International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

Functional Impairment Screening in Custodial Settings Through a Neuropsychological Lens: A Systematic Review Protocol of Tools Assessing Cognition, Self-regulation, and Self-care

INPLASY202630087
doi: 10.37766/inplasy2026.3.0087
Received: 24 March 2026
Published: 24 March 2026

Corresponding author:
Name – Bec Thomson

bec.thomson@research.uwa.edu.au

Author Affiliation:
The University of Western Australia.

Thomson, BL; Passmore, HM; Tan, GKY; Panton, KR; Wieberneit, M; Pestell, CF.

ADMINISTRATIVE INFORMATION

Support - Budget provided by the University of Western Australia's Graduate Research School.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - Nil.

INPLASY registration number: INPLASY202630087

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 March 2026 and was last updated on 24 March 2026.

INTRODUCTION

Review question / Objective The present systematic review aims to synthesise evidence on the availability, scope, quality, and psychometric properties of screening tools used to detect neuropsychological impairments among adults in custody. In particular, the review will focus on tools that seek to identify impairments in three key domains: cognition, self-regulation, and self-care. These domains are particularly important for screening purposes, given that neuropsychological deficits in these areas are commonly associated with difficulties during incarceration and adverse post-release outcomes (Hunter et al., 2022). Moreover, they correspond to core domains assessed by a screening instrument recently developed for use across Western Australian prisons: the Functional Impairment Screening Tool (FIST).

Specifically, the review will seek to (1) synthesise and critically appraise reported evidence for the validity, reliability, and utility of existing screening tools, with reference to their conceptual alignment with neuropsychological models of functional impairment (2) determine whether previously recommended instruments remain fit for purpose (3) appraise the methodological quality, geographical scope and population diversity represented in existing validation studies and (4) identify ongoing gaps in knowledge (e.g., tools underrepresented in screening literature) to guide future research.

Findings from this review will also inform a subsequent planned validation project on the FIST, such that the synthesis of reported evidence on the psychometric performance of similar screening tools can be used as a comparative reference point for interpreting the psychometric performance of the FIST within the broader landscape of available screening instruments.

Rationale

Compared to the general population, people living in prison exhibit disproportionately higher rates of cognitive (Hutten et al., 2024), psychological, and

physical impairments (Favril et al., 2024) that ultimately interfere with their ability to function at the level of independence often required or expected by prison regimes, structures, and personnel (Hunter et al., 2022). Left untreated, functional impairments can magnify obstacles to reintegration, resulting in repeated cycling through the correctional system (Lansdell et al., 2021). Incarceration provides a unique time window during which complex health needs can be assessed and treated, often for the first time if community-based healthcare has not been accessible (Hunter et al., 2022). To this end, reliable and valid screening tools that offer a cost-effective and efficient means of identifying individuals with functional impairments are crucial to inform the allocation of support services necessary to optimise outcomes.

Despite this, existing research on the psychometric properties of functional impairment screening tools has not yet been consolidated to effectively guide justice organisations in the selection of appropriate tools. To the best of our knowledge, the proposed systematic review will be the first to examine the availability, content, and psychometric features of screening tools used to assess cognitive, self-regulatory, and self-care deficits among adult incarcerated populations. For the purposes of this review, this includes adults held in custodial settings on remand as well as those serving custodial sentences. While prior reviews have examined screening tools for neurodevelopmental disorders in youth justice (Holland et al., 2021) as well as cognitive impairment and dementia among older adults in custody (Iloabachie et al., 2025), limited recent work has addressed the adult population. This represents an important gap, particularly given the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability's (2023) call for improved screening measures in Australian criminal justice settings across all age groups.

Although one review previously examined the psychometric properties of screening tools for cognitive impairment among adults in justice settings (Catalano et al., 2020), in light of the pace of screening tool development/implementation, and increasing recognition of neurocognitive disability in justice-involved populations (Lansdell et al., 2021), an updated synthesis is both timely and necessary. Moreover, the proposed review will adopt a broader scope than Catalano et al.'s (2020) review, evaluating screening tools for self-regulatory and self-care related impairments alongside cognitive impairments, which may be equally prevalent and consequential for an individuals' experience and management needs within custodial settings. Finally, the systematic review will uniquely appraise existing screening tools from an explicitly neuropsychological perspective, assessing how well existing screening instruments align with contemporary models of functioning/impairment. These considerations will generate essential information about content validity, gaps in construct coverage, and tool strengths and limitations that can be used to guide more theoretically robust recommendations for future tool refinement.

Moreover, existing research has primarily focused on screening for specific neuropsychological disorders (e.g., fetal alcohol spectrum disorder; Flannigan et al., 2025; intellectual disability, attention deficit hyperactivity disorder, autism spectrum disorder; Holland et al., 2021), rather than domain-level impairments. Importantly, the narrow diagnostic focus of such tools may limit their utility in correctional environments, where justice-involved individuals often present with comorbid or subclinical difficulties, and staff may lack the time and training to select and administer disorder-specific screeners (Dodd et al., 2024). Conversely, tools that assess functioning across broad functional areas (e.g., cognition, self-regulation, self-care) may offer a more feasible alternative that captures a broader array of health needs and provides staff with more actionable guidance for management (Kusi-Mensah et al., 2022). The proposed systematic review may therefore generate insights that better align with real-world screening needs in prison contexts.

