

Mapping Aboriginal children's social and emotional wellbeing: Development and validation of a new tool in an Aboriginal cohort study



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Abstract

Purpose This study aimed to develop the first Aboriginal-led co-designed tool to map Australian Aboriginal children's social and emotional wellbeing (SEWB) based on holistic definitions of wellbeing that have been discussed, supported and refined by Aboriginal and Torres Strait Islander peoples over the last 30 years.

Methods Development of the Aboriginal Children's SEWB Tool was embedded in wave 2 follow-up of an existing cohort of families: the Aboriginal Families Study (AFS). Items from a questionnaire completed by mothers/caregivers of the study children (aged 5–8 years) were selected to map the seven domains of the SEWB framework. The process was Aboriginal-led by the first author, the AFS research team and Aboriginal Governance Group. Psychometric testing and revision included assessment of the structure, testing of the internal consistency of domains, and criterion validity against the Strengths and Difficulties Questionnaire (SDQ).

Main findings The Aboriginal Children's SEWB Tool (parent/caregiver report) comprises 80 items grouped into 29 indicators across six domains: Body; Mind and emotion; Family and kinship; Community; Culture; and

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Country, spirit and spirituality. Criterion validity was supported: children with high scores on the SEWB Tool had seven times higher odds of positive emotional wellbeing and four times the odds of high mental health competence, as measured with the SDQ, compared with children with low scores (Adj. OR 7.7, 95% CI 2.5 – 23.9 and Adj. OR 3.9, 95% CI 1.4 – 10.2, respectively). Fewer items were available on connection to Country, spirit, spirituality and ancestors; further refinement in these areas will be of benefit.

Principal conclusion The Aboriginal Children’s SEWB Tool was developed in response to a lack of measures recognising Aboriginal and Torres Strait Islander peoples’ conceptualisations of child social and emotional wellbeing. The new tool provides a holistic picture of SEWB experienced by Aboriginal children, with the capacity to map strengths, gaps and areas for healing across body, mind and emotion, family and kinship, community, culture and Country, spirit and spirituality. Use of the tool would support health and social practitioners working with individual children and families, within schools as well as in research settings. Work is needed to further enhance the tool.

Keywords: Social and emotional wellbeing; Aboriginal and Torres Strait Islander; Children; Families; Measure; Cohort

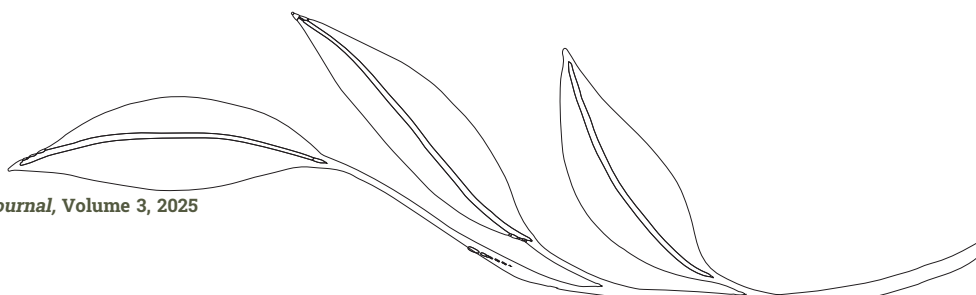
Highlights

- A tool was developed to map Aboriginal children’s social and emotional wellbeing across body, mind and emotion, family and kinship, community, culture and Country, spirit and spirituality.
- Aboriginal leadership and multiple layers of community consultation across South Australia contributed to the development of the tool.
- It provides a parent/caregiver report of a child’s strengths, as well as gaps where support or healing may be needed.
- It can be used by researchers, parents, caregivers, teachers and/or practitioners working with individual children or families.

Introduction

Public health research on Aboriginal and Torres Strait Islander child health is dominated by a biomedical model strongly focused on physical and mental health (Priest et al. 2009). Most research looks at single health outcomes in isolation, such as ear health, nutrition or growth status. In addition, most tools used to measure children’s health and wellbeing have not been designed or validated for use with Aboriginal and Torres Strait Islander children (aged <12 years) (Westerman and Dear 2023; Saunders et al. 2023) As a

result, existing research is limited to a narrow range of health outcomes that do not reflect holistic concepts of child wellbeing, including strengths and assets (Dudgeon et al. 2020; Bamblett 2012; Priest et al. 2014). Across First Nations cultures globally, Indigenous concepts of wellbeing are multidimensional and encompass spiritual, environmental, cultural and social dimensions in addition to physical and mental health (Bourke 2018; World Health Organization 2024; Sutherland and Adams 2019). In Australia, Bamblett et al. describe Aboriginal and Torres Strait Islander





peoples' conceptualisations of children's wellbeing as encompassing:

- the needs of the whole child, including cultural needs and not just the child's educational, physical or spiritual needs in isolation;
- the child's relationship to the whole family, not just mum or dad;
- the child's relationship to whole community, not just the family;
- the child's relationship to the land and the spirit beings which determine law, politics and meaning; and
- reciprocity of social and cultural obligations between the child and others (Bamblett 2012).

In Australia, the groundbreaking Ways Forward report first described holistic concepts of wellbeing reflecting an ecological, collectivist perspective of health:

The Aboriginal concept of health is holistic, encompassing mental health and physical, cultural and spiritual health. Land is central to wellbeing. This concept does not merely refer to the 'whole body' but in fact is steeped in the harmonised inter-relations which constitute well-being. These inter-relating factors can be categorised as largely spiritual, environmental, ideological, political, social, economic, mental and physical. Crucially, it must be understood that when harmony of these interrelations is disrupted, Aboriginal ill-health will persist (Swan 1995, p.19).

Over the last 30 years, holistic definitions of wellbeing have been discussed, supported and refined by Aboriginal and Torres Strait Islander peoples. The model of social and emotional wellbeing (SEWB) adopted in this study was first recognised in the National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and

Social and Emotional Wellbeing 2004–09 (Social Health Reference Group 2004) and later further articulated by Gee et al. (2014). Further work by the National Empowerment Project enhanced understandings, with national consultations further substantiating the relevance and importance of the seven SEWB domains (Dudgeon et al. 2017). In brief, healthy connections to seven inter-related domains of the body, mind and emotions, family and kinship, community, culture, Country, and spirituality support thriving individuals, families and communities. People may experience healthy and stronger connections and a sense of resilience in some domains, while have gaps and the need for healing in others. Restoring or strengthening connections to these domains increases SEWB (Gee et al. 2014).

Aboriginal and Torres Strait Islander SEWB has been recognised as a priority area by the Australian Government for three decades (Swan 1995; Australian Government 2024). Multiple programs and services focus on improving SEWB; however, there is a lack of evaluation on their impacts, outcomes and effectiveness (Newton et al. 2020; Gupta et al. 2020). A 2016 research report found that <10% of Aboriginal and Torres Strait Islander programs were evaluated either during or after implementation (Hudson 2016). A key factor limiting the evaluation of SEWB programs has been the lack of validated tools to assess and measure SEWB and how it changes over time as a result of an intervention (Newton et al. 2020). There are few culturally designed and validated quantitative tools to measure SEWB at a program evaluation or population health level (Le Grande et al. 2017; Saunders et al. 2023; Gupta et al. 2020; Westerman and Dear 2023). New and improved assessment tools that recognise Aboriginal and Torres Strait Islander conceptualisations of wellbeing are urgently needed to support the development and implementation of





programs and services that are culturally relevant for families.

A 2017 review of SEWB instruments used with Aboriginal and Torres Strait Islander adults identified 10 instruments developed for the general population, six adapted instruments and six instruments developed with Aboriginal and Torres Strait Islander populations (Le Grande et al. 2017). Few instruments had been psychometrically evaluated for use with Aboriginal and Torres Strait Islander populations and few addressed the range of SEWB domains described in holistic models. A 2023 systematic scoping review of instruments used with Indigenous children and youth in Canada, Australia, New Zealand and the United States identified 14 measures (Saunders et al. 2023). Four measures were specifically developed for Indigenous populations, three of these were developed with Indigenous youth (Thomas 2010; Westerman and Dear 2023; Thabrew et al. 2019) and one included children (Saunders et al. 2023). The Aboriginal Children's Health and Well-being Measure (ACHWM) was developed with and for children and youth (aged 8–18 years) from the Wikwemikong Unceded Indian Reserve in Canada; it is a self-report survey that produces a score in four quadrants (mental, physical, emotional and spiritual) (Young et al. 2016).

There are very limited tools available to support practitioners working with Australian Aboriginal children and families to identify and promote family, community and cultural strengths. In addition, national and international reviews of SEWB instruments emphasise the importance of 'homegrown' instruments designed and led by Aboriginal peoples (Saunders et al. 2023; Le Grande et al. 2017; Newton et al. 2020).

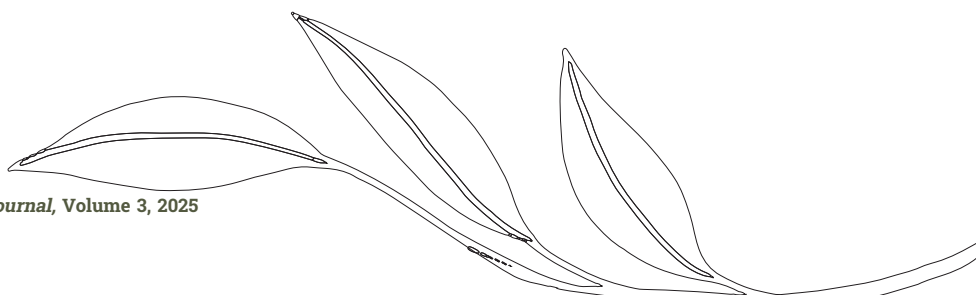
This paper describes the development of a tool for Aboriginal and Torres Strait Islander children

(hereafter, respectfully, Aboriginal¹). The tool was developed drawing on data collected in a survey designed for parents/caregivers to report on the wellbeing of their 5–8-year-old Aboriginal child in South Australia. The new tool comprises 80 items and is designed to be completed by parents/caregivers, to map children's social and emotional wellbeing. The tool aligns with the seven domains of the Aboriginal SEWB model, as articulated by Gee et al. (2014), and was developed by drawing on work conducted in the Aboriginal Families Study (AFS). The objectives of this paper were to describe: (1) development of the Aboriginal Children's SEWB Tool; (2) psychometric testing of domain internal consistency and the criterion validity of the tool.

