Appendix B—Study terminology and definitions

Child (or plural **children**)—the sampling unit of the *Footprints in Time* study. All children are Aboriginal or Torres Strait Islander children. The study follows two cohorts of children: the younger cohort and the older cohort.

Younger cohort—previously known as the B cohort. Most children in this cohort were aged from 6 months to 2 years in Wave 1, 1½ to 3 years in Wave 2, 2½ to 4 years in Wave 3, 3½ to 5 years in Wave 4 and 4½ to 6 years in Wave 5.

Older cohort—previously known as the K cohort. Most children in this cohort were aged 3½ to 5 years in Wave 1, 4½ to 6 years in Wave 2, 5½ to 7 years in Wave 3, 6½ to 8 years in Wave 4 and 7½ to 9 years in Wave 5.

Primary carer is defined as the primary caregiver of the child who knows the child best. In most cases, the primary carer is the child's biological mother but in some cases it is the child's father or another guardian.

Wave is the period of data collection. The *Footprints in Time* study has five waves of data publicly available for analysis. The waves are conducted approximately one year apart. Wave 1 was collected primarily in 2008, Wave 2 in 2009, Wave 3 in 2010, Wave 4 in 2011 and Wave 5 in 2012.

Measures used in the report

There are a number of variables available in the *Footprints in Time* data that may be used to measure the development of the children and characteristics of their families and communities. These measures are used throughout the report. The following information provides an explanation of these measures, how they are derived, how they are used and how they should be interpreted.

Child measures

Strengths and Difficulties Questionnaire (SDQ) (Goodman 2012) is used to provide information about children's social and emotional behaviour. The SDQ allows attribution of a score on the child's social and emotional behaviour across five domains or scales: emotional symptoms, conduct problems, hyperactivity, peer problems and prosocial behaviour. More information about the scoring of the Strengths and Difficulties Questionnaire is available in the Longitudinal Study of Indigenous Children Key Summary Report from Wave 3 (FaHCSIA 2012).

The scores for individual questions are added to create the five subscale scores. For the first four subscales, higher scores indicate a greater risk of problems in each domain. The prosocial scale, on the other hand, provides a score for strengths, so higher scores indicate less risk. Each scale provides a score between zero and ten. The scores for emotional symptoms, conduct problems, hyperactivity and peer problems scales can be added together to provide an overall difficulties score out of 40, where lower scores indicate less risk of developing social and emotional difficulties. The prosocial scale is analysed separately and provides a score between zero and ten, where higher scores indicate greater levels of prosocial skills.

Renfrew Language Scales: Word Finding Vocabulary Test (Renfrew 1995) uses picture cards to assess children's expressive vocabulary. The Renfrew Word Finding Vocabulary Test assesses a child's ability to accurately name images as portrayed in the 50 pictures contained in the assessment. The same test is repeated each year. Correct answers are summed to give a score out of 50. Children can respond in languages other than English. It was administered to the older cohort children in Waves 1 to 3 and to the younger cohort children in Waves 4 and 5.

Who am I? (WAI) (de Lemos & Doig 1999) is a developmental assessment that requires the child to write their name, copy shapes, write letters, