

ALGORITHMIC RISK ASSESSMENT IN AUSTRALIAN CORRECTIVE SERVICES

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Corrective services in Victoria, New South Wales and the Australian Capital Territory use the Level of Service Inventory-Revised ('LSI-R') risk assessment tool to predict whether offenders will be re-incarcerated following release. LSI-R informs decisions about prison placement, a range of therapeutic and other corrective interventions and parole for several thousand offenders across Australia each year. Despite its widespread use, public and policy scrutiny of LSI-R within Australian corrective services remains sparse, and the variables that affect risk scores are not widely published. I unpack LSI-R here, and argue that its application to the Australian population, particularly to Aboriginal and Torres Strait Islander persons, may contravene the Guiding Principles for Corrections in Australia: Revised 2018. I argue for rigorous public investigation into the use of LSI-R within affected states, and set out guidelines for its scope and content.

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I INTRODUCTION

Across Australia,¹ corrective services use an actuarial risk tool to assess the chance that a given offender will be re-incarcerated following release from prison.² In New South Wales (‘NSW’) alone, tens of thousands of offenders receive scores generated by the Level of Service Inventory-Revised (‘LSI-R’) risk assessment tool each year.³ These scores inform decisions about prison placement, corrective and therapeutic interventions and the timing and supervisory conditions of parole.⁴

Despite its widespread use and significance for offenders, scrutiny of LSI-R in Australia and more widely has largely focused upon questions of predictive validity:⁵ the ‘clear benchmark index used by researchers in order to establish the validity of risk assessment instruments.’⁶ Yet, this work provides only a partial insight into reasons that we might have to be concerned about the use of LSI-R within Australian corrective services. Moreover, the factors that affect risk scores are not made public by the agencies that use them, and cannot be discerned from materials that are freely available online.⁷

The LSI-R manual (available for USD142 in hard copy from the United States (‘US’))⁸ reveals a surprising list. LSI-R captures, inter alia: ‘financial

¹ Specifically, in New South Wales (‘NSW’), Victoria and the Australian Capital Territory (‘ACT’).

² Don Andrews and James Bonta, *LSI-R Level of Service Inventory: Revised User’s Manual* (Multi-Health Systems, 1995) 1.

³ Ian Watkins, ‘The Utility of Level of Service Inventory-Revised (LSI-R) Assessments within NSW Correctional Environments’ (Research Bulletin No 29, Corrective Services NSW, January 2011) 2 <<https://correctiveservices.dcj.nsw.gov.au/documents/research-and-statistics/rb29-utility-of-level-of-service-inventory-.pdf>>, archived at <<https://perma.cc/73X7-XEE8>>.

⁴ *Ibid* 2, 5–6.

⁵ See, eg, *ibid* 2; Tracy L Fass et al, ‘The LSI-R and the COMPAS: Validation Data on Two Risk-Needs Tools’ (2008) 35(9) *Criminal Justice and Behavior* 1095, 1097.

⁶ Guy Giguère and Patrick Lussier, ‘Debunking the Psychometric Properties of the LS\CMI: An Application of Item Response Theory with a Risk Assessment Instrument’ (2016) 46 *Journal of Criminal Justice* 207, 208. There, Giguère and Lussier argue that this focus is true for the Canadian and US populations too: at *ibid*. See also Lina Girard and J Stephen Wormith, ‘The Predictive Validity of the Level of Service Inventory: Ontario Revision on General and Violent Recidivism among Various Offender Groups’ (2004) 31(2) *Criminal Justice and Behavior* 150, 153.

⁷ See, eg, Guy Giguère, Sébastien Brouillette-Alarie and Christian Bourassa, ‘A Look at the Difficulty and Predictive Validity of LS\CMI Items with Rasch Modeling’ (2023) 50(1) *Criminal Justice and Behavior* 118, 122.

⁸ Don Andrews and James Bonta, ‘LSI-R: Level of Service Inventory-Revised’, *Multi-Health Systems* (Web Page) <<https://storefront.mhs.com/collections/lisi-r->>, archived at <<https://perma.cc/QV3V-84YL>>.

problems'; 'reliance upon social assistance'; living in temporary or 'unsatisfactory' accommodation; being part of a violent relationship; having deceased, absent, or 'uncaring' parents; or criminal friends or family.⁹ Each factor raises an offender's risk score, thereby lowering their chances of transferring into a more favourable corrective environment or to open conditions.

LSI-R was developed from Canadian and substantially non-Indigenous population data and its predictive value for Australian Aboriginal and Torres Strait Islander persons remains controversial.¹⁰ Risk scores are assigned on the basis of factors that reflect a narrow and homogenous cultural norm. For instance, an offender who 'could make better use of time' scores poorly, whilst 'rewarding' activities include stamp collecting, weekend BBQs and certain formal memberships (eg church or service club).¹¹

The tool also encompasses certain behavioural indicia, including hostility towards authority, rejecting the values of society and claiming to have been targeted by police.¹² Given the historic role of police in enforcing deeply damaging government policies within Aboriginal and Torres Strait Islander communities and the stark over-representation of these populations within Australian prisons,¹³ the use of variables geared towards anti-authority sentiment seems profoundly inapposite.

The purpose of this article is to unpack LSI-R and to better understand what is at stake for those affected by its outputs. I argue that there are significant reasons for concern about the use of LSI-R to make corrective decisions for Australian offenders, and that its application to Aboriginal and Torres Strait Islander populations may contravene the *Guiding Principles for Corrections in*

⁹ Ibid 8.

¹⁰ See, eg, Andrew Day et al, 'Assessing Violence Risk with Aboriginal and Torres Strait Islander Offenders: Considerations for Forensic Practice' (2018) 25(3) *Psychiatry, Psychology and Law* 452, 455–6; Ching-I Hsu, Peter Caputi and Mitchell K Byrne, 'The Level of Service Inventory-Revised (LSI-R) and Australian Offenders: Factor Structure, Sensitivity, and Specificity' (2011) 38(6) *Criminal Justice and Behavior* 600, 601–2 ('Factor Structure, Sensitivity, and Specificity'); Ching-I Hsu, Peter Caputi and Mitchell K Byrne, 'Level of Service Inventory-Revised: Assessing the Risk and Need Characteristics of Australian Indigenous Offenders' (2010) 17(3) *Psychiatry, Psychology and Law* 355, 356–7 ('Assessing the Risk and Need Characteristics').

¹¹ Andrews and Bonta (n 2) 9.

¹² Ibid 10–12.

¹³ Productivity Commission, 'Socio-Economic Outcome Area 10: Aboriginal and Torres Strait Islander Adults Are Not Overrepresented in the Criminal Justice System' (Web Page, 30 July 2025) <<https://www.pc.gov.au/closing-the-gap-data/dashboard/se/outcome-area10>>, archived at <<https://perma.cc/TV2Y-KFS3>>.

Australia: Revised 2018 ('*Guiding Principles for Corrections*').¹⁴ Some of these reasons are egalitarian: they relate to unjustified differences between the way in which offenders are treated.¹⁵ Others are not: they concern the value of having corrective outcomes turn upon how we behave when we have adequate choices about what to do.¹⁶

I argue that, if actuarial risk tools have predictive value in this context, we should think carefully about the corrective interventions that they inform and the input variables that count towards punitive outcomes. This includes demographic and situational characteristics that diminish an offender's ability to influence corrective outcomes and may create or sustain stigmatising differences in status.¹⁷

As a practical next step for affected jurisdictions,¹⁸ I argue for rigorous and widespread public investigation into the operation of LSI-R across Australian corrective populations. Any such investigation should address, inter alia: predictive performance (accuracy and the distribution of predictive error, disaggregated by Indigenous status); the scope of the predictive enquiry (which factors do and should influence corrective decisions); and the corrective (eg punitive or therapeutic) context.

II LSI-R

In this brief opening section, I explain what LSI-R is and how it is used to make corrective decisions. This work lays the foundation for the analytical focus of this article: what is at stake for those affected by LSI-R outputs and the conclusions that we should draw from this assessment.

A Risk Tools

For the purposes of this article, actuarial risk tools are a subset of predictive algorithms — a set of rules for computers or humans to follow — which assess the likelihood of some (typically undesirable) outcome. Risk tools are

¹⁴ Corrective Service Administrators' Council, *Guiding Principles for Corrections in Australia: Revised 2018* (Report, February 2018) 4, 6 <<https://www.corrections.vic.gov.au/guiding-principles-for-corrections-in-australia>>, archived at <<https://perma.cc/69GR-945Y>> ('*Guiding Principles for Corrections*').

¹⁵ See below Part IV.

¹⁶ See below Part V.

¹⁷ Advancing Pretrial Policy Research, *Collecting Race and Ethnicity Data: Guidelines for Community Supervision Agencies* (Report, May 2025) 1 <<https://advancingpretrial.org/improving-pretrial-justice/appr-resources/>>, archived at <<https://perma.cc/7FKV-37JR>>.

¹⁸ NSW, Victoria and the ACT.

developed on the basis of statistical observations — patterns in some dataset that is representative of the target population.¹⁹ We tend to use them when the knowledge that we need to answer a question well is incomplete. For instance, how will a patient respond to medical treatment? Will this counterparty default on their loan? Where will crime occur in a given geographic area?

In answering questions of this nature, our goal is to determine which facts within a pool of data correspond to some target variable. To do this, we need adequate controls, representative data (and enough of it) and a statistically significant pattern. If each of these elements is in place, we may be able to reduce our observations to a decision-making tool — an algorithm that can generate a prediction when fed facts that correlate to the target variable.

These tools have long been used across a range of sectors and can help us to make good — sometimes life-saving — decisions about what to do.²⁰ In the last two decades, the use of these tools has increased across a rapidly expanding range of domains, including recruitment;²¹ education and standardised school assessment;²² public resource allocation;²³ immigration;²⁴ and criminal justice.²⁵ The focus of this piece is upon the latter, in particular upon the application of LSI-R to corrective decisions within Australia.

¹⁹ Hsu, Caputi and Byrne, 'Assessing the Risk and Need Characteristics' (n 10) 355.

²⁰ For instance, American doctor Virginia Apgar created the Apgar risk tool in 1952 with the goal of standardising postnatal risk assessment for newborn babies: Virginia Apgar, 'A Proposal for a New Method of Evaluation of the Newborn Infant' (1953) 32(4) *Current Researches in Anesthesia and Analgesia* 260, 260.

²¹ Brian Merchant, 'Predictim Claims Its AI Can Flag "Risky" Babysitters. So I Tried It on the People Who Watch My Kids', *Gizmodo* (online, 6 December 2018) <<https://gizmodo.com/predictim-claims-its-ai-can-flag-risky-babysitters-so-1830913997>>, archived at <<https://perma.cc/VV38-SB6S>>. See also Drew Harwell, 'Wanted: The "Perfect Babysitter". Must Pass AI Scan for Respect and Attitude', *The Washington Post* (online, 23 November 2018) <<https://www.washingtonpost.com/technology/2018/11/16/wanted-perfect-babysitter-must-pass-ai-scan-respect-attitude/>>, archived at <<https://perma.cc/BZD9-9YC3>>.

²² Louise Amoore, 'Why "Ditch the Algorithm" Is the Future of Political Protest', *The Guardian* (online, 19 August 2020) <<https://www.theguardian.com/commentisfree/2020/aug/19/ditch-the-algorithm-generation-students-a-levels-politics>>, archived at <<https://perma.cc/7XSJ-XKMV>>.

²³ CEA, 'Street Bump: Crowdsourcing Better Streets, but Many Roadblocks Remain' (Blog Post, 30 October 2015) <<https://d3.harvard.edu/platform-digit/submission/street-bump-crowdsourcing-better-streets-but-many-roadblocks-remain/>>, archived at <<https://perma.cc/L5W3-K7XZ>>.

²⁴ Wendy Yang, 'Risky Business of Using Algorithms in Immigration Detention', *LSJ Online* (online, 10 April 2024) <<https://lsj.com.au/articles/risky-business-of-using-algorithms-in-immigration-detention/>>, archived at <<https://perma.cc/5YHH-SLLR>>.

²⁵ Kathleen McGrory and Neil Bedi, 'Targeted', *Tampa Bay Times* (online, 3 September 2020) <<https://projects.tampabay.com/projects/2020/investigations/police-pasco-sheriff-targeted/>>.

B *Risk Tools in Criminal Justice*

Many early forms of risk assessment relied heavily upon the judgment of experts — forensic psychologists tasked with making predictions about reoffending.²⁶ These first-generation risk assessments lacked predictive accuracy, and often produced particularly poor outcomes for groups that did not share majority demographic characteristics.²⁷ In their second generation, actuarial risk assessments — predictions drawn from statistical inferences — were much more reliable.²⁸ However, they were limited to ‘static’ factors about the offender’s history, and could not take into account changes in the offender’s characteristics and circumstances that might affect an individual’s need for support and likelihood of reoffending.²⁹

LSI-R, which is the focus of this article, belongs to a broad category of actuarial tools that generate assessments about ‘psychologically informed risk’,³⁰ and was developed iteratively in response to a perceived need to capture both static and dynamic (change-related) factors in a manner that could produce sufficiently reliable predictions to support corrective decision-making.³¹

In the late 1970s, Canadian criminologist Don Andrews conducted a series of interviews with probation offers in Canada, which were geared towards

archived at <<https://perma.cc/C72K-85N9>>; Melissa Hamilton and Pamila Ugwudike, ‘A “Black Box” AI System Has Been Influencing Criminal Justice Decisions for over Two Decades: It’s Time To Open It Up’, *The Conversation* (online, 26 July 2023) <<https://theconversation.com/a-black-box-ai-system-has-been-influencing-criminal-justice-decisions-for-over-two-decades-its-time-to-open-it-up-200594>>, archived at <<https://perma.cc/TQ3B-SCT4>>.

²⁶ See Ching-I Hsu, Peter Caputi and Mitchell K Byrne, ‘The Level of Service Inventory-Revised (LSI-R): A Useful Risk Assessment Measure for Australian Offenders?’ (2009) 36(7) *Criminal Justice and Behavior* 728, 728 (‘A Useful Risk Assessment Measure’); James Bonta, ‘Risk-Needs Assessment and Treatment’ in Alan Harland (ed), *Choosing Correctional Options That Work* (Sage, 1996) 18, 19.

