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ABORIGINAL PRISONERS WITH COGNITIVE IMPAIRMENT – IS THIS THE HIGHEST RISK GROUP?

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SUMMARY

This study investigated the prevalence of cognitive impairment and its associations with mental health, cultural needs and offending for a representative cohort (*N* = 122) of adult Indigenous offenders in custody.

Results revealed an over-representation of cognitively impaired prisoners in the sample (22%). The prevalence of mental illness was exceptionally high, and so there was a large minority with concomitant illness/disability.

Given the widely publicised custodial overrepresentation and social disadvantages endured by Indigenous Australians, there was an expectation that Indigenous status and its associated risk factors would potentially preclude differentiation by level of cognitive impairment. This was true for several social and emotional wellbeing and custodial needs. However, possessing a cognitive disability was connected to poorer outcomes for participants in a number of areas.

Indigenous offenders with cognitive impairment were more susceptible to harmful coping mechanisms in the face of stressors such as drug and alcohol abuse. They were also more likely to perceive discrimination, have family members in custody and have trouble managing acute emotions compared to non cognitively impaired offenders.

The cognitively impaired subgroup were more likely to re-offend, were younger at first offence, and had greater numbers of prior offences.

Findings signal the need for culturally themed disability assistance and diversionary options at all levels of the criminal justice system.

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INTRODUCTION

PREFACE

In 2012 a young intellectually disabled Aboriginal[1] woman from Alice Springs, Rosie Ann Fulton was charged with driving offences after crashing a stolen vehicle. Having being born with foetal alcohol syndrome and demonstrating the mental capacity of a child, she was ruled unfit to plead by a magistrate. Despite not being convicted, the next two years of Ms. Fulton's life was spent hundreds of kilometres away from friends and family in a prison in the neighbouring state of Western Australia. She joined dozens of intellectually disabled Indigenous people already indefinitely detained in prisons around Australia due to an absence of appropriate accommodation. Vulnerable and 'desperately sad', Ms. Fulton would call her community guardian daily to ask when she would be able to see her family back in Alice Springs. After her plight received national attention through a media report in 2014, Ms. Fulton was eventually released into community care prompted by a petition calling for her release which attracted 120,000 signatures. Yet, less than a fortnight after her release from the Western Australian prison where she had resided for almost two years unconvicted, she was arrested for assaulting both police and her carers and was back in custody in Alice Springs. The unfortunate case of Rosie Ann Fulton captured the grim reality of many cognitively impaired Indigenous people who come into contact with the criminal justice system. Former Aboriginal and Torres Strait Islander Social Justice Commissioner Tom Calma commented:

"…every time an Indigenous child with a cognitive disability or mental health issues is held in custody because there is nowhere else for them to go, this is discrimination. Every time the

[1] The terms 'Aboriginal' and 'Indigenous' and used interchangeable in this report.

juvenile justice system fails in their knowledge of the developmental and mental health issues and places an Indigenous child in an inappropriate and unsupported placement, this is undermining their sense of dignity and worth." (Australian Human Rights Commission, 2008, pp. 6).

The nature of cognitive impairment and the accompanying needs of Indigenous people in custody are poorly understood. Ms. Fulton's imprisonment and re-arrest exposed deficits in the criminal justice system and associated health services in the face of complex needs of Indigenous people with cognitive impairment. Given that Indigenous Australians are already overrepresented in custody and continue to endure the deleterious impacts of colonisation, it is important that cognitive impairment is properly identified and specific needs are safely managed in a culturally responsive manner.

BACKGROUND

Cognitive impairment or cognitive disability describes deficits in mental processing affecting memory, reasoning, comprehension and learning ability. People who are cognitively impaired are often intellectually disabled (ID) or have an acquired brain injury (ABI) and are overrepresented in the criminal justice system (Baldry, Clarence, Dowse, & Trollor, 2013; Dias, Ware, Kinner, & Lennox, 2013; Indig et al., 2011; Jackson, Hardy, Perrson, & Holland, 2011; Hayes, 2000 Vanny, Levy, Greenberg, & Hayes, 2009)). ID is characterised by impairments in intellectual ability and adaptive functioning and is often acknowledged by standardised IQ scores of less than 70 (American Psychiatric Association, 2013). Australian general population estimates for ID are approximately 2.9% (Australian Bureau of Statistics, 2014)) yet much higher rates have been found in Australian offender cohorts where ID prevalence has ranged from 8-15% (Dias et al., 2013; Frize, Kenny, & Lennings, 2008; Indig et

al., 2011)). This proportion is significantly higher when including offenders identified as having IQ scores in the borderline ID range (< 80). An Acquired Brain Injury (ABI) is an injury obtained after birth as a result of a variety of occurrences, including external force to the brain (For e.g., traumatic brain injury - TBI), dementia, stroke, heart attack and chronic substance abuse (Australian Institute of Health and Welfare, 2007). A Victorian study discovered that 42% and 33% of male and female prisoners respectively, demonstrated evidence of an ABI (Jackson et al., 2011). Rates of TBI in particular are found to be elevated in both juvenile (Farrer, Frost, & Hedges, 2013) and adult prison cohorts internationally with estimated ranges of 60 – 65% (Shiroma, Ferguson, & Pickelsimer, 2010; Williams et al., 2010a). This is significantly higher than the general rate of TBI found in developed countries which are approximately 12% (Frost, Farrer, Primosch, & Hedges, 2013).

