experienced at onset. Finally, overall offending and sentencing outcomes up to age 24 years are described and compared across age of onset groups. This included the calculation of mean cumulative function (MCF) estimates (Nelson, 1995) to examine and visualise the mean cumulative number of offences over the observation period for each offending age of onset group. The two sample pseudo-score test (Cook et al., 1996) was used to examine pairwise differences in MCF estimates across the age of onset groups. The MCF analyses were completed using the *reReg* package (version 1.4.0; Chiou & Huang, 2022).

Results

Sample descriptives

Table 1 displays the demographic composition of the cohort and the study sample of individuals with youth offending finalisations. There were 3,438 individuals (7.6% of cohort) with at least one proven offence from a court appearance and 4,631 individuals (10.2% of cohort) with at least one proven offence from a diversion between ages 10 and 16 years (see Table 1). The sample for the current study comprised 4,883 individuals (10.8% of cohort) who had at least one proven offence either from a court finalisation or youth police diversion between 10 and 16 years old. For the youth offending sample, 29.6% only had a police diversion contact. Male, $\chi^2(1) = 436.32$, $p < 0.001$, Cramer's V (φ_c) = .10, and Indigenous, $\chi^2(1) = 3161.80$, $p < 0.001$, $\varphi_c = .26$, individuals were significantly overrepresented among those with a youth offending contact compared to female and non-Indigenous individuals, respectively. Despite only constituting 6.3%[6] of the identified cohort, Indigenous individuals comprised 24.8% of the sample with a youth finalised offence. Put another way, while 6.1% of non-Indigenous females and 11.0% of non-Indigenous males had a proven offence by age 16, this was the case for 31.9% of identified Indigenous females and 50.7% of identified Indigenous males.

Age at first proven offence finalisation

The mean age of first finalised offence was 14.47 ($SD = 1.68$) years for all individuals with at least one proven offence between the ages of 10–16 years. There was a significant difference in the mean age of first finalised offence across groups defined by sex and Indigenous status, $F(3, 4879) = 65.11$, $p < .001$, $\eta^2 = .04$. Comparing within Indigenous individuals, males (13.79, $SD = 1.88$) were significantly younger at first offence compared

[6]As noted under *Method*, this figure is likely an under-estimate of the actual Indigenous population.

Table 1. Finalisations for proven offences between 10 and 16 years by sex and Indigenous status for the 1990 cohort.

	Total cohort		Police diversion		Court finalisation		Police diversion or court finalisation	
Demographic group	N	%	N	%	N	%	N	%
Indigenous females[†]	1,279	2.8%	372	8.0%	336	10.0%	408	8.4%
Indigenous males[†]	1,589	3.5%	754	16.3%	758	22.1%	805	16.5%
Non-Indigenous females	20,719	45.7%	1,232	26.6%	557	16.2%	1,272	26.1%
Non-Indigenous males	21,744	48.0%	2,273	49.1%	1,787	52.0%	2,398	49.1%
Total[‡]	45,331	100.0%	4,631	10.2%	3,438	7.6%	4,883	10.8%

[†]Identified Indigenous cohort likely to be an under-estimation of Indigenous population.
[‡]Percent of total individuals within the cohort.

to females (14.62, $SD = 1.45$), $t(1,211) = 3.43$, $p < .001$, $d = 0.21$ [95% CI = 0.09–0.32]. Comparing within non-Indigenous individuals, there was no significant difference between males (14.67, $SD = 1.67$) and females (14.62, $SD = 1.45$) in the age at first offence, $t(3,668) = 0.94$, $p = .35$, $d = 0.03$ [95% CI = −0.04–0.10]. As illustrated in Figure 1, the distribution of age at first offence was notably different for Indigenous males, who accounted for a larger proportion of individuals having their first finalised offences at the youngest ages of criminal responsibility.

Demographics by age of onset groups

Table 2 displays demographic information for individuals classified by age of onset for youth system contact. For all individuals who had at least one proven offence between 10 and 16 years, the majority had their first contact between 14 and 16 years (63.2%). Smaller proportions of individuals had their first contacts between 10 and 11 years (9.3%) and 12–13 years (27.5%). Age of onset groups differed significantly in demographic composition, $\chi^2(6) = 206.08$, $p < 0.001$, $\varphi_c = .15$. Post-hoc analysis of chi-square residuals (Beasley & Schumacker, 1995) indicated specific patterns of significance of the distribution of demographic groups across onset groups. Indigenous females were significantly over-represented in the 12–13 years group ($p = .02$) and under-represented in the 14–16 years group ($p < .01$). Indigenous males were significantly over-represented in the 10–11 years group ($p < .001$) and under-represented in the 14–16 years group ($p < .001$). Non-Indigenous females were significantly under-represented in the 10–11 years group ($p < .001$) and over-represented in the 14–16 years group ($p = .01$). Non-Indigenous males were significantly under-represented in the 10–11 years ($p = .02$) and 12–13 years ($p < .001$) groups and over-represented in the 14–16 years group ($p < .001$).