Condition being studied

Cognition

While there is no universally accepted definition of cognition, the term is often used to refer to a range of abilities related to intellectual functioning which facilitate the capacity to engage in everyday activities and to participate fully in society on an equal basis with others (Henderson & Bull, 2024). Cognition encompasses several domains of functioning as defined by the Diagnostic and Statistical Manual of Mental Disorders (5th Edition, text rev.; DSM-5-TR): complex attention, executive function, learning and memory, language, perceptual-motor control, and/or social cognition (American Psychiatric Association, 2022). Difficulties with any one of these capacities may present as a cross-cutting feature of various developmental, acquired, and degenerative conditions or as non-diagnosable yet functionally significant deficits (Nixon & Trounson, 2017).

Self-care

In neuropsychological assessments, self-care behaviours are typically measured under the index of adaptive functioning, broadly defined as an individual's ability to function independently in society, as measured by the conceptual, social, and practical skills needed to participate in everyday life (Tassé et al., 2012). Self-care skills have been conceptualised as observable expressions of executive functions in everyday contexts (Kusi-Mensah et al., 2022). Indeed, the successful execution of activities such as bathing or preparing food relies on an individual's capacity to plan, organise, and initiate actions effectively; remember future intentions; sustain attention; and resist preferred activities to satisfy self-care demands (Tarazi et al., 2007). Many neurological and psychiatric conditions may interfere with these executive processes, thus impeding the development, performance, and maintenance of self-care skills through distinct neurocognitive pathways (Wallace & Shubert, 2008).

Self-regulation

Self-regulation refers to the adaptive and/or goal-directed regulation of one's actions (i.e., behaviour) and internal states (i.e., cognition and emotion; Nigg, 2017). Executive functions, such as working memory, impulse control, planning, and cognitive flexibility are presumed to underlie this capacity, largely via the activity of the prefrontal cortex (Nigg, 2017). Importantly, demands on self-regulation most commonly arise in situations that are emotionally or motivationally charged, such as those involving frustration, temptation, reward or punishment (Salehinejad et al., 2021). According to contemporary models, self-regulation is therefore frequently supported by "hot" executive processes – those which operate under conditions of emotional or motivational salience, and which are primarily associated with medial and orbital prefrontal regions (Salehinejad et al., 2021). From this perspective, disruptions in self-regulation may occur when emotional/motivational impulses dominate behaviour, either due to impairments in these prefrontal control areas or particularly salient contextual demands (Heatherton & Wagner, 2011).

Functional Impairment

Functional impairment can be broadly understood as the *real-life consequences* of disorders or symptoms that compromise an individual's capacity to meet the demands of daily life, social participation, and independent activities (Weiss et al., 2019). Such impairments may arise from diverse neurodevelopmental, acquired or degenerative conditions, or may manifest as subthreshold or non-diagnosable/diffuse deficits that remain clinically and practically significant (Weiss et al., 2019).

Difficulties with cognition, self-regulation, and self-care can be understood as pathways through which functional impairment may arise. In custodial settings, for example, cognitive difficulties may undermine an individual's ability to navigate institutional routines (Gormley, 2022); difficulties with self-care may result in poor hygiene and increased vulnerability to illness (Maruca et al., 2017); and difficulties with self-regulation may manifest in interpersonal conflict (Archer & Southall, 2009).

There remains widespread consensus among academics, government research institutes, and oversight bodies that people with functional impairments are grossly overrepresented in prison populations (Dodd et al., 2024; Hellenbach et al., 2017). Clarifying the validity of available functional impairment screening tools for use with custodial populations is therefore pivotal to ensuring equitable provision of support services, rehabilitation opportunities, and legal accommodations to this group (Silva et al., 2015).

METHODS

Search strategy

This study will be guided by the Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines (Page et al., 2021) to support transparent, rigorous, and comprehensive reporting of the review process. A systematic search will be undertaken across the following electronic databases: PsycINFO, PubMed, Embase, Cumulative Index to Nursing and Allied Health Literature, Cochrane Database of Systematic Reviews, Web of Science, Scopus, ProQuest, Google Scholar, Criminal Justice Abstracts, Sociological Abstracts, Social Services Abstracts, and Law Journal Library. These databases have been selected based on precedent established in prior reviews investigating screening practices for cognitive and neurodevelopmental impairments in justice-involved populations (Catalano et al., 2020; Flannigan et al., 2025; Jewell et al., 2024). Using this broad set of sources is expected to support comprehensive retrieval of relevant evidence across medical, psychological, criminological and social science disciplines, and mitigate the impact of publication bias (Goossen et al., 2020). Additional records will be identified through forward and backward citation searching of included articles.