²⁷ Todd R Clear and Kenneth W Gallagher, ‘Probation and Parole Supervision: A Review of Current Classification Practices’ (1985) 31(3) *Crime and Delinquency* 423, 428–9, 433, 438; Klaus-Peter Dahle, ‘Strengths and Limitations of Actuarial Prediction of Criminal Reoffence in a German Prison Sample: A Comparative Study of LSI-R, HCR-20 and PCL-R’ (2006) 29(5) *International Journal of Law and Psychiatry* 431, 440–1; Stefánía Ægisdóttir et al, ‘The Meta-Analysis of Clinical Judgment Project: Fifty-Six Years of Accumulated Research on Clinical versus Statistical Prediction’ (2006) 34(3) *Counseling Psychologist* 341, 369.

²⁸ See Hsu, Caputi and Byrne, ‘A Useful Risk Assessment Measure’ (n 26) 729.

²⁹ See, eg, Peter Raynor et al, ‘Risk and Need Assessment in Probation Services: An Evaluation’ (Research Study No 211, Home Office (UK), 2000) 3, 43 <<http://ojp.gov/njrs/virtual-library/abstracts/risk-and-need-assessment-probation-services-evaluation>>, archived at <<https://perma.cc/8WMC-83WV>>.

³⁰ Kelly Hannah-Moffat, ‘Algorithmic Risk Governance: Big Data Analytics, Race and Information Activism in Criminal Justice Debates’ (2019) 23(4) *Theoretical Criminology* 453, 457.

³¹ Giguère, Brouillette-Alarie and Bourassa (n 7) 119.

understanding reoffending better.³² His goal was to define a list of factors to shape supervision and parole recommendations.³³ Over the years that followed, those factors were whittled down to a set of rules, which became the Level of Supervision Inventory ('LSI').³⁴ LSI was published in 1982 as an algorithm to guide decisions about the nature and extent of non-carceral supervision, and it was adopted by the community division of Ontario's correctional services shortly thereafter.³⁵

Throughout the 1980s, a research team led by James Bonta refined LSI, demonstrating predictive successes across various types of misconduct, including parole violations and post-release reoffending.³⁶ LSI-R was published by Andrews and Bonta in 1995,³⁷ and adopted by the institutional division of Ontario correctional services in 1996.³⁸ Two decades later, LSI-R and its software counterpart (the Level of Service/Case Management Inventory ('LS/CMI')) are the dominant corrective risk tools in Canada.³⁹

LSI-R captures 54 datapoints that relate to the offender's characteristics and circumstances.⁴⁰ Some of these datapoints concern the offender's 'criminal history' (eg prior convictions, institutional misconduct, and violence).⁴¹ But many do not. For instance, LSI-R also encompasses: 'financial problems'; underemployment and dissatisfaction at work; low school performance; frequent changes of address and 'unsatisfactory accommodation'; being part of a hostile, unhappy, indifferent, and/or violent domestic relationship; having deceased, absent, or uncaring parents; social isolation, or having friends or family involved in crime or drugs and a preference for hobbies that do not involve formal organisation.⁴²

³² James Bonta, 'Twenty-Five Years of the Level of Service (LS) Instruments' (LinkedIn, 15 July 2018) <<https://www.linkedin.com/pulse/twenty-five-years-level-service-ls-instruments-james-bonta/>>, archived at <<https://perma.cc/6MUY-GP26>> ('Twenty-Five Years').

³³ Ibid.

³⁴ DA Andrews, *The Level of Supervisory Inventory (LSI): The First Follow-Up* (Report, 1983) 3 <<https://www.ojp.gov/pdffiles1/Digitization/89859NCJRS.pdf>>, archived at <<https://perma.cc/32N5-Q642>>.

³⁵ Bonta, 'Twenty-Five Years' (n 32).

³⁶ Ibid.

³⁷ Andrews and Bonta (n 2).

³⁸ Ibid 1.

³⁹ See Bonta (n 32).

⁴⁰ Janet T Davidson, 'Gender and the Level of Service Inventory' in Frances P Bernat and Kelly Frailing (eds), *The Encyclopedia of Women and Crime* (Wiley, 2019) 1, 1; Watkins (n 3) 2.

⁴¹ Ibid 5–12.

⁴² Ibid.

The LSI-R toolkit has waxed and waned in global influence. From 1996–2000, LSI-R was widely used across United Kingdom ('UK') and Channel Islands probation services, and still remains in operation in Jersey.⁴³ LS/CMI has been used throughout Singapore's Prison Service since 2011, and the tool competes with others (notably the Correctional Offender Management Profiling for Alternative Sanctions ('COMPAS')) for influence in the US.⁴⁴

In NSW, Victoria, and the Australian Capital Territory ('ACT'), LSI-R is used to make risk assessments that form the basis for case planning for several thousand offenders each year.⁴⁵ The first LSI-R assessment for a given offender either forms part of a full pre-sentence report requested by the court or may be completed whilst the offender is being assessed in court,⁴⁶ and is updated periodically during a sentence that has more than six months remaining.⁴⁷ LSI-R scores affect security classification and prison placement (eg within a high security unit) and guide preparation of the pre-release report, which informs decisions about whether and under what conditions an offender should be granted parole.⁴⁸

LSI-R also influences the administration of a range of 'high intensity interventions' that aim at therapeutic treatment.⁴⁹ For instance, LSI-R is used

⁴³ Raynor et al (n 29) 12.

⁴⁴ Tim Brennan, William Dieterich and Beate Ehret, 'Evaluating the Predictive Validity of the COMPAS Risk and Needs Assessment System' (2009) 36(1) *Criminal Justice and Behavior* 21, 22.

⁴⁵ Watkins (n 3) 2.

⁴⁶ Auditor-General's Office (Vic), *Managing Community Corrections Orders* (Report, 8 February 2017) 25 <<https://www.audit.vic.gov.au/report/managing-community-corrections-orders?section=>>, archived at <<https://perma.cc/6R46-HVAT>>.

⁴⁷ Unless a current and valid LSI-R assessment already exists: 'Risk Assessment: Information How Prison Staff Decide What Kind of Risk a Prisoner Is', *Victoria Legal Aid* (Web Page, 17 March 2025) <<https://www.lawhub.vla.vic.gov.au/risk-assessment>>, archived at <<https://perma.cc/27R4-EQMD>>.

⁴⁸ New South Wales Law Reform Commission, *Discretionary Parole Decision Making* (Parole Question Paper No 3, September 2013) 14 [3.44], 15 [3.46] <https://lawreform.nsw.gov.au/documents/Completed-projects/2010-onwards/Parole/question-papers/qp_3_-_discretionary_parole_decision_making_final.pdf>, archived at <<https://perma.cc/5AQL-2B39>>.

⁴⁹ Alessandra Raudino et al, 'The Community Triage Risk Assessment Scale (Community TRAS): A Statistical Model for Predicting Recidivism among Community-Based Offenders' (Research Bulletin No 38, Corrective Services NSW, October 2018) 1, 4 <<https://correctiveservices.dcj.nsw.gov.au/documents/research-and-statistics/rb38-community-tras.pdf>>, archived at <<https://perma.cc/SM7Z-XZD7>>; Department of Justice and Regulation (Vic), *Offending Behaviour Programs: Service Delivery Manual* (Report, 17 July 2015) 38 <<http://rcfv.archive.royalcommission.vic.gov.au/CustomData/Exhibits/AR%202/WIT.3008.0>>.

explicitly to ‘match services and programs to peoples’ needs’ across Victorian corrective services.⁵⁰ This includes formal programs of psychological therapy, a graduated handover process between institutional and extra-institutional supervision to ‘enhance continuum of care’ and multi-service case review meetings.⁵¹

The degree of latitude accorded to legal officers with LSI-R assessments in hand can vary according to the nature of the corrective question. In NSW, LSI-R results inform the pre-release report and parole recommendation produced by Community Corrections, which in turn form part of what the State Parole Authority terms an “‘instinctive synthesis” assessment of the risks posed by an offender.’⁵² By contrast, offenders with an LSI-R score of medium or above will automatically receive ‘enhanced community supervision’ if they are granted parole.⁵³ In Victoria, the LSI-R report compiled by Corrections Victoria provides the basis for prisoner classification and placement,⁵⁴ and a given risk rating automatically qualifies an offender for a range of supervisory, behaviour management and prisoner programming interventions.⁵⁵ In NSW, ‘the level of supervision required to be administered under parole is determined by the LSI-R risk score’ (calculated as close as possible to the parole release date).⁵⁶

Other jurisdictions across the world have adopted different actuarial risk tools which have been the subject of widespread public and academic attention.

01.0104_R.pdf>, archived at <<https://perma.cc/CPQ8-HXPJ>> (*‘Offending Behaviour Programs’*).

⁵⁰ Department of Justice and Community Safety (Vic), *Correctional Practice Framework* (Report, October 2024) 35 <<https://files.corrections.vic.gov.au/2025-03/Correctional-Practice-Framework.pdf>>, archived at <<https://perma.cc/HP3S-G7L3>>.

⁵¹ *Ibid* 36.

⁵² *Discretionary Parole Decision Making* (n 48) 15 [3.46].

⁵³ James Beaufile, Chris Cunneen and Sophie Russell, ‘Exploratory Research into Post-Release Community Integration and Supervision: The Experiences of Aboriginal People with Post-Release Parole Supervision and Reintegration in NSW’ (Research Report No 63, Jumbunna Institute for Indigenous Education and Research, University of Technology Sydney, 2021) 23 [1.4.2] <<https://correctiveservices.dcj.nsw.gov.au/documents/research-and-statistics/exploratory-research-into-post-release-community-intergration-and-supervision.pdf>>, archived at <<https://perma.cc/FC5T-PV5N>>.

⁵⁴ Auditor-General’s Office (Vic), *Addressing the Needs of Victorian Prisoners* (Report No 52, November 2003) 30 [3.13] <<https://www.audit.vic.gov.au/sites/default/files/20031119-Addressing-the-Needs-of-Prisoners.pdf?>>, archived at <<https://perma.cc/LR69-3M8C>>.

⁵⁵ *Offending Behaviour Programs* (n 49) 11.

⁵⁶ Efty Stavrou, Suzanne Poynton and Don Weatherburn, ‘Parole Release Authority and Re-Offending’ (Research Bulletin No 194, Bureau of Crime Statistics and Research (NSW), July 2016) 10 <<https://bocsar.nsw.gov.au/documents/publications/cjb/cjb151-200/cjb194-report-parole-release-authority-and-reoffending-2016.pdf>>, archived at <<https://perma.cc/MQN7-8VH2>>.

In the UK, the Offender Assessment System ('OASys') is used to inform decisions about sentencing, corrective interventions and parole.⁵⁷ OASys was developed from three pilot studies performed in the late 1990s and early 2000s, and rolled out as a single electronic system in 2013.⁵⁸ OASys now forms an 'intrinsic part of the UK justice system'⁵⁹ — a systematic way for probation officers and judges to make decisions about the type, duration and discontinuation of criminal punishment. The predictive outputs of OASys are based on a range of factors about an individual's history and circumstances, and comprise part of the pre-sentence report and parole dossier.⁶⁰ A case can be withheld from progression to parole review by the Public Protection Casework Section, or parole may be denied by the Parole Board altogether, because of a high/very high OASys score.⁶¹

Policies that implement OASys across corrective and probationary services have recently come under fire by researchers who allege that claims of predictive accuracy have not been independently validated, that the tool displays marked potential for 'racially biased decision making'⁶² and that there has been a systematic lack of transparency at all stages of implementation.⁶³ Researchers have argued in particular that 'there is a clear need for more information on the effectiveness and accuracy of these tools and their impact on gender, race, disability and other protected characteristics.'⁶⁴

In the US, the Correctional Offender Management Profiling for Alternative Sanctions ('COMPAS') system includes three reoffending risk scales that guide multiple stages of the criminal justice process,⁶⁵ including: pre-trial plea negotiations; 'jail programming' requirements; community referrals; sentencing,

⁵⁷ Justice Data Lab, Ministry of Justice (UK), *Incorporating Offender Assessment Data to the Justice Data Lab Process: Methodology* (Report, January 2016) 4 <<https://assets.publishing.service.gov.uk/media/5a7f158d40f0b6230268d574/oasys-methodology.pdf>>, archived at <<https://perma.cc/H2VX-XM2A>>.

⁵⁸ National Offender Management Service, *A Compendium of Research and Analysis on the Offender Assessment System: 2009–2013* (Ministry of Justice Analytical Series, July 2015) 3 <<https://assets.publishing.service.gov.uk/media/5a7f676fed915d74e33f6380/research-analysis-offender-assessment-system.pdf>>, archived at <<https://perma.cc/LUQ3-RTHG>>.

⁵⁹ Hamilton and Ugwudike (n 25).

⁶⁰ Justice Data Lab (n 57) 4.

⁶¹ Prison Reform Trust, *The Parole Board and Parole Reviews: An Information Booklet Written by PRT's Advice and Information Service* (Information Booklet, July 2023) 9 <<https://prisonreformtrust.org.uk/wp-content/uploads/2021/06/36-Parole-Board-and-parole-reviews-information-booklet.pdf>>, archived at <<https://perma.cc/9YM9-U3HV>>.

⁶² Hamilton and Ugwudike (n 25).

⁶³ *Ibid.*

⁶⁴ *Ibid.*

⁶⁵ Tatiana Dancy, *Artificial Justice* (Oxford University Press, 2023) 79.

supervision, and probation recommendations; and the frequency and nature of post-release contact with the justice system.⁶⁶ Since 1998, COMPAS has been used to process more than four million defendants across five states and 11 counties within the US.⁶⁷

COMPAS has been the subject of extensive academic writing about algorithmic justice, with particular attention paid to the questions of: (i) how well the tool's predictive outputs correspond to rates of reoffending across the target population as a whole; and (ii) how predictive error is distributed amongst that population.⁶⁸ We will see below that COMPAS has been the subject of a debate about algorithmic fairness that centres on whether the tool produces unjustified disparate outcomes for black and white offenders (eg higher rates of false positives for black persons).⁶⁹

Research addressing LSI-R has primarily focused upon the predictive validity of the tool,⁷⁰ with additional thought paid to the question of whether each of the predictive subscales (and variables therein) has equivalent predictive utility across the relevant population.⁷¹ There are important insights to draw

⁶⁶ See *ibid*; Monika Zalnieriute, Lyria Bennett Moses and George Williams, 'The Rule of Law and Automation of Government Decision-Making' (2019) 82(3) *Modern Law Review* 425, 437, 452.