There are several factors that explain why people with cognitive impairment may have an increased likelihood of contact with the criminal justice system. These include difficulties regulating behaviour, impaired decision making, problems communicating, misunderstanding criminal justice procedures, poor memory and attentiveness and social immaturity (Australian Human Rights Commission, 2014; Brown & Kelly, 2012; Cockram, 2000; Gray, Forell, & Clarke, 2009; Rushworth. 2011; Simpson, 2013; Vanny, Levy, & Hayes, 2008). In many cases, recalcitrant behaviour may be misinterpreted as a purposeful lack of cooperation rather than the result of impairment. Associated concerns include socio economic disadvantage, lower levels of education, unemployment and unstable accommodation (Baldry et al., 2013; Bhandari, van Dooren, Eastgate, Lennox, & Kinner, 2015; Dias et al., 2013; Glaser & Deane, 1999; Holland & Persson, 2011; Rushworth, 2011; Simpson, 2013). Possessing a disability and underprivileged living circumstances enhances

susceptibility to homelessness, substance misuse, poor general health, lower levels of community support, visibility to police and ultimately criminal engagement (Baldry, Dowse, & Clarence, 2012; Holland, Clare, & Mukhopadhyay, 2002; Mackelprang, Harpin, Grubenhoff, & Rivara, 2014, Simpson, 2013). People with cognitive impairment are additionally vulnerable to physical and sexual trauma, coercion, peer pressure and victimisation (Australian Human Rights Commission, 2014; Baldry et al., 2013; Baldry et al., 2012; Mackelprang et al., 2014; Vanny et al., 2008; Simpson, 2013; Villamanta Disability Rights Legal Service Inc., 2012).

Indigenous Australians

The alarming numbers of Indigenous people in custody Australia-wide is well documented. While less is known about the prevalence of cognitive impairment among Indigenous offenders, extant findings suggest higher levels compared to non-Indigenous offenders (Baldry et al., 2012; Bhandari et al., 2015; Dias et al., 2013; Dowse, Clarence, Baldry, Trofimovs, & James, 2011; Frize et al., 2008; Holland & Persson, 2011; Simpson & Sotiri, 2004). In a New South Wales cohort of 2,731 adult prisoners with known mental health disorders and cognitive disabilities, higher rates of cognitive disability were discovered for Indigenous prisoners (Baldry et al., 2012). Being both Indigenous and possessing a cognitive disability was also associated with a greater number of overall police contacts and earlier first police contact. Young Indigenous offenders have also been found more likely to obtain IQ scores in the ID range compared to young non-Indigenous offenders in both custodial (Indig et al., 2011) and community settings (Frize et al., 2008). These findings are reflective of the health and socio-economic disparities in the general population. Indigenous Australians have higher rates of disability than non-Indigenous Australians across all age

groups (ABS, 2014a), including four times the rate of ID (ABS, 2007). Several reports also point to the unacceptable rate of Foetal Alcohol Syndrome (see Closing the Gap Clearinghouse, 2014; Commonwealth of Australia, 2015; NAAJA, 2013) discovered in some Aboriginal communities. Higher instances of disability occur against a backdrop of marginalisation, disadvantage, intergenerational trauma, discrimination, family and cultural breakdown, unemployment and poor educational attainment (Australian Human Rights Commission, 2008; Dingwell & Cairney, 2010; Glasson, Sullivan, Hussain, & Bittles, 2005; Hollinsworth, 2013; NAAJA, 2013; Productivity Commission, 2011; Sotiri & Simpson, 2006). This environment has often cultivated dysfunctional communities with high levels of alcohol abuse, poor health, violence and injury. Many of these challenges are the result of the ongoing effects of colonisation and the stolen generations (Sherwood, 2013). Moreover, Indigenous Australians with a cognitive disability encounter several barriers to accessing disability support services. There is a dearth of both accessible and culturally appropriate disability services (Australian Human Rights Commission, 2008; Bohanna, 2013; Glasson et al., 2005; Productivity Commission, 2011; Simpson & Sotiri, 2004; VALS, 2011). Second, many of the tools employed to determine cognitive impairment may be culturally inappropriate (Dingwall, Lindeman, & Cairney, 2014; Dingwall, Pinkerton, & Lindeman, 2013). Cognitive impairment can be misdiagnosed in Indigenous cohorts due to literacy problems, language differences and discounting cultural conceptualisations of health (Australian Human Rights Commission, 2008; Bohanna et al., 2013; Dingwall & Cairney, 2010; LoGuidice et al., 2006; NAAJA, 2013; Productivity Commission, 2011). Indigenous mental health is often characterised holistically as Social and Emotional Wellbeing, encompassing physical, spiritual and social dimensions. As such, cognitive impairment may be perceived in a different way culturally, but may also be deemed inseparable from past

traumas inflicted upon Aboriginal people at large. Detection may also be masked by substance and inhalant use, particularly at first contact with law enforcement agencies. While challenges remain in measuring cognitive disability among Indigenous Australians, it is apparent that levels are higher than non-Indigenous Australians in both custody and the general community. It is additionally troubling that cognitively impaired Indigenous people face several barriers when accessing disability services (Australian Human Rights Commission, 2008; Bohanna et al., 2013; Dingwall et al., 2014; Simpson & Sotiri, 2004; Productivity Commission, 2011).