To ensure the development of high-quality search terms for this systematic review, a comprehensive set of keywords, synonyms, and relevant subject headings (such as MeSH terms) will be compiled for each of the key concepts. This process will be informed by search terms used in similar prior reviews, terminology identified in subject-specific thesauri, and consultation with academic librarians experienced in systematic review searching. Search strings will be piloted and iteratively refined based on preliminary results, with adaptations made for each database as needed. All search terms, strategies, filters, and modifications will be documented to ensure transparency and reproducibility in accordance with systematic review best practice standards. The final database-specific search strings will be made available in a supplementary file. A search alert will be implemented on each database to capture newly published articles up to the point of final synthesis and journal submission.

The search strategy will adopt the following overarching conceptual structure: *custodial population/setting* (concept 1) AND *adult* (concept 2) AND *functional domain* (concept 3) AND *impairment* (concept 4) AND *screening* (concept 5)

Concept 1: ("custodial population*" OR prisoner* OR incarcerated OR offender* OR inmate* OR criminal* OR prison* OR felon* OR convict* OR custod* OR correctional OR forensic OR justice OR "justice-involved*")

Concept 2: (adult* OR "young adult*" OR "middle-aged" OR "older adult*")

Concept 3: (cognit* OR intellect* OR neurocognitive OR learning OR intelligen* OR self-regulat* OR self-manage* OR self-control OR "emotional regulation" OR "emotional dysregulation" OR "behaviour* regulation" OR "behaviour* dysregulation" OR "behaviour* inhibition" OR "behaviour* control" OR self-care OR self-maintenance OR "personal care" OR "activities of daily living" OR "daily living activities" OR "adaptive function*" OR "adaptive behaviour")

Concept 4: (impair* OR deficit* OR dysfunction OR decline OR disability OR vulnerab* OR difficult* OR limitation* OR issue* OR performance)

Concept 5: ((screen* OR identif* OR assess* OR detect OR diagnos*) ADJ2 (tool* OR instrument* OR measure* OR scale* OR questionnaire* OR checklist* OR test*))

Participant or population

Justice-involved adults (i.e., individuals aged 18 years and over) who are incarcerated in custodial settings, including both sentenced individuals and those held on remand. Full inclusion and exclusion criteria are listed below.

Intervention

Not applicable.

Comparator

No active comparator or control condition is applicable in this review, as it does not evaluate therapeutic interventions. Instead, comparative data will be considered where reported in the included studies, to inform critical discussion on the psychometric performance of screening tools. This will not involve undertaking new comparative analyses; rather, the review will synthesise existing comparative evidence within the published literature.

In this context, depending on the study, comparators may include established or gold-standard assessment tools used as reference measures for evaluating screening tool properties, such as validated cognitive or adaptive functioning batteries (e.g., WAIS-IV, Vineland Adaptive Behavior Scales). Some studies may also report psychometric comparisons between the screening tool of interest and alternative screening instruments assessing one or more of the three domains of interest (cognition, self-care, or self-regulation), providing information on *relative* validity, reliability, or feasibility. In some studies, comparators may consist of clinical diagnoses or neuropsychological evaluations used to confirm or refute screening outcomes. Studies that report tool performance comparisons across different populations or settings (e.g., custodial vs community samples) may also be included, as these comparisons provide insight into generalisability and ecological validity. Where no explicit comparator is used, studies will still be included if they report sufficient data to evaluate psychometric or practical properties (e.g., internal consistency, test–retest reliability, administration feasibility). In such cases, the findings from such studies will be synthesised narratively to assess each tool's overall performance and utility within justice settings.

Study designs to be included

The present review will include quantitative empirical studies reporting psychometric, feasibility, or utility-related information about screening tools (see eligibility criteria below). This may encompass cross-sectional, cohort (prospective or retrospective), and case-control

designs. Qualitative studies may be included if they provide feasibility or implementation data relevant to tool use; qualitative-only studies without such data, as well as reviews or opinion pieces, will be excluded.

Eligibility criteria

Studies will be considered for inclusion if they meet the following criteria:

a) Language: published in English
b) Publication status: peer-reviewed article with full-text available
c) Population: focus on justice-involved adults (i.e., individuals aged 18 years and over) who are incarcerated in custodial settings, including both sentenced individuals and those held on remand. The 18 years and over specification is in line with the minimum age for persons held in adult corrective services custody in Australia, and the population for whom the FIST is routinely administered across custodial facilities in WA.
d) Setting: examine the application of tools in institutional correctional or custodial settings. Institutional correctional/custodial settings may include prisons, jails, police watchhouses/lock-ups, custody suites, or forensic inpatient facilities (e.g., mental health or medical services operated within correctional systems). Studies based solely in community or outpatient contexts will be excluded, as these settings may differ substantially in structure, population, and operational demands from the settings in which the FIST is administered.
e) Tool characteristics: examine tools with all of the following characteristics:
    a) The tool has been designed, applied or adapted for use among people in custody
    b) The tool aims to identify potential functional impairments and/or difficulties in *at least one* of the selected domains (i.e., cognition, behaviour/self-regulation, and/or self-care ability).
    c) The tool's stated purpose or application is consistent with the definition of screening tools adopted in this review (see Other Relevant Information)