⁶⁷ 'How Many Jurisdictions Use Each Tool?', *Mapping Pretrial Injustice* (Web Page) <<https://pretrialrisk.com/national-landscape/how-many-jurisdictions-use-each-tool/>>, archived at <<https://perma.cc/GJ28-X7LL>>; Alexandra 'Mac' Taylor, 'AI Prediction Tools Claim to Alleviate an Overcrowded American Justice System ... But Should They Be Used?' *Stanford Politics* (online, 13 September 2020) <<https://stanfordpolitics.org/2020/09/13/ai-prediction-tools-claim-to-alleviate-an-overcrowded-american-justice-system-but-should-they-be-used/>>, archived at <<https://perma.cc/G4PW-BWNF>>.

⁶⁸ Taylor (n 67).

⁶⁹ Jeff Larson et al, 'How We Analyzed the COMPAS Recidivism Algorithm' *ProPublica* (online, 23 May 2016) <<https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm>>, archived at <<https://perma.cc/N976-VTPU>>.

⁷⁰ See, eg, Girard and Wormith (n 6) 152; Jean-Pierre Guay, 'Predicting Recidivism with Street Gang Members' (Report, Public Safety Canada, March 2012) 2, 24 <<https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/2012-02-prsgm/2012-02-prsgm-eng.pdf>>, archived at <<https://perma.cc/RK5Z-H452>>. For commentary on the Australian population in relation to the newer case management iteration of LSI (LS/CMI): see Heidi Gordon, Sally F Kelly and Roberta Julian, 'Psychometric Evaluation of the Level of Service/Case Management Inventory among Australian Offenders Completing Community-Based Sentences' (2015) 42(11) *Criminal Justice and Behavior* 1089, 1091–3.

⁷¹ See, eg, Giguère, Brouillette-Alarie and Bourassa (n 7) 119–20; Davidson (n 40) 1–2; Evan M Lowder et al, 'Racial Bias and LSI-R Assessments in Probation Sentencing and Outcomes' (2019) 46(2) *Criminal Justice and Behavior* 210, 214–15; Day et al, 'Assessing Violence Risk with Aboriginal and Torres Strait Islander Offenders: Considerations for Forensic Practice' (2018) 25(3) *Psychiatry, Psychology and Law* 452, 453–6; Gordon, Kelly and Julian (n 70) 1094; Holly A Wilson and Leticia Gutierrez, 'Does One Size Fit All?: A Meta-Analysis Examining the Predictive Ability of the Level of Service Inventory (LSI) with Aboriginal Offenders'

from this research about the applicability of LSI-R to a range of cultural contexts.⁷² Yet, this work provides only a partial insight into the reasons that we might have to be concerned about the use of LSI-R within Australian corrective services and beyond. The goal of this article is to shed light on those reasons, and to consider precisely what is at stake for those whose corrective journeys are shaped by LSI-R.

I deal first with the threshold requirement that a predictive tool must generate predictions that correspond reliably to some target variable, a valuable policy goal. Second, I turn to concerns that have been raised under the heading of ‘equality’. Third, I consider a broader set of concerns that relate to individual choice — the value of having corrective decisions turns upon how people choose to behave, rather than their socio-economic or interpersonal felicity. Finally, I consider the implications of this analysis for the use of LSI-R within Australian corrective services, and make practical recommendations for affected states to bridge the gap between public knowledge about the operation of LSI-R and a justified approach to the use of actuarial risk tools in corrective services.

III RATIONALITY

This part considers the first and simplest standard to which we might hold LSI-R: is the algorithm good at doing what it was designed to do? This is a threshold requirement: as Guy Giguère and Patrick Lussier have put it, ‘risk assessment methods are of limited value if the scores produced by the instrument do not predict future criminal behaviour’ and if we do not have robust corrective

(2014) 41(2) *Criminal Justice and Behavior* 196, 200; Hsu, Caputi and Byrne, ‘Factor Structure, Sensitivity and Specificity’ (n 10) 602–3. See also Hsu, Caputi and Byrne, ‘Assessing the Risk and Need Characteristics’ (n 10) 357; Fass et al (n 5) 1098; Stephen Mihailides, Belinda Jude and Eric Van den Bossche, ‘The LSI-R in an Australian Setting: Implications for Risk/Needs Decision-Making in Forensic Contexts’ (2005) 12(1) *Psychiatry, Psychology and Law* 207, 208; Alexander M Holsinger, Christopher T Lowenkamp and Edward J Latessa, ‘Ethnicity, Gender and the Level of Service Inventory-Revised’ (2003) 31(4) *Journal of Criminal Justice* 309, 311; Clive R Hollin, Emma J Palmer and Danny Clark, ‘The Level of Service Inventory-Revised Profile of English Prisoners: A Needs Analysis’ (2003) 30(4) *Criminal Justice and Behavior* 422, 426; Wagdy Loza and David J Simourd, ‘Psychometric Evaluation of the Level of Service Inventory (LSI) among Male Canadian Federal Offenders’ (1994) 21(4) *Criminal Justice and Behavior* 468, 470.

⁷² See, eg, Kelly Hannah-Moffat, ‘Actuarial Sentencing: An “Unsettled” Proposition’ (2013) 30(2) *Justice Quarterly* 270, 279–81 (‘Actuarial Sentencing’).

techniques to apply these conclusions towards the goals that putatively justify a system of criminal punishment.⁷³

There have been multiple attempts to ‘validate’ LSI-R — to figure out just how accurate its predictions of reoffending are.⁷⁴ Our question here is a related one which isolates the goal served by making accurate predictions about reoffending: is there sufficient rational alignment between LSI-R and the policy goal of keeping people safe and their property secure? Where a justified policy achieves some valuable goal by minimising or promoting some target variable, any algorithm that is used to help satisfy this requirement must generate predictions that correspond reliably to that variable. I unpack this threshold requirement here, and situate it within a broader set of claims about whether statistical tools can deliver ‘individualised’ justice.

Justice is often described as an ‘individualistic’ exercise, concerned with the ‘assessment of individual outcomes by individualized criteria.’⁷⁵ This looks like a very poor fit for statistics, which is the practice of amassing numerical data about population subsets to draw inferences about the wider population that it represents. When we use statistics to make decisions about how to treat people, we must base that decision upon facts about people other than the decision-subject — facts about the group to which they belong, with whose characteristics they share. And in TM Scanlon’s words: ‘statistical facts about the group to which a person belongs do not always have the relevant justificatory force.’⁷⁶

This tension between statistical generalisations and individualised decision-making — decision-making that is appropriately tailored towards the characteristics or circumstances of individuals — formed one leg of the defendant’s due process challenge to the sentencing decision in *Wisconsin v Loomis* (‘*Loomis*’).⁷⁷ *Loomis* concerned an appeal to the Supreme Court of Wisconsin, by an appellant (Eric L Loomis) whose sentence had been overtly shaped by a COMPAS risk assessment.⁷⁸ *Loomis* made two due process arguments, the second of which concerned the relationship between statistical generalization and

⁷³ Giguère and Lussier (n 6) 207–8; Christopher Baird, *A Question of Evidence: A Critique of Risk Assessment Models Used in the Justice System* (Report, February 2009) 3–4 <<https://scispace.com/pdf/a-question-of-evidence-a-critique-of-risk-assessment-models-g5rrthp2d.pdf>>, archived at <<https://perma.cc/8E77-GU75>>.

⁷⁴ See, eg, Watkins (n 3) 2; Fass et al (n 5) 1098, 1106.

⁷⁵ Jeremy Waldron, ‘The Primacy of Justice’ (2003) 9(4) *Legal Theory* 269, 284.

⁷⁶ See, eg, TM Scanlon, *Why Does Inequality Matter?* (Oxford University Press, 2018) 27.

⁷⁷ *State of Wisconsin v Loomis*, 881 NW 2d 749, 753 [6]–[7] (Bradley J) (Wis, 2016) (‘*Loomis*’).

⁷⁸ *Ibid* 755–6 [16]–[22] (Bradley J).

individual decisions.⁷⁹ Loomis argued that ‘reliance on the COMPAS [sic] amount[ed] to sentencing ... Loomis not based on his unique character and crime, but rather on membership in a class’, which was ‘not an individualized sentence.’⁸⁰

This objection requires some clarification. We are often justified in making decisions about how to treat people according to characteristics that the decision-subject shares with some wider group — information about the ‘general population’ to which the defendant belongs. For instance, a doctor making treatment decisions will consider patient characteristics (eg their pathology, any comorbidities, allergies and so on) that are known to correlate to good (or poor) treatment outcomes. These are characteristics that the patient shares with the wider population which bear directly upon the decision at hand.

The task of assessing individual outcomes by individualised criteria clearly does not require us to ignore facts about third parties (people other than the individual who is the subject of the decision) that are rationally related to the social benefit at which we aim. Nor does it require us to consider information about the decision-subject that is unrelated to that goal: physicians, for instance, need not take account of their patient’s musical preferences or artistic skills in making treatment decisions. Rather, decision-making policies and practices must simply capture facts that are relevant to the justification for a particular policy, pitched at a level of granularity that can capture both individual reasons for action and the systemic effects of adopting a particular policy.

Part of that justification relates to the objective of algorithmic decision-making: a policy that allocates some benefit or burden is only justified if it helps to achieve some valuable goal (eg delivering lifesaving treatment); the facts according to which the allocative decision is made must be relevant to that goal. But ‘relevant’ here does not require a causal explanation for why those criteria help to achieve the goal in question. Indeed, this is precisely the epistemic gap that we often seek to fill when we turn to statistics. Rather, we show that a fact is relevant when we show that a decision made by incorporating it does in fact help us to achieve that goal (eg that taking into account certain comorbidities when making treatment decisions results in better patient wellbeing). Or, absent evidence of this kind, relevant criteria may be those that correlate to a higher incidence of some cost that we have a reliable strategy for avoiding (eg

⁷⁹ The first related to the status of COMPAS as a proprietary algorithm, the contents of which cannot be accessed without the permission of the proprietor. Loomis argued that using the outputs of proprietary algorithms contravened due process, because those affected could not interrogate or understand that component of the decision: *ibid* 756 [23] (Bradley J).

⁸⁰ *Ibid* 757 [34], 764 [67] (Bradley J).

that these comorbidities correspond to poor wellbeing, which appropriate treatment can often prevent).

The aim of incorporating tools like LSI-R into corrective decisions is to reduce rates of reoffending, or to keep rates of reoffending on par with non-algorithmic decisions whilst reducing the time that offenders spend behind bars.⁸¹ The underlying goal of this intervention is to keep people safe and their property secure, and to provide the reassurance that comes with making this protection available.⁸² What we really need to know is whether: (i) a policy of keeping those with higher LSI-R risk scores behind bars for longer and in higher-security corrective environments has the effect of reducing rates of reoffending; or (ii) LSI-R predicts reoffending accurately, given some reliable strategy for reducing rates of reoffending (and I cannot interrogate here, though others have doubted, whether criminal punishment is such a strategy).⁸³ If we can demonstrate (i) or (ii), we can show that the ‘statistical facts’ captured by the policy do have ‘the relevant justificatory force’.⁸⁴

Of course, there are other aspects to the justificatory task: the goal to which these facts relate must also be achievable (in this way) without imposing unacceptable costs upon those affected. I turn to these costs in what follows. For now, it suffices to emphasise the point that has been central to this part: inference is sufficiently ‘individualistic’ just when it captures facts about the individual that are relevant to the justification for using the algorithm. And as that justification includes the goal for which the policy of algorithmic decision-making was adopted, statistical facts and rules developed by statistical inference ‘have the relevant justificatory force’ when they help to achieve that goal.⁸⁵

This is easy to state in the abstract, but there are many reasons to exercise caution when gathering and interpreting data about how predictive algorithms function in the context of criminal justice. First, and perhaps most importantly, we have already seen that we cannot measure the likelihood of reoffending directly; instead, we must use proxies (eg arrest or conviction): LSI-R predicts re-

⁸¹ Jon Kleinberg et al, ‘Human Decisions and Machine Predictions’ (2018) 133(1) *Quarterly Journal of Economics* 237, 239–41.

⁸² TM Scanlon, *What We Owe to Each Other* (Harvard University Press, 1998) 267.

⁸³ In fact, there are serious doubts about the effectiveness of incarceration as a tool for reducing rates of reoffending: see, eg, Francis T Cullen, Cheryl Lero Jonson and Daniel S Nagin, ‘Prisons Do Not Reduce Recidivism: The High Cost of Ignoring Science’ (2011) 91(3) *The Prison Journal* 48S, 50S–51S, 60S; Paul Nieuwbeerta, Daniel S Nagin and Arian AJ Blokland, ‘Assessing the Impact of First-Time Imprisonment on Offenders’ Subsequent Criminal Career Development: A Matched Samples Comparison’ (2009) 25(3) *Journal of Quantitative Criminology* 227, 228–30.

⁸⁴ Scanlon, *Why Does Inequality Matter?* (n 76) 27.

⁸⁵ *Ibid.*

incarceration following release’;⁸⁶ OASys predicts rates of re-conviction;⁸⁷ whilst COMPAS captures any ‘finger-printable arrest involving a charge and filing for any uniform crime reporting (UCR) code.’⁸⁸ Each of these proxies depends upon prior policing decisions, such as where to concentrate surveillance, who to investigate and when to pursue an arrest and/or charge. Accordingly, the picture of criminality that is revealed by actuarial tools like LSI-R may tell us just as much about policing practices as they do about the actual incidence of crime. In this way, any validation of LSI-R as a method for predicting re-incarceration is two significant steps removed from proof of any link between LSI-R outputs and the reduction of crime per se.