CURRENT STATE OF THE LITERATURE

Despite differing characterizations of cognitive impairment, several studies have shown that offenders with varying levels of this condition are more likely to have comorbid mental illness and/or psychological distress (Dias et al., 2013; Moore, Indig, & Haysom, 2014; O'Brien, 2002; Vanny et al., 2009; Williams, Cordan, Mewse, Tonks, & Burgess, 2010b). These findings are reflective of the general population (Einfeld, Ellis, & Emerson, 2011; White, Chant, Edwards, Townsend, & Waghorn, 2005). The connection between cognitive impairment and offending is not deemed to be causal. However, "a position that there is no relationship between brain injury and subsequent offending behaviour is insupportable from the available evidence" (Rushworth, 2011, p. 16). Offenders with a cognitive disability have greater numbers of prior custodial episodes, are more likely to be charged, are less likely to receive parole, are more likely to be classified as a high security risk, and are younger at first contact with the justice system (Baldry, 2012; Cockram, 2005; Frize et al., 2008; Holland, Persson, McClelland, & Berends, 2007; Moore & Haysom, 2013). The small number of prospective investigations indicate that cognitively impaired offenders are more

likely to re-offend compared to other offenders (Cockram, 2000; Holland & Persson, 2011; Moore & Haysom, 2013; see Riches, Parmenter, Wiese, & Stancliffe, 2006). In addition, outcomes are decidedly worse for offenders with comorbid diagnoses, or complex needs (Baldry et al., 2012; Dias et al., 2013; Hobson & Rose, 2008; Klimecki, Jenkinson, & Wilson, 1994).

Information on comorbidity and recidivism rates for Indigenous offenders with a cognitive disability is scarce. Baldry et al. (2012) discovered that Indigenous offenders with a cognitive disability had earlier contact with police compared to both Indigenous offenders without a cognitive disability and non-Indigenous offenders with a cognitive disability. Even among mentally disordered and cognitively impaired prisoners, Indigenous men and women are more likely to have had earlier police contact, earlier first custodial episode, higher rates of police contact and higher rates of convictions compared to non-Indigenous men and women (Baldry, McCausland, Dowse, & McEntyre, 2015) . Other research has found that Indigenous status and the socio-economic profile of Indigenous offenders are perhaps stronger predictors of justice system contact than cognitive impairment (Frize et al., 2008; Trofimovs & Dowse, 2014). Either way, the rates of cognitive disability among Indigenous offenders and the relationship with recidivism and unmet cultural needs is not well understood. The accurate identification of cognitive impairment among Indigenous offenders in custodial settings is paramount given the additional service needs of this group. Increasing our knowledge in this space has direct ramifications for early identification and access to culturally appropriate services and treatment.

STUDY AIMS

The purpose of this study was to identify the extent of cognitive impairment among Aboriginal offenders in custody and the association between cognitive impairment, recidivistic outcome and unmet needs through the following five aims:

- ascertain the prevalence of cognitive impairment in adult Aboriginal offenders in custody in Victoria, Australia;
- determine the level of dual diagnosis among the cohort;
- explore group differences (cognitive impairment) across Social and Emotional Wellbeing factors;
- examine the level of unmet custodial needs across disability groups; and
- explore differences in offending patterns pre and post release for offenders with and without cognitive impairment.

Given the paucity of previous research in this specific area, we cautiously anticipate a large minority of the cohort to reach the threshold for cognitive impairment. With previous research underscoring high rates of mental disorder symptoms among Aboriginal people in custody (Queensland Government, 2012), we expect elevated rates of mentally ill health in the sample but perhaps small differences across impairment categories. Taking into account the high rates of recidivism among Aboriginal prisoners in general, and with little prior research to guide us, we predict few differences between offense histories and recidivism rates across cognitively impaired and non cognitively impaired Aboriginal offenders. Last, we expect cognitively impaired participants to present with higher levels of unmet needs in custody.

METHOD

DATA SOURCES

Data for the study were obtained from two sources: the Koori Mental Health and Cognitive Function Study database which was collected by the Centre for Forensic Behavioural Science for the Department of Justice (Justice Health and Koori Justice Unit) in 2012; and the Victoria Police Law Enforcement Assistance Program (LEAP) database which was obtained in 2015. The LEAP database records all contact of the Victorian public with the police in Victoria. Ethics approval was granted by three committees: Justice Human Research Ethics Committee; Victoria Police Human Research Ethics Committee and the Swinburne University Human Research Ethics Committee.

PARTICIPANTS

Participants in this study were 122 adult Koori male (*n* = 107) and female (*n* = 15) prisoners who were remanded or sentenced in Victorian regional and metropolitan prisons. The mean age of the sample was 34.4 (*SD* = 10.3) years. To be eligible to participate in the study, participants were required to have their Aboriginal and Torres Strait Islander status formally registered with prison services. Only two prisoners declined to participate after the study was explained to them.

PROCEDURE

Prisoners were initially informed about the study by Aboriginal Wellbeing/Liaison Officers. Those who were interested in participating were then introduced to researchers and provided with an explanatory statement. The statement was verbally reviewed by an Aboriginal and Torres Strait Islander research officer with the prisoner. If the prisoner wished to take part in the study, they were asked to sign a consent form after

demonstrating an understanding of the purpose of the study and what was required of them.

Interviews were conducted between January and October 2012. They were conducted in teams comprising a culturally trained mental health clinician and an Aboriginal and Torres Strait Islander research officer. The Aboriginal and Torres Strait Islander research officer conducted parts of the interview relating to demographic information and Social and Emotional Wellbeing, and the mental health clinician completed sections relating to mental health. Interview times ranged from 50-240 minutes in length. All interviews were conducted in private rooms visible to custodial staff.