        Note: Tool administration time will be recorded where available and considered as part of feasibility assessment, rather than used as an inclusion criterion (see Other Relevant Information for additional information regarding administration time considerations).
    f) Tool evaluation/outcome reporting: report on the psychometric properties, feasibility, utility, content or other relevant descriptive characteristics of a screening tool. Studies will not be excluded solely on the basis of missing psychometric data. While psychometric properties will be key foci of data synthesis and extraction, studies that describe or pilot emerging tools without full validation data may also be included if they meet other eligibility criteria. This approach supports a comprehensive mapping of the current landscape, and will enable identification of tools with potential for further development and empirical validation.

Studies will be excluded if they:

a) Evaluate comprehensive neuropsychological assessment batteries or diagnostic instruments designed for diagnostic confirmation or treatment planning (e.g., WAIS-IV) rather than screening
b) Solely/primarily examine community-based custodial populations or non-justice-involved individuals
c) Focus on tools developed exclusively for detecting specific diagnoses (e.g., dementia, fetal alcohol spectrum disorder), unless they have been adapted/used for broader domain-level screening purposes
d) Do not provide sufficient descriptive detail or performance-related information about the tool (e.g., prevalence studies that utilise a tool without discussing its properties)
e) Include mixed populations (e.g., community and custodial participants) without disaggregated data on institutional justice-involved adults

Information sources

Electronic databases: PsychINFO, PubMed, Embase, Cumulative Index to Nursing and Allied Health Literature, Cochrane Database of Systematic Reviews, Web of Science, Scopus, ProQuest, Google Scholar, Criminal Justice Abstracts, Sociological Abstracts, Social Services Abstracts, and Law Journal Library. This multi-disciplinary database selection follows precedent established in prior reviews investigating screening and identification practices for cognitive and neurodevelopmental impairments in justice-involved populations (Catalano et al., 2020; Flannigan et al., 2025; Jewell et al., 2024). The reference lists of included articles will be hand-searched to identify additional records, and forward citation searching will be conducted on Scopus, Web of Science, and Google Scholar to locate newer relevant studies that have cited included works. A search feed will monitor and update any new articles prior to the final analysis to ensure inclusion of the most recent studies.

Main outcome(s)

The main outcomes extracted from the included studies will fall into two categories.

The first category will comprise the *reported* psychometric properties of screening tools. This will include indicators of a tool's:

- Validity (e.g., concurrent, predictive, criterion, construct validity), as determined through comparison with clinical diagnoses, real-world functional outcomes, or gold standard assessments, for example
- Reliability (e.g., internal consistency, inter-rater reliability, test-retest reliability, and other indices of measurement stability or reproducibility)
- Discriminative accuracy metrics (e.g., sensitivity, specificity, positive and negative predictive values, likelihood ratios, area under the curve values)

Note: Psychometric data extraction will be limited to outcomes, analyses and findings *as reported in the included studies*; no re-analysis of raw data or primary psychometric testing will be conducted as part of this review.

The second category will comprise the *reported* conceptual features of screening tools. This will include information pertaining to:

- Item content
- Subscale structure
- Domain coverage
- Adopted theoretical framework/justification

This information will support evaluation of each tool's alignment with neuropsychological models of cognitive, self-regulatory, and self-care impairments.

Additional outcome(s)

If data permit, and if the scope of this review allows, additional outcomes may include:

- Feasibility (i.e., administration time, administration format, ease of use, training burden, resource demands, cost-effectiveness, acceptability to staff or individuals in custody, scoring requirements, interpretability, use consistency)
- Utility and impact on downstream decision-making (i.e., proportion of further service uptake, assessment referral, or support allocation to those identified as impaired in a particular domain)
- Contextual factors influencing tool performance (e.g., custodial setting type, jurisdiction)
- Performance across demographic subgroups (e.g., age, sex, cultural background) to explore tool equity and population applicability
- Comparative performance of tools across functional domains (cognition, self-regulation, self-care)
- Population-level outcomes (e.g., proportion of justice-involved individuals screening positive for impairment in specific functional domains)
- Study-level indicators (e.g., geographical setting, population characteristics, methodological quality). These features may be incorporated into the narrative synthesis to assist in characterising the current landscape of functional impairment screening literature and identifying ongoing gaps in knowledge.

Data management

All search results from included databases will be imported into Covidence (Veritas Health Innovation, 2025), for study screening and data extraction. Duplicates will be removed prior to title and abstract screening. Two reviewers will independently screen all titles and abstracts against the eligibility criteria. Articles will be sorted into three categories: *Yes, No,* or *Maybe.* Full-text screening will be conducted for all *Yes* and *Maybe* studies by one or more reviewers from the research team. Disagreements regarding inclusion will be documented and resolved through discussion; if consensus cannot be reached, a third reviewer will adjudicate. Inter-rater reliability for screening will be quantified using Cohen's kappa.