Second, much existing validation data relates to the performance of actuarial tools as a whole, or to certain broad categories of reoffending.⁸⁹ Yet, even within offence sub-types for which specialist tools have been developed, there can be marked variations in reoffending prevalence, which can have a disproportionate influence upon predictive insights drawn at dataset level.⁹⁰

Third, there is very little consistency in judicial practice regarding the use of risk assessment tools, even within jurisdictions in which those tools are mandatory.⁹¹ The output of algorithms can play a largely determinative role in decision-making, or may be (or understood by the decision-maker to be) merely one non-determinative factor in the exercise of judicial discretion.⁹²

Finally, intermediate variables, including the experience of criminal punishment itself, can influence whether someone will reoffend.⁹³ The question posed by researchers seeking to validate predictive tools is often: ‘Did these

⁸⁶ Andrews and Bonta (n 2) 1–3, 12.

⁸⁷ Justice Data Lab (n 57) 4.

⁸⁸ Tim Brennan, William Dieterich and Beate Ehret, ‘Evaluating the Predictive Validity of the COMPAS Risk and Needs Assessment System’ (2009) 36(1) *Criminal Justice and Behavior* 21, 26.

⁸⁹ Kelly Hannah-Moffat and Paula Maurutto, *Youth Risk/Need Assessment: An Overview of Issues and Practices* (Report No RR03YJ-4e, April 2023) 20 <https://www.justice.gc.ca/eng/rp-pr/cj-jp/yj-jj/rr03_yj4-rr03_jj4/index.html>, archived at <<https://perma.cc/CAJ9-CUC5>>; Holsinger, Lowenkamp and Latessa (n 71) 309.

⁹⁰ See, eg, Day et al (n 71) 454.

⁹¹ See, eg, Dahle (n 27) 432.

⁹² Loomis (n 77) 764 [68], 767 [88] (Bradley J).

⁹³ See Esther FJC van Ginneken and Hanneke Palmen, ‘Is There a Relationship between Prison Conditions and Recidivism?’ (2022) 40(1) *Justice Quarterly* 106, 121; Gioiliana Kadra, Michael Daffern and Colin Campbell, ‘Detecting Offence Paralleling Behaviours in a Medium Secure Psychiatric Unit’ (2014) 19(1) *Legal and Criminal Psychology* 147, 155.

offenders actually go on to commit crime?'.⁹⁴ The unknown counterfactual is: 'Would these offenders have gone on to commit crime if they had not been classified as high risk?'. Accordingly, it is very difficult to provide adequate controls, which can isolate the value of predictive variables that relate to an individual's history and pre-detention circumstances.

Within these important limitations, researchers have reached conflicting conclusions about the success of LSI-R. Some studies have demonstrated an 'encouraging pattern, with proportionally more recidivists in the high risk categories and proportionally more non-recidivists in the lower risk categories'.⁹⁵ Indeed, LSI-R has been described as 'one of the best predictors' of reoffending and other patterns of criminal wrongdoing amongst actuarial tools.⁹⁶ Others have demonstrated that LSI-R does not 'contribute substantial predictive power' to assessments otherwise made on the basis of criminal history, age, sex and current offence.⁹⁷

Specific concerns have been raised about the 'cross-cultural mobility of the LSI-R' with respect to the Australian population.⁹⁸ These include long-standing concerns about the application of 'generic risk assessments' that draw from external populations with differing offender characteristics, penal and forensic procedures to the Australian population.⁹⁹ For instance, Stephen Mihailides,

⁹⁴ See, eg, Larson et al (n 69); Paul Gendreau, Tracy Little and Claire Goggin, 'A Meta-Analysis of the Predictors of Adult Offender Recidivism: What Works?' (1996) 34(4) *Criminology* 575, 578–9.

⁹⁵ Watkins (n 3) 5; Gendreau, Little and Goggin (n 94) 585. There, the authors note that LSI-R produces the 'highest correlation with recidivism': at Gendreau, Little and Goggin (n 94) 585.

⁹⁶ Dahle (n 27) 433, citing Gendreau, Little and Goggin (n 94) 585.

⁹⁷ See, eg, Zachary Xie et al, 'The Criminal Reimprisonment Estimate Scale (CRES): A Statistical Model for Predicting Risk of Reimprisonment' (Research Bulletin No 35, Corrective Services NSW, May 2018) 1, 3 <<https://correctiveservices.dcj.nsw.gov.au/documents/research-and-statistics/RB35-criminal-reimprisonment-estimate-scale.pdf>>, archived at <<https://perma.cc/M9R8-PF7W>>; Clare Ringland, 'Improving the Efficiency and Effectiveness of the Risk/Needs Assessment Process for Community-Based Offenders' (Research Bulletin No 154, Bureau of Crime Statistics and Research (NSW), December 2011) 1, 11 <<https://bocsar.nsw.gov.au/research-evaluations/2011/cjb154-improving-the-efficiency-and-effectiveness-of-the-risk-needs-assessment-process-for-community-based-offenders.html>>, archived at <<https://perma.cc/H4S4-43UV>>.

⁹⁸ Hsu, Caputi and Byrne, 'Assessing the Risk and Need Characteristics' (n 10) 356; Mihailides, Jude and Bossche (n 71) 209–10.

⁹⁹ Hsu, Caputi and Byrne, 'Assessing the Risk and Need Characteristics' (n 10) 356; Alfred Allan and Deborah Dawson, 'Assessment of the Risk of Reoffending by Indigenous Male Violent and Sexual Offenders' [2004] (280) *Trends and Issues in Crime and Criminal Justice* 1, 2; Kevin Howells et al, 'Risk, Needs and Responsivity in Violence Rehabilitation: Implications for Programs with Indigenous Offenders' (Research Paper, University of Wollongong Faculty of Social Sciences, 1999)

Belinda Jude and Eric Van den Bossche have argued persuasively that ‘the inmate composition of prison systems will vary by context, due to forensic, macro-social and cultural factors’, such that norms developed for a Canadian population ‘may not apply to Australian contexts.’¹⁰⁰ Heidi Gordon, Sally F Kelty and Roberta Julian conclude that there is now powerful evidence that ‘the underlying constructs of the Level of Service inventories may differ for, or not apply to, Australian offenders.’¹⁰¹

These studies have also highlighted that the tool has limited predictive validity for certain key sub-groups of the Australian population, including Aboriginal and Torres Strait Islander peoples.¹⁰² This points to a second concern, which relates to the distribution of predictive error: if the algorithm is good in the round, are its predictive failures concentrated on particular groups in the population? If they are, why does this matter? In what follows, I turn to these questions: first to the way in which the risk of error is borne by the target population, and second to a wider set of concerns that relates to the signal that certain characteristics are criminogenic.

IV EQUALITY

A great deal has been written about the discriminatory effects of algorithms,¹⁰³ particularly in relation to decisions made on the basis of algorithmic outputs

<https://ro.uow.edu.au/articles/conference_contribution/Risk_needs_and_responsivity_in_violence_rehabilitation_Implications_for_programs_with_Indigenous_offenders/27695640?file=50435685>, archived at <<https://perma.cc/WF68-J46S>>; Robin Jones et al, ‘Culturally Relevant Assessment of Indigenous Offenders: A Literature Review’ (2002) 37(3) *Australian Psychologist* 187, 189–90; Mihailides, Jude and Bossche (n 71) 209.

¹⁰⁰ Mihailides, Jude and Bossche (n 71) 207, 209. The authors support this claim via evidence that Australian offenders in general ‘scored higher on the LSI-R than did Canadian inmates’: at 215.

¹⁰¹ Gordon, Kelty and Julian (n 71) 1093–4. See also Hsu, Caputi and Byrne, ‘Assessing the Risk and Need Characteristics’ (n 10) 356.

¹⁰² See, eg, Watkins (n 3) 5; Xie et al (n 97) 11.

¹⁰³ See, eg, Matthew Le Bui and Safiya Umoja Noble, ‘We’re Missing a Moral Framework of Justice in Artificial Intelligence: On the Limits, Failings, and Ethics of Fairness’ in Markus D Dubber, Frank Pasquale and Sunit Das (eds), *The Oxford Handbook of Ethics of AI* (Oxford University Press, 2020) 162, 164–7; Annette Zimmermann, Elena Di Rosa and Hochan Kim, ‘Technology Can’t Fix Algorithmic Injustice’, *Boston Review* (online, 9 January 2020) <<http://bostonreview.net/science-nature-politics/annette-zimmermann-elena-di-rosa-hochan-kim-technology-cant-fix-algorithmic>>, archived at <<https://perma.cc/Z68S-UADR>>; Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police and Punish the Poor* (St Martin’s Press, 2018) ch 5; Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism* (New York University Press, 2018) 27; Sara Wachter-Boettcher, *Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech* (WW Norton, 2017) 111–12; Cathy O’Neil, *Weapons of Math Destruction: How Big Data Increases Inequality*

that are informed by data (eg arrest or conviction) that depend upon human discretion.¹⁰⁴ The goal of this section is to map these concerns and others onto egalitarian reasons to be concerned about the use of LSI-R within the Australian corrective context.

I begin with two egalitarian reasons that we might have to object to a given policy: reasons of equal status, to resist policies that engender practices of discrimination; and reasons of equal concern, which require states to have and show equal regard for the interests of citizens. Applied to LSI-R, I argue that these are reasons to object to the use of a tool that captures: (i) variables that lack predictive validity or cross-cultural suitability for Aboriginal and Torres Strait Islander peoples; and (ii) a set of socio-economic indicia that link harsher criminal punishment to poverty, residential instability and underemployment.

For want of a better synonym, I use the terms ‘offender’ and ‘reoffender’ throughout this article to refer to a person who has been convicted of a(nother) criminal offence. Yet, I will caveat that linguistic decision here; we have already seen that this label — the outcome to a criminal justice process — can obfuscate the ways in which that process can be shaped by a range of institutional inequities that will be the focus of this part. Accordingly, a degree of caution is necessary when reflecting upon the burdens that we require any given ‘offender’ to bear, in the context of broader assessments of justified decision-making.

A *Two Kinds of Equality*

In this section, I consider two distinct categories of egalitarian reason that we might have to object to a particular policy that affects us. The first comprises reasons of equal status, which are reasons to resist policies that engender practices of discrimination — the denial of benefits to some people on the basis of systemic and unfounded beliefs about the characteristics of those groups. The second comprises reasons of equal concern, which require states to pay equal heed to the interests of all those who fall within its sphere of allocative responsibility.

The wrongfulness of discrimination lies in the practice of denying individuals access to benefits on the basis of characteristics (eg race, nationality, sex or gender) that cannot support the attitudes and behaviours that the practice

and Threatens Democracy (Crown, 2016) 199–205; Solon Barocas and Andrew D Selbst, ‘Big Data’s Disparate Impact’ (2016) 104(3) *California Law Review* 671, 677.

¹⁰⁴ Kelly Hannah-Moffat, ‘Criminogenic Needs and the Transformative Risk Subject: Hybridizations of Risk/Need in Penalty’ (2005) 7(1) *Punishment and Society* 29, 36–7 (‘Criminogenic Needs’).

involves.¹⁰⁵ When these attitudes and behaviours are stable, individuals experience a stigmatising loss of status, which may cause them to be denied access to important benefits across the breadth of their personal and professional lives.¹⁰⁶ Call this ‘equal status’: there are reasons to want policies that engender and reflect an equality of status amongst citizens, and (vice versa) to reject policies that do not.

It bears emphasis that this concern does not end with particular decisions or particular policies. For instance, our opinions of those characteristics which make someone worthy (or not) of a particular role or opportunity are often formed from their prior experience of individuals performing those roles;¹⁰⁷ this is precisely the observation that underpins policies of affirmative action.¹⁰⁸ Thus, the systematic exclusion of certain types of people from a particular opportunity can have a long-term downstream impact upon the ability of those individuals to access benefits of this kind.¹⁰⁹ Vice versa, the systemic allocation of burdens to certain types of people can have an equally significant long-term effect on the ability of those individuals to avoid these burdens.¹¹⁰

The second kind of egalitarian reason that we might have to object to a policy relates to the special position of states, and others who owe duties to provide some good to all members of a particular group. The duty of ‘equal concern’ requires that states give equal weight to the interests of citizens when they make decisions about how to provide healthcare, social support, education and so on.¹¹¹ It does not require equal treatment, but rather good reasons for the differences in treatment that might exist — vaccination programs that prioritise the vulnerable, social support for the most needy, special educational facilities for neurodivergent pupils and so on.¹¹²

We often use the language of inequality, such as the ‘international life expectancy gap’,¹¹³ to describe differences between the lifespan of people across the world. Those differences can be vast — some 60 years in Mali versus 78 in

¹⁰⁵ Scanlon, *Why Does Inequality Matter?* (n 76) 26.

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.* 27.

¹⁰⁸ *Ibid.* 48.

¹⁰⁹ These are the objections that give weight to policies of affirmative action in this sphere, involving policies that give hiring preference (so-called ‘positive discrimination’) to those who belong to less well-represented groups: see *ibid.*

¹¹⁰ *Ibid.* 43, 48–9.

¹¹¹ *Ibid.* 13–14.

¹¹² *Ibid.*

¹¹³ *Ibid.* 11.

the US.¹¹⁴ Yet, it is not clear that the *gap* between the figures is the problem. Certainly, the higher life expectancy in the US shows us that life expectancy could be much higher in Mali if the conditions were better. But this is a reason to be concerned about the conditions that lead to low life expectancy in Mali per se, rather than a reason to be concerned about the difference between life expectancy in Mali and the US.¹¹⁵ The concern would remain even if the gap were made smaller by a declining life expectancy in the US.

Compare another example. In the US in 2021, Alaska Natives and black people had a shorter life expectancy (65.2 and 70.8 years respectively) than white people (76.4 years).¹¹⁶ Black infants were also more than twice as likely as white infants to die in infancy.¹¹⁷ These figures raise concerns of inequality to the extent that they owe their explanation to the fact that public institutions discharge their duties to provide healthcare more extensively with respect to certain groups than to others.¹¹⁸

The contrast between these examples reveals a special feature of the dynamic between citizens and states which can make inequality objectionable. States are obliged to provide certain benefits (eg healthcare, education, infrastructure and legal resources) to citizens and those with a sufficient claim to remain within state borders.¹¹⁹ This comes with an absolute requirement: states must meet a minimum threshold in providing these goods. But it also has an egalitarian component. Where states are not (or not always) obliged to make sure that all citizens have the same access to important goods, they are obliged to give the interests of citizens equal weight.¹²⁰ Accordingly, they must also be able to justify differences between the levels of access that citizens have to the goods provided.