MEASURES

A semi-structured questionnaire was developed in consultation with an advisory group including Aboriginal psychologists. Key areas covered included: Participant details/Demographics, Cognitive Impairment, Mental Health, Needs/Service Access and offending histories.

Demographics

This section related to basic participant details including gender, date of birth, level of education and employment history.

Cognitive Impairment

Assessment measures included the Kimberley Indigenous Cognitive Assessment (KICA) which is a validated culturally relevant assessment tool for identifying cognitive impairment in Indigenous Australians (LoGiudice et al., 2006). Non-verbal intellectual functioning

components (Matrix Reasoning; Block Design) of the Wechsler Abbreviated Scale of Intelligence (WASI, The Psychological Corporation, 1999) were also employed generating a standardised score based on the performance IQ quotient. The Full-Scale intelligence quotient was not assessed for reasons of cultural fairness, given its inclusion of vocabulary subsets. The study employed an IQ cut-off of 80 which encompasses both participants with an Intellectual Disability (<70) and those who scored in the borderline range (70 – 80). Borderline data is often presented alongside official ID data in disability research and falls under the broader *cognitive impairment* classification.

Mental Health

The presence of current and life-time mental disorders of mood, anxiety, psychosis and substance use was assessed through a self-reported history of diagnosis and employment of the Mini International Neuropsychiatric Interview (MINI). The MINI is a short diagnostic clinical assessment tool (Sheehan et al., 1998). Due to missing information, the presence of a mental disorder was determined if a participant either self-reported a diagnosis or received a diagnosis from the MINI.

Social and Emotional Wellbeing

A Social and Emotional Wellbeing survey (see appendix) was developed through consultation with Aboriginal psychologists and canvassing the regional Aboriginal risk factor literature. Details about cultural identification, cultural knowledge, family and community connectivity, positive wellbeing, life experiences and life stressors were recorded. The survey comprises 48 items, 15 of which are dichotomous and 33 which are rated on a Likert

spectrum (Not at all = 0, A little bit = 1, Sometimes =2, Most of the time = 3, All of the time = 4).

Needs/Access to Services

Information pertaining to health services used in the 12 months prior to custody was obtained. Barriers to such access were also ascertained. Participant needs and post release plans were identified by the Camberwell Assessment of Need – Forensic Short Version (CANFOR SV, see Appendix). The CANFOR SV (Thomas et al., 2003) is a validated assessment instrument designed to identify the needs of forensic mental health service users. It considers 25 areas of patient need.

Offending

Criminal histories from the LEAP database were obtained for all consenting participants for up to two years post custodial interview. An offence was defined as any police charge. Index offence refers to the offence (or offence of highest severity) that led to the participant's current custodial episode. Violent crimes were described as all acts intended to cause or threaten to cause physical harm (including violent sexual offences). Sexual offences comprised contact/non-contact sexual offences of a violent and non-violent nature. General crimes encompassed all charges.

STATISTICAL ANALYSES

Descriptive statistics were performed to characterise the sample (age, gender, level of education, employment status, cognitive impairment, custodial episodes, time spent in adult prison and youth custody). Using a two-tailed p-value of 0.05, groups (impaired and

non-impaired) were compared across offence categories, prevalence of mental disorder, Social and Emotional Wellbeing items, the CANFOR SV total and domain scores, and access to services. Mann Whitney U tests and chi-square tests were employed where appropriate. Offending information including past and prospective levels of police charges, age at first offence and diversity of offending were compared by group. Odds ratios were calculated to ascertain effect sizes. Next, survival analyses were conducted to ascertain if differences in time to re-offend differed by level of impairment. False discovery rate (FDR) controls to correct for number of false positives were applied where necessary. Finally, a hierarchical logistic regression analysis was conducted to determine whether cognitive impairment was connected to recidivism after taking into account mental illness.

RESULTS

OFFENCE CATEGORIES

The mean number of adult custodial episodes for the cohort was 5.19 (*SD* = 5.45). Participants reported a lifetime average of 72.70 (6 years) (*SD* = 78.78) months in adult prison and 14.96 (*SD* = 25.81) months in youth custody. No significant differences were observed by level of cognitive impairment. Over 80% of the cohort was imprisoned for a violent offence and 16.4% for a sex offence. Significant differences were identified across offence categories by cognitive impairment grouping ($\chi^2(5) = 11.44$, $p = .04$) Cognitively impaired offenders were more likely to be imprisoned for general offences while non-cognitively impaired offenders committed the bulk of index sex offences.

COGNITIVE IMPAIRMENT

The KICA had a mean total score of 37.79 (*SD* = 3.75; *Range* = 0 - 39) among this population. Only one participant received a total score below 33, signifying potential dementia. This means that on average, the cohort did not appear to have compromised cognitive functioning. The performance components (Matrix Reasoning and Block Design) of the WASI generated an adjusted mean IQ score of 93.17 (*SD* = 14.16, *Range* = 54 - 128). Approximately 70% of the sample was below the community average IQ of 100. After implementing the ID/Borderline ID cut-off IQ score of 80, 21.6% of the cohort was found to present with impaired cognitive functioning. All participants were then asked supplementary questions pertaining to potential TBI. Over 80% of the sample had previously lost consciousness/blacked out, over 88% had suffered a blow to the head, and almost 50% of the sample had experienced a serious motor vehicle accident.