Within each age of onset group, non-Indigenous males accounted for most individuals, reflecting the prominence of this demographic group in the study sample. For both non-Indigenous males and females, the largest proportions of these demographic groups were represented in the 14–16 years onset group (52.3% and 27.7% respectively). Indigenous females had the highest proportion of representation in the 12–13 years onset groups. Most notably, Indigenous males made up 36.2% of the 10–11 years onset group, despite only accounting for 16.5% of the sample with an offence between 10 and 16 years and 3.5% of the birth cohort overall.

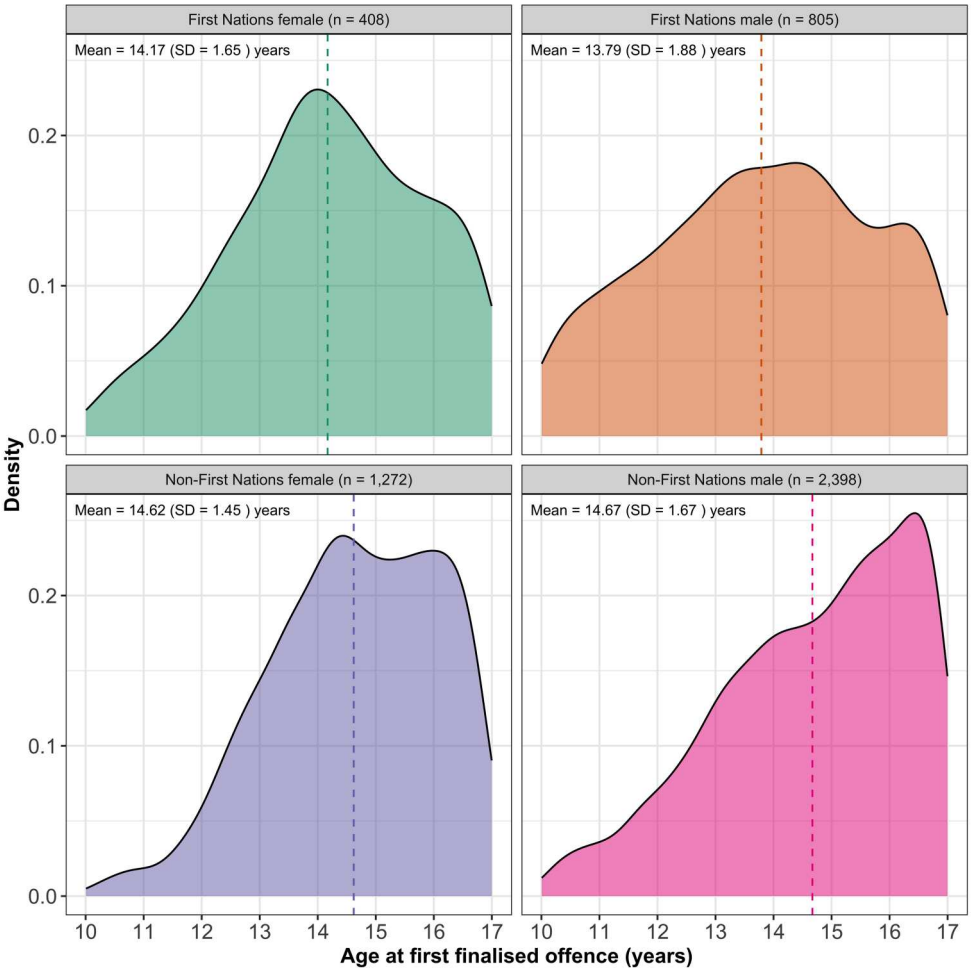

Figure 1. Kernel density estimates of the distribution of age at first finalised offence by sex and Indigenous status for members of the 1990 birth cohort with a finalised offence between 10 and 16 years (n = 4,883). Dashed lines represent the mean age at first offence by demographic group.

There were significant differences across onset groups in location at first proven offence finalisation, $\chi^2(6) = 50.30$, $p < 0.001$, $\varphi_c = .07$. Post-hoc analysis of chi-square residuals indicated that the significant effect could be attributed to differences in the distribution of individuals in age of onset groups across metropolitan and remote locations. For metropolitan locations, 10–11 years onset individuals were significantly under-represented ($p < .001$), and 14–16 years onset individuals were overrepresented ($p = .03$). For remote locations, 10–11 years onset individuals were significantly overrepresented ($p < .001$), and 14–16 years onset individuals were under-represented ($p = .001$).

Offending at onset

First contact with the YJ system was through police diversion for most of the sample (93.3%), with only a small proportion of the sample (6.7%) appearing in court for

Table 2. Demographic information by age of onset group for individuals with at least one proven offence between 10 and 16 years (n = 4,883).