Aboriginal Families Study

The conceptualisation and development of the Aboriginal Children's SEWB Tool builds on work undertaken in the AFS. The AFS is a prospective cohort study of 344 Aboriginal children and their mothers and other primary caregivers, which aimed to investigate the health and wellbeing of Aboriginal children and their mothers and caregivers living in urban, regional and remote areas of South Australia. The study arose from a partnership between the Murdoch Children's Research Institute and the Aboriginal Health Council of South Australia. The partnership was formalised in September 2007 through a signed project agreement, requiring the establishment of an Aboriginal Governance Group (AGG) (Buckskin et al. 2013; Weetra et al. 2019). The AGG guided the development of the study and continues to provide governance today. All decisions regarding the interpretation of data, dissemination and translation of findings have been

¹The term Aboriginal used throughout this paper is intended to refer to Aboriginal and Torres Strait Islander peoples in Australia. We acknowledge the vast and rich cultural diversity that exists within and between these communities.



made under the direction of this group. Members include Aboriginal community leaders with knowledge of South Australian Aboriginal communities and expertise in Aboriginal women's and children's health, education and social care, spanning government and community-controlled sectors (Glover et al. 2024).

The study design and methods were developed drawing on findings from community and key stakeholder consultations (Buckskin et al. 2013). The design and timelines of the AFS are detailed in Figure 1.

Mothers completed the wave 1 questionnaire at 4–12 months postpartum, and the wave 2 questionnaire

around when the children were starting school (mid-2018 to December 2020). Where the study child was not currently living with their mother, the child's primary caregiver was invited to complete a modified version of the questionnaire about the study child. All participants provided either verbal or written consent and were offered the opportunity to complete the questionnaire as an interview with an Aboriginal researcher or self-complete if preferred. Participants in each wave of data collection were given a gift voucher in appreciation of their time. The AFS obtained ethics approval through the Aboriginal Health Council of South Australia and the Royal Children's Hospital Human Research Ethics Committee.

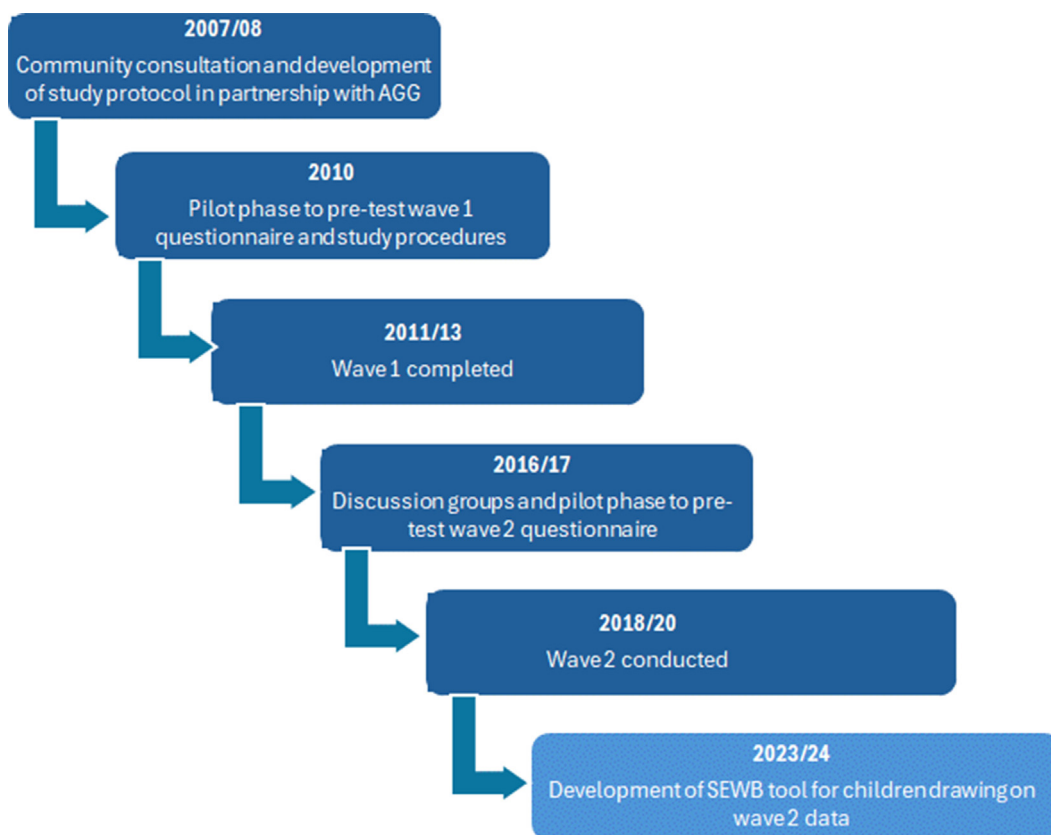


Figure 1: Timelines and processes in the Aboriginal Families Study cohort study. AGG, Aboriginal governance group; SEWB, social and emotional wellbeing.



Social and Emotional Wellbeing Tool

The Aboriginal Children’s SEWB Tool was drafted using items from the AFS wave 2 questionnaire. The questionnaire was co-designed with Aboriginal women living in urban, regional and remote communities in South Australia. Discussion groups were held with Aboriginal women living in urban and regional areas to inform two sections of the questionnaire that focused on parenting and experiences of partner violence. Time was spent adapting questions to be suitable for families living in a diverse range of communities. This included use of Aboriginal ways of using English, and words from different language groups recognisable across communities in South Australia. A full draft of the wave 2 questionnaire was pre-tested with Aboriginal women living in different parts of South Australia (Glover et al. 2022). Positive feedback indicated that women liked questions on ‘our culture’ and ‘our children’, and felt the questionnaire valued Aboriginal ways. As a result of other constructive feedback, modifications were made to capture the complexity of Aboriginal extended family and kinship relationships, with additional questions added to ask about dads and what activities they participated in with their children, about extended family (aunts, uncles, grandparents) and what women do to ‘feel good about themselves’ (Glover et al. 2024).

Method

Work on the development of the Aboriginal Children’s SEWB Tool commenced in 2023. As shown in Figure 2, two stages of work were undertaken: drafting of the tool followed by psychometric testing. Each will be described in turn.

Stage 1: Development of the tool

The tool was retrospectively drafted using existing items and scales from the AFS wave 2 questionnaire. The wave 2 questionnaire – completed by mothers and other primary caregivers of the study children – included a section that asked about the health and wellbeing of the study children. The questions covered: physical health; personal strengths; emotional and behavioural wellbeing; development; connections to culture, community and language; visits to health services; experiences at school; and time spent with family, including both immediate and extended family.

The wave 2 questionnaire included a new measure of childhood resilience that was co-designed with Aboriginal communities in South Australia and Victoria (Gartland et al. 2024; Gartland et al. 2022). The measure, called the Childhood Resilience Questionnaire – Parent/Caregiver version (CRQ-P/C),

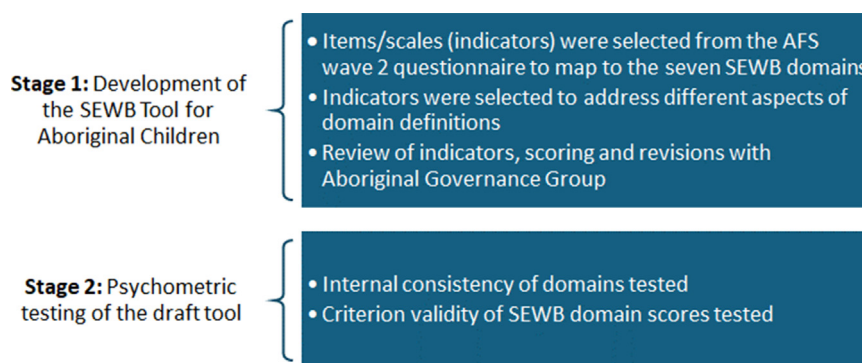
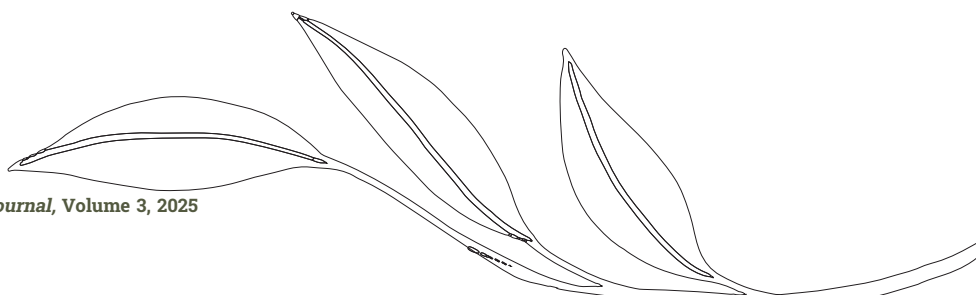


Figure 2: Development and testing for the Aboriginal children’s social and emotional wellbeing (SEWB) Tool. AFS, Aboriginal Families Study.





was designed to identify strengths and resources within a child, and in their family, friends, school and community. These strengths and resources can be accessed by the child in times of adversity to regain, sustain or grow their mental health or wellbeing. The AFS investigators (DG, KG, SB, AN) and AGG members (KG, CL) were involved in developing the CRQ-P/C.

The parent report Strength and Difficulties Questionnaire (SDQ) was also included to assess children's emotional and behavioural wellbeing. The SDQ has been widely used with Aboriginal and Torres Strait Islander children (Goodman 2001; Williamson et al. 2016). The SDQ was used as a comparison measure to test the criterion validity of the new child SEWB Tool.

Item selection and drafting of the SEWB Tool

The first author, an Aboriginal PhD student (AN), identified potentially relevant items within the AFS wave 2 questionnaire to fit the seven domains of the SEWB model using domain definitions from the 2014 paper by Gee et al. (2014) (Table 1). It should be noted that it was not possible to revise the wording of items or scales as they were drawn from an existing questionnaire: the AFS wave 2 parent/caregiver questionnaire.