Data extraction will be conducted in Covidence using a piloted extraction form developed *a priori*. Extracted data will be stored in Covidence and exported to Microsoft Excel for further organisation, quality checking, and preparation for synthesis. This approach will facilitate transparent record-keeping, multi-author workflows and collaboration among reviewers.

Where reported, data extracted from studies will include:

- **Study characteristics:** title, author/s, year of publication, journal, country/jurisdiction, setting, study aims, study design, data analysis techniques
- **Participant characteristics:** sample size, recruitment method, mean age or age range, sex or sex distribution, gender, cultural background, primary language, relevant diagnoses or clinical characteristics, custodial status (e.g., remand/sentenced)

- **Screening tool characteristics:** name, purpose, domain/s assessed, item content summary, subscale or factor structure, administration format, scoring procedures, required training, cost, accessibility, typical administration purpose, time-points, and/or conditions
- **Psychometric outcomes:**

  - Validity (e.g., construct, concurrent, criterion, predictive)

  - Reliability (e.g., internal consistency, inter-rater reliability, test-retest reliability)

  - Diagnostic accuracy (e.g., sensitivity, specificity, positive predictive value, negative predictive value, likelihood ratios, area under the curve/receiver operating characteristic values

Note: If separated by subgroup, psychometric outcomes will be recorded for each reported subgroup

- Feasibility and utility outcomes: administration time, completion rates, usability, acceptability to staff or individuals in custody, referral or further assessment uptake, scoring burden, administration barriers/facilitators
- **Population-level outcomes:** percentage screening positive for impairment by domain, prevalence of multi-domain impairment
- **Conceptual alignment indicators:** theoretical rationale, construct definitions, item and subscale content/structure, construct validity indicators, and internal consistency indicators. A predefined extraction matrix will be used to code item content and subscale structure against neuropsychological frameworks for cognition, self-regulation, and self-care.

Quality assessment / Risk of bias analysis

Quality and risk of bias assessment in the current review will be conducted at three levels: (i) study-level methodological quality, (ii) psychometric analysis quality, and (iii) certainty of the overall evidence base.

First, overall methodological quality and risk of bias of included studies will be assessed using the appropriate Joanna Briggs Institute (JBI) Critical Appraisal Checklists (Aromataris et al., 2024), selected according to study design. The use of the JBI tools will permit systematic evaluation of study robustness across domains such as sampling and recruitment methods, clarity of inclusion criteria, confounding, analytic approach, and reporting quality. Two reviewers will independently appraise each study, with discrepancies resolved through discussion or consultation with a third reviewer.

Second, given the focus of this review on psychometric outcomes, targeted assessment of how psychometric analyses were conducted and reported will be undertaken where possible. In this context, risk of bias assessment will focus on the quality of measurement methods used to generate psychometric outcomes across studies, rather than re-assessment of the psychometric properties themselves. Where study design and reporting permit, guidance from the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) Risk of Bias framework will be used to inform this assessment. This framework provides a structured approach for evaluating the methodological quality of studies assessing measurement properties, with a particular emphasis on the methods used to evaluate validity, reliability, and responsiveness (Prinsen et al., 2018). Where formal COSMIN appraisal is not feasible due to study heterogeneity or incomplete reporting, psychometric analysis quality will instead be summarised narratively.

Studies will not be excluded solely on the basis of high risk of bias; however, quality assessments will inform the interpretation of findings, the strength of conclusions drawn, and the identification of insufficiencies in the current literature.

The strength and certainty of the evidence across screening tools will be interpreted in light of the methodological quality of the included studies, the consistency of findings across studies, and the extent and quality of available psychometric evidence for each tool. Where multiple studies evaluate the same screening instrument or measurement property, patterns of convergence or divergence in reported findings will be described. Given the anticipated heterogeneity in study designs, scope, focus, and reporting practices, formal certainty-of-evidence grading frameworks (e.g., GRADE) are unlikely to be feasible. Therefore, overall confidence in the evidence base will be appraised narratively.

Strategy of data synthesis

This review will provide a comprehensive synthesis of the psychometric and conceptual characteristics of functional impairment screening tools used in adult custodial settings. All analysis will be based on psychometric estimates and data as reported in the included studies. Given

anticipated heterogeneity in study design, outcomes, and tool characteristics, a narrative synthesis will be conducted.

Data will first be summarised by screening tool, with each tool presented alongside its available evidence for validity, reliability, diagnostic accuracy, conceptual alignment, and any additional outcomes with sufficient information available to permit synthesis (e.g., feasibility). Study characteristics (design, sample, setting etc.) will be tabulated within each tool-specific grouping to enable comparison across studies evaluating the same instrument.