¹¹⁴ National Center for Health Statistics, 'Life Expectancy', *Centres for Disease Control and Prevention* (Web Page, 5 June 2025) <<https://www.cdc.gov/nchs/fastats/life-expectancy.htm>>, archived at <<https://perma.cc/G7DE-Q2TW>>; 'Life Expectancy at Birth, Total (Years): Malawi, Mali', *World Bank Group* (Web Page) <<https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=MW-ML>>, archived at <<https://perma.cc/YUU8-XL2A>>.

¹¹⁵ See, eg, Scanlon, *Why Does Inequality Matter?* (n 76) 11–12.

¹¹⁶ 'The Importance of Health Education in Reducing Health Disparities', *Purdue Global* (Blog Post, 7 March 2024) <<https://www.purdueglobal.edu/blog/health-sciences/health-education-can-reduce-health-disparities>>, archived at <<https://perma.cc/M7CY-EEVN>>.

¹¹⁷ Nambi Ndugga, Latoya Hill and Samantha Artiga, 'Key Data on Health and Health Care by Race and Ethnicity', *KFF* (Web Page, 11 June 2024) <<https://www.kff.org/racial-equity-and-health-policy/report/key-data-on-health-and-health-care-by-race-and-ethnicity/>>, archived at <<https://perma.cc/SM7Y-K4QV>>.

¹¹⁸ Scanlon, *Why Does Inequality Matter?* (n 76) 12.

¹¹⁹ *Ibid.*

¹²⁰ *Ibid* 13.

This duty of ‘equal concern’ permits (indeed, often requires) differences in treatment, as long as those differences can be justified.¹²¹ For instance, at the height of the global COVID-19 pandemic, many states had to distribute vaccines amongst the relevant population.¹²² Faced with a sustained shortage of vaccines relative to population need and demand, a justified policy of vaccine distribution required states to triage — to prioritise vulnerable patients for vaccination (eg older patients and those with certain comorbidities).¹²³ Under this heading, we have reasons to object to policies that treat people differently without justification, or which treat people in the same way when different treatment is merited.

The two kinds of egalitarian reasons considered here — equal concern and equal status — need not coincide. States can breach the duty of equal concern by actions that fall short of outright discrimination, and discrimination need not depend upon any prior allocative duty. But a failure to show equal concern is often precipitated by enduring and unjustified attitudes towards certain groups, which can in turn be formed and sustained by public ratification — laws and policies that marginalise the interests of some.¹²⁴

I turn now to the way in which these egalitarian reasons apply to policies that use LSI-R to make corrective decisions within the Australian context.

B *Equality and LSI-R*

It is widely understood that algorithms can ‘[codify] discrimination.’¹²⁵ For instance, if there is a prevailing belief amongst police officers that crime occurs in certain areas of a given city, and they therefore patrol those areas more often, there are likely to be higher arrest and conviction rates in those areas that owe at least part of their explanation to policing practices.¹²⁶ If policing or corrective decisions are made on the basis of observations about a link between residential location and ‘crime’ (measured by rates of arrest or conviction), the burdens thereby allocated may not be justified by the incidence of crime. Put

¹²¹ Ibid 13–14.

¹²² Ana Tanasoca and John S Dryzek, ‘Determining Vaccine Justice in the Time of COVID-19: A Democratic Perspective’ (2022) 36(3) *Ethics and International Affairs* 333, 333–4.

¹²³ Ibid 336.

¹²⁴ Ibid 335, 348.

¹²⁵ O’Neil (n 106) 201. These policies embed ‘human prejudice, misunderstanding, and bias into the software systems that increasingly manage our lives’: at 2.

¹²⁶ See, eg, Vicki Sentas and Camilla Pandolfini, *Policing Young People in NSW: A Study of the Suspect Targeting Management Plan* (Report, 1 January 2017) 51 <<https://www.piac.asn.au/wp-content/uploads/2017/10/17.10.25-YJC-STMP-Report.pdf>>, archived at <<https://perma.cc/XX62-S8DQ>>.

simply, if the inputs to a predictive algorithm are biased, decisions that are based upon its outputs may be too.

This section maps general claims about algorithmic inequality within criminal justice onto specific reasons that we might have to object to the use of LSI-R to make decisions that affect the course of an offender's corrective journey. These include reasons of equal concern for wanting our policies of criminal justice to be shaped by predictive tools that produce reliable results for all affected sub-populations and reasons of equal status for objecting to the signals that we send about the 'criminogenic' quality of certain characteristics and circumstances.

Research within this sphere has largely focused upon the distribution of predictive error — how the sort of practice described above can lead to a concentration of inaccuracies upon certain groups.¹²⁷ For instance, in 2016, *ProPublica* reported the results of a two-year study of some 10,000 defendants in Broward County, Florida, for whom COMPAS risk assessments were provided.¹²⁸ They found that the false positive rate was much worse for black defendants than it was for white defendants: twice as many of those who COMPAS classified as highly likely to commit another crime, and who did not go on to do so, were black.¹²⁹ By contrast, the false negative rate was much worse for white defendants.¹³⁰

The apparent purchase of these concerns may depend upon the measure used to reflect predictive disparities. Equivant, the company that owns COMPAS, has argued that any population data displaying meaningful differences in incidences of the target variable amongst individuals should be assessed according to 'predictive parity':¹³¹ the predictive values for two different groups should be the same given a high risk score. Other researchers have argued that the best approach may be to aim at a balance in error rates without predictive parity, or to facilitate predictive parity by allowing the risk threshold at which rates are compared to differ amongst groups.¹³²

¹²⁷ See, eg, Samantha A Zottola et al, 'Evaluating Fairness of Algorithmic Risk Assessment Instruments: The Problem with Forcing Dichotomies' (2021) 49(3) *Criminal Justice and Behavior* 389, 389–90; Taylor (n 67).

¹²⁸ Larson et al (n 69).

¹²⁹ *Ibid.*

¹³⁰ *Ibid.*

¹³¹ William Dieterich, Christina Mendoza and Tim Brennan, *COMPAS Risk Scales: Demonstrating Accuracy Equity and Predictive Parity* (Northpointe, 2016) 9.

¹³² *Ibid* 9–10.

Similar, and similarly controversial, concerns about race, ethnicity, gender and indigeneity have been raised with respect to LSI-R.¹³³ In particular, a range of measures have been used to show that LSI-R, which was developed on the basis of datasets that did not include or did not disaggregate Indigenous populations, may have lower predictive value for Native American persons in the US and Canada, and Aboriginal and Torres Strait Islander persons in Australia ‘than when used with dominant culture offenders.’¹³⁴ Thus, the tool, which measures ‘relatively poor[ly]’ against ‘standard discrimination indices’ may not ‘be a cross-culturally fair risk assessment instrument for Australian individuals.’¹³⁵ These concerns go to the predictive power of LSI-R overall, and to the predictive power of particular correlation coefficients — the variables that correlate to criminal activity.¹³⁶

In this respect, it bears emphasis that specific variables captured by LSI-R may lack cultural relevance for communities that do not conform to dominant culture norms.¹³⁷ For instance, under ‘Leisure/Recreation’, LSI-R assesses whether the offender ‘could make better use of time.’¹³⁸ Acceptable ‘highly rewarding’ activities are listed in the LSI-R manual: stamp collecting; weightlifting; martial arts; dances; weekend BBQs and active engagement in a formal organisation (eg union, service club, sports club or team, or church).¹³⁹ It hardly bears emphasis that this list of activities and groups demonstrates poor cross-cultural validity, and researchers have demonstrated corresponding

¹³³ See, eg, Day et al (n 10) 453–6; Hannah-Moffat, ‘Actuarial Sentencing’ (n 72) 279–81; Hsu, Caputi and Byrne, ‘A Useful Risk Assessment Measure’ (n 26) 737–8; Holsinger, Lowenkamp and Latessa (n 71) 310–11; Andrew J McGrath, Anthony P Thompson and Jane Goodman-Delahunty, ‘Differentiating Predictive Validity and Practical Utility for the Australian Adaptation of the Youth Level of Service/Case Management Inventory’ (2018) 45(6) *Criminal Justice and Behavior* 820, 821–2.

¹³⁴ Day et al (n 10) 453. In the context of broader discussion about the use of risk assessment within corrective services: see generally Yilma Woldgabreal et al, ‘An Empirical Test of the Factor Structure of the Violence Risk Scale and Its Measurement Invariance across Time and Cultural Groups’ (2022) 49(9) *Criminal Justice and Behavior* 1255, 1272. See also Wilson and Gutierrez (n 71) 196–7; Hsu, Caputi and Byrne, ‘A Useful Risk Assessment Measure’ (n 26) 730. See also Watkins (n 3) 1.

¹³⁵ Ashford et al, ‘The Cross-Cultural Fairness of the LS/RNR: An Australian Analysis’ (2022) 46(3) *Law and Human Behavior* 214, 214.

¹³⁶ Wilson and Gutierrez (n 71) 198; Hsu, Caputi and Byrne, ‘Factor Structure, Sensitivity, and Specificity’ (n 10) 601–2; Fass et al (n 5) 1106.

¹³⁷ Hannah-Moffat, ‘Actuarial Sentencing’ (n 72) 277.

¹³⁸ Andrews and Bonta (n 2) 9.

¹³⁹ *Ibid.*

predictive weakness for these indicia within Aboriginal and Torres Strait Islander sub-populations.¹⁴⁰

Ching-I Hsu, Peter Caputi and Mitchell K Byrne also emphasise that the use of predictive variables that focus on traditional educational attainment may be inapt for at least some Indigenous communities, for whom school-based learning may play a less important role than 'storytelling and passing down teachings from one generation to the next'.¹⁴¹ Rather than drawing sweeping conclusions about inter- and intra-group relevance, researchers argue that any education-oriented variable should take into account how education is perceived and practiced within a given community.¹⁴²

The concerns that arise from the use of a narrow cultural norm are evidenced in an acutely concerning way by certain examples of high-risk behavioural indicia captured by LSI-R. An individual who 'rejects the underlying values of society' and/or 'expresses acceptance of the common rationalisations or justifications for law violations' (eg 'the cops were always on me for something')¹⁴³ is treated as high risk under 'attitude/orientation', whilst 'hostility' is listed as an 'emotional/personal' red flag.¹⁴⁴ Given the historical role of police in enforcing deeply damaging government policies within Aboriginal and Torres Strait Islander communities, and the well-documented and stark overrepresentation of these populations within Australian prisons,¹⁴⁵ applying a tool that includes variables of this nature to Aboriginal and Torres Strait Islander populations is profoundly concerning.

In its response to the Australian Law Reform Commission's 2017 report *Pathways to Justice: An Inquiry into the Incarceration Rate of Aboriginal and Torres Strait Islander Peoples*, the Australian Institute of Criminology highlighted several factors underpinning the 'deep mistrust' of police by some Aboriginal and Torres Strait Islander groups, including: over-policing; the role of police in implementing former government policies including those relating to

¹⁴⁰ '[I]ssues concerning constructive leisure time were relevant for all Indigenous offenders, but not for non-Indigenous offenders': Hsu, Caputi and Byrne, 'Assessing the Risk and Need Characteristics' (n 10) 355.

¹⁴¹ *Ibid* 364.

¹⁴² *Ibid*.

¹⁴³ Electronic Privacy Information Center, *Idaho LSI-R Scoring Guide* (Guide, April 2015) 26–7 <<https://archive.epic.org/EPIC-19-11-21-ID-FOIA20191206-ID-lsi-scoring-guide-v-3.pdf>>, archived at <<https://perma.cc/68TJ-75P7>>.

¹⁴⁴ *Ibid* 25, 27.

¹⁴⁵ 'Socio-Economic Outcome Area 10: Aboriginal and Torres Strait Islander Adults Are not Overrepresented in the Criminal Justice System', *Productivity Commission* (Web Page) <<https://www.pc.gov.au/closing-the-gap-data/dashboard/se/outcome-area10>>, archived at <<https://perma.cc/HVD2-4JQJ>>.

child removal; a history of conflict between police and Aboriginal and Torres Strait Islander communities and the role of police in Aboriginal and Torres Strait Islander deaths in custody.¹⁴⁶ These are all good reasons why an individual might ‘reject’ the values of society, believe that they have been targeted by police or exhibit ‘hostility’ towards legal officers.¹⁴⁷ Significant concerns arise when these behaviours or beliefs are used to allocate more extensive criminal sanctions — high security classification and prison placement, intensive corrective interventions and the denial of parole.¹⁴⁸

These concerns about the predictive variables used to inform risk assessments that are derived from holistic assessments of offender populations ought not to be understood as discrete issues that only arise from, or which arise in a homogenous way with respect to, race and indigeneity. Researchers have also raised concerns about the use of certain predictive indicia embedded within the LSI-R assessment for women, for whom certain variables are more, and others less, predictive.¹⁴⁹ As Kelly Hannah-Moffat has put it:

[E]mpirical analyses of risk tools, including the LSI-R, reveal that the criteria for establishing levels of risk routinely pay little attention to gender, racial, or ethnic differences, or to the differing social, economic, and political contexts in which these tools are deployed. Risk assessment *does not* account for these variables. Because the criminogenic factors included in generic risk tools are derived from statistical analyses of aggregate (primarily white) male correctional population data, their predictive reliability for women and racialized populations is unclear.¹⁵⁰

Thus, an intersectional perspective can reveal some of the nuances to concerns about predictive validity: if LSI-R captures variables that lack predictive validity

¹⁴⁶ Australian Law Reform Commission, *Pathways to Justice: An Inquiry into the Incarceration Rate of Aboriginal and Torres Strait Islander Peoples* (Final Report No 133, December 2017) 360 [11.52] <<https://www.alrc.gov.au/publication/pathways-to-justice-inquiry-into-the-incarceration-rate-of-aboriginal-and-torres-strait-islander-peoples-alrc-report-133/>>, archived at <<https://perma.cc/EF8N-ZHF4>>, citing Matthew Willis, *Non-Disclosure of Violence in Australian Indigenous Communities* (Report No 405, January 2011) 4–10 <<https://www.aic.gov.au/publications/tandi/tandi405/>>, archived at <<https://perma.cc/U2MD-PY49>>.