	Age of onset group (in years)				
	10–11	12–13	14–16	Total [n (%)][c]	Group difference χ^2 (φ_c)
Demographic group [n (%)][a]					206.08*** (.15)
Total	456	1,343	3,084	4,883	
Indigenous females	44 (9.6%)	140 (10.4%)	224 (7.3%)	408 (8.4%)	
Indigenous males	165 (36.2%)	249 (18.5%)	391 (12.7%)	805 (16.5%)	
Non-Indigenous females	55 (12.1%)	362 (27.0%)	885 (27.7%)	1,272 (26.1%)	
Non-Indigenous males	192 (42.1%)	592 (44.1%)	1,614 (52.3%)	2,398 (49.1%)	
Court location at first finalisation [n (%)][a,b]					50.30*** (.07)
Major city	173 (37.9%)	621 (46.2%)	1,499 (48.6%)	2,293 (47.0%)	
Regional	211 (46.3%)	607 (45.2%)	1,348 (43.7%)	2,166 (44.4%)	
Remote	67 (14.7%)	99 (7.4%)	192 (6.2%)	358 (7.3%)	
Missing	5 (1.1%)	16 (1.2%)	45 (1.5%)	66 (1.4%)	

[a]Percent of age of onset group.
[b]66 (1.4%) cases missing information on location at first finalisation.
[c]Percent of total sample.
* $p < .05$, ** $p < .01$, *** $p < .001$.

their first contact. Table 3 presents the top 10 offences by count for each age of onset group that were finalised during their respective age of onset age periods, including the number of distinct individuals responsible for those offences. During their respective periods of onset, the 10–11 group was responsible for 1,160 offences (average 2.54 offences per person), the 12–13 group was responsible for 2,981 offences (average 2.22 offences per person), and the 14–16 group was responsible for 9,571 offences (average 3.10 offences per person). Across all groups during their respective periods of onset, the top four offences were theft (except motor vehicles); unlawful entry with intent/burglary, break and enter; property damage; and trespass. This indicates that most offences were relatively minor in seriousness and wholly related to offences against property. For the 10–11 onset group, it was noted that offences against the person including common assault (count = 33, 2.8%), indecent treatment of a child (count = 20, 1.7%) and assault occasioning bodily harm (count = 19, 1.6%) were present in the top 10 offences, but accounted for low proportions of all offences and were attributable to a small number of individuals. Drug-related offences became more prominent with increasing age of onset. For example, possess and/or use illicit drugs was the 6th most frequent offence (count = 79, 2.7%) for the 12–13 onset group. For the 14–16 onset group, liquor and tobacco (7th, count = 342, 3.6%), possess and/or use illicit substances (8th, count = 269, 2.8%) and possession of drug utensils (10th, count = 216, 2.3%) offences were present in the most frequent offences. Drug-related offences were not present in the most common offences for the 10–11 onset group.

Table 3. Top 10 offences by count for each age of onset group finalised during respective age of onset periods.

	Age of onset group											
	10–11 (n = 456)				12–13 (n = 1,343)				14–16 (n = 3,084)			
Rank	Offence	Count	%	n	Offence	Count	%	n	Offence	Count	%	n
1	Theft (except motor vehicles)[a]	403	34.7%	241	Theft (except motor vehicles)[a]	1,135	38.1%	713	Theft (except motor vehicles)[a]	2,067	21.6%	1,172
2	Unlawful entry with intent/ burglary, break and enter[b]	244	21.0%	127	Unlawful entry with intent/ burglary, break and enter[b]	399	13.4%	224	Unlawful entry with intent/ burglary, break and enter[b]	1,044	10.9%	455
3	Property damage	189	16.3%	125	Property damage	379	12.7%	263	Property damage	914	9.6%	540
4	Trespass	51	4.4%	36	Trespass	117	3.9%	107	Trespass	433	4.5%	353
5	Common assault	33	2.8%	27	Common assault	79	2.7%	74	Graffiti	392	4.1%	142
6	Theft of motor vehicle parts or contents	26	2.2%	14	Possess and/or use illicit drugs	79	2.7%	76	Resist arrest, incite, hinder, obstruct police	364	3.8%	272
7	Receiving stolen property	21	1.8%	20	Theft of motor vehicle parts or contents	67	2.2%	47	Liquor and tobacco offences	342	3.6%	295
8	Graffiti	20	1.7%	17	Assault occasioning bodily harm	66	2.2%	58	Possess and/or use illicit drugs	269	2.8%	253
9	Indecent treatment of a child	20	1.7%	10	Graffiti	53	1.8%	47	Assault occasioning bodily harm	252	2.6%	219
10	Assault occasioning bodily harm	19	1.6%	14	Receiving stolen property	51	1.7%	46	Possession of drug utensils	216	2.3%	199
Total offences		1,160	100.0%			2,981	100.0%			9,571	100.0%	

[a]Combines all subdivision 082 '*Theft (except motor vehicles)*' offences, QASOC codes 08211–08299.
[b]Combines all division 07 '*Unlawful entry with intent/burglary, break and enter*' offences, QASOC codes 07111–07118.

