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| **Table 1: Characteristics of the wellbeing measurement instruments** | | | | | | | | | |
| **Measure / Scale** | | **SEWB & Mental Health Domains Assessed** | **Application / Study Reviewed** | **Type** | **PRO/non-PRO**  **(patient reported outcome)** | **Sample** | **Reliability** | **Validity** | |
| **Reflective** | **Behavioural** |
| 1 | Aboriginal Children’s Health and Well-Being Measure (ACHWM) | Holistic health including spiritual, emotional, physical and mental health [1] | Reported on the measurement development [1]; | Indigenous Developed | PRO | 38 First Nations Canadian children and youth, 8-17 years | Not reported for this study | Content Validity | Not reported for this study |
| Assessed the convergent validity of the measure [2] | Indigenous Developed | PRO | 48 First Nations Canadian children and youth, 7-19 years | Not reported for this study | Not reported for this study | Convergent validity [2] |
| Assessed the consistency and accuracy of children and youth’s interpretations of the ACHWM and established face validity [3] | Indigenous Developed | PRO | 9 First Nations Canadian children and youth, 8-18 years, and 9 caregivers | Not reported for this study | Face validity | Not reported for this study |
| Evaluated a screening process imbedded in the ACHWM [4] | Indigenous Developed | PRO | 293 First Nations Canadian children and youth, 8-18 years | Not reported for this study | Not reported for this study | Not reported for this study |
| Evaluated the reliability of the ACHWM [5] | Indigenous Developed | PRO | 256 First Nations Canadian children and youth, 8-18 years | Cronbach's α = 0.93  Test-retest = ICC of 0.94 | Not reported for this study | Not reported for this study |
| 2. | Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) for smoking | Substance frequency of use and associated problems | Used to assess for smoking among youth in a screening and intervention for lifestyle risk factors and mental health issues [6] | Standard (translated into a Māori language (Te Reo) version) | PRO | 30 New Zealand youth under the age of 25, including 27 Maori participants | Not reported for this study | Not reported for this study | Not reported for this study |
| 3. | Children’s Global Assessment Scale (C-GAS) | Psychosocial functioning (at home, at school, and with peers) | Used to measure provider assessment of psychosocial functioning among participating children and adolescents [7] | Standard | Non-PRO  Provider assessed | 581 culturally diverse New Zealand youth aged 10–24, including 182 Maori youth | Not reported for this study | Not reported for this study | Not reported for this study |
| 4. | ED presentations and hospital admissions with a primary mental health diagnosis [8] | Hospitalisable mental health diagnosis | To quantify mental health-related emergency department (ED) presentations and hospitalisations, and associated child and family characteristics, in children recruited through four Aboriginal Community Controlled Health Organisations | Standard | Non-PRO | 1476 Aboriginal Australian children aged 0–17 years | Not reported for this study | ICD codes used to identify mental health-related presentations and admissions with a mental health-related principal diagnosis code recorded for the initial episode of care. | Not reported for this study |
| 5. | Generalised Anxiety Disorder 7 (GAD-7) | Generalised anxiety | Used to assess for generalised among youth in a screening and intervention for lifestyle risk factors and mental health issues [6] | Standard (translated into a Māori language (Te Reo) version) | PRO | 30 New Zealand youth under the age of 25, including 27 Maori participants | Not reported for this study | Not reported for this study | Not reported for this study |
| 6. | Kessler Distress Scale abridged version (K6+) | Mental health problems and severity, including feeling sad, nervous, restless or fidgety, hopeless, everything is an effort, or worthless | Pilot tested to assess its reliability and validity with Indigenous Australian youth [9] | Standard | PRO | 67 Indigenous Australian students | Cronbach's α = 0.7 | Not reported for this study | Not reported for this study |
| Examine its psychometric properties and utility in predicting mood disorders among Native American youth [10] | Standard | PRO | 3,084 Native American youth ages 15–54 years | Cronbach's α = .83 | Content validity | Incremental validity |
| 7. | Outcome Rating Scale (ORS) | ORS assesses personal wellbeing; relational wellbeing; social wellbeing; and global wellbeing. | YouthLink framework empirical research design where 40 Aboriginal clients completed client feedback monitoring measures between 2014 and 2016 [11]. | Standard?? | PRO | Young people aged 13 to 24 years of age. | Not reported for this study | Strong face validity and clinical utility | Not cross-culturally validated but principles of feedback monitoring can be considered more culturally appropriate and more aligned with Aboriginal perspectives than standardized measurement. Criterion validity against the HoNOS. |
| 8. | Patient Health Questionnaire 9 (PHQ-9) | Depressive symptoms | Used to assess for depression among youth in a screening and intervention for lifestyle risk factors and mental health issues [6] | Standard (translated into a Māori language (Te Reo) version) | PRO | 30 New Zealand youth under the age of 25, including 27 Maori participants [6] | Not reported for this study | Not reported for this study | Not reported for this study |