Following tool-level synthesis, reported findings will be compared *across* tools to identify patterns, gaps in domain coverage, and relative strengths and limitations. Quantitative psychometric indicators (e.g., correlation coefficients, Cronbach's alpha, ICCs, sensitivity, specificity, AUC values) will be summarised descriptively, including ranges and measures of central tendency where appropriate, to facilitate comparison of psychometric performance across tools. Formal meta-analysis falls outside the scope of this review's objectives, and will not be undertaken. Patterns of evidence and areas with limited or absent validation data will be identified to highlight gaps and guide future research.

Conceptual alignment will be examined by mapping construct validity findings, tool content, subscale structure, and stated theoretical grounding onto contemporary neuropsychological models of cognition, self-regulation, and self-care using a predefined extraction matrix. Patterns of coverage, gaps in theoretical coherence, and relative tool comprehensiveness will be described narratively.

If sufficient information on additional outcomes is available, quantitative feasibility and utility indicators (e.g., administration time, completion rates, referral or further assessment uptake) will be summarised descriptively and compared across tools.

Subgroup analysis

Subgroup analyses may be conducted if sufficient studies report outcomes by sex, age (i.e., across the adult lifespan), or cultural background, to explore potential differences in the effectiveness of tools across demographic groups.

Sensitivity analysis

To assess the robustness of the findings, sensitivity analyses will be conducted by comparing conclusions drawn from the full dataset with those derived when studies deemed at high risk of bias are analysed separately or accorded less interpretive weight.

Language restriction Studies will only be considered for inclusion if they are published in English.

Country(ies) involved Australia.

Other relevant information

Definition of screening tools used in this review

Although there is no universally accepted definition of what constitutes a screening tool, the present review will adopt a definition consistent with previous literature: instruments used for the preliminary, time-efficient identification of potential neuropsychological dysfunction, with the aim of assisting healthcare professionals in deciding whether additional diagnostic or therapeutic procedures are necessary (Kalbe et al., 2013; Ilobachie et al., 2025). For the purposes of the present review, eligible tools may take a variety of formats (e.g., self-report, observer-rated, clinician-rated), provided they meet the eligibility criteria outlined above.

Tool characteristics: Tool administration time

Administration time is a key consideration in determining the effectiveness of screening instruments in custodial environments, where practical utility relies heavily on brevity and ease of use. Many commonly used *cognitive* impairment screening instruments that have been used in custodial settings, including those recommended by Catalano et al. (2020), can be administered in approximately 15 minutes or under (see Iloabachie et al., 2025). However, time constraints are likely to vary across correctional facilities and jurisdictions, and some authors may neglect to document or report the administration time of screening tools. Additionally, given the limited literature in this area, uncertainty about the typical administration time for self-care and self-regulation screening tools, and the importance of capturing emerging and potentially promising tools, a flexible approach to administration time is warranted. Thus, administration time will **not** be used as an inclusion criterion. Instead, instrument administration time will be extracted and reported where available to inform analysis of tool feasibility. Where reported, administration times will be summarised descriptively (e.g., range, mean, median) to enable comparison across included tools. Where not explicitly reported, this will be noted, and feasibility

may be inferred cautiously based on other available information about tool features. Accordingly, tools will be included regardless of administration time, provided they meet the other eligibility criteria outlined above. This approach maximises the inclusion of potentially relevant tools, while allowing feasibility considerations to be examined systematically within the synthesis.

Keywords

Functional impairment; screening tools; cognition; self-care; self-regulation; custodial settings; prison; neuropsychological assessment; systematic review

Dissemination plans

The author will aim to publish the results in a peer-reviewed journal article and present them at relevant conferences. The results may also be disseminated in presentations to Western Australian Department of Justice (DoJ) stakeholders and other justice departments nationally, as part of a broader research program investigating the validity of the FIST, a screening tool developed by the DoJ.

Contributions of each author

Author 1 - Bec Thomson
Contributions: Conceptualisation of the review; development of the eligibility criteria, search strategy, and risk of bias assessment approach; literature search; article screening; data extraction; data analysis; quality assessment; preparation of the initial manuscript draft and approval of the final manuscript.
Email: bec.thomson@research.uwa.edu.au
ORCID: 0009-0002-3100-6096
Affiliation: The University of Western Australia

Author 2 – Hayley Passmore
Contributions: Supervision of the review process; third-party oversight of study screening and methodological development of the review (i.e., eligibility criteria, search strategy, risk of bias assessment strategy, and data analysis strategy); manuscript review and approval of the final manuscript.
Email: hayley.passmore@uwa.edu.au
ORCID: 0000-0002-5031-2593
Affiliation: The University of Western Australia

Author 3 – Grace Tan
Contributions: Supervision of the review process; third-party oversight of study screening and methodological development of the review (i.e., eligibility criteria, search strategy, risk of bias assessment strategy, and data analysis strategy); manuscript review and approval of the final manuscript.
Email: grace.tan@uwa.edu.au
ORCID: 0000-0002-2727-1471
Affiliation: The University of Western Australia

Author 4 – Kirsten Panton
Contributions: Supervision of the review process; third-party oversight of study screening and methodological development of the review (i.e., eligibility criteria, search strategy, risk of bias assessment strategy, and data analysis strategy); manuscript review and approval of the final manuscript.
Email: kirsten.panton@uwa.edu.au
ORCID: 0000-0003-1931-5056
Affiliation: The University of Western Australia

Author 5 - Michelle Wieberneit
Contributions: Study screening, checking data extraction, and approval of the final manuscript.
Email: michelle.wieberneit@research.uwa.edu.au
ORCID 0000-0002-2935-3446
Affiliation: The University of Western Australia

Author 6 – Carmela Pestell
Contributions: Supervision of the review process; third-party oversight of study screening and methodological development of the review (i.e., eligibility criteria, search strategy, risk of bias assessment strategy, and data analysis strategy); manuscript review and approval of the final manuscript.
Email: carmela.pestell@uwa.edu.au
ORCID: 0000-0002-1737-7774
Affiliation: The University of Western Australia

References

American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425596.dsm05

Archer, J., & Southall, N. (2009). Does cost–benefit analysis or self-control predict involvement in bullying behavior by male prisoners? Aggressive Behavior, 35(1), 31-40. https://doi.org/10.1002/ab.20283

Aromataris, E., Lockwood, C., Porritt, K., Pilla, B., & Jordan, Z. (Eds.). (2024). JBI manual for evidence synthesis. Joanna Briggs Institute. https://doi.org/10.46658/JBIMES-24-01

Catalano, G., Mason, J., Brolan, C. E., Loughnan, S., & Harley, D. (2020). Screening prisoners for cognitive impairment–literature review. Journal of Intellectual Disabilities and Offending Behaviour, 11(4), 201-210. https://doi.org/10.1108/JIDOB-01-2020-0001

Dodd, S., Doyle, C., Dickinson, H., Buick, F., & Yates, S. (2024). The forgotten prisoners: Exploring the impact of imprisonment on people with disability in Australia. Criminology & Criminal Justice, 24(2), 395-412. https://doi.org/10.1177/17488958221120895

Favril, L., Rich, J. D., Hard, J., & Fazel, S. (2024). Mental and physical health morbidity among people in prisons: An umbrella review. The Lancet Public Health, 9(4), 250-260. https://doi.org/10.1016/S2468-2667(24)00023-9

Flannigan, K., Pun, J. W., Buttinger, P., Mclachlan, K., Holmstrom, K., Tremblay, M., Mela, M., & Pei, J. (2025). An updated systematic review of the literature on fetal alcohol spectrum disorder and the criminal legal system. International Journal of Law and Psychiatry, 100, Article 102073. https://doi.org/10.1016/j.ijlp.2025.102073

Goossen, K., Hess, S., Lunny, C., & Pieper, D. (2020). Database combinations to retrieve systematic reviews in overviews of reviews: a methodological study. BMC Medical Research Methodology, 20(1), Article 138. https://doi.org/10.1186/s12874-020-00983-3

Gormley, C. (2022). The hidden harms of prison life for people with learning disabilities. The British Journal of Criminology, 62(2), 261-278. https://doi.org/10.1093/bjc/azab061

Heatherton, T. F., & Wagner, D. D. (2011). Cognitive neuroscience of self-regulation failure. Trends in Cognitive Sciences, 15(3), 132-139. https://doi.org/10.1016/j.tics.2010.12.005

Hellenbach, M., Karatzias, T., & Brown, M. (2017). Intellectual disabilities among prisoners: prevalence and mental and physical health comorbidities. Journal of Applied Research in Intellectual Disabilities, 30(2), 230-241. https://doi.org/10.1111/jar.12234

Henderson, C. A., & Bull, M. (2024). Sentencing and the over-representation of people with cognitive disability in the Australian criminal justice system. Current Issues in Criminal Justice, 36(1), 81-98. https://doi.org/10.1080/10345329.2023.2245592

Holland, L., Reid, N., & Smirnov, A. (2021). Neurodevelopmental disorders in youth justice: A systematic review of screening, assessment and interventions. Journal of Experimental Criminology, 19(1), 31-70. https://doi.org/10.1007/s11292-021-09475-w

Hunter, S., Kois, L. E., Gonzales, L., Tussey, C. M., LaDuke, C., & Elbogen, E. B. (2022). Neuropsychological deficits associated with medical conditions: Implications for psychological services in criminal legal settings. Psychological Services, 19(4), 609-620. https://doi.org/10.1037/ser0000633

Hutten, J. C., Ziermans, T. B., Geurts, H. M. G., Van Horn, J. E., & Hutten, J. (2024). Cognitive functioning in offenders compared to non-offending controls: A multi-level meta-analysis. PsyArXiv. https://doi.org/10.31234/osf.io/s48rn