DUAL DIAGNOSIS

Table 1 presents the prevalence of mental disorder in the overall cohort as determined by the MINI and participant self-report. Almost 90% of the sample was classified as having been diagnosed with a mental disorder during their lifetime. Mood and substance use diagnoses were the most commonly diagnosed/reported disorders. Comorbidity (cognitive impairment and mental disorder) was high, with almost 9 out of 10 cognitively impaired participants presenting with a lifetime mental disorder. The most common co-occurring mental disorders were mood, substance use and anxiety. No significant differences were observed across cognitive impairment groups by mental disorder prevalence.

Table 1.

Prevalence of mental illness by impairment status

Diagnosis	Total %	CI %(*n*)	No CI %(*n*)	X^2

Any	88.3	87.5 (21)	88.5 (77)	.02
Psychotic	18.2	16.6 (4)	16.1 (14)	.01
Mood	69.4	66.7 (16)	70.1 (61)	.11
Anxiety	44.6	50.0 (12)	43.7 (38)	.30
Substance Use	59.5	58.3 (14)	62.1 (54)	.11
Personality Disorder	9.1	9.5 (2)	11.6 (8)	.07

N = 99 – 121; Impairment determined by WASI total score <80. Mental disorder diagnoses determined by MINI and self-report.

SOCIAL AND EMOTIONAL WELLBEING

Participants with cognitive impairment reported significantly greater difficulties coping with problems without using substances, practicing spirituality and handling painful feelings compared to participants without cognitive impairment (see Table 2). Additionally, cognitively impaired participants reported feeling significantly less comfortable around non Aboriginal people.

Table 2.

Meaningful SEWB item (ordinal) differences by impairment status

Item	*U*	*p*	*Θ*
I am able to face problems without gambling, drugs, alcohol or harming others	711.50[a]	.03	.36
How often have you been able to practice or live your spirituality – past 12 months	659.50[a]	.03	.36
I am able to handle painful feelings like sadness, anger and fear.	697.00[a]	.01	.34
Do you feel uncomfortable around non Aboriginal and Torres Strait Islander people	512.00[b]	.000	.25
How important is knowing about and exercising your rights as an Aboriginal and Torres Strait Islander person for your wellbeing	806.00[a]	.06	.39

N = 103-110. FDR controlled to .10; Superscript *a* = No CI group higher. *b* = CI group higher.

Table 3 reports significant differences across dichotomous SEWB items by cognitive impairment category. Participants with cognitive impairment were more likely to report having an illness or disability over the past year. They were also over 4 times more likely to have had a family member in prison and almost 2.5 times more likely to report negative treatment because of Indigenous heritage compared to participants without cognitive impairment although the latter finding reached marginal significance. Both groups reported equally high rates of family breakdown, family deaths, witnessing violence and personal drug and alcohol abuse, thereby producing no meaningful differences.

Table 3.

Meaningful SEWB item (dichotomous) differences by impairment status

Item	CI % (*n*)	No CI % (*n*)	X^2	*p*	OR
Did you have a really bad illness or disability – past 12 months	45.8 (11)	20.7 (18)	6.16	.01	3.24
Did you have any family members in prison	83.3 (20)	53.5 (46)	6.96	.008	4.35
Were you treated badly because of your Indigenous heritage	47.8 (11)	27.1 (23)	3.62	.06	2.47

N = 108-111. FDR controlled to .10

NEEDS

The CANFOR Short version was employed to determine the range of needs experienced by the participants. No significant differences were obtained between impairment groups by total CANFOR needs scores (see Table 4). Both groups reported approximately 4 unmet needs. Follow up analyses across CANFOR individual items revealed significant differences on two needs. Cognitively impaired participants were significantly more likely to have

regular daytime activity needs unmet (U = 779.50, p = .04, Θ = 0.37) and less access to a telephone (U = 779.50, p = .03, Θ = 0.37).

Table 4.

Camberwell Assessment of Need – Forensic Short Version by impairment status.

CANFOR – SV	CI *M* (*SD*)	No CI *M*(*SD*)	*U*	*p*
Met needs	6.38 (3.56)	5.69 (3.41)	910.00	.34
Unmet needs	4.17 (3.50)	3.94 (3.16)	1022.00	.87
Total number needs	10.54 (3.46)	9.52 (4.31)	840.50	.14

N = 111.

Single individual needs items taken from the broader semi-structured survey were evaluated. A question on school completion (Did you pass year 10?) produced a non-significant result [$X^2(1) = .50$, $p = .48$]. However, odds ratios found that cognitively impaired participants were 36% less likely to pass year 10 compared to non cognitively impaired participants. Similarly, a question capturing access to mental health services (Did you attend a professional for mental health or SEWB within 12 months prior to custody?) produced no significant group differences [$X^2(1) = .14$, $p = .71$] yet odds ratios analysis found that cognitively impaired participants were 17% less likely to access services. Again, a question on income [Main source of income is paid work?] revealed no statistically meaningful group differences [$X^2(1) = 1.67$, $p = .20$] but cognitively impaired participants were 63% less likely to be receiving their primary source of income from employment in comparison to participants without impairment.