¹⁴⁷ Accordingly, researchers argue that a postcolonial lens must be applied to understanding risk: see, eg, Nicole M Muir, Jodi L Viljoen and Stephane M Shepherd, ‘Violence Risk Assessment Tools and Indigenous Peoples: Colonialism as an Underlying Cause of Risk Ratings on the SAVRY’ (2023) 22(4) *International Journal of Forensic Mental Health* 289, 294–5.

¹⁴⁸ *Ibid* 297.

¹⁴⁹ Davidson (n 40) 1–2; Hsu, Caputi and Byrne, ‘Assessing the Risk and Need Characteristics’ (n 10) 736–8.

¹⁵⁰ Hannah-Moffat, ‘Actuarial Sentencing’ (n 72) 279 (emphasis in original).

for Aboriginal and Torres Strait Islander persons, and the relevant predictive sub-scales differ for women, female offenders within Aboriginal and Torres Strait Islander communities may be particularly vulnerable to predictive failures.¹⁵¹

In 2021, the Jumbunna Institute for Indigenous Education and Research recommended that Corrective Services NSW engage a community-controlled First Nations advisor to evaluate the current LSI-R for ‘cultural relevance’, to ‘determine whether there are unequal or biased outcomes based on the person’s Aboriginality ... [and] whether and how problems might be remedied’.¹⁵² Demonstrating adequate and equal concern for the interests of Aboriginal and Torres Strait Islander people requires at least this much — a systematic and meaningful enquiry into the distribution of predictive error, the cross-cultural suitability of captured variables and consideration of the predictive performance of narrower alternatives (algorithmic tools limited to a smaller range of variables). Below, I argue that this enquiry should form part of a systematic investigation into predictive accuracy and the scope of the predictive enquiry.¹⁵³

In Canada, the application of actuarial risk tools developed from substantially non-Indigenous population data to Indigenous persons has been found unlawful, as a breach of the duty to take all reasonable steps to ensure the accuracy of data that feed into corrective decisions. In *Ewert v Canada* (*‘Ewert’*), an individual (‘E’) identifying as Métis challenged the use of five psychological and actuarial risk assessment tools used by the Correctional Service of Canada (‘CSC’) to assess psychopathy and risk of reoffending.¹⁵⁴ These tools included the Hare Psychopathy Checklist Revised,¹⁵⁵ the Violence Risk Appraisal

¹⁵¹ I am very grateful to my third anonymous referee for this point.

¹⁵² Beaufile, Cunneen and Russell (n 53) 14 [18].

¹⁵³ It is difficult to overstate the significance of getting this right, particularly in light of the extreme disproportion of Indigenous persons incarcerated within Australian prisons. Aboriginal and Torres Strait Islander peoples make up 3.2 per cent of the national population compared with 33 per cent of the incarcerated population: Australian Bureau of Statistics, *Aboriginal and Torres Strait Islander People: Census* (Release, 28 June 2022) <<https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/aboriginal-and-torres-strait-islander-people-census/2021>>, archived at <<https://perma.cc/RY7Z-3ELX>>; Australian Bureau of Statistics, *Prisoners in Australia* (Release, 19 December 2024) <<https://www.abs.gov.au/statistics/people/crime-and-justice/prisoners-australia/latest-release>>, archived at <<https://perma.cc/7X2P-ZX76>>.

¹⁵⁴ [2018] 2 SCR 165, 166 (*‘Ewert’*).

¹⁵⁵ *Ibid* 176 [11] (Wagner J for McLachlin CJ and Abella, Moldaver, Karakatsanis, Wagner, Gascon and Brown JJ).

Guide¹⁵⁶ and the Sex Offender Risk Appraisal Guide.¹⁵⁷ E argued that ‘these tools had been developed and tested on predominantly non-Indigenous populations’, and that no robust independent research had demonstrated their validity for Indigenous persons.¹⁵⁸

Under the *Corrections and Conditional Release Act*, the CSC must ‘take all reasonable steps to ensure that any information about an offender that it uses is as accurate, up to date and complete as possible.’¹⁵⁹ The Act also mandates that the CSC ensure that its policies and programs are suitable for Indigenous persons, and take their specific needs and circumstances into account.¹⁶⁰ By a majority, the Supreme Court of Canada held that the use of these risk tools involved a breach of these duties.¹⁶¹ In particular, the majority said:

[T]he clear danger posed by the CSC’s continued use of assessment tools that may overestimate the risk posed by Indigenous inmates is that it could unjustifiably contribute to disparities in correctional outcomes in areas in which Indigenous offenders are already disadvantaged. For example, if the impugned tools overestimate the risk posed by Indigenous inmates, such inmates may experience unnecessarily harsh conditions while serving their sentences, including custody in higher security settings and unnecessary denial of parole.¹⁶²

Since the *Ewert* decision, researchers have engaged in close analysis of the tools under consideration in that case, and have found that at least one of the tools (the Static-2002R) lacked predictive accuracy for Indigenous offenders.¹⁶³

In Australia, the outputs of actuarial risk assessments applied to Aboriginal persons have been challenged for a lack of forensic validity. In *Department of*

¹⁵⁶ Ibid. Amongst other factors, the Violence Risk Appraisal Guide takes into account parental alcoholism and whether the offender lived with their biological parents until (at least) the age of 16: VL Quinsey et al, *Violent Offenders: Appraising and Managing Risk* (American Psychological Association, 3rd ed, 2015) 134.

¹⁵⁷ *Ewert* (n 154) 176 [11] (Wagner J for McLachlin CJ and Abella, Moldaver, Karakatsanis, Wagner, Gascon and Brown JJ).

¹⁵⁸ Ibid 177 [12] (Wagner J for McLachlin CJ and Abella, Moldaver, Karakatsanis, Wagner, Gascon and Brown JJ).

¹⁵⁹ *Corrections and Conditional Release Act*, SC 1992, c 20, s 24(1).

¹⁶⁰ Ibid ss 79.1–80.

¹⁶¹ *Ewert* (n 154) 204–5 [80] (Wagner J for McLachlin CJ and Abella, Moldaver, Karakatsanis, Wagner, Gascon and Brown JJ).

¹⁶² Ibid 198 [65] (Wagner J for McLachlin CJ and Abella, Moldaver, Karakatsanis, Wagner, Gascon and Brown JJ).

¹⁶³ Seung C Lee, R Karl Hanson and Julie Blais, *Evaluation of Risk Assessment Tools for Indigenous Individuals with a History of Sexual Crimes: A Response to Ewert Case (2018)* (Report, 2023) <<https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/2023-r002/index-en.aspx>>, archived at <<https://perma.cc/QB5E-JVX6>>.

Public Prosecutions (WA) v Mangolamara ('Mangolamara') the Western Australia Director of Public Prosecutions sought an order of continuing detention or a supervision order under the *Dangerous Sexual Offenders Act 2006* (WA) before the Supreme Court of Western Australia.¹⁶⁴ The respondent, a young Aboriginal man, challenged (inter alia) the use of evidence derived from certain risk tools, including the Static-99, Sexual Violence Risk-20 and Risk For Sexual Violence Protocol.¹⁶⁵ Justice Hasluck concluded that 'little weight should be given to those parts of the reports concerning the assessment tools' because 'the tools were not devised for and do not necessarily take account of the social circumstances of [I]ndigenous Australians in remote communities'.¹⁶⁶

In other Australian jurisdictions, judges have been less persuaded by the risk posed by a lack of cross-cultural validation. For instance, in *A-G (NT) v JD [No 4]*, Barr J considered the decision in *Mangolamara* and evidence to the effect that the relevant risk tool (the HCR-20) 'had not been validated or proven to relate to Aboriginal offenders', and nevertheless concluded that he 'failed to see why it would not be relevant to Aboriginal populations'.¹⁶⁷ Thus, the respondent 'did not ultimately establish much relevance in the fact that HCR-20 had not been specifically validated for Aboriginal people', nor that it was inappropriate for psychological experts to utilise the tool to assess the risk of reoffending.¹⁶⁸

Australian corrective services are framed by principles that are at once more precise than those imposed by the Canadian *Corrections and Conditional Release Act*, and less obligatory for states whose actions are governed by them.¹⁶⁹ The *Guiding Principles for Corrections* provides granular norms for state corrective services.¹⁷⁰ This includes the requirement that '[a]ccurate, timely and

¹⁶⁴ [2007] WASC 71, [1] (Hasluck J) ('Mangolamara'). See generally Hannah McGlade and Vickie Hovane, 'The Mangolamara Case: Improving Aboriginal Community Safety and Healing' (2007) 6(27) *Indigenous Law Bulletin* 18.

¹⁶⁵ *Mangolamara* (n 164) [130]–[131] (Hasluck J).

¹⁶⁶ *Ibid* [165]–[166]. In *DPP (WA) v GTR* [2007] WASC 318, McKechnie J came to a similar view to Hasluck J: at [109]–[112]. A different decision was reached in *The State of Western Australia v Woods* [2007] WASC 320: at [80]–[81], [85] (Jenkins J). Furthermore, in *DPP (WA) v Moolarvie* [2008] WASC 37, Blaxell J concluded that 'the use by each psychiatrist of the "Static-99" tool does not detract from the reliability of his assessment': at [86].

¹⁶⁷ [2019] NTSC 82, [17]–[20] (Barr J).

¹⁶⁸ *Ibid* [21]. For LSI-R, researchers have argued that there may be racial bias in probation assessments: Lowder et al (n 71) 226.

¹⁶⁹ *Guiding Principles for Corrections* (n 14) 4, 6. Cf *Corrections and Conditional Release Act* (n 159) ss 79–84.1.

¹⁷⁰ *Guiding Principles for Corrections* (n 14) 4.

evidence based risk assessments of all prisoners/offenders¹⁷¹ be undertaken that can reflect a clear picture of ‘individual needs’ and support a corrective environment ‘specific to their risk of reoffending’.¹⁷² It specifically provides that ‘[i]nterventions for Aboriginal and Torres Strait Islander prisoners/offenders [be] culturally specific or adapted to cultural needs’.¹⁷³

Unlike the *Corrections and Conditional Release Act*, these principles do not have the status of binding legal obligations in Australia; rather, they ‘represent a national intent around which each Australian state and territory will develop its practices, policies and performance standards’.¹⁷⁴ But they provide a very clear and specific set of expectations regarding the use and application of risk tools generally, and the development of corrective interventions for Aboriginal and Torres Strait Islander prisoners in particular.¹⁷⁵

Given the paucity of evidence surrounding the accuracy of LSI-R with respect to Aboriginal and Torres Strait Islander groups, and the inclusion of variables that are profoundly culturally inappropriate, those expectations have not been met by states that use LSI-R to make corrective decisions. Whilst the common law specifically provides the legal foundation for courts to capture a nuanced range of circumstances of Aboriginal and Torres Strait Islander offenders at sentencing,¹⁷⁶ powerful arguments have been made that we still lack a meaningful way to reflect cultural and social heterogeneity within the actuarial risk assessments that inform corrective decisions in Australia.¹⁷⁷

It bears emphasis that this discussion about the impact of LSI-R upon Aboriginal and Torres Strait Islander groups is not limited to any given incorrect decision. When we use tools that label Aboriginal and Torres Strait Islander peoples as higher risk, we send an implicit but important signal to all those involved in law enforcement, and to the public more widely: we signal that Aboriginal and Torres Strait Islander peoples are less capable of making the decisions necessary to stay on the right side of the law, less worthy of the benefit of

¹⁷¹ Ibid 23 [5.1.2].

¹⁷² Ibid 25 [5.3.1].

¹⁷³ Ibid 23 [5.1.6].

¹⁷⁴ Ibid 4.

¹⁷⁵ Ibid 23–5.

¹⁷⁶ See, eg, *R v Fernando* (1992) 76 A Crim R 58, 62–3 (Wood J); Thalia Anthony, ‘Sentencing Indigenous Offenders’ (Research Brief No 7, Indigenous Justice Clearinghouse, March 2010) 2–3 <<https://www.indigenousjustice.gov.au/publications/sentencing-indigenous-offenders/>>, archived at <<https://perma.cc/SGF6-CULW>>. See also Richard Edney, ‘The Retreat from Fernando and the Erasure of Indigenous Identity in Sentencing’ (2006) 6(17) *Indigenous Law Bulletin* 8, 8–9.

¹⁷⁷ Day et al (n 10) 455.

the doubt that we extend to other groups within society and less suited to certain personal and professional opportunities.

These concerns have import for a range of subgroups. The focus of academic discussion has been upon indirect racial discrimination — the use of proxies or variables that correlate to race in such a way as to produce an unjustified number of incarcerated minority racial offenders.¹⁷⁸ Yet, LSI-R is far less subtle in its labelling of the economically disempowered and underemployed.¹⁷⁹ Above, I indicated that LSI-R input variables include certain facts that relate to socio-economic status, including: financial problems; ‘reliance upon social assistance’; ‘unsatisfactory accommodation’; living in a ‘high crime neighbourhood’; frequent changes of address; and underemployment.¹⁸⁰ Each factor elevates an individual’s risk score, and (we have seen) can bring about significant corrective consequences.¹⁸¹

When we punish someone simply because they lack financial means or a stable source of income, we send certain troubling messages: poor people make bad choices, and may find it harder (for a want of alternatives, or by some defect of character), to resist the lure of crime. This may be objectionable per se, and where it tends to reinforce those stigmatising differences in status, it can lead to the unjustified exclusion of individuals from benefits throughout their personal and professional lives. For if poor people make bad choices, then perhaps they make bad employees, professional associates and social partners. This tends to perpetuate precisely those cycles of disadvantage that can make it more difficult to create and sustain the conditions that enable people to live ‘a satisfactory life within the law’.¹⁸²

I have argued that there are significant egalitarian reasons for concern about the use of LSI-R to make corrective decisions within the Australian context, which may amount to a failure to comply with the *Guiding Principles for Corrections*. These reasons include the predictive validity and cross-cultural suitability of LSI-R for Aboriginal and Torres Strait Islander peoples, and the use of socio-economic variables to justify the allocation of more extensive criminal sanctions to disadvantaged populations.