Table 4 displays offending and sentence outcomes for each age of onset group during their respective onset periods. Across all onset groups, less than 20% of individuals ever had a serious offence during their onset period. Significantly more of the 14–16 group (16.7%) ever had a serious offence during their onset period (post-hoc analysis of chi-square residuals, $p = .03$). The 10–11 group had the lowest proportion of individuals who ever had a serious offence during their onset period (12.3%). Across all groups, the vast majority experienced a diversion outcome during their onset period, with the proportion lowest for the 14–16 group (92.4%). It was rare for individuals across all groups to ever experience a supervised order outcome during their respective onset periods. However, significantly more of the 14–16 group experienced a supervised order (5.1%; post-hoc analysis of chi-square residuals, $p < .01$). Only 12 individuals in the 14–16 group experienced a detention outcome, with no detention outcomes present for the 10–11 and 12–13 groups during their respective onset period.

Overall offending outcomes and age of onset groups

As documented in Table 5, individuals who had their first proven offence finalised between 10 and 16 years accounted for 72,775 offences across the entire observation period between 10 and 24 years (mean = 14.90 offences per individual; SD = 26.52), resulting in an overall offence rate of 142.49 per 100 person-years (95% CI = 135.88–149.09). However, offence rates were not equivalent across age of onset groups: the highest offence rate was observed for the 10–11 group (237.85 per 100 person years; 95% CI = 202.78–272.92), followed by the 12–13 (165.61 per 100 person years; 95% CI = 151.10–180.11) and then the 14–16 (118.32 per 100 person years; 95% CI = 112.00–124.64) groups. Although the 10–11 onset group only accounted for a small proportion of the sample, they accounted for a disproportionate number of offences for the overall observation period.

There was a significant difference across age of onset groups in the frequency of distinct finalised diversions/appearances, $\chi^2(6) = 314.92$, $p < 0.001$, $\varphi_c = .18$. For the 12–13 and 14–16 onset groups, most individuals (57.9% and 71.4%, respectively) experienced one to five finalised appearances. In contrast, for the 10–11 onset group, just 43.9% experienced fewer than 6 finalised appearances, with 39.7% experiencing 10 or more

Table 4. Nature of offending and sentence outcomes during onset period by age of onset group (n = 4,883).

Offence or sentence outcome during onset period	Age of onset group 10–11 (n = 456)	12–13 (n = 1,343)	14–16 (n = 3,084)	Total [n (%)]	Group difference χ^2 (φ_c)
Serious offence (NOI 1-30)	56 (12.3%)	189 (14.1%)	514 (16.7%)	759 (15.5%)	8.87* (.04)
Diversion	446 (97.8%)	1,310 (97.5%)	2,851 (92.4%)	4,607 (94.3%)	56.88*** (.11)
Supervised order	17 (3.7%)	37 (2.8%)	157 (5.1%)	211 (4.3%)	12.77** (.05)
Youth detention	0	0	12 (0.4%)	12 (0.2%)	*n/a*

NOI = National Offence Index.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5. Offending information (between ages 10–24 years) by age of onset group for individuals with at least one proven offence between 10 and 16 years (n = 4,883).

Offence or sentence outcome between ages 10–24 years	Age of onset group			Total [n (%)][c]	Group difference χ^2 (φ_c) / F (η^2)
	10–11 (n = 456)	12–13 (n = 1,343)	14–16 (n = 3,084)		
Total offences (10–24 years)	14,527	25,406	32,842	72,775	
Offence rate per 100 person years (95% CI)[a]	237.85 (202.78-272.92)	165.61 (151.10-180.11)	118.32 (112.00-124.64)	142.49 (135.88-149.09)	
Finalised diversions and/or appearances [n (%)][b]					314.92*** (.18)
One	66 (14.5%)	308 (22.9%)	898 (29.1%)	1,272 (26.1%)	
Two to five	134 (29.4%)	470 (35.0%)	1,303 (42.3%)	1,907 (39.1%)	
Six to ten	75 (16.5%)	260 (19.4%)	562 (18.2%)	897 (18.4%)	
More than ten	181 (39.7%)	305 (22.7%)	321 (10.4%)	807 (16.5%)	
Offences [M (SD)]					
Youth	14.67 (23.23)	7.17 (14.35)	3.38 (5.93)	5.48 (11.86)	216.62*** (.08)
Adult	17.18 (36.02)	11.75 (22.70)	7.27 (13.23)	9.43 (19.57)	65.72*** (.03)
Total	31.86 (49.73)	18.92 (31.06)	10.65 (16.17)	14.90 (26.52)	157.74*** (.06)
Offence types [n (%)][a]					
Ever violent	183 (40.1%)	404 (30.1%)	721 (23.4%)	1,308 (26.8%)	67.11*** (.12)
Ever non-violent	445 (97.6%)	1,311 (97.6%)	2,910 (94.4%)	4,666 (95.6%)	28.29*** (.08)
Ever sexual	38 (8.3%)	89 (6.6%)	132 (4.3%)	259 (5.3%)	19.45*** (.06)
Ever other minor	336 (73.7%)	790 (58.8%)	1,708 (55.4%)	2,834 (58.0%)	55.11*** (.11)
Ever serious (NOI 1-30)	205 (45.0%)	504 (37.5%)	887 (28.8%)	1,596 (32.7%)	67.10*** (.12)
Sentence outcomes [n (%)][a]					
Ever youth detention	26 (5.7%)	11 (0.8%)	13 (0.4%)	50 (1.0%)	110.05*** (.15)
Ever adult incarceration	107 (23.5%)	178 (13.3%)	236 (7.7%)	521 (10.7%)	117.19*** (.15)
Ever community-based supervised order (youth or adult)	223 (48.9%)	448 (33.4%)	740 (24.0%)	1,411 (28.9%)	137.91*** (.17)