| The aPHQ-9 measures depressive  symptoms as a score, ranging from 0 (absence of depressive  symptoms), 1–4 (minimal), 5–9 (mild), 10–14 (moderate), 15–19 (moderately severe) and 20–27 (severe).[12] | Adapted  specifically for use in Aboriginal communities of Central  Australia  and was found to be culturally  acceptable there. | Non-PRO | 122 youth aged 15-25 years from Yarrabah Aboriginal community | Not reported for this study | The aPHQ-9 screening process was found to be straightforward and well accepted by staff and youth. | Not reported for this study |
| 9. | Session Rating Scale SRS) | The SRS asks about therapeutic alliance with 4 questions on different element of treatmenrt session (relationship, goals, topics, global rating). | YouthLink framework empirical research design where 40 Aboriginal clients completed client feedback monitoring measures between 2014 and 2016 [11]. | Standard?? | PRO | Young people aged 13 to 24 years of age. | Not reported for this study | Strong face validity and clinical utility | Not cross-culturally validated |
| 10. | Strengths and Difficulties (SDQ) | Strengths and difficulties including 5 scales for conduct problems, hyperactivity- inattention, emotional symptoms, peer problems, and prosocial behaviour | SDQ used to measure psychosocial functioning among participating children and adolescents [7] | Standard | PRO | *n=*581 culturally diverse New Zealand youth aged 10–24, including 182 Maori youth | Not reported for this study | Not reported for this study | Not reported for this study |
| Assesses the acceptability and face validity of SDQ among Aboriginal parents and workers [13] | Standard | PRO and non-PRO (carer reported version) | Aboriginal parents, *(n*=15) and Aboriginal staff/workers (*n*=32) | SDQ has previously been found to be acceptable, reliable and valid among the SEARCH cohort | Face/content validity | Not reported for this study |
| Examines the construct validity of the standard carer reported SDQ for Aboriginal children in Australia [14] | Standard | Non-PRO (Carer reported) | *n*=717 urban Australian Aboriginal children and adolescents aged 4-17 | Cronbach's α  = .85 | Not reported for this study | Convergent Validity  Construct Validity (Confirmatory Factor Analysis) |
| Identifies factors associated with ‘good’ mental health among Aboriginal children living in urban communities in New South Wales, Australia [15]. | Standard | Non-PRO (Carer reported) | **N =** 1005 Aboriginal children aged 4–17 years | SDQ has previously been found to be acceptable,[21](https://bmjopen.bmj.com/content/6/7/e011182#ref-21) reliable and valid[22](https://bmjopen.bmj.com/content/6/7/e011182#ref-22) among the SEARCH cohort | Not reported for this study | Not reported for this study |
|  | To evaluate alternative therapy for Aboriginal youth in the areas of grief, loss, and trauma, through an equine assisted learning program [16] | Adapted | Non-PRO | 270 participantsaged 6–25 years old engaged in a minimum of 6-weeks of equine assisted learning | Not reported for this study | There were issues with the length, number of words and level of English literacy, and concept understanding required to successfully complete the questionnaire | Not reported for this study |
| 11. | Strong Souls | Social and emotional wellbeing, including problems related to depression, anxiety, suicide risk and levels of resilience | Reports on the development and validation of the Strong Souls scale for Indigenous Australian adolescents [9] | Indigenous Developed | PRO | Australian Aboriginal youth ages 16 – 20.5 years, *n=*67 in pilot study, and *n=*361 in the main study | Cronbach's α  = .70 | Face Validity  Content Validity | Discriminant Validity  Convergent Validity  Exploratory Factor Analysis |
| 12. | Substance Abuse Choices Scale (SACS) | Substance use, frequency of use,  addictive behaviours, harms and consequences of substance use | SACS used to measure substance use among participating children and adolescents [7] | Standard | PRO | *n=*581 culturally diverse New Zealand youth aged 10–24, including 182 Maori youth | Not reported for this study | Not reported for this study | Not reported for this study |
| Used to assess for substance use among youth in a screening and intervention for lifestyle risk factors and mental health issues [6] | Standard (translated into a Māori language (Te Reo) version) | PRO | 30 New Zealand youth under the age of 25, including 27 Maori participants | Not reported for this study | Not reported for this study | Not reported for this study |
| 13. | Westerman Aboriginal Symptoms Checklist- Youth (WASC-Y) | Depression, suicidal behaviours, drug and alcohol use, impulsivity, anxiety and cultural resilience. | Pilot tested to assess its reliability and validity with Indigenous Australian youth [9]. | Indigenous Developed | PRO | Australian Aboriginal youth ages 16 – 20.5 years, *n=*67 | Cronbach's α  = .70 (not all the reliabilities for WASC-Y subscales could be established) | Face Validity | Discriminant Validity |
| 14. | YouthCHAT | smoking, drinking or other drugs; gambling; depression; anxiety; sexual orientation; sexually active; risky sexual behaviour: STI; risky sexual behaviour: pregnancy; unwanted sex; exposure to abuse; anger control; physical inactivity. | Community-based participatory research approach. Quantitative and qualitative – analysis of screening results and survey [6]. | Standard?? | PRO | Thirty youth, under age 25 years completed YouthCHAT and the survey. Twenty-eight (93 %) were female, and 27 (90 %) were Māori, with the remainder NZ European. | Not reported for this study | Patients gave YouthCHAT high acceptability ratings (M = 8.29/10), indicating it was easy to use, helped them think about and identify problems, talk with their doctor, and assisted their doctor to be aware of these issues. | Not reported for this study |

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