OFFENDING

Past offending

Table 5 presents information on prior offending across groups with and without cognitive impairment. Interestingly, the mean age of first offence was unusually high at 20 years of age for this cohort. However, participants with cognitive impairment were found to be significantly younger at the time of their first official offence. They also had a higher number of total offences prior to index as well as a greater diversity of offences prior to their index offence compared to non impaired participants; however, neither result reached statistical significance. Further analyses found no significant differences between groups for the presence of violent [$X^2(1) = 1.19$, $p = .28$] and sex [$X^2(1) = 0.72$, $p = .40$] offences prior to the index offence. Despite these results, Odds Ratios discovered that the cognitively impaired group were over three times more likely to have a prior violent offence compared to the non cognitively impaired group. In contrast, the non-impaired group were 40% more likely to have recorded a prior sex offence.

Table 5.

Offending history by impairment group

	Total *M*(*SD*)	CI *M*(*SD*)	No CI *M*(*SD*)	*U*	*p*
Age at first offence	20.38 (10.53)	14.86 (4.77)	22.28 (11.34)	447.00	.003
Total number of offences prior to index	51.31 (54.13)	62.10 (53.18)	48.21 (52.74)	631.50	.11
Diversity of offences prior to index	5.93 (3.21)	6.57 (2.79)	5.80 (3.19)	675.50	.21

N = 96,

Recidivism

The follow-up sample was reduced to 86 as 16 participants were not released during this period and a further 20 participants did not consent to researchers accessing their criminal histories. Offending data was captured for up to two years post baseline interview for consenting participants. At the conclusion of the follow-up period, 57% (*N* = 49) of the

cohort had reoffended. Over 40% (*N* = 35) had been charged with a violent offence and 2% (*N* = 2) had been charged with a sex offence. The mean time to recidivism was 10.8 (*SD* = 8.18) months for general re-offence, 14.34 (*SD* = 7.86) months for violent re-offence and 18.44 (5.66) months for sexual re-offence.

Rate of post-release charges are presented in Table 6. Though non-significant, cognitively impaired offenders had higher proportions of recidivists for both general and violent offences. Almost three-quarters of cognitively impaired participants re-offended during the follow-up period and were 2.8 times more likely to do so compared to non cognitively impaired participants.

Table 6.

Recidivism by CI grouping

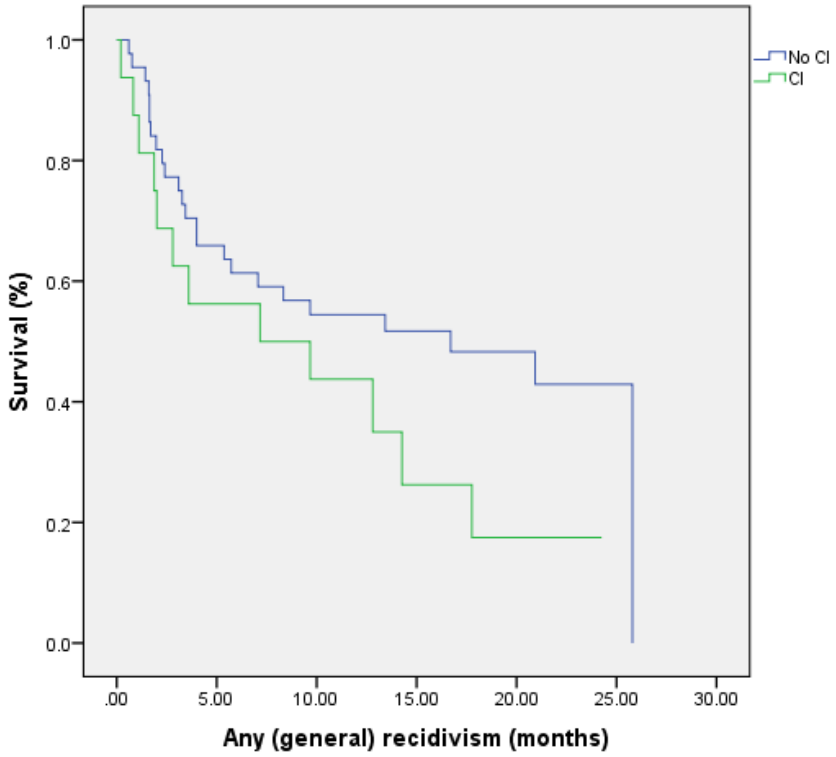
	CI % (*n*)	No CI % (*n*)	X^2	*p*	OR
General recidivism	73.7 (14)	50.0 (30)	3.28	.07	2.80
Violent recidivism	57.9 (11)	36.7 (22)	2.67	.10	2.38

N = 79

Time to general re-offence by CI group is depicted in Figure 1. Although group differences were non-significant [χ^2_{log} (1) = 2.43, *p* = .12], the curve indicates that the cognitively impaired group tended to recidivate faster.

Figure 1.

Recidivism Time to re-offence by CI group (general re-offence)



A hierarchical logistic regression analysis was conducted to determine whether or not cognitive impairment could independently predict recidivism beyond having a mental disorder (see Table 7). Preliminary testing indicated no collinearity between predictor variables (*VIF* = 1 for Mental Health Diagnosis; *VIF* = 1 for Intellectual Disability < IQ: 80). For general recidivism, findings suggested that cognitive disability may add to the prediction of recidivism [$\chi^2(1) = 3.41$, $p = .07$] above mental disorder, which did not significantly contribute to the model at step 1. Similar trends were obtained for violent recidivism. An inspection of Odds Ratios and Confidence Interval data suggest that cognitive impairment may be a reliable predictor of recidivism in a larger sample.

Table 7.