NOI = National Offence Index.
[a]Offence rate is calculated as the total number of offences divided by the number of years since first offence to the end of observation period, multiplied by 100.
[b]Percent of age of onset group.
[c]Percent of total sample.
* $p < .05$, ** $p < .01$, *** $p < .001$.

finalised appearances (compared to only 22.7% and 10.4% in the 12–13 and 14–16 groups, respectively). The 10–11 group was also significantly less likely to have a single finalised appearance (14.5%) than the 12–13 (22.9%) and 14–16 (29.1%) onset groups. Therefore, 85.5% of the 10–11 onset group came back into contact with the justice system for a proven offence after their first contact.

There were significant differences across onset groups in the mean total number of offences per individual finalised as a youth (i.e., 10–16 years), $F(2, 4880) = 216.62$, $p < .001$, $\eta^2 = .08$, adult (i.e., 17–24 years), $F(2, 4880) = 65.72$, $p < .001$, $\eta^2 = .03$, and combined, $F(2, 4880) = 157.74$, $p < .001$, $\eta^2 = .06$. Post-hoc Tukey HSD results indicated significant pairwise differences between all onset group comparisons for youth, adult, and total mean offences, with the highest mean number of offences observed for the 10–11 group, followed by the 12–13 and 14–16 groups in descending order.

Considering the entire observation period (10–24 years), the 10–11 onset group had the highest proportion of individuals who ever had a violent offence (40.1%) compared to the 12–13 (30.1%) and 14–16 (23.4%) onset groups. Similarly, the 10–11 onset group had the highest proportion of individuals who ever had a sexual offence (8.3%) compared to the 12–13 (6.6%) and 14–16 (4.3%) onset groups. Using the classification of serious offences (i.e., NOI 1–30), a higher proportion of the 10–11 group (45.0%) ever had a serious offence, compared to the 12–13 (37.5%) and 14–16 (28.8%) groups.

There were also significant age of onset group differences in sentence outcomes across the full observation period. Although ever being sentenced to youth detention was rare for the entire sample (i.e., 1.0%), it was most pronounced in the 10–11 onset group (5.7%) compared to the 12–13 (0.8%) and 14–16 (0.4%) onset groups. The 10–11 onset group contained the highest proportion of individuals who received an adult custodial sentence (23.5%) compared to 13.3% and 7.7% for the 12–13 and 14–16 onset groups, respectively. Following the same pattern, the 10–11 onset group had the highest proportion of individuals who received a supervised order during childhood or adulthood (48.9%) compared to the 12–13 (33.4%) and 14–16 (24.0%) groups.

Offending age of onset group differences in the accumulation of offending over time were examined by calculating MCF estimates (Figure 2). The 10–11 group accumulated a significantly higher mean number of offences over time compared to both the 12–13 (linear weight test statistic = 1220.01, $\chi^2(1) = 29.14$, $p < .001$) and 14–16 (linear weight test statistic = 2533.04, $\chi^2(1) = 98.76$, $p < .001$) onset groups. The 12–13 onset group accumulated a significantly higher mean number of offences over time compared to the 14–16 onset group (linear weight test statistic = 2392.23, $\chi^2(1) = 145.56$, $p < .001$).

Discussion

Despite the UNCRC (2019) urging nations to raise the MACR to at least 14 years, the appropriateness of MACRs above 10 years are still fiercely debated in Australia (Crofts, 2023; Cunneen, 2020). To inform this debate, we explored the demographic characteristics of those most affected by Queensland's low MACR. Furthermore, we examined differences in the nature and progression of youth-onset offending based on young people's age at first proven offence. Using a large birth cohort our findings illuminate striking differences in the demographic characteristics of youth who experience early contact with the CJS, whereby the criminalisation of young people aged 10–13 years disproportionately impacts First Nations youth. Moreover, early-onset (10–11 years and 12–13 years) groups typically display less serious and relatively low levels of offending during their onset years that if intervened with appropriately, and in ways that do not criminalise youth, may be redirected before offending escalates and/or becomes entrenched. Our findings contribute evidence to arguments surrounding the