¹⁷⁸ Hannah-Moffat, ‘Actuarial Sentencing’ (n 72) 279, 283.

¹⁷⁹ Ibid 280–2.

¹⁸⁰ Andrews and Bonta (n 2) 5–12.

¹⁸¹ Raudino et al (n 49) 4; Hannah-Moffat, ‘Actuarial Sentencing’ (n 72) 277; Lauren Brinkley-Rubinstein, ‘Incarceration as a Catalyst for Worsening Health’ (2013) 1(3) *Health and Justice* 1, 5.

¹⁸² Scanlon, *What We Owe to Each Other* (n 82) 264.

V CHOICE

The vast majority of existing literature in the field of ‘algorithmic fairness’ has focused upon equality.¹⁸³ There are good reasons for this: we have already seen, for instance, that algorithms may embed inequalities endemic in institutional practices into corrective decisions. But inequality is not all that is at stake for those affected by the outputs of LSI-R. In this part, I consider the value of choice — of having punishment turn upon the way in which we behave when confronted with meaningful options about what to do.¹⁸⁴ I argue that linking risk scores to facts like socio-economic circumstance or family criminality denies those affected by LSI-R outputs valuable opportunities to avoid or minimise punishment by choosing appropriately.

A *Choice and Criminal Punishment*

There are many reasons to want what happens to us to be shaped by the actions that we take when we have meaningful choices about what to do. Some are instrumental: I may, for instance, derive more satisfaction from a relationship that I have chosen to forge. But there are also non-instrumental reasons to value choice. For instance, we may want to be able to choose a hairstyle or outfit, how to celebrate important moments with our loved ones or when and how to protest decisions to which we are opposed. These ‘representative’¹⁸⁵ reasons may apply to us even if exercising these choices does not make our lives better, as ways of expressing our personality, tastes and preferences.¹⁸⁶

There are also many situations in which people are expected to make choices for themselves, in which denying a choice to some people can reflect (or be perceived to reflect) a judgement that those people ‘are not competent or do not have the standing normally accorded an adult member of the society’.¹⁸⁷ These ‘symbolic’ reasons encompass a range of choices that might, depending on the cultural and personal context, include: political participation (eg the right to vote in a general election or to serve in a jury); how to spend leisure

¹⁸³ See, eg, Bui and Noble (n 103) 164–7; Zimmermann, Rosa and Kim (n 103); Eubanks (n 103) ch 5; Noble (n 103) 27; Wachter-Boettcher (n 103) 111–12; O’Neil (n 103) ch 10; Barocas and Selbst (n 103) 677.

¹⁸⁴ See generally Scanlon, *What We Owe to Each Other* (n 82) 251–6.

¹⁸⁵ *Ibid* 252.

¹⁸⁶ Emmanuel Voyiakis, *Private Law and the Value of Choice* (Bloomsbury, 2017) 119–20.

¹⁸⁷ Scanlon, *What We Owe to Each Other* (n 82) 253. See also *ibid* 120.

time and who to spend it with; which career or faith (if any) to pursue; and how to manage (or delegate) financial decisions.¹⁸⁸

This last category of reason can be comparative, and has both an instrumental and non-instrumental component. The claim is that someone might have good reasons to object to a policy that denies them certain opportunities with which others are supplied, where this labels them as too ‘immature or incompetent’ to make these choices well.¹⁸⁹ This can be objectionable on its own terms, and where these judgements have the effect of creating unjustified differences in status, by signalling that some people are not competent to manage important privileges or opportunities.¹⁹⁰

There are different sorts of reasons to value having outcomes turn upon the way in which we behave when we have choices about what to do, many of which are not egalitarian in nature. There can be reasons of each kind to want to have the opportunity to avoid the burden of some social policy by choosing appropriately, which are at their strongest in the context of criminal punishment.

One of the key goals of criminal punishment, to keep people safe and their property secure, is achieved via a mechanism that subjects some people to a burden — which may be relatively small (eg demerit points) or life-changing (eg incarceration) for those affected.¹⁹¹ There are different kinds of reasons to want the opportunity to avoid incurring these burdens. The most obvious are instrumental:¹⁹² criminal punishment in any form is unlikely to make things go better for offenders, and can involve the loss of social, political and economic rights and privileges that play a key role in their ability to thrive as part of society.¹⁹³ Making sure that these choices are sufficiently (instrumentally)

¹⁸⁸ This sort of ‘symbolic’ reason was at play in arguments for women’s suffrage during the late 19th century. In 1867, John Stuart Mill spoke before the UK House of Commons in favour of extending the right to vote in general elections to women. He argued that there are reasons not to categorise women ‘with children, idiots, and lunatics’, incapable of forming a sensible ‘opinion about the moral and educational interests of a people’, reasons that count whether or not women suffer any ‘practical inconvenience’ from their exclusion from the political process: John Stuart Mill, ‘On the Admission of Women to the Electoral Franchise’ (Speech, House of Commons, 20 May 1867) 3–5, 8–17.

¹⁸⁹ Scanlon, *What We Owe to Each Other* (n 82) 254.

¹⁹⁰ As Mill put it, enfranchising women would eliminate an ‘unworthy stigma’ obstructing the social and professional advancement of women: Mill (n 188) 12.

¹⁹¹ Cullen, Jonson and Nagin (n 83) 50S, 52S–53S.

¹⁹² Scanlon, *What We Owe to Each Other* (n 82) 251; Voyiakis (n 186) 119.

¹⁹³ There is very little evidence that those burdens play a positive short or longer-term role in the lives of those who suffer them, and a good deal of evidence to the contrary: see, eg, Cullen, Jonson and Nagin (n 83) 53S–54S. Even for those who are not unusually vulnerable, incarceration can cause long-term detriment to economic opportunity, social integration, psychological wellbeing and physical health: Brinkley-Rubinstein (n 181) 5–12.

valuable requires safeguards — a set of clear rules published widely in advance of enforcement — and background conditions that provide us with opportunities to live a meaningful life on the right side of the law.¹⁹⁴

We also have non-instrumental reasons to want criminal punishment to turn on the actions that we take when we have meaningful choices about what to do. Giving us the opportunity to avoid criminal punishment by choosing appropriately signals that we have a certain sort of rational competence: we can (whether or not we do) guide our actions in accordance with the rules. By contrast, if we deny these opportunities to some people (eg by applying punishment to them regardless of their choices) we signal the opposite: that these people are less capable of making the choices necessary to stay within the bounds of the law.

It bears emphasis that the claim here is not that there are reasons to punish those who make bad choices. Rather, it is that the provision of sufficiently valuable opportunities to avoid or minimise punishment, supported by adequate safeguards, is a condition to the justification of policies of criminal justice that include it. I have argued that there are powerful instrumental and other reasons to want criminal punishment to be responsive to our choices. And there are reasons to want to have a range of safeguards that help us to exercise those choices well, including a set of clear and comprehensible rules, and background conditions that support people to follow them.

B *Choice and LSI-R*

In what follows, I argue that policies that use LSI-R to make decisions about the nature and duration of criminal punishment can deny the opportunities discussed immediately above — to avoid or minimise punishment by exercising sufficiently valuable choices about what to do.

We have seen that risk scores for individual offenders are generated from a range of facts that go far beyond the criminal history of an offender, encompassing circumstances that fall (wholly or partly) outside the sphere of their rational competence. This includes, *inter alia*: ‘financial problems’; ‘reliance upon social assistance’ (including disability support); ‘unsatisfactory accommodation and frequent changes of address; being part of a hostile or violent

¹⁹⁴ Moreover, the choice itself should not require unreasonable sacrifice; a valuable choice to avoid the burdens of criminal punishment is not one that requires us to think, speak or behave in a manner that leaves insufficient room for the maintenance of other valuable relationships and activities. For instance, the chance to avoid criminal punishment by eschewing friends or family, or by engaging in a limited range of prescriptive activities, may not be one that we have reason to value.

domestic relationship; having deceased, absent, or uncaring parents; being 'shy or withdrawn'; or having friends or family involved in crime or drugs.¹⁹⁵ The presence of any of these factors raises an individual's risk score, thereby lowering their chance of a more favourable corrective environment, or transfer to open conditions.¹⁹⁶

It hardly bears emphasis that these facts are not easily influenced by those to whom they apply: the child whose parents are absent or uncaring cannot (however they may wish to) bring their parents back or change their behaviours; and the individual who suffers violent abuse at the hands of their partner cannot (or cannot be expected to) avoid that harm. The risk rating and more extensive criminal sanctions that follow become (to this extent) inevitable for those affected.

This has clear instrumental ramifications for offenders, who may be subjected to a range of more extensive criminal sanctions than they would were those choices available to them. And it has a broader symbolic effect for those who are singled out in this way. When our decisions about criminal punishment turn on facts that fall outside the sphere of an offender's rational competence (eg poverty, underemployment, the criminality of friends or family etc) we signal that those who have these 'criminogenic' characteristics simply are more criminally inclined — less able to resist the sort of poor choice that leads to punitive consequences. As above, this may be objectionable on its own terms, and where it leads to the sort of stigmatising loss of status associated with practices of discrimination.

It bears emphasis that these concerns are not limited to the practical inevitability of the punitive burden. A range of variables captured by LSI-R are influenced by intentional action, but their inclusion nevertheless fails to equip us with the sort of choices that we have reason to want. For instance, we have seen that LSI-R captures the use of leisure time, including the 'absence of recent participation in a formal organisation ... eg union service club, sports club or team, or church,' social isolation and the criminality of friends.¹⁹⁷ Perhaps, those whose corrective outcomes are affected by LSI-R outputs could shape their recreational and interpersonal choices according to the list of 'valuable' activities endorsed by the LSI-R manual if they knew in advance that this could have a more favourable outcome for them. But there may be good reasons for them not to want to do this.

¹⁹⁵ Andrews and Bonta (n 2) 8–12.

¹⁹⁶ *Ibid.*

¹⁹⁷ *Ibid.* 9.

The point is not just that policies that use LSI-R to make corrective decisions may deny those affected any chance to avoid or minimise the burdens of criminal punishment. Rather, it is that these policies deny those affected the sort of chance to avoid or minimise the burdens of criminal punishment that they have reason to value. I have argued here that we have reasons to want criminal punishment to turn on how we behave when confronted with sufficiently valuable choices about what to do. These opportunities are denied or degraded by the use of socio-economic and relational sub-scales within LSI-R to make decisions about the nature and scope of carceral punishment.

In what follows, I turn to the conclusions of this analysis and recommend next steps for states within Australia that use LSI-R to make corrective decisions.

VI NEXT STEPS

In this part, I set out some considerations that should guide future enquiry into the appropriate use of risk assessment tools within Australian corrective services, and practical steps for affected states. First, I argue that the type of corrective intervention (eg punitive or therapeutic) can affect the strength of reasons for concern about the nature of the assessment. Second, I argue that we should take account of alternative models of assessment, which bolster the case for further investigation into the role that LSI-R does and ought to play within Australian corrective services.

Finally, I set out some practical next steps for affected states. Specifically, I argue for widespread public investigation into the scope and operation of LSI-R, encompassing: (i) predictive success and the distribution of predictive error amongst affected sub-populations, particularly Aboriginal and Torres Strait Islander persons; (ii) the scope of the predictive enquiry, particularly the appropriateness of variables encompassed by LSI-R; and (iii) the corrective interventions in question.

A Corrective Intervention

Much of the discussion in Part V above related to the use of risk assessment tools to make corrective decisions that can result in more extensive criminal punishment. However, the strength of the reasons that we have for concern about the use of these tools within corrective services varies a great deal according to the outcome of the decision-making process. In this respect, we have also seen that LSI-R is used — and often used primarily — to make decisions

about non-punitive corrective interventions.¹⁹⁸ This includes a prisoner's eligibility for certain treatment programs, which are geared exclusively towards rehabilitation, psychological and behavioural support and social re-integration.¹⁹⁹

No doubt, some of these interventions may be felt as burdens for those affected (eg an increased regularity of contact with case workers),²⁰⁰ but there is a wide divergence between an offender's experience of extensive incarceration and the kind of inter-agency support that can support the navigation of supervisory transitions.²⁰¹ These graduations of corrective intervention must feature in any robust decision about the future role of LSI-R within Australian corrective services.

This is particularly so when we consider the list of factors captured by a risk assessment. For instance, Andrew Day and colleagues argue that we ought to consider adapting actuarial risk assessment models to capture a nuanced range of variables 'that are aligned with cultural and social determinants' for Aboriginal and Torres Strait Islander offenders.²⁰² This includes, for instance, 'a paucity of positive role models, resource people or support services,' 'peer sanctioned alcohol abuse' and 'social isolation.'²⁰³ Yet, it is one thing to make corrective assessments on the basis of factors oriented towards certain vulnerabilities that may be felt acutely within otherwise marginalised communities as a way of allocating psychological and social support; it is quite another to use them to impose more extensive criminal punishment. Accordingly, Alexander M Holsinger, Christopher T Lowenkamp and Edward J Latessa argue that any form of risk assessment that considers ethnicity or gender ought to be oriented towards needs-based interventions and associated psychological and behavioural supports.²⁰⁴

¹⁹⁸ Hannah-Moffat, 'Actuarial Sentencing' (n 72) 276.

¹⁹⁹ Andrews and Bonta (n 2) 1.

²⁰⁰ Ibid 1–3.

²⁰¹ Ibid; Hannah-Moffat, 'Actuarial Sentencing' (n 72) 276.

²⁰² Day et al (n 10) 455.

²⁰³ Ibid.

²⁰⁴ Holsinger, Lowenkamp and Latessa (n 71) 318–19. Kelly Hannah-Moffat also makes a persuasive case for a 'newly configured and implied normative duty of the state to care, intervene, and not simply warehouse, as suggested in some actuarial justice models': Hannah-Moffat, 'Criminogenic Needs' (n 104) 42.

B *Alternative Models of Risk Assessment for Punitive Outcomes*

Determining whether we can justify a particular model of decision-making, given a range of reasonable objections, requires us to consider what (if any) alternatives are available to us. In this context, comparison is often made between human decision-making aided and unaided by algorithm, of which the former often comes up trumps.²⁰⁵ But it bears emphasis that these are not our only options; there are alternative models of risk assessment, the presence of which strengthens the case for further enquiry into the use of LSI-R as the dominant risk protocol within Australian corrective decision-making.