All items from the wave 2 questionnaire that related to a particular domain were initially grouped together, with some items fitting into more than one domain. Items or scales relating to a specific concept within a domain were called 'indicators' and selected to portray the diverse concepts highlighted in each domain definition. Including diverse indicators within each domain was key to providing a holistic picture of a child's SEWB. For example, the Family and kinship domain included items on the child's connection to a caregiver, ways the caregiver shows love to their child,

time spent with dad, time spent with extended family and the number of people involved in bringing up the child/ren (Table 1). Several scales and individual items from the CRQ-P/C were selected as indicators in the SEWB Tool, including connections to family, school, culture and language (Gartland et al. 2022; Gartland et al. 2024).

Item selection and initial drafting was an iterative process undertaken over a period of eight months, where different ideas and approaches were explored between the AFS research team, working group members and the AGG (members described below). Items were moved to different domains, and indicators were added and removed to better reflect the domain definitions. The draft Aboriginal Children's SEWB Tool comprised 29 indicators across six domains, with indicators ranging from a single item to a group of five items (Table 1).

Review of indicators and scoring

A working group comprising the AGG and members of the AFS research team met on several occasions to discuss and revise the tool. The working group included five Aboriginal members (KG, CL, YC, RC and AN) and three non-Aboriginal members (HC, SB and DG). Six members of the working group (KG, CL, YC, AN, SB and DG) had prior experience of developing culturally specific measures.

The following questions were discussed over a series of meetings.

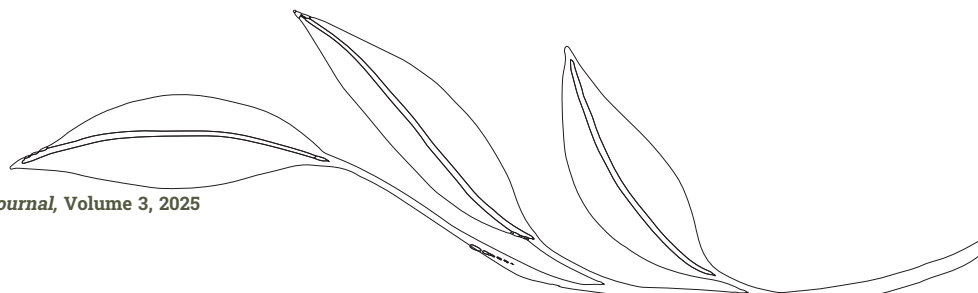
1. Do the selected items/scales/indicators fit each domain and definition?
 - Consideration was given to children's age (5–8 years) and gender for each domain, especially in the following indicators: 'Self-identity', 'Managing emotions/problems', 'Friendships' and





Domain and definition	Indicators chosen	Scoring of the indicator response options	
		Positive	Less positive
<p>Connection to body ‘Connection to body is about physical wellbeing and includes all of the normal biological markers and indices that reflect the physical health of a person (i.e. age, weight, nutrition, illness and disability, mortality).’ (p. 58)¹</p>	<p>General health (1 item) SF36 - <i>In general, would you say this child’s health is?</i></p>	Excellent	Very good/fair/poor
	<p>Physical health problems (6 items) Child had any of the following health problems in last 12 months: e.g. Respiratory (asthma, chronic cough or wheeze, constant runny nose); Ear problems (e.g. earache/infection/hearing); Skin problems, Dental</p>	0–1 health problems	2–9 problems
	<p>Sleep problem (1 item) Has this child had a sleep problem in the last 12 months?</p>	No	Yes
	<p>Disability (1 item) Told by a doctor your child has a disability</p>	No	Yes
	<p>Nutrition (2 items) How many vegetables and fresh fruit did your child eat yesterday?</p>	4+ vegetables and 1+ fruit per day ²	0–3 vegetables and 0 fruit per day
	<p>Mind and emotions ‘Connection to mind and emotions refers not only to an individual’s experience of mental wellbeing (or mental ill-health) but also the whole spectrum of basic cognitive, emotional and psychological human experience, including fundamental human needs such as: the experience of safety and security, a sense of belonging, control or mastery, self-esteem, meaning making, values and motivation, and the need for secure relationships.¹</p>	<p>Developmental health (6 items) Doctor said child has:Autism, Developmental problem, Speech problem</p>	No <i>for all items</i>
<p>Self-identity (3 items Child Resilience Questionnaire (CRQ)) My child is a strong person on the inside</p>		All the time/Most of the time <i>for all items</i>	Sometimes/Not often/Not at all
<p>Positive sense of self/future (3 items CRQ) My child is positive about their future</p>		All the time/Most of the time <i>for all items</i>	Sometimes/Not often/Not at all
<p>Managing emotions/problems (3 items CRQ) My child copes well if they have a problem</p>		All the time/Most of the time <i>for all items</i>	Sometimes/Not often/Not at all
<p>Belonging (3 items CRQ) My child feels they belong in the place where we live</p>		All the time/Most of the time <i>for all items</i>	Sometimes/Not often/Not at all
<p>Family and kinship ‘Family and kinship systems have always been central to the functioning of traditional and contemporary Aboriginal and Torres Strait Islander societies. These systems are complex and diverse and serve to maintain interconnectedness through cultural ties and reciprocal relationships. Milroy (2008) states: ‘These systems locate individuals in the community and neighbouring clans within relationships of caring, sharing, obligation and reciprocity. Essentially, the kinship system provided a very secure attachment system that established caring relationships, so that everyone grew up with multiple carers and attachment figures and, in turn, provided care for others.’ (p. 59)¹</p>	<p>Family connectedness (3 items CRQ) My child talks to me about what is happening in their life</p>	All the time/Most of the time <i>for all items</i>	Sometimes/Not often/Not at all
	<p>Showing love to child (3 items) How do you show your child you love them? By telling them you are proud/praising them</p>	Everyday/Most days <i>for all items</i>	No days/Some days
	<p>Doing things with dad or other father figures (2 items) Does your child do things together with his/her biological dad?</p>	Yes, on a regular basis <i>for either item</i>	Sometimes/No
	<p>Doing things with grandparents/aunts and uncles (2 items) Does your child do things together with his/her grandparents?</p>	Yes, on a regular basis <i>for either item</i>	Sometimes/No
	<p>Number of people involved in bringing up your child/ren (8 items) Who is involved in bringing up your child/ren? e.g. You, your child’s grandmother/s, aunts/uncles, your child’s biological dad, your partner, older siblings?</p>	3–8 people	0–2 people

(Table 1 continues on next page)





Domain and definition	Indicators chosen	Scoring of the indicator response options	
		Positive	Less positive
(Continued from previous page)			
<p>Community ‘The concept of community has been described as fundamental to identity and concepts of self within Aboriginal cultures..., a collective space where building a sense of identity and participating in family and kinship networks occurs, and where personal connections and sociocultural norms are maintained. The establishment of ACCHOs has been found to play an important role in strengthening cultural identity and fostering a sense of ownership, cultural pride and belonging for some communities.’ (p. 60)¹</p>	<p>Cultural identity at school (3 items) My child’s school acknowledges/respects my child’s culture The Aboriginal Community Education Officer (ACEO) takes an interest in my child</p>	Yes always/Yes sometimes <i>for any item</i>	Not at all/ No ACEO
	<p>Engagement at school (3 items CRQ) My child likes learning at school</p>	All the time/Most of the time <i>for all items</i>	Sometime/ Not often/ Not at all
	<p>Friendships (3 items CRQ) My child has a group of friends they have fun with</p>	All the time/Most of the time <i>for all items</i>	Sometimes/ Not at all
	<p>Engagement in community (1 item CRQ) My child likes going to events that celebrate our family culture</p>	All the time/ Most of the time	Sometimes/ Not often/ Not at all
	<p>Activities in community (4 items) How often have you done these activities with your child (past week)? Gone to watch your children play sport or do another activity</p>	Everyday/Most days/Some days <i>for any item</i>	No days
	<p>Culture ‘...refers to Aboriginal and Torres Strait Islander peoples’ capacity and opportunity to sustain and (re) create a healthy, strong relationship to their Aboriginal or Torres Strait Islander heritage. This includes all the associated systems of knowledge, law and practices that comprise this heritage... We ascribe to Hovane and colleagues’ (2013) articulation of Aboriginal culture as constituting a body of collectively shared values, principals, practices and customs and traditions. Within this context, maintaining or restoring SEWB is about supporting Aboriginal and Torres Strait Islander peoples to maintain a secure sense of cultural identity and cultural values, and to participate in cultural practices that allow them to exercise their cultural rights and responsibilities.’ (p. 61)¹</p>	<p>Learning about family (3 items) By yarning with them about family and where they are from</p>	Everyday/Most days/Some days <i>for all items</i>
<p>Connectedness to culture (3 items CRQ) My child is connected to our family culture (e.g. food, music, celebrations)</p>		All the time/Most of the time/ Sometimes <i>for all items</i>	Not often/ Not at all
<p>Connection to Elders (2 items) My child looks to their Elders (a respected older person) to guide them</p>		All the time/Most of the time/ Sometimes <i>for all items</i>	Not often/ Not at all
<p>Connectedness to language (3 items CRQ) My child can speak this language</p>		A lot/A little bit <i>for all items</i>	Not at all
<p>Opportunity to learn language (3 items CRQ) Learning this language is important to my child</p>		A lot/A little bit <i>for all items</i>	Not at all
<p>Country, spirit and spirituality Country: ‘For many Aboriginal and Torres Strait Islander peoples, spirituality is closely tied to their connection to land or ‘Country’. Country or land has been described as an area to which people have a traditional or spiritual association and the sense of connection as a deep experience, belief or feeling of belonging to country. Connection to Country and land extends beyond traditional cultural contexts, however, and the SEWB literature documents the importance of Country across the whole spectrum of diverse Aboriginal and Torres Strait Islander cultural groups around Australia.’ Spirit and spirituality: ‘Many Aboriginal and Torres Strait Islander peoples’ cultural worldviews include beliefs and experiences that are grounded in a connection to spirituality ... It is through ceremony and everyday cultural praxis that children, women and men of the community learn about their culture’s systems of moral and ethical practices that guide behaviour, and determine their personal, familial and cultural rights, obligations, and responsibilities.’ (p. 60)¹</p>		<p>Being on Country (1 item) Connected to spirit through being in their Country</p>	Sometimes/Most of the time/All of the time
	<p>Strong: family stories, values, spiritual beliefs (1 item) My child is strong because of our family stories, values or spiritual beliefs</p>	Sometimes/Most of the time/All of the time	Not often/ Not at all
	<p>Connected: spiritual beliefs, family stories (1 item) My child is connected to people through our spiritual beliefs or family stories</p>	Sometimes/Most of the time/All of the time	Not often/ Not at all
	<p>Comfort: family stories, spiritual beliefs (1 item) Our family stories or spiritual beliefs comfort my child when things are hard</p>	Sometimes/Most of the time/All of the time	Not often/ Not at all

¹Domain definitions taken from (Gee et al. 2014). ²Australian Dietary Guidelines for children aged 4–8 years (National Health and Medical Research Council 2013).

Table 1: Aboriginal Children’s Social and Emotional Wellbeing Tool: domain definitions, indicators and scoring of response options





‘Engagement at school’. Selection of items was revised to reflect aspects relevant to different ages.

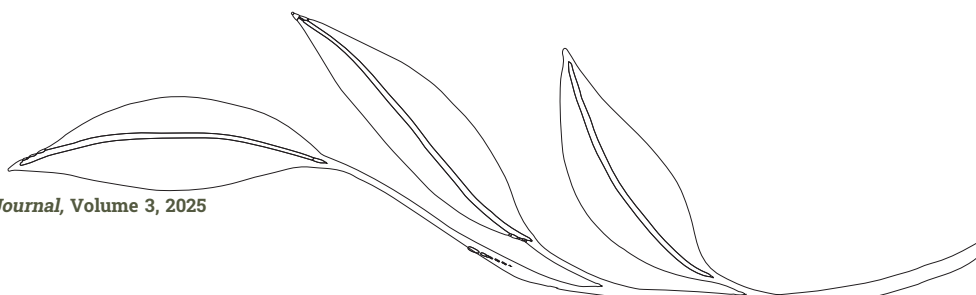
2. Are there any gaps/improvements in the draft tool?

- It was noted that there were limited items available on connection to spirituality and Country and no items on connection to ancestors. It was agreed to combine two domains outlined in the Aboriginal SEWB model (Gee et al. 2014): Connection to Country and land and Connection to spirit, spirituality and ancestors.
- AGG members commented that some children might not live on Country or have physical access to their Country; however, this does not mean that they are not connected to spirit. Members of the group recommended that consideration should be given to the re-wording of this item.
- Connection to ancestors was recognised as an important gap that would need to be addressed in the future development of the tool.
- Items asking about ‘friends’ was identified as a gap in the Community domain. This was addressed by adding three items on child friendships from the wave 2 questionnaire. A ‘yes’ to any of three items scored as positive. This was to reflect personality, age and gender differences that underpin friendships; some children only need a close friend, while others thrive with a group of friends.
- In the Community domain, the SEWB domain definition highlighted the role of Aboriginal community-controlled health organisations (ACCHOs) in strengthening cultural identity. However, this role of ACCHOs was not well addressed in the AFS wave 2 questionnaire. While data were collected on visits to health practitioners, including Aboriginal health workers and general practitioners located in ACCHOs, no

data were collected on children accessing an ACCHO for other reasons, such as holiday programs or cultural programs. A decision was made not to include the relevant wave 2 items on children’s access to Aboriginal health services as they were focused on access to services for health reasons only.

3. How to classify item and indicator responses to indicate ‘positive’ social and emotional wellbeing?

- Some indicators had a simple yes/no format, for example: whether the child had experienced sleep problems. For these questions, responses of ‘no’ were categorised as positive. Other indicators used a Likert scale, for example: children’s general health was described as excellent, very good, good, fair or poor. Positive responses for each item/indicator were discussed and agreed upon. This varied according to the item and context.
- Connection to culture: it was noted that a child might not ‘yarn about family’ every day or most days but could do this some days and this would be consistent with positive wellbeing. As a result, responses of every day, most days and some days were classified as positive.
- Similarly, the AGG and working group members agreed that children are unlikely to be engaged in cultural activities every day or most days – it is more likely to be some days. Similarly, a child might not ‘look to Elders to guide them’ all the time or most of the time but even doing this sometimes could contribute to a child’s positive wellbeing.
- Connection to Country, spirit and spirituality: similar advice was provided on connection to Country, where children could be comforted by family stories and spiritual beliefs or connected to spirit through being on Country sometimes and this would be enough to foster positive wellbeing.



4. How to identify children who are doing 'well' or 'extremely well' in each indicator area/domain?

- The AGG were asked for advice on whether the SEWB Tool should identify children who were doing well (option A) or children who were doing extremely well (option B). [Table 2](#) provides an example of the two options for scoring considered in the Body domain.
- In making these decisions, the working group considered the potential to use the tool to identify both the strengths of the children in relation to SEWB domains and gaps for children who may benefit from greater support or healing in specific areas.
- For four of the domains – Body, Mind and emotions, Family and kinship, and Community – it was decided to identify children who were doing extremely well. For example, in the Mind and emotions domain, the two indicators, 'Self-identity' and 'Managing emotions/problems' were discussed as priority areas from a school's perspective. The earlier children learn or get support to manage their emotions, the better their educational outcomes are likely to be. Selecting the higher cut point was preferred as it

would enable practitioners, services and schools to identify more children who may benefit from support in these areas.

- For the remaining two domains – Culture, and Country, spirit and spirituality – it was decided to identify children who were doing well. Response options for indicators were changed to make it less stringent for children to get a positive score. Many items were not 'everyday' things, so this allowed for connections to sometimes be present or happen some days and still confer positive wellbeing.
- Similarly, in relation to children's connection to language, it was discussed that children might not be connected to an Aboriginal language but might be interested in learning an Aboriginal language, reflecting a positive connection to culture. AGG members felt that it was critical to highlight the strengths and positives in families.

The method for calculating the overall domain score was also discussed. It was agreed that it was reasonable for children to have three or more 'positive' indicators out of the five, to score 'positive wellbeing'

Connection to body domain	Option A Doing well	Option B Doing extremely well
General health (1 item) SF36 - <i>In general, would you say this child's health is?</i>	Excellent, very good	Excellent
Physical health problems (9 common health problems) <i>Has this child had any of the following health problems in the last 12 months?</i>	0–2 problems	0–1 problems
Sleep problem (1 item) <i>Child had a sleep problem in last 12 months?</i>	No	No
Disability (1 item) <i>Doctor said child has a disability?</i>	No	No
Nutrition (2 items) <i>How many pieces of fresh fruit and vegetables did your child eat yesterday?</i>	Positive nutrition (e.g. fruit) ≥ negative nutrition (e.g. soft drinks)	4+ vegetables and 1+ fruit per day ¹
Positive for body domain (5 indicators)	2 or more indicators	3 or more indicators

¹Based on the Australian Dietary Guidelines for children aged 4–8 years ([National Health and Medical Research Council 2013](#)).

Table 2: Example in the Body domain showing two options for scoring considered by the working group



for the domain. In the Country, spirit and spirituality domain, there were fewer items available (four indicators compared with five indicators in the other domains). Therefore, it was decided that children needed to score two or more of the four indicators as 'positive' to score 'positive wellbeing' in this domain. Further details of the scoring revisions to the draft tool are available in [Supplementary Table S1](#). Following these consultations and discussions, the Aboriginal Children's SEWB Tool comprised 29 indicators across six domains.

Stage 2: Testing of the draft tool

Once the draft Aboriginal Children's SEWB Tool was finalised, initial testing of the tool was conducted using AFS wave 2 data.

Participants

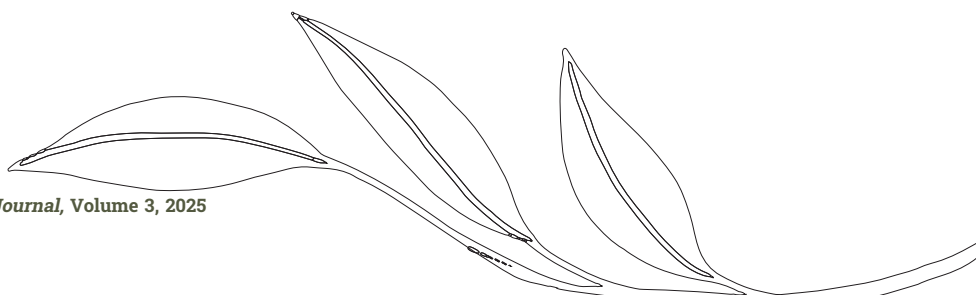
A total of 222 mothers and 24 primary caregivers (n = 246) answered questions in the wave 2 questionnaire about their 5–8-year-old child (72% of the original cohort). Sociodemographic characteristics of the families are shown in [Table 3](#). The largest proportion of children were living in a major metropolitan city (44%), followed by regional (37%) and remote areas of South Australia (19%). The mean age was 6.5 years, with just over half assigned male gender at birth (56%). Most children were attending primary school (97%).

Most children were living with their mother at wave 2 follow-up (90%). For the ten per cent of children not living with their mother, questionnaires were completed by a primary caregiver: father, grandparent, aunt, uncle or foster carer. Mothers' age ranged 20.6–49.6 years, with a mean age of 32.3 years. Other primary caregivers tended to be older, ranging 25.3–70.5 years, with a mean age of 50.5 years. Most mothers (91%) and caregivers (75%) were Aboriginal and/or Torres Strait Islander. Participants had connections with more than 35 Aboriginal and/or

Torres Strait Islander language and community groups across Australia.

	Cohort n (%)	Mothers n (%)	Caregivers n %
Child age – years			
5–6	136 (55.3)	130 (58.6)	6 (25.0)
7–8	110 (44.7)	92 (41.4)	18 (75.0)
Child gender			
Male	137 (55.7)	121 (54.5)	16 (66.7)
Female	109 (44.3)	101 (45.5)	8 (33.3)
Age mother/caregiver – years			
20–24	12 (4.9)	12 (5.4)	0 (0.0)
25–29	80 (32.5)	79 (35.6)	1 (4.2)
30–34	74 (30.1)	71 (32.0)	3 (12.5)
35+	80 (32.5)	60 (27.0)	20 (83.3)
Mother/caregiver			
Aboriginal and/or Torres Strait Islander	220 (89.4)	202 (91.0)	18 (75.0)
No	26 (10.6)	20 (9.0)	6 (25.0)
Number of children in household¹			
None	6 (2.4)	6 (2.7)	0 (0.0)
1–2	94 (38.2)	84 (37.8)	10 (41.7)
3–4	105 (42.7)	94 (42.3)	11 (45.8)
5–10	41 (16.7)	38 (17.1)	3 (12.5)
Place of residence²			
Urban	108 (44.1)	100 (45.2)	8 (33.3)
Regional	90 (36.7)	78 (35.3)	12 (50.0)
Remote	47 (19.2)	43 (19.5)	4 (16.7)
Child living with			
Mother	222 (90.2)		
Caregiver	24 (9.8)		
Caregiver			
Father			4 (16.7)
Aunt			3 (12.5)
Grandmother			3 (45.8)
Grandfather			11 (12.5)
Foster carer			3 (12.5)
Highest level of education			
Year 10 or less		113 (51.8)	N/A ³
Completed Year 12		33 (15.1)	
Diploma/Certificate		57 (26.1)	
University degree		15 (6.9)	
Employed (full-time/part-time)			
Yes		78 (35.3)	N/A
No		143 (64.7)	

(Table 3 continues on next page)





	Cohort n (%)	Mothers n (%)	Caregivers n %
(Continued from previous page)			
Healthcare concession card			
Yes		171 (77.0)	N/A
No		51 (23.0)	
Total	246	222 (100)	24 (100)

¹Including the study child, the mother or caregiver's own children and any other children living in the home. ²Categorised using Index of Relative Socio-economic Advantage and Disadvantage (Australian Bureau of Statistics 2016). ³Information not included in the caregiver questionnaire.

Table 3: Social and family characteristics of the study children, mothers and caregivers at wave 2 follow-up (n = 246)

Measures

Aboriginal Children's SEWB Tool. The tool comprises 80 items selected from the AFS wave 2 questionnaire. Items were arranged into 29 indicators related to children's SEWB across six domains: Body, Mind and emotions, Family and kinship, Community, Culture and Country, spirit and spirituality. Each indicator was scored as 'positive' or 'less positive' based on participant responses (Table 1). As described above, children were considered to have 'positive wellbeing' if they had three or more positive indicators in each domain. Due to fewer available indicators in the Country, spirit and spirituality domain, children were considered to have 'positive wellbeing' if they had two or more positive indicators. Children were considered to have 'positive wellbeing' if they had four or more positive domains out of the six domains of the tool overall. Domain scores were added to create a total SEWB score. This score was divided into tertiles to identify children with high, medium and low SEWB scores on the tool.

Strengths and Difficulties Questionnaire. For the purposes of developing the Aboriginal Children's SEWB Tool, the SDQ was used as a comparison measure to assess criterion validity. Mothers and caregivers rated 25 attributes as not true, somewhat

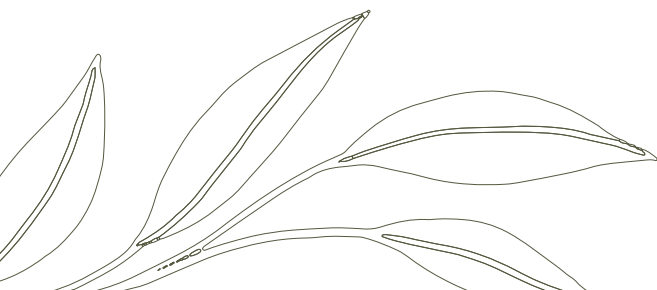
true or certainly true for their child. The total difficulties score derived from four subscales was used (Hawes 2004; Goodman 2001). Adopting a strengths-based approach, children with an SDQ total difficulties score below the threshold for high risk of emotional or behavioural problems (<17) were considered to have positive emotional/behavioural wellbeing (Williamson 2010).

The SDQ items were also used to identify high mental health competence using eight items that have been used to identify children who are 'flourishing' (O'Connor et al. 2022). These items include: being considerate of other people's feelings; sharing readily with others; being helpful if someone is hurt, upset or feeling ill; being kind to younger children; volunteering to help others; being generally obedient; seeing tasks through to the end; and thinking things out before acting. Item scores were summed (range 8–24) with a cut point of ≥ 23 indicating a very high level of mental health competence as described by the authors (O'Connor et al. 2022).

Analysis

Internal consistency was assessed using Cronbach alpha, and results used to examine how items with the indicator score and the internal consistency of the overall domain score. While ≥ 0.7 is generally seen as desirable (Streiner 2003), lower internal consistency was expected due to selecting diverse indicators to address the range of concepts within each domain definition. A prespecified Cronbach alpha of ≥ 0.3 was considered satisfactory for the purpose of assessing the internal consistency (Heyland et al. 2013).

Criterion validity assesses how well one measure is associated with an outcome from another measure that measures the same concept (Taherdoost 2016). Criterion validity was assessed using the SDQ.





Pearson's rank correlations were used to describe correlations between the total SEWB Tool score (higher scores indicate better wellbeing) and the SDQ total difficulties score (higher scores indicate poorer wellbeing). A moderate negative correlation was prespecified to support criterion validity. A categorical SEWB score (high/medium/low) was examined against positive wellbeing (SDQ ≤ 17) and mental health competence (eight items from the SDQ). Criterion validity would be further supported if children with high scores on the new SEWB Tool also have positive wellbeing and high mental health competence as identified by the SDQ.

Results

Internal consistency

Five of the six domains had internal consistency ranging $\alpha = 0.29$ to 0.81 (Table 4), attaining the minimum target level of ≥ 0.3 . However, two indicators in the Community domain were moderately negatively correlated with the domain score, with a low domain internal consistency ($\alpha = 0.20$). This meant that two indicators were not positively contributing to the domain score. The first indicator was a single item asking whether there was an Aboriginal Community Education Officer (ACEO) at the child's school (item-scale correlation -0.46). The second indicator was two items asking how often community and friends were involved in supporting the child's mother/caregiver (with the expectation that this would support SEWB for the child) (item-scale correlation -0.45). After consultations with members of the working group and research team, the first indicator was replaced with three items on cultural identity at school and the child's relationship with the ACEO. The second indicator was replaced with an item on the child's engagement in cultural events in the community. The new indicators were seen to more closely reflect the child's experiences at school and in the community.

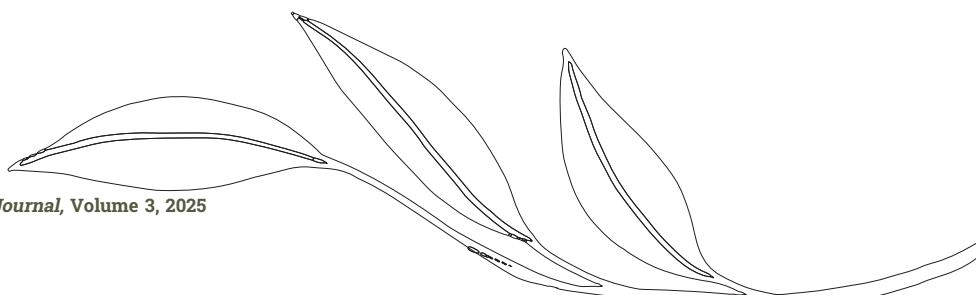
The replacement indicators were positively correlated with the domain score and the Cronbach's alpha improved ($\alpha = 0.49$). Details of the 29 indicators and six SEWB domains are shown in Table 4. The tool showed good internal consistency overall ($\alpha = 0.69$).


Criterion validity

Pearson correlations between domain scores and the SDQ total difficulties score supported criterion validity with moderate negative correlations. As would be expected, the Mind and emotions domain was the most highly correlated ($r = -0.55$). The Community and Body domains showed moderate negative correlations ($r = -0.42$ and $r = -0.36$, respectively). The remaining three domains Family and kinship, Culture and Country, Spirit and spirituality showed minimal correlations (full correlation matrix available in Supplementary Table S2).

Table 5 shows children with low, medium and high scores on the Aboriginal Children's SEWB Tool, and the proportion of children scored as having positive wellbeing and high mental competence on the SDQ. Criterion validity was supported. Most children with high scores on the Aboriginal Children's SEWB Tool were classified as having positive emotional wellbeing on the SDQ (94.5%), compared with 67.6% of children with low scores. Children with high scores on the Aboriginal Children's SEWB Tool had eight times higher odds of positive emotional wellbeing and four times higher odds of high mental health competence compared with children with low scores, after adjusting for child age and gender (Adj. OR 7.7, 95% CI 2.5 – 23.9 and Adj. OR 3.8, 95% CI 1.4 – 10.2, respectively).

Social and emotional wellbeing experienced by children aged 5–8 years in the Aboriginal Families Study





Domain Indicators	n	Range	Observed Range	Mean (SD)	Cronbach alpha	Positive n (%)
Body						
General health						130 (55.1)
Physical health problems						157 (65.7)
Sleep problem						204 (86.4)
Disability						226 (96.2)
Nutrition						69 (30.3)
Total domain score¹	234	0–5	0–5	3.3 (1.0)	0.29 ²	188 (80.3) ³
Mind and emotions						
Developmental health						173 (73.6)
Self-identity (CRQ)						168 (70.6)
Positive sense of self/future						182 (77.4)
Managing emotions/problems						57 (23.9)
Belonging: special/safe						181 (77.0)
Total domain score	236	0–5	0–5	3.3 (1.3)	0.61	181 (76.7)
Family and kinship						
Family connectedness						178 (76.1)
Showing love to child						218 (94.0)
Doing things with dad/father figures						159 (66.5)
Doing things with grandparents/aunts/uncles						140 (59.3)
Number of people involved bringing up child/ren						166 (70.3)
Total domain score	234	0–5	1–5	3.7 (1.2)	0.48	189 (80.8)
Community						
Cultural identity at school						115 (62.8)
Engagement at school						163 (69.1)
Friendships (CRQ)						216 (91.1)
Activities in community						226 (97.0)
Engagement in community						172 (75.4)
Total domain score	231	0–5	1–5	3.8 (1.1)	0.49	205 (88.7)
Culture						
Learning about family						195 (83.7)
Connectedness to culture						172 (75.4)
Connectedness to language						148 (76.7)
Interest in language						174 (91.1)
Connection to Elders						192 (83.1)
Total domain score	188	0–5	0–5	4.2 (1.1)	0.61	169 (89.9)
Country, spirit and spirituality						
Family stories, values, spiritual beliefs						206 (90.0)
Connection to people, spiritual beliefs, family stories						176 (76.2)
Connected to spirit through being in their Country						165 (72.4)
Comfort, family stories, spiritual beliefs						186 (80.9)
Total domain score (2+ indicators)	230	0–4	0–4	3.2 (1.3)	0.81	198 (86.1)
Summary scores						
Total domain score	228	0–6	0–6	4.6 (1.4)	0.69	196 (86.0) ⁴
Total indicator score	228	0–29	6–29	20.7 (4.9)	0.81	n/a

¹Domain scores were not calculated for children who were missing more than one indicator. ²Cronbach alpha assessed the internal consistency of the indicators within each domain (≥ 0.3 was considered satisfactory). ³Children were scored as positive for a domain if they had 3 or more indicators (2 or more indicators for Country, spirit and spirituality domain). ⁴Children were scored as a positive for a total domain score if they had 4 or more positive domains.

Table 4: Proportion of Aboriginal Families Study children who scored positively for each indicator and domain, and summary domain scores (n = 246)



SEWB tertiles (number of positive indicators)	Sample	Positive emotional wellbeing (SDQ total difficulties score <17)		High mental health competence (SDQ score for 8 items ≥23)	
		SDQ <17	Adj.OR ¹ [95% CI]	SDQ ≥23	Adj. OR [95% CI]
		Low (0–19)	74 (33.0)	50 (67.6)	1.0 [Ref]
Medium (20–22)	77 (34.4)	60 (77.9)	1.6 [0.7–3.3]	12 (15.6)	2.0 [0.7–5.8]
High (23–29)	73 (32.6)	69 (94.5)	7.7 [2.5–23.9]	19 (26.0)	3.8 [1.4–10.2]
Total	224 ² (100)	179 (79.9)		37 (16.4)	

¹Adjusting for child age and gender. Odds of positive wellbeing for children with medium and high SEWB compared with children with low SEWB. ²Excluding 22 children missing 2 or more domains and 2 children missing SDQ score.

Table 5: Proportion of children with positive wellbeing and high mental health competence by total social and emotional wellbeing (SEWB) score categorised as low, medium and high (n = 228)

Indicator scores

The majority of AFS children were positively scored for 25 of the 29 indicators across the six domains. This ranged from 66.5% of children regularly performing activities with their dad or other father figures, to 97% performing activities in the community with their mother or caregiver. The indicators with the lowest proportion of children who scored positively were ‘Nutrition’ (30.3%), ‘Managing emotions/problems’ (23.9%) and ‘General health’ (55.1%).

Domain scores

Most children positively scored in the six SEWB domains, ranging from 76.7% in Mind and emotions to 89.9% for Culture. Summary scores across all six domains identified that 86.1% of children were positively scored (i.e. positive for three of the five domains), suggesting that most children in the AFS had strong SEWB.

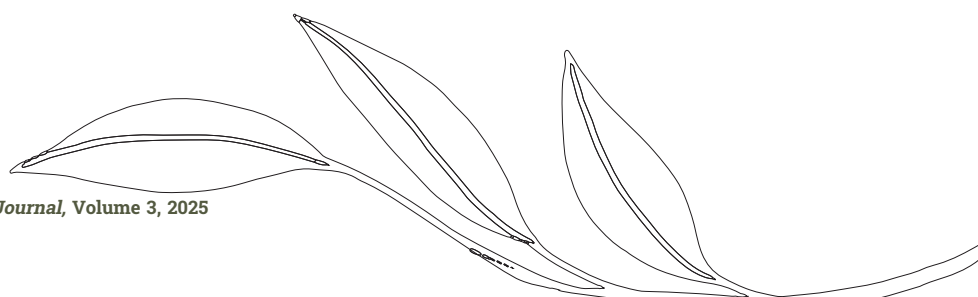
Discussion

The Aboriginal Children’s SEWB Tool was developed in response to a lack of measures recognising Aboriginal and Torres Strait Islander peoples’ conceptualisations of child social and emotional wellbeing. It has been developed and designed by Aboriginal people and offers a new approach to mapping a child’s connections to the six SEWB domains of Body, Mind and emotion, Family

and kinship, Community, Culture and Country, spirit and spirituality. The final tool consists of 80 items and is designed for a parent or caregiver to report on their child’s wellbeing, providing detailed information on the child’s strengths and access to resources, as well as gaps and areas for healing. The tool can be used to provide information to researchers, parents, caregivers, teachers and/or practitioners working with individual children or families.

Initial psychometric testing found that all six domains achieved adequate internal consistency. High scores on the Aboriginal Children’s SEWB Tool were strongly associated with positive emotional wellbeing and mental health competence as measured with the SDQ. The iterative consultation processes throughout all stages of development have been key to ensure that the Aboriginal Children’s SEWB Tool aligns with Aboriginal perspectives. Items were informed by domains and definitions from a holistic Aboriginal SEWB model (Gee et al. 2014). The AGG and Aboriginal research team members provided critical guidance to inform revisions to the tool.

Children’s relationships with extended family and kinship relationships were identified as a priority in community consultations underpinning the





development of the AFS wave 2 questionnaire. Reflecting this advice, the Family and kin domain contains the highest number of items (18) of the six domains. Prioritising connection to family and kin aligns with evidence that family and extended kinship systems support attachment, connectedness and the healthy development of Aboriginal children (Walter 2017; Bailey and Clark 2024; Secretariat of National Aboriginal and Islander Child Care 2021; Lovett 2017). Children may form multiple attachments and relationships within kinship networks, starting from birth. A recent study found that children who are supported by kinship structures are culturally strong and better able to develop cultural resilience and in turn increase their SEWB (Bailey and Clark 2024).

AGG members stressed the importance of identity for children's SEWB, as children need to feel that they belong, know who they are and where they come from. Reflecting this and the SEWB domain definitions, items related to children's identity are included in each domain. For example, items address: how children see themselves, if they feel positive about the future, if they feel special in their family and have a sense of belonging where they live. The Community domain includes two items asking parents or caregivers if their child feels comfortable to identify with their culture at school and if the school acknowledges or respects their culture. There is evidence that children being proud of who they are is central to wellbeing (Priest et al. 2014; Secretariat of National Aboriginal and Islander Child Care 2021; Gartland et al. 2024; Kickett-Tucker et al. 2015).

Being inclusive of children and families from different communities and contexts was a key consideration in the Culture domain. Gee et al. (2014) note that connection to culture may differ for individuals, families and communities due to cultural loss

associated with colonisation and past government policies. The indicators 'Learning about family' describe a range of ways that families might connect to their culture, for example 'yarning about family and where they are from' or 'teaching them about connections with extended family (e.g. family tree)'. There are a range of questions on connectedness to language, such as whether children speak an 'Aboriginal language fluently' or 'speak some words', including Aboriginal English/lingo. There is also an indicator about children's interest in language to be inclusive of children who do not speak an Aboriginal language but would like the opportunity to learn. AGG members spoke about the benefits of connecting children to culture, for example cultural reclamation activities like youth groups, camping or caring for Country activities. The increasing numbers of community-led healing programs focusing on cultural healing and cultural renewal (Gee et al. 2014) is evidence of the critical role cultural expression has in strengthening wellbeing for both children and adults (Lowitja Institute, 2020; Jones et al. 2018). For example, greater attendance at cultural events is associated with higher levels of resilience in children (Lovett 2017).

Friendships and knowing how to manage emotions and problems were seen as particularly important indicators for children of primary school age. The Mind and emotions domain includes items about how children cope if they have a problem, whether a child knows how to calm down when they feel angry, and whether they have a close friend or group of friends. AGG members felt that it was important for these indicators to have a mix of items to ensure that they suited boys and girls and children at different ages. Early childhood is a critical time for the development of self-regulation and executive function skills, which include the ability to problem solve and manage emotions. Supporting children in developing these skills





can positively influence children's wellbeing (Miller and Berger 2020) and school experiences. Due to the large amount of time children spend at school and the influence of school-based education on children's wellbeing, experiences at school were also included in the Community domain (Anderson 2017; He et al. 2021).

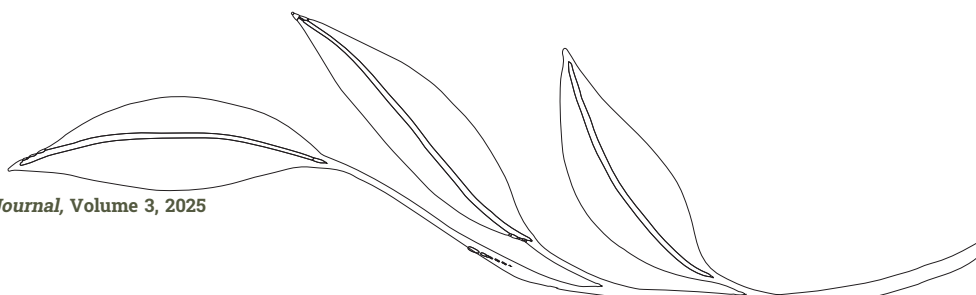
It is important to note that the AFS research team did not specifically set out to develop the Aboriginal Children's SEWB Tool when designing the AFS wave 2 follow-up questionnaire. Therefore, there was no capacity to re-word items or add additional items to address gaps in the tool. As a result, several limitations have been identified. There were fewer items on connection to spirit, spirituality and ancestors. AGG members recommended more items, particularly on ancestors. This was noted as an area to further refine.

The tool could potentially be used with other Aboriginal and Torres Strait Islander communities or Indigenous populations. The tool was developed drawing on data collected in a survey designed for parents/caregivers to report on the wellbeing of their Aboriginal child aged 5–8 years; however, there is potential for it to be used with children aged 5–12 years. Several items included in the tool originated from the CRQ-P/C survey, which was designed and tested with Aboriginal children aged 5–12 years (Gartland et al. 2024). Further psychometric testing will be needed. In recognition of the diverse ways in which SEWB domains are experienced and expressed, it is recommended that researchers work closely with local communities and families to test and adapt the tool before use. Plans are underway for the Aboriginal Children's SEWB Tool to be adapted and modified for Aboriginal children aged 14–17 years in the AFS wave 3, which is due to commence in 2025.

The tool reflects perspectives of mothers and caregivers of Aboriginal children only. Data from Aboriginal children themselves, other family members or ACEOs in schools could provide other perspectives of Aboriginal children's SEWB.

Lastly, the SDQ was used to assess criterion validity of the Aboriginal Children's SEWB Tool. The SDQ is not an Aboriginal designed measure and was used in the absence of an Indigenous child SEWB measure for comparison. The SDQ has been widely used with Aboriginal and Torres Strait Islander populations (Williamson et al. 2020). A strengths-based approach describing positive emotional/behavioural wellbeing instead of high risk of emotional behavioural problems was adopted based on previous research with Aboriginal children (Williamson et al. 2016; O'Connor et al. 2022).

A key strength of the new SEWB Tool has been the guiding role of the AGG. Members of the group expressed the value in having a strengths-based measure to report findings through a positive lens and challenge negative discourse in the media about Aboriginal children and young people. Items for the tool were taken from the AFS wave 2 questionnaire, building on multiple layers of community consultation with Aboriginal families to develop each wave of data collection. The tool could be used in multiple settings, for example in community-controlled services or schools as an evaluation tool for SEWB programs. With the engagement of school wellbeing practitioners and an increased focus on the mental health of children, it is vital that all work with Aboriginal children is underpinned by a holistic understanding of their social and emotional wellbeing. It will be important for practitioners using the tool to facilitate safe discussions with families. Parent or caregiver responses to items in each domain could be used as





an opportunity for initial engagement and/or to yarn and get to know families on a deeper level. Further discussion and follow-up may be needed to support children and families to nurture or extend their wellbeing or fill in gaps in connections to domains where the need for healing is identified. The tool provides information about the child's environment, including family, school and services in the community. Thus, practitioners may identify the need to connect families to appropriate support networks or services. Services and programs need to be culturally safe to empower Aboriginal families and maintain a strengths-based approach.

Conclusion

The Aboriginal Children's SEWB Tool was developed in response to a lack of measures recognising Aboriginal and Torres Strait Islander conceptualisations of child social and emotional wellbeing. The tool responds to a need for more culturally validated tools, developed and designed by Aboriginal people (Dudgeon et al. 2017; Newton et al. 2020; Le Grande et al. 2017) and is the first Australian Aboriginal-led co-designed measure to map child SEWB across body, mind and emotions, family and kinship, community, culture and Country, spirit and spirituality. With further development, the measure will provide a robust and comprehensive picture of a child's SEWB for practitioners, clinicians and researchers working with individuals or families. The Aboriginal Children's SEWB Tool may not be reproduced without permission. There is no fee to use the tool, but permission must be obtained from the AFS Aboriginal governance group executive team before use. Please contact Karen Glover (karen.glover@sahmri.com).

Author contributions

A. Nikolof led the development of the SEWB Tool with the Aboriginal Families Study research team (Associate

Professor Y. Clark, Dr D. Gartland, Professor S. J. Brown) and members of the Aboriginal governance group (C. Leane, K. Glover, R. Carmody and H. Carter).

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Author biography

Arwen Nikolof is a Narungga/Kaurna woman from South Australia. She is a PhD candidate at the University of Melbourne, Murdoch Children's Research Institute and the South Australian Health and Medical Research Institute. She has worked in Aboriginal health for over 20 years in policy, planning and service development within community services, government and the research sector.

Deirdre Gartland is a non-Indigenous public health researcher who was born, studied, worked and became a wife and a mother on Wurundjeri Country. She acknowledges that this Country has never been ceded. She leads a research program in resilience and mental health. She is passionate about strengthening resilience and mental health for children, families and communities, with a focus on reducing the experience and impacts of family violence.

Karen Glover is a Mein:tnk and Wotjobaluk woman, mother and grandmother. Karen has worked in non-government and government Aboriginal health and social health services, management and policy for over 30 years. Her goal is to improve Aboriginal peoples' access, experience and outcomes of services through working in partnership with others to build cultural safety and respect through workforce and care models. Karen is currently co-leading the Aboriginal Communities and Families Health Research Alliance in the SAHMRI Women and Kids theme, focusing on alliances and partnerships to achieve outcomes.

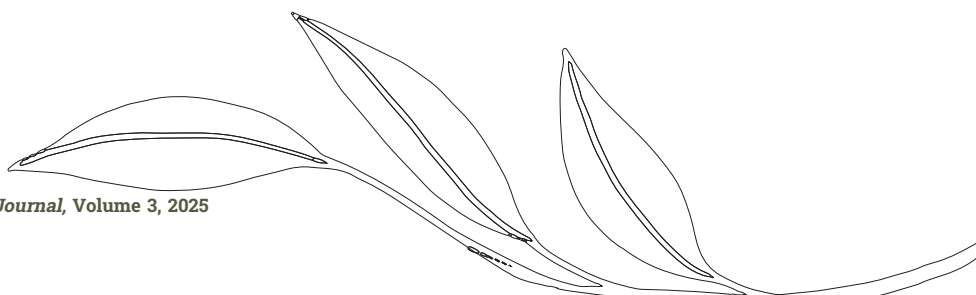
Cathy Leane is a Dharug woman, mother and grandmother. She has 30+ years of experience working within health and early childhood services. Her work with Aboriginal consumers and research partners has

a strong focus on co-design. Cathy contributes to Aboriginal community research through chairing several Aboriginal research governance groups, including Aboriginal Families Study and as co-chair of the Aboriginal Families and Communities Health Research Alliance, to ensure that the voice of Aboriginal families and communities is privileged. She understands the interplay of the social determinants of health in shaping life outcomes and is passionate about the health and wellbeing of Aboriginal children and communities.

Rohan Carmody is an initiated Arrernte man from Mparntwe (Alice Springs) and brings a wealth of cultural knowledge, skills and understanding, as well as over 15 years of experience working in and with Aboriginal and Torres Strait Islander communities and families. He is a principal policy officer in the Aboriginal Health Promotion team at Preventive Health SA. He has a diploma in Narrative Approaches for Aboriginal People (Counselling, Group and Community Work) and a Certificate IV in Stolen Generations Family Research & Case Management.

Heather Carter is a registered teacher who has worked within a variety of education settings. She is currently working as a principal policy officer within Aboriginal education, focusing on developing policy, resources and advice to support the implementation of the National Agreement on Closing the Gap, development of an Aboriginal Voice Framework for the Department of Education and supporting greater attendance and engagement for Aboriginal children within schools and preschools. Heather has an interest in Aboriginal governance and supporting family connection to education to ensure curriculum and learning for young people is culturally relevant and engaging.

Stephanie Brown is a social epidemiologist and health services researcher whose work focuses on generating





and translating knowledge to break cycles of intergenerational trauma, family violence and social inequity. She established and leads the Intergenerational Health group at the Murdoch Children's Research Institute and is also Director of the Stronger Futures Centre of Research Excellence. Stephanie is of Celtic descent and lives and works on Wurundjeri and Boonwurrung Country.

Yvonne Clark is a Kokatha/Wirangu women from South Australia. She is a research associate professor in a joint appointment with the South Australian Health and Medical Research Institute and the University of South Australia. She is a psychologist and works on topics concerning wellbeing, trauma and lateral violence in relation to Aboriginal and Torres Strait Islander families, children and young people.

Supplementary material

Supplementary material associated with this article can be found in the online version at <https://doi.org/10.1016/j.fnhi.2025.100062>.

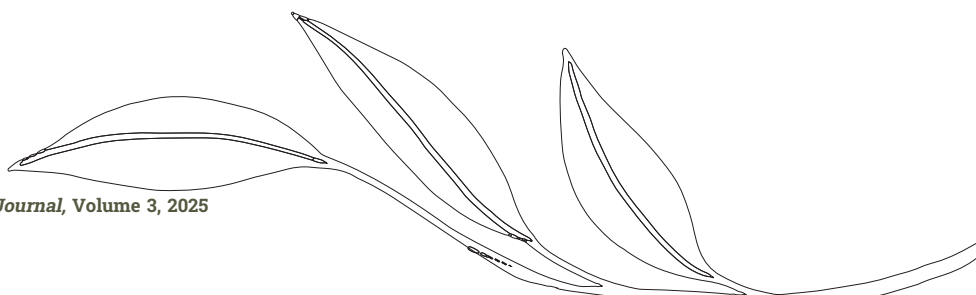
References

- Anderson, I., Lyons, J.G., Luke, J.N., Reich, H.S., 2017. Health determinants and educational outcomes for Indigenous children. In: Walter, M., Martin, K.L., Bodkin-Andrews, G. (Eds.), *Indigenous children growing up strong: A longitudinal study of Aboriginal and Torres Strait Islander families*. Palgrave Macmillan, London.
- Australian Bureau of Statistics, 2016. Census of Population and Housing: Socio-economic Indexes for Areas (SEIFA). Accessed on 30 April 2025 at: <https://www.abs.gov.au/ausstats/abs@nsf/mf/2033.0.55.001>.
- Australian Government, 2024. Closing the Gap Commonwealth 2023 Annual Report Commonwealth 2024 Implementation Plan. Accessed on 30 April 2025 at: <https://www.niaa.gov.au/sites/default/files/documents/2024-02/ctg-annual-report-and-implementation-plan.pdf>.
- Bailey, N., Clark, Y., 2024. Exploring bonding and attachment in Aboriginal families. *Aust J Psychol* 76, 1–13.
- Bamblett, M., Frederico, M., Harrison, J., Jackson, A., Lewis, P., 2012. Not one size fits all: Understanding the social & emotional wellbeing of Aboriginal children. La Trobe University, Bundoora.
- Bourke, S., Wright, A., Guthrie, J., Russell, L., Dunbar, T., Lovett, R., 2018. Evidence review of Indigenous culture for health and wellbeing. *Int J Health Well Soc* 8 (4).
- Buckskin, M., Ah Kit, J., Glover, K., Mitchell, A., Miller, R., Weetra, D., Wiebe, J., Yelland, J.S., Newbury, J., Robinson, J., Brown, S.J., 2013. Aboriginal Families Study: a population-based study keeping community and policy goals in mind right from the start. *Int J Equity Health* 12, 41.
- Dudgeon, P., Bray, A., D'Costa, B., Walker, R., 2017. Decolonising psychology: validating social and emotional wellbeing. *Aust Psychol* 52, 316–325.
- Dudgeon, P., Milroy, H., Walker, R. (Eds.), 2020. Working with Aboriginal and Torres Strait Islander young people and their families (fact sheet). Healing Foundation, Melbourne, Australia
- Gartland, D., Nikolof, A., Mensah, F., Gee, G., Glover, K., Leane, C., Carter, H., Brown, S.J., 2024. The Childhood Resilience Study: resilience and emotional and behavioural wellbeing experienced by Australian Aboriginal and Torres Strait Islander boys and girls aged 5–9 years. *PLoS One* 19, e0301620.
- Gartland, D., Riggs, E., Giallo, R., Glover, K., Stowe, M., Mongta, S., Weetra, D., Brown, S.J., Group Members of the Childhood Resilience Study Collaborative, 2022. Development and validation of a multidimensional, culturally and socially inclusive Child Resilience Questionnaire (parent/caregiver report) to measure factors that support resilience: a community-based participatory research and psychometric testing study in Australia. *BMJ Open* 12, e061129.
- Gee, G., Dudgeon, P., Schultz, C., Hart, A., Kelly, K., 2014. Aboriginal and Torres Strait Islander social and emotional wellbeing. In: Milroy, H., Dudgeon, P., Walker, R. (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and*