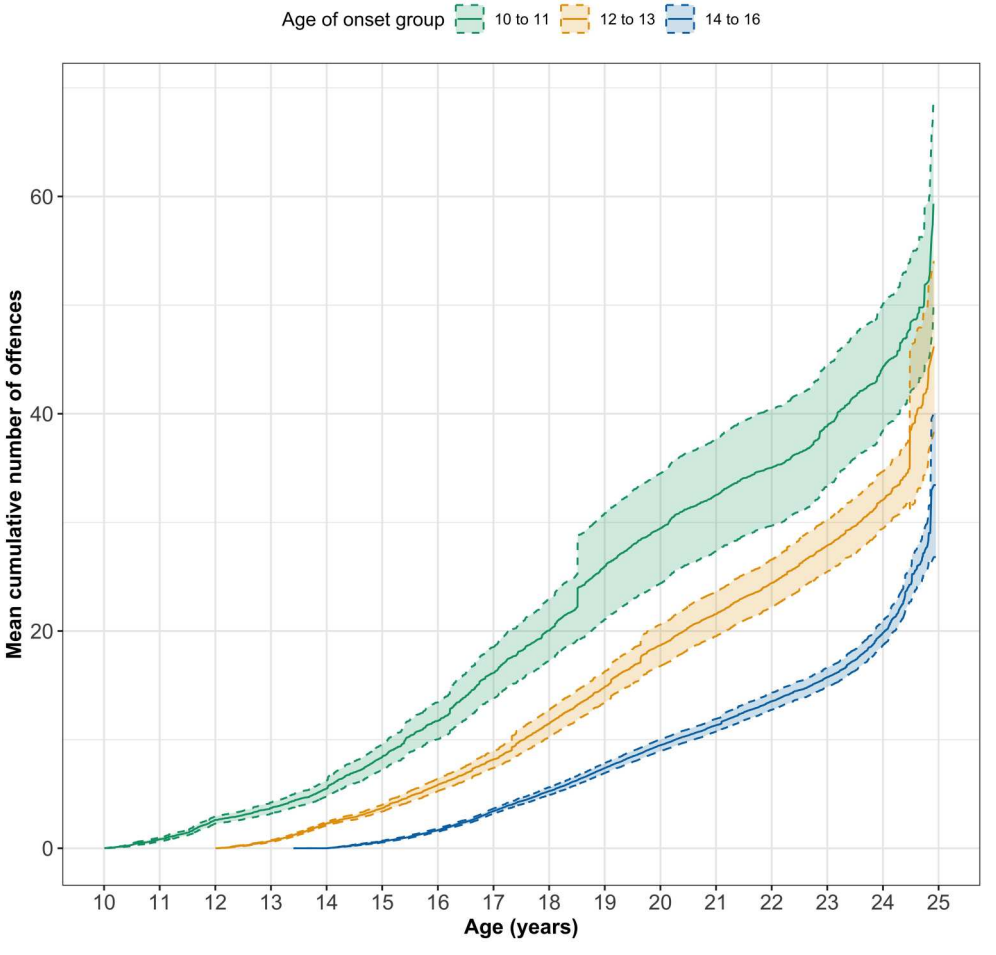

Figure 2. Mean cumulative function estimates with 95% confidence intervals for the mean cumulative number of offences between 10 and 24 years stratified by offending age of onset group.

seriousness of offending amongst those who would be exempt from criminal proceedings if the MACR was increased to 14 years. We discuss these findings in more detail below and argue that raising the MACR – alongside the implementation of culturally relevant early intervention, diversion and support services – is likely to significantly reduce the overrepresentation of First Nations people in the CJS.

Who is most affected by Queensland's low MACR?

Consistent with much evidence and theorising from the DLC field (DeLisi & Piquero, 2011), contact with the CJS was not uncommon during adolescence. Of all individuals born in Queensland in 1990, more than one in ten had a police diversion or court contact for a proven offence before age 17. Most of these young people have their first proven offence at or after 14 years of age (the MACR recommended by the UNCRC). Only a small portion have their first proven offence between ages 10–11 years (9.3%)

and just over a quarter (27.5%) have their first proven offence between 12 and 13 years. Still, this means that one third of young Queenslanders had a proven offence at an age which is younger than the United Nations' recommendations informed by current developmental science on brain development and knowledge about the criminalising effect of CJS contact for youth (Delmage, 2013; Haysom, 2022; UNCRC, 2019).

Youth CJS contact was not equally experienced across demographic groups. While 6% of non-Indigenous females and 11% of non-Indigenous males had a finalised offence before age 17, this was the case for 32% of identified Indigenous females and 51% of identified Indigenous males. These disparities emerged at an early age. Half of these identified Indigenous males had their first proven offence before age 14 (or 26% of all identified Indigenous males in the cohort). Similarly, nearly half (45%) of these identified Indigenous females had their first proven offence before age 14 (or 14% of all identified Indigenous females in the cohort). In other words, a greater proportion of identified Indigenous males and females have a proven offence before the United Nations' recommended MACR than do all non-Indigenous young people up to age 17. Clearly, the criminalisation of 10- to 13-year-olds disproportionately affects First Nations youth.

When we consider those with the earliest proven offences (10–11 years), identified Indigenous males represented just 3.5% of the cohort but 36% of those with a very early proven offence. Identified Indigenous females comprised 2.8% of the cohort, but 10% of individuals with very early proven offences (10–11 years). In stark contrast, non-Indigenous females constitute 45.7% of the cohort, but only 12% of those with very early proven offences. Non-Indigenous males are also underrepresented among individuals with very early contact (48.0% of cohort but only 42% of individuals with proven offences at 10–11). This is particularly problematic because our findings suggest that those who onset at age 10/11 are most likely to develop persistent and extensive patterns of offending that extend into adulthood. Together, these findings lend weight to arguments to raise the MACR in Australia to address First Nations over-representation in the CJS. This necessitates the implementation of alternative responses to early antisocial behaviour that are First Nations designed and led, comprising culturally-relevant, trauma-informed, strength-based rehabilitative approaches, and thus promote wellbeing and curb problematic behaviour.

Differences in nature and progression of offending by age at first offence

A common argument against raising the MACR is the need to (understandably) ensure community safety (Crofts, 2023). To inform this evidence-base, we considered the nature of offending during onset years for those with very early (10–11) or early (12–13) proven offences, as well as the CJS responses to this offending. Our findings suggested that for both groups, offending during their onset periods generally included a small number of offences (average of 2.2–2.5 offences for the 10–11 and 12–13 groups, respectively) that were almost always addressed using a police diversion. Moreover, these offences primarily comprised property crimes that were relatively minor in seriousness. None were sentenced to detention and very rarely did they receive a supervised order. Together, this suggests that offending by 10–13-year-olds during their respective onset periods is usually not a serious threat to community safety that triggers an intensive CJS response. However, this changes as these young people age.

For those whose first proven offence occurs at age 10/11, their offending patterns, and in turn the CJS responses to their offending, significantly intensified beyond their onset period. Nearly 6% of these individuals were later sentenced to detention, half were sentenced to at least one community-based supervised order, and, most strikingly, nearly one quarter were sentenced to adult prison by age 24. They accumulated a significant number of offences and appearances that accelerated with age. Patterns of escalation are less dramatic for the 12–13-year group, but again are more serious than that of individuals whose first contact occurs ≥ 14 years.

Taken together, our research suggests that early antisocial behaviour, especially of individuals aged 10–11 years, may provide a window of opportunity to intervene in appropriate ways before offending escalates and/or becomes entrenched. Moreover, the patterns of escalation in our data arguably provide evidence of the ineffectiveness of CJS responses for 10- and 11-year-olds who offend, as well as the danger of not better addressing the underlying causes of offending to redirect pathways early. Of course, as we detail below, addressing these underlying causes likely requires not just responding to problem behaviour identified at or after age 10, but where possible, efficacious interventions even earlier in the life-course (e.g., at the familial, community, school, health levels; Welsh & Farrington, 2007). Lastly, we understand that not all offending by 10–13-year-olds is minor, and a number of 10–13-year-olds in other states and/or cohorts have been sentenced to detention (Australian Institute of Health and Welfare, 2023). However, the need to address the underlying causes of such offending early in life, in ways that are non-criminogenic, is arguably even more important for these young people, who likely pose the greatest risk for the most serious and prolific offending trajectories (Welsh & Farrington, 2007).

Implications for theory, policy, and prevention

Our findings have important implications for theory, policy, and prevention. First, consistent with a wealth of DLC theory and research (DeLisi & Piquero, 2011; Moffitt, 1993; Sampson & Laub, 2005), early contact with the CJS was associated with worse offending outcomes. This is likely partly due to (a) the negative effects of CJS contact itself which is known to have a stigmatising and criminogenic effect and (b) the underlying risk and vulnerability factors that these young people experience that bring them into contact with the CJS early (Malvaso et al., 2024; McAra & McVie, 2010; Rivenbark et al., 2018). Critically, however, both point to the need for an alternative response to offending for 10–13-years-olds (and especially 10/11-year-olds).

Punitive CJS responses do not address the root causes of offending (Cunneen, 2020). While we could not explore the factors associated with offending in our cohort, a plethora of research suggests that the small number of offenders who have contact with the CJS at very early ages experience an array of risk factors across a multitude of domains (DeLisi & Piquero, 2011). Moreover, these young people typically experience cumulative and interactive risks, often beginning early in life (Baglivio et al., 2015). Consequently, there is a need for pathways into efficacious early intervention services for these young people (and their families) that address their wider criminogenic needs and provide multifaceted support (Malvaso et al., 2024). Doing so is likely to provide the best chances of reducing offending and improving wellbeing for these vulnerable

young people. Given that our findings suggest that so few youths onset at ages 10 or 11, it seems feasible to provide holistic supports and intensive, individually tailored interventions to address the underlying causes of their antisocial behaviour and provide opportunities for prosocial pathways. However, such treatment should be provided in a supportive environment that is trauma-informed and responsive to adversities/vulnerabilities, which can be difficult in CJS settings (Singh, 2023). Consequently, raising the MACR coupled with the provision of alternative early intervention, diversion and strength-building support services likely fosters the best outcomes for young people, their families, and the community. Furthermore, since vulnerability typically begins before first contact with the justice system (Baglivio et al., 2015), investment in targeted multifaceted, cross-sectoral earlier prevention – including evidence-informed, place-based, community-focused, and culturally safe prevention – may divert pathways even earlier than age 10 to delay or prevent CJS contact altogether.

There is substantial evidence that CJS responses can make offending worse and compound adversity, vulnerability, and trauma (McAra & McVie, 2010; Rivenbark et al., 2018). Consequently, delaying contact with the justice system by increasing the MACR may minimise the potential for adverse outcomes associated with such contact. Since our research suggests that early justice system responses unequally affect First Nations people, raising the MACR may be particularly instrumental to reducing the adverse outcomes associated with early CJS contact for First Nations children, their families, and their communities. While this is likely to play some part in reducing the over-representation of First Nations people in the CJS, there is a need for raising the age to be coupled with the implementation of culturally appropriate services (including in remote locations) that address the complex needs of First Nations young people (Cunneen, 2020; Haysom, 2022). These services should be community-based, culturally safe and responsive, preferably First Nations created and led, and include the voices of young people with respect to their needs and preferred supports (Cunneen, 2020). Moreover, such alternatives to justice system contact should target not only those aged 10 + as alternatives to CJS contact, but younger First Nations children and families to build strengths and prevent problematic patterns even earlier in life. All intervention and prevention efforts should be rigorously evaluated, with evaluation methods and measures also informed and co-developed by the First Nations communities where programs are being implemented.

Limitations and directions for future research

While our large longitudinal birth cohort data has several strengths, there are also important limitations that should be considered when interpreting our findings. First, our cohort turned 10 in the year 2000. Therefore, our findings reflect the social landscape and CJS policy and practice of this period. Our findings should be replicated in more recent cohorts to explore any potential cohort effects. Second, our data does not contain information about criminogenic risk profiles or risk/needs factors leading to early onset offending. Although a wealth of existing research suggests that an early onset of offending is associated with more extensive, complex, and cumulative risk profiles, our research should be replicated in studies that directly measure these factors. Third, our use of court finalisation dates may inflate ages for offending processed

through the courts. Fourth, our use of registered births means that our cohort excludes anyone whose birth is not registered, likely resulting in an under-estimation of the total population of individuals born in 1990. The issue of birth registration can disproportionately impact First Nations people and may mean that some First Nations youth are not identified in our cohort. Fifth, the approach used to identify individuals of Indigenous status (i.e., ever identified as Indigenous across any of the QCRC datasets) was likely to be conservative and under-estimate the actual population. Taking limitations four and five together, our results should only be taken as indicative of rates occurring in the actual Indigenous population, where results may differ significantly depending on which source or method is used to determine the Indigenous status of a person. Finally, some offending by 10–13-year-olds is serious and, although no one in our cohort aged 10–13 years received detention at the onset of their offending, young people within these ages have been sentenced to detention in Queensland, and Australia more broadly (Australian Institute of Health and Welfare, 2023).

Conclusion

Together, our research provides evidence of critical importance to MACR debates in Australia. Our findings suggest that the criminalisation of young people aged 10–13 years disproportionately impacts First Nations youth, and significantly contributes to the overrepresentation of First Nations people in the CJS. Moreover, while early contact for youths aged 10–13 tends to be less serious and frequent, this escalates beyond their onset period. Consequently, we are currently missing a window of opportunity to intervene in appropriate ways before offending intensifies or becomes entrenched. Current evidence suggests that CJS responses are not the best strategy for preventing the escalation and entrenchment of offending. Instead, evidence supports delaying first contact by raising the MACR, alongside the implementation of culturally relevant early intervention, diversion, and support services. Together, this is likely to be the most successful way to curb the offending trajectories of those who would otherwise be at risk of developing the most serious and chronic trajectories.

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Disclosure statement

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Author contributions

JO, CT, LT, SD and TA conceived the study, with all authors contributing to the study design. Data preparation and analysis were performed by JO. The first draft of the method and results were written by JO. TA, LT and KL wrote the first draft of the introduction. CT wrote the first draft of the discussion. All authors contributed to subsequent versions of the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

The requirement to obtain informed individual participant consent was waived given the use of historical de-identified administrative data, which was approved by the Griffith University Human Research Ethics Committee. The study was approved by the Griffith University Human Research Ethics Committee (HREC 2022/754). The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation, and with the Helsinki Declaration of 1975, as revised in 2008.

Availability of data and materials

The data for the study are held in Social Analytics Lab (SAL) at Griffith University and used with permission from the relevant data custodians. The linked administrative data used in this study is owned by the respective Queensland Government agencies and access is managed by the Queensland Government Statistician's Office and cannot be made available to third parties by the authors. The datasets analysed during the current study are not publicly available due to restrictions placed on the datasets by the data custodians but can be made available upon reasonable request and with permission of the relevant data custodians and the Queensland Government Statistician's Office. Any researcher interested in accessing the data can submit an application to the SAL management committee (socialanalyticslab@griffith.edu.au) with the relevant support and approvals.

ORCID

James M. Ogilvie http://orcid.org/0000-0003-2294-5665
Carleen Thompson http://orcid.org/0000-0001-5053-3401
Krystal Lockwood http://orcid.org/0000-0002-4933-4955
Simon Little http://orcid.org/0000-0003-1026-1688
Troy Allard http://orcid.org/0000-0003-2969-5849
Lisa Thomsen http://orcid.org/0000-0002-9830-4111
Susan Dennison http://orcid.org/0000-0002-7746-7974

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