Where much academic focus within the sphere of algorithmic fairness has been upon the use of COMPAS, the pre-trial risk tool most widely used across jurisdictions within the US (across five states and 59 counties) is the Public Safety Assessment ('PSA').²⁰⁶ The PSA was developed by the Laura and John Arnold Foundation in tandem with criminal justice researchers and consists of a publicly available scoring and weighting formula.²⁰⁷ The PSA captures nine primarily static (historic and unchanging) factors that relate to the nature of the current offence, the offender's criminal history and any failure to appear for trial.²⁰⁸ The offender's age is the only demographic characteristic captured.

There is great deal of evidence that exclusive or predominant use of certain 'static' risk factors, the category into which most second-generation risk assessment tools fall, may have less predictive value than hybrid (static and dynamic) models.²⁰⁹ Whilst the PSA has been shown to predict criminal wrongdoing, including failure to appear for trial, 'fairly well',²¹⁰ evidence about potential racial and other disparities remains inconclusive.²¹¹ Moreover, we have already seen

²⁰⁵ Kleinberg et al (n 81) 239–41.

²⁰⁶ Mapping Pretrial Injustice (n 67); 'About the Public Safety Assessment', *Advancing Pretrial Policy and Research* (Web Page) <<https://advancingpretrial.org/psa/factors/>>, archived at <<https://perma.cc/H4SC-UW3X>>.

²⁰⁷ *Advancing Pretrial Policy and Research* (n 206).

²⁰⁸ *Ibid.*

²⁰⁹ Giguère, Brouillette-Alarie and Bourassa (n 7) 118–19; Michael S Caudy, Joseph M Durso, and Faye S Taxman, 'How Well Do Dynamic Needs Predict Recidivism? Implications for Risk Assessment and Risk Reduction' (2013) 41 *Journal of Criminal Justice* 458, 465; William M Grove et al, 'Clinical versus Mechanical Prediction: A Meta-Analysis' (2000) 12(1) *Psychological Assessment* 19, 25.

²¹⁰ Brian J Brittain, Leah Georges and Jim Martin, 'Examining the Predictive Validity of the Public Safety Assessment' (2021) 48(10) *Criminal Justice and Behavior* 1431. There, the authors noted that '[p]eer-reviewed literature examining the PSA is surprisingly thin': at 1431.

²¹¹ Zottola et al (n 127) concluded that the presence of racial discrepancies could not be eliminated from their analysis of the data: at 401, 405. Matthew DeMichele et al, 'Testing Predictive

that the predictive validity of a tool for a population that differs from the community from which predictive conclusions were drawn cannot be assumed, given a range of policing, forensic, corrective and other differences across the criminal justice system, and the wider social, economic and political contexts.²¹²

Yet, there is some evidence to indicate that the dynamic factors incorporated within the LSI-R and LS/CMI risk assessments add little predictive value to the risk assessment,²¹³ and corroborating evidence from the European, Canadian, US and Australian contexts indicates that a much more concise list of variables may perform equivalently well.²¹⁴ Indeed, one study isolates criminal history as a powerful single-factor variable.²¹⁵ Thus, a great deal more research is required to draw conclusions about the predictive utility of specific variables.²¹⁶ In this respect, Kelly Hannah-Moffat and Paula Maurutto have argued persuasively for

Biases at the Intersection of Race-Ethnicity and Sex: A Multi-Site Evaluation of a Pretrial Risk Assessment Tool' (2024) 51(6) *Criminal Justice and Behavior* 850 concluded that the PSA was a 'valid and consistent predictor of failure to appear, new criminal activity, and new violent criminal activity' across six racial-ethnic and sex groups: at 871. Matthew DeMichele et al, 'The Public Safety Assessment: A Re-Validation and Assessment of Predictive Utility and Differential Prediction by Race and Gender in Kentucky' (2020) 19(2) *Criminology and Public Policy* 409 found racial differences in predictive outcome but not 'disparate impact': at 424–5.

²¹² Xie et al (n 97) 3, 13; Day et al (n 10) 453–6; Hsu, Caputi and Byrne, 'Factor Structure, Sensitivity, and Specificity' (n 10) 614–15; Watkins (n 3) 1–2, 5; Hsu, Caputi and Byrne, 'A Useful Risk Assessment Measure' (n 26) 736–8; Fass et al (n 5) 1106; Allan and Dawson (n 99) 4; Holsinger, Lowenkamp and Latessa (n 71) 318–19; Jones et al (n 99) 189–90; Kevin Howells et al, 'Risk, Needs and Responsivity in Violence Rehabilitation: Implications for Programs with Indigenous Offenders' (Conference Paper, Best Practice Interventions in Corrections for Indigenous People Conference, 13–15 October 1999) 3–7 <https://ro.uow.edu.au/articles/conference_contribution/Risk_needs_and_responsivity_in_violence_rehabilitation_implications_for_programs_with_Indigenous_offenders/27695640?file=50435685>, archived at <<https://perma.cc/NT7M-67BY>>.

²¹³ Giguère and Lussier (n 6) 215.

²¹⁴ Hsu, Caputi and Byrne, 'Factor Structure, Sensitivity, and Specificity' (n 10) 615; Gordon et al (n 70) 1093, citing SA Arens et al, *Psychometric Properties of Colorado Substance Abuse Assessment Instruments* (Technical Report, 2005) <<https://pmc.ncbi.nlm.nih.gov/articles/PMC7203822/>>, archived at <<https://perma.cc/RZ6C-Z98H>>. A study conducted on English male offenders indicated that a two-factor solution (taking into account criminal conduct and 'personal issues') accounted for the majority of variance: Hollin, Palmer and Clark (n 71) 431, 435. For the argument that a broader list of variables is apt: Wagdy Loza and David J Simourd, 'Psychometric Evaluation of the Level of Service Inventory (LSI) among Male Canadian Federal Offenders' (1994) 21(4) *Criminal Justice and Behavior* 468, 469, 476–7.

²¹⁵ Dahle (n 27) 440.

²¹⁶ For a summary of assessments thus far that have focused in large upon the predictive value of the instrument overall: see, eg, Giguère and Lussier (n 6) 208, 210–11.

a disaggregated enquiry into the predictive utility of different components of instrument, not merely the instrument as a whole.²¹⁷

The focus of this article has been upon actuarial models of risk assessment, which typically reduce a list of factors that correlate to wrongdoing to a numeric score. Outputs are often only one factor in any professional judgment about the potential risk of reoffending, though there have been calls by some for the former to wholly replace the latter.²¹⁸ Indeed, as the authors of one actuarial instrument have written, '[w]hat we are advising is not the addition of actuarial methods to existing practice, but rather the complete replacement of existing practice with actuarial methods.'²¹⁹ We have seen that a range of concerns attend this move towards numeric assessment, which include the need to reconcile clinical oversight with large-scale, data-driven outputs.

Accordingly, models of structured professional judgment ('SPJ'), such as the HCR-20, were designed to 'integrate the almost separate worlds of research on the prediction of violence and the clinical practice of assessment.'²²⁰ They do not use numeric risk communication,²²¹ but rather help professionals to answer questions of the following nature:

What risk factors are present, and, of those, which are most relevant to understanding why a person has been violent? How do these risk factors influence a person's decisions to act violently? What is a coherent formulation of violence risk for this person? What types of violence, under what circumstances, might a person engage in in the future? What management strategies would be best suited to mitigate risk? What risk level is this person?²²²

Whilst further research has been called for, there is some evidence that SPJ measures are as strongly predictive of criminal wrongdoing as the actuarial

²¹⁷ Hannah-Moffat and Maurutto (n 89) 3–5. For a discussion of how different variables affect different communities: see Holsinger, Lowenkamp and Latessa (n 71) 310. In the German context: see Lena Greiger and Daniela Hossler, 'Which Risk Factors Are Really Predictive?: An Analysis of Andrews and Bonta's "Central Eight" Risk Factors for Recidivism in German Youth Correctional Facility Inmates' (2013) 41(5) *Criminal Justice and Behavior* 613, 628–30.

²¹⁸ See also Dahle (n 27) 432.

²¹⁹ Vernon L Quinsey et al, *Violent Offenders: Appraising and Managing Risk* (American Psychological Association, 2006) 197.

²²⁰ Kevin S Douglas et al, 'Historical-Clinical-Risk Management-20, Version 3 (HCR-20^{V3}): Development and Overview' (2014) 13(2) *International Journal of Forensic Mental Health* 93, 93.

²²¹ Kevin S Douglas, 'Evaluating and Managing Risk for Violence Using Structured Professional Judgment' in Devon LL Polaschek, Andrew Day and Clive R Hollin (eds), *The Wiley International Handbook of Correctional Psychology* (Wiley, 2019) 429, 431–2.

²²² *Ibid* 434.

approach.²²³ Some reasons to welcome this more structured integration of evidence-based reasoning with clinical assessment include the potential for secondary evaluation, or even discretionary departure,²²⁴ in cases of apparently aberrant results. Yet, it also bears emphasis that these advantages may be framed as weaknesses to the extent that they reintroduce a significant potential for bias.²²⁵

The goal here is not to advocate for any single model, or category of model, in lieu of the LSI-R. Rather, the goal is to advocate for further investigation into the merits of the different models of risk assessment that might inform punitive outcomes in the Australian context. Specifically, it is to argue that when we consider these merits, we should not only consider how good a particular tool is at helping us to achieve a valuable social goal. We must also consider: (i) the correspondence between that goal and specific predictive components; and (ii) the costs that we require people to bear for the sake of it. I have argued that these costs extend beyond concerns about inequality. They also include the interaction between corrective policies and reasons to want certain decisions that affect us, including decisions about institutional punishment, to be responsive to our choices — specifically, to how we behave when faced with different options that we have the knowledge and resources to pursue.

Below, I set out some immediate steps for states that currently use LSI-R to make corrective decisions. In particular, I argue for an extensive public investigation into LSI-R that encompasses meaningful comparison of plausible alternatives like the PSA.

VII PUBLIC INVESTIGATION

The goal of this article is not just to draw conclusions about the justification for using LSI-R; it is also to lay out some practical steps for affected states. In particular, I argue here for statewide public investigation into the use of LSI-R for corrective decision-making in NSW, Victoria and the ACT.

Within the sphere of criminal justice, there exists powerful precedent for the sort of public investigation that can make meaningful enquiries into the appropriateness of technologies and tools that support public decision-making. For instance, the NSW Law Enforcement Conduct Commission ('LECC') recently concluded 'Operation Tepito', an investigation into the Suspect Targeting

²²³ *Ibid* 440.

²²⁴ I am very grateful to my first anonymous referee for this point and terminology.

²²⁵ Kleinberg et al (n 81) 241.

Management Plan (‘STMP’).²²⁶ The investigation was launched in 2018 in response to concerns about the use of algorithmic risk scores to single out ‘targets’, some as young as ten, for intensive policing surveillance.²²⁷

Operation Tepito was informed by earlier research performed by the Youth Justice Coalition, which highlighted some profound inequalities in the application of STMP to Aboriginal and Torres Strait Islander populations, including youth populations.²²⁸ That research highlighted oppressive policing practices with little oversight.²²⁹ The LECC concluded that the program could have an ‘unreasonable, unjust, oppressive or discriminatory’ impact on children and young people, and might meet the threshold for serious misconduct.²³⁰ STMP was decommissioned in December 2023.²³¹

Operation Tepito provides a helpful template for broad enquiry into the nature and scope of algorithmic decision-making in criminal justice across various stakeholders. In this context, public investigation should address the predictive success of LSI-R and the distribution of predictive error amongst affected sub-populations, particularly Aboriginal and Torres Strait Islander persons. These enquiries should not assume cultural or socio-political homogeneity.²³² Rather, they must make a nuanced investigation into the validity of predictive tools for the diverse and culturally vibrant communities that make up our Aboriginal and Torres Strait Islander populations. They must give thought to the question of scope: accuracy aside, which variables should be captured by the risk tools used by states to make decisions that shape the nature and duration of an offender’s incarceration? Each of these questions must be addressed

²²⁶ Douglas (n 221) 429–30.

²²⁷ Steve Yeong, ‘An Evaluation of the Suspect Target Management Plan’ (Research Bulletin No 233, Bureau of Crime Statistics and Research (NSW), February 2021) 2, 7 <<https://bocsar.nsw.gov.au/documents/publications/cjb/cjb201-250/cjb233-pagesummary-evaluation-of-the-suspect-target-management-plan.pdf>>, archived at <<https://perma.cc/92CP-CEZ6>>.

²²⁸ Sentas and Pandolfini (n 126) 29–37; Law Enforcement Conduct Commission, *An Investigation into the Use of the NSW Police Force Suspect Targeting Management Plan on Children and Young People: Operation Tepito* (Report, October 2023) 7 <<https://www.lecc.nsw.gov.au/publications/publications/operation-tepito-final-report.pdf>>, archived at <<https://perma.cc/9VW3-8R2C>> (*Operation Tepito Report*).

²²⁹ Sentas and Pandolfini (n 126) 1.

²³⁰ *Operation Tepito Report* (n 228) 13.

²³¹ *Ibid* 10.

²³² As Day and colleagues have put it, ‘it makes little sense then to conduct validation research, for example, on an “Indigenous” group that comprises people from the Torres Strait, from Cape York, from the Anangu Pitjantjatjara Yankunytjatjara lands and/or from metropolitan Perth or Sydney’: Day et al (n 10) 456.

with explicit acknowledgement of the considerations relevant to the particular context of corrective intervention.

VIII CONCLUSION

I have argued that there are significant reasons for concern about the use of LSI-R to make decisions about the nature and duration of criminal punishment for Australian offenders, which justify statewide public investigation into the use of actuarial decision-making within Australian corrective services. Any such investigation should take account of: (i) predictive accuracy and the distribution of predictive error amongst Australian sub-populations, particularly Aboriginal and Torres Strait Islander persons; (ii) the scope of the predictive exercise (an enquiry into the justification for using specific variables to influence predictive outputs); and (iii) the corrective (therapeutic or other) context.