Hierarchical logistic regression analysis predicting recidivism

General Recidivism	OR	95% CI	*p*
Step 1			

Mental Disorder	1.01	(0.25, 4.070)	.99
Step 2			
Mental Disorder	0.99	(0.24, 4.10)	.99
Cognitive Impairment	2.8	(0.90, 8.85)	.08
Violent Recidivism			
Step 1			
Mental Disorder	1.5	(0.35, 6.49)	.59
Step 2			
Mental Disorder	1.49	(0.34, 6.61)	.60
Cognitive Disorder	2.37	(0.83, 6.80)	.22

DISCUSSION

A growing number of studies have highlighted the overrepresentation of cognitively impaired people in custody and the associations with offending and concurrent mental illness. However, a limitation of the extant literature is the omission of information pertaining to specific cultural groups. Indigenous Australians are overrepresented in custody and early estimates point to higher rates of cognitive impairment compared to non Indigenous Australians. This study sought to examine the extent of cognitive impairment in an Indigenous only custodial sample and to identify differences in mental illness prevalence, offending history, recidivism and cultural needs between offenders who may or may not present with a cognitive disability.

The presence of mental illness was remarkably high across the cohort. Close to 9 out of 10 participants possessed a lifetime mental disorder diagnosis. Rates within this vicinity have been detailed in other Australian research (Queensland Government, 2012). Unsurprisingly, comorbidity was high for the 22% who presented with an Intellectual disability. Given the widespread presence of mental illness, no differences in prevalence were obtained by level of impairment. Interestingly, KICA scores indicated only a low level of

impairment. Further research should explore whether the KICA can generalise to young adult offenders given that it was designed to assess dementia in aging Indigenous rural populations.

The needs of cognitively impaired Indigenous offenders have been hypothesised in the literature to correspond with their disadvantaged circumstances rather than as a direct function of their disability. This was true for the bulk of Social and Emotional Wellbeing and CANFOR items which produced largely elevated, though commensurate needs scores, across impairment groups. There were, however, some notable exceptions. Cognitively impaired offenders had greater difficulty confronting negative life events without succumbing to deleterious coping mechanisms such as substance abuse. Substance use was at elevated levels across the cohort and reflects the underprivileged, marginalised and often dysfunctional conditions within numerous Aboriginal families and communities. Possessing a cognitive disability in such environs with limited supports and inaccessible specialised services would increase the risk of problem behaviours such as alcohol and drug abuse. Similarly, cognitively impaired offenders reported trouble handling painful feelings including sadness, anger and fear. Expressions of anger and other acute emotions experienced by Indigenous offenders have been eloquently illustrated by Day et al. (2006). Anger and violence are often intertwined and perpetrated in a context of intergenerational powerlessness, punctuated by frequent episodes of loss, discrimination, grief and ongoing family problems (Day et al., 2006). These feelings may be compounded given the additional vulnerabilities that follow from cognitive impairment. Other significant concerns facing the cognitively impaired subgroup included the greater likelihood of having family members in prison and experiencing racism. While both issues are commonly reported in both general

and correctional Aboriginal populations (Paradies & Cunningham, 2009; Shepherd, Luebbers, Ferguson, Ogloff, & Dolan, 2014), cognitively impaired offenders often have 'combinations of disadvantage' which may reflect their individual and extended family's increased likelihood of being in custody. Perceived racism may also be elevated given the 'dual discrimination' status of Indigenous people with a disability. Finally, the cognitively impaired subgroup experienced greater difficulty practicing spirituality. Further to this finding, daytime activity needs were found to be unmet on the CANFOR instrument. These results may speak to the lack of existing culturally themed disability services for Indigenous inmates.

Findings pertaining to community circumstances prior to imprisonment mirrored previous research. Although no significant differences were obtained regarding employment, schooling and access to mental health services, cognitively impaired offenders demonstrated poorer outcomes. Results reflected the low educational attainment and service utilization of Indigenous offenders in general.

OFFENDING

Indigenous offenders with a cognitive disability were significantly more likely to be charged for their first offence at a younger age. This finding is in line with Baldry et al. (2012) who found that the median age of first police contact for Aboriginal youth with cognitive disability was 13.8 years of age which was significantly lower than Aboriginal youth without a cognitive disability. The combination of possessing complex needs, being unaware of legal processes, and exhibiting behaviour that may come to the attention of, or be misinterpreted by, law enforcement increases the likelihood of early police contact. Unsurprisingly,

evidence suggests that cognitively impaired Indigenous young offenders are the quickest to be processed into the justice system (Baldry et al., 2012).

More than half (57%) of the cohort re-offended during the two-year follow-up period and 40% violently re-offended. The recidivism rates reflect national figures indicating that 57.9% of Indigenous prisoners are reimprisoned within a decade (ABS, 2010). Although the prevalence of recidivism did not significantly differ by cognitive impairment status, offenders with a cognitive impairment were still almost three times more likely to re-offend. This relationship held when mental illness was accounted for. A non-significant trend denoting faster re-offending times for cognitively impaired offenders was also observed.