- wellbeing principles and practice. Department of the Prime Minister and Cabinet, Canberra, Australia.
- Glover, K., Gartland, D., Leane, C., Nikolof, A., Weetra, D., Clark, Y., Giallo, R., Brown, S.J., 2022. Development, acceptability and construct validity of the Aboriginal Women's Experiences of Partner Violence Scale (AEPVS): a co-designed, multiphase study nested within an Australian Aboriginal and Torres Strait Islander birth cohort. *BMJ Open* 12, e059576.
- Glover, K., Leane, C., Nikolof, A., Gartland, D., Cahir, P., Mensah, F., Giallo, R., Reilly, S., Middleton, P., Makrides, M., Francis, T., Collins-Clinch, A., Clark, Y., Gee, G., Brown, S.J., 2024. Cohort profile: The Aboriginal Families Study: a prospective cohort of Aboriginal children and their mothers and caregivers in South Australia. *BMJ Open* 14, e082337.
- Goodman, R., 2001. Psychometric properties of the Strengths and Difficulties Questionnaire. *J Am Acad Child Adolesc Psychiatry* 40, 1337–1345.
- Gupta, H., Tari-Keresztes, N., Stephens, D., Smith, J.A., Sultan, E., Lloyd, S., 2020. A scoping review about social and emotional wellbeing programs and services targeting Aboriginal and Torres Strait Islander young people in Australia: understanding the principles guiding promising practice. *BMC Public Health* 20, 1625.
- Hawes, D., Dadds, M., 2004. Australian Data and psychometric properties of the Strengths and Difficulties Questionnaire. *Aust NZ J Psychiatry* 38, 644–651.
- He, V.Y., Nutton, G., Graham, A., Hirschhausen, L., Su, J.Y., 2021. Pathways to school success: self-regulation and executive function, preschool attendance and early academic achievement of Aboriginal and non-Aboriginal children in Australia's Northern Territory. *PLoS One* 16, e0259857.
- Heyland, D.K., Jiang, X., Day, A.G., Cohen, S.R., Network Canadian Researchers at the End of Life, 2013. The development and validation of a shorter version of the Canadian Health Care Evaluation Project Questionnaire (CANHELP Lite): a novel tool to measure patient and family satisfaction with end-of-life care. *J Pain Symptom Manage* 46, 289–297.
- Hovane, V., Smith, P., Dalton, T., 2013. Aboriginal offender rehabilitation programs. In: Milroy, H., Dudgeon, P., Walker, R. (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*. Department of the Prime Minister and Cabinet, Canberra, Australia.
- Hudson, S., 2016. Mapping the Indigenous program and funding maze. Research Report 18. The Centre for Independent Studies.
- Jones, R., Thurber, K.A., Chapman, J., D'Este, C., Dunbar, T., Wenitong, M., Eades, S.J., Strelein, L., Davey, M., Du, W., Olsen, A., Smylie, J.K., Banks, E., Lovett, R., Team Mayi Kuwayu Study, 2018. Study protocol: Our Cultures Count, the Mayi Kuwayu Study, a national longitudinal study of Aboriginal and Torres Strait Islander wellbeing. *BMJ Open* 8, e023861.
- Kickett-Tucker, C.S., Christensen, D., Lawrence, D., Zubrick, S.R., Johnson, D.J., Stanley, F., 2015. Development and validation of the Australian Aboriginal racial identity and self-esteem survey for 8-12 year old children (IRISE_C). *Int J Equity Health* 14, 103.
- Le Grande, M., Ski, C.F., Thompson, D.R., Scuffham, P., Kularatna, S., Jackson, A.C., Brown, A., 2017. Social and emotional wellbeing assessment instruments for use with Indigenous Australians: A critical review. *Soc Sci Med* 187, 164–173.
- Lovett, R., 2017. Indigenous children's resilience: the role of demographics, relationships, achievement and culture. In: Walter, M., Martin, K.L., Bodkin-Andrews, G. (Eds.), *Indigenous children growing up strong: a longitudinal study of Aboriginal and Torres Strait Islander families*. Palgrave Macmillan, London, pp. 287–305.
- Lowitja Institute, 2020. We nurture our culture for our future, and our culture nurtures us. Close the Gap Steering Committee. Accessed on 30 April 2025 at: <https://www.lowitja.org.au/resource/close-the-gap-report-2020/>.
- Miller, J., Berger, E., 2020. A review of school trauma-informed practice for Aboriginal and Torres Strait Islander children and youth. *Educ Dev Psychol* 37, 39–46.
- Milroy, H., 2008. Children are our future – Understanding the needs of Aboriginal children and their families. In: Williams, S., Cowling, V. (Eds.), *Infants of Parents with Mental Illness: Developmental, Clinical, Cultural and Personal Perspectives*. Australian Academic Press, pp. 126–127.



- 
- National Health and Medical Research Council, 2013. Australian Dietary Guidelines. Accessed on 30 April 2025.
- Newton, D., Day, A., Gillies, C., Fernandez, E., 2020. A review of evidence-based evaluation of measures for assessing social and emotional well-being in Indigenous Australians. *Aust Psychol* 50, 40–50.
- O'Connor, M., Arnup, S.J., Mensah, F., Olsson, C., Goldfeld, S., Viner, R.M., Hope, S., 2022. Natural history of mental health competence from childhood to adolescence. *J Epidemiol Commun Health* 76, 133–139.
- Priest, N., Mackean, T., Waters, E., Davis, E., Riggs, E., 2009. Indigenous child health research: a critical analysis of Australian studies. *Aust N Z J Public Health* 33, 55–63.
- Priest, N., Mackean, T., Davis, E., Briggs, L., Waters, E., 2014. Aboriginal perspectives of child health and wellbeing in an urban setting: developing a conceptual framework. *Health Soc Rev* 21, 180–195.
- Saunders, V., McCalman, J., Tsey, S., Askew, D., Campbell, S., Jongen, C., Angelo, C., Spurling, G., Cadet-James, Y., 2023. Counting what counts: a systematic scoping review of instruments used in primary healthcare services to measure the wellbeing of Indigenous children and youth. *BMC Prim Care* 24, 51.
- Secretary of National Aboriginal and Islander Child Care, 2021.
- Social Health Reference Group, 2004. Social and emotional well-being framework: a national strategic framework for Aboriginal and Torres Strait Islander mental health and social and emotional well-being 2004–2009. Australian Government, Canberra, Australia.
- Streiner, D.L., 2003. Starting at the beginning: an introduction to coefficient alpha and internal consistency. *J Pers Assess* 80, 99–103.
- Sutherland, S., Adams, M., 2019. Building on the definition of social and emotional wellbeing: an Indigenous (Australian, Canadian, and New Zealand) viewpoint. *ab-Original* 3, 48–72.
- Swan, P., Raphael, B., 1995. Ways Forward: National Aboriginal and Torres Strait Islander Mental Health Policy National Consultancy Report. Department of Health and Ageing, Canberra, Australia.
- Taherdoost, H., 2016. Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in research. *Int J Acad Res Manage* 5 (3), 28–36.
- Thabrew, H., D'Silva, S., Darragh, M., Goldfinch, M., Meads, J., Goodyear-Smith, F., 2019. Comparison of YouthCHAT, an electronic composite psychosocial screener, with a clinician interview assessment for young people: randomized controlled trial. *J Med Internet Res* 21, e13911.
- Thomas, A., Cairney, S., Gunthorpe, W., Paradies, Y., Sayers, S., 2010. Strong Souls: development and validation of a culturally appropriate tool for assessment of social and emotional well-being in Indigenous youth. *Aust NZ J Psychiatry* 44, 40–48.
- Walter, M., 2017. Doing Indigenous Family. In: Walter, M., Martin, K., Bodkin-Andrews, G. (Eds.), *Indigenous children growing up strong. A longitudinal study of Aboriginal and Torres Strait Islander families*. Palgrave Macmillan.
- Weetra, D., Glover, K., Miller, R., Wilson, R., Leane, C., Stuart-Butler, D., Mitchell, A., Gartland, D., Brown, S., 2019. Community engagement in the Aboriginal Families Study: strategies to promote participation. *Women Birth* 32, 72–79.
- Westerman, T.G., Dear, G.E., 2023. The need for culturally valid psychological assessment tools in Indigenous mental health. *Clin Psychologist* 27, 284–289.
- Williamson, A., D'Este, C., Clapham, K., Redman, S., Manton, T., Eades, S., Schuster, L., Raphael, B., 2016. What are the factors associated with good mental health among Aboriginal children in urban New South Wales, Australia? Phase I findings from the Study of Environment on Aboriginal Resilience and Child Health (SEARCH). *BMJ Open* 6, e011182.
- Williamson, A., McElduff, P., Dadds, M., D'Este, C., Redman, S., Raphael, B., Daniels, J., Eades, S., 2020. The construct validity of the Strengths and Difficulties Questionnaire for Aboriginal children living in urban New South Wales, Australia. *Aust Psychol* 49, 163–170.
- Williamson, A., Redman, S., Dadds, M., Daniels, J., D'Este, R.C., Eades, S., Skin, T., 2010. Acceptability of an emotional and
- 



behavioural screening tool for children in Aboriginal community controlled health services in urban NSW. Aust NZJ Psychiatry 44, 894–900.

World Health Organization, 2024. Global Plan of Action for the Health of Indigenous Peoples. Accessed on 31 December

2024 at: <https://www.who.int/initiatives/global-plan-of-action-for-health-of-indigenous-peoples>.

Young, N.L., Wabano, M.J., Usuba, K., Mishibinijima, D., Jacko, D., Burke, T.A., 2016. Reliability of the Aboriginal Children’s Health and Well-Being Measure (ACHWM). Springerplus 5, 2082.