Iloabachie, M. C., Stoliker, B. E., Jewell, L. M., & Kent-Wilkinson, A. (2025). Screening for cognitive impairment and dementia among older people in custody: A systematic review. Dementia. Advance online publication. https://doi.org/10.1177/14713012251356587

Jewell, E., Dunleavy, B., Faitakis, M., Pun, J. W., Moss, S., Pei, J., Mela, M., Flannigan, K., Tremblay, M., & McLachlan, K. (2024). Screening and identification of fetal alcohol spectrum disorder in criminal legal settings: A realist review. Criminal Behaviour and Mental Health, 34(2), 208-270. https://doi.org/10.1002/cbm.2336

Kalbe, E., Calabrese, P., Fengler, S., & Kessler, J. (2013). DemTect, PANDA, EASY, and MUSIC: Cognitive screening tools with age correction and weighting of subtests according to their sensitivity and specificity. Journal of Alzheimer's Disease, 34(4), 813–834. https://doi.org/10.3233/JAD-122128

Kusi-Mensah, K., Nuamah, N. D., Wemakor, S., Agorinya, J., Seidu, R., Martyn-Dickens, C., & Bateman, A. (2022). A systematic review of the validity and reliability of assessment tools for executive function and adaptive function following brain pathology among children and adolescents in low-and middle-income countries. Neuropsychology Review, 32(4), 974-1016. https://doi.org/10.1007/s11065-022-09538-3

Lansdell, G. T., Saunders, B., & Eriksson, A. (2021). Neurodisability and the criminal justice system: A problem in search of a solution. In G. T. Lansdell, B. Saunders, & A. Eriksson (Eds.), Neurodisability and the criminal justice system: Comparative and therapeutic responses (1st ed., pp. 3–13). Edward Elgar Publishing. https://doi.org/10.4337/9781789907636.00008

Maruca, A. T., Dion, K., Lobelo, A. A., Ampiah-Bonney, O., Chen, C., Sanger, K., & Zucker, D. (2017). Self-care management in corrections: Perspectives from persons with an incarceration experience. Journal of Forensic Nursing, 13(3), 126-134. https://doi.org/10.1097/JFN.0000000000000162

Nigg, J. T. (2017). Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. Journal of Child Psychology and Psychiatry, 58(4), 361-383. https://doi.org/10.1111/jcpp.12675

Nixon, M., & Trounson, J. S. (2017). Effective management of inmates with borderline intellectual disability in prison. Advancing Corrections Journal, 3, 156-165. https://www.researchgate.net/publication/317328463_Effective_Management_of_Inmates_with_Borderline_Intellectual_Disability_in_Prison

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71

Prinsen, C. A., Mokkink, L. B., Bouter, L. M., Alonso, J., Patrick, D. L., De Vet, H. C., & Terwee, C. B. (2018). COSMIN guideline for systematic reviews of patient-reported outcome measures. Quality of Life Research, 27(5), 1147-1157. https://doi.org/10.1007/s11136-018-1798-3

Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability. (2023). Final report. Australian Government. https://disability.royalcommission.gov.au/publications

Salehinejad, M. A., Ghanavati, E., Rashid, M. H. A., & Nitsche, M. A. (2021). Hot and cold executive functions in the brain: A prefrontal-cingular network. Brain and Neuroscience Advances, 5, Article 23982128211007769.

Silva, D., Gough, K., & Weeks, H. (2015). Screening for learning disabilities in the criminal justice system: A review of existing measures for use within liaison and diversion services. Journal of Intellectual Disabilities and Offending Behaviour, 6(1), 33-43. https://doi.org/10.1108/JIDOB-03-2015-0003

Tarazi, R. A., Mahone, E. M., & Zabel, T. A. (2007). Self-care independence in children with neurological disorders: An interactional model of adaptive demands and executive dysfunction. Rehabilitation Psychology, 52(2), 196-205. https://doi.org/10.1037/0090-5550.52.2.196

Tassé, M. J., Schalock, R. L., Balboni, G., Bersani Jr, H., Borthwick-Duffy, S. A., Spreat, S., Thissen, D., Widaman, K. F., & Zhang, D. (2012). The construct of adaptive behavior: Its conceptualization, measurement, and use in the field of intellectual disability. American Journal on Intellectual and Developmental Disabilities, 117(4), 291-303. https://doi.org/10.1352/1944-7558-117.4.291

Veritas Health Innovation. (2025). Covidence systematic review software [Computer software]. https://www.covidence.org

Wallace, M. A., & Shubert, M. W. (2008). Promoting self-care skills. In T. Oakland & P. L. Harrison (Eds.), Adaptive Behavior Assessment System-II: Clinical use and interpretation (pp. 179-195). Academic Press. https://doi.org/10.1016/B978-012373586-7.00010-2

Weiss, M. D., McBride, N. M., Craig, S., & Jensen, P. (2018). Conceptual review of measuring functional impairment: Findings from the Weiss Functional Impairment Rating Scale. BMJ Mental Health, 21(4), 155-164. https://doi.org/10.1136/ebmental-2018-300025