Study findings should be considered in light of several limitations. The performance component of the WASI was utilised as a proxy for cognitive impairment. Using predominantly the WASI meant that cognitive impairment may have been under-estimated as forms of acquired brain injury may not have been identified. Particularly as supplementary questions revealed that a large majority of the sample had previously experienced a potential traumatic brain injury. Moreover, an accommodating IQ cut-off of 80 was employed which is higher than the traditional designated cut-off point of 70 for an intellectual disability. In contrast to the previous concern, cognitive impairment in this case may have been over-estimated. However, given that borderline intellectual disability is often included as cognitive impairment this cut-off is justifiable, particularly given the dearth of research on this topic. Although the performance component of the WASI is deemed to be more culturally fair than the comprehensive version of the scale, questions still persist over its generalisability to Indigenous Australians. As such, a cautious interpretation of cognitive impairment output is appropriate. To partially address this

limitation, the KICA was employed however the applicability of this instrument to forensic cohorts is untested and warrants further exploration. The small sample size of this study undoubtedly resulted in low power to detect statistical significance of the identified trends.

IMPLICATIONS

The findings of the study indicate that Indigenous offenders with cognitive disability are perhaps the most vulnerable population in Australian prisons. Indigenous status already confers several associated disadvantages borne from intergenerational marginalisation. While such detriments were largely shared by the entire cohort regardless of impairment status, possessing a cognitive disability rendered participants additionally susceptible to both negative life outcomes and recidivism. Of note, the likelihood of certain findings reaching greater significance with a larger sample is especially high given that confidence intervals for chi-square testing were greater than 1 and robust effect sizes were obtained despite a small sample size.

Numerous pressing initiatives are recommended to help address the needs of Indigenous offenders who are cognitively impaired. First, screening for cognitive disability should be performed on entry to prison for every Indigenous prisoner using culturally appropriate instruments. As such, the development of a culturally appropriate cognitive screen for forensic settings is warranted. Existing instruments such as the abbreviated WASI and the KICA may be unsuitable in these unique circumstances. Given the high prevalence of mental health issues in custody and culturally specific conceptualizations of disability, cognitive impairment is in danger of being under-diagnosed or even unnoticed. Second, it is apparent that cognitively impaired Indigenous offenders require improved access to a multitude of services in custody and in the community to meet their complex needs. Holistic

service delivery is preferred and should feature cultural supports throughout. Law enforcement would benefit from training that helps recognise signs of cognitive disability and how this presentation differs from mental illness. The adoption of disability-specific diversionary alternatives should be readily available, particularly for Indigenous individuals with complex needs. It is problematicthat cognitively impaired Indigenous people are processed through the system quicker than any other group. Community health organisations would also benefit from specialist disability training to better equip them in providing wellbeing supports for offenders transitioning back to the community. Last, culturally appropriate disability assistance networks should be available at every stage of the justice system for Indigenous people with cognitive impairment to ensure that equitable care is accessible.

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APPENDIX

Social and Emotional Wellbeing Questionnaire Items

Do you see yourself as being an Aboriginal and/or Torres Strait Islander person?

Are you Proud to be an Aboriginal and/or Torres Strait Islander person?

How often do you participate in Aboriginal and/or Torres Strait Islander activities or events (e.g. attend cultural events, going out bush)?

How often do you get a chance to hang out with Aboriginal and/or Torres Strait Islander people?

Do you Identify with a tribal group, language group or clan, or traditional owner group?

Do you feel connected to your homeland or traditional country?

Do you feel connected to your community?

Do you feel connected to your culture?

I have the knowledge to teach younger members of my family about Aboriginal and/or Torres Strait Islander culture

I have learned about my Aboriginal and/or Torres Strait Islander culture from my family/community.

How important is knowing about your people's history & culture for your wellbeing?

How important is knowing your own family history for your wellbeing?

How important is knowing about & exercising your rights as an Aboriginal person for your wellbeing?

How important is spirituality for your wellbeing?

How often have you been able to practice or live your spirituality over the past 12 months?

How important is being able to give to your family & friends for your wellbeing?

How often have you been able to give to your family & friends over the past 12 months?

How important is being able to share with your family & friends for your wellbeing?

How often have you been able to share with your family & friends over the past 12 months?

How important is being with your family & extended family for your wellbeing?

How often have you been able to be with your family & extended family over the past 12 months?

How important is having a better level of education for your wellbeing?

How often have you been able to access education over the past 12 months?

Overall, I feel like I have control over my life.

Working together with people close to me, I can overcome most of my problems.

I am able to handle painful feelings, like sadness, anger and fear.

When I am angry or sad I am able to talk to someone about it.

I am able to face problems without gambling, using drugs or alcohol, or harming others.

I feel safe in my community.

I feel safe in the broader society outside my community.

I have the skills to be confident in both indigenous and non-indigenous communities.

Did you have a really bad illness or disability?

Were you in a really bad accident?

Did a family member or close friend pass away?

Did you discover/separate or get back together with a partner or get married?

Were there a lot of people living in the same house with you (overcrowding)?

Were you unable to get a job?

Did you lose your job, made redundant, sacked or retired?

Did you have any alcohol or drug related problems?

Did you have a gambling problem?

Did you witness violence?

Did you abuse anyone verbally or physically or commit violent crime?

Did you get in trouble with police/sent to/in jail for any other reasons (other than current custodial period offences)?

Did you have any family member's in prison or sent to prison?

Were you treated badly because of your indigenous heritage?

Camberwell Assessment of Need – Forensic Version Items

Accommodation

Food

Looking after the environment

Self-care

Daytime activities

Physical Health

Psychotic Symptoms

Information about condition

Psychological distress

Safety to self

Safety to others

Alcohol

Drugs

Company

Intimate relationships

Sexual expression

Childcare

Basic education

Telephone

Transport

Money

Benefits

Treatment

Sexual offences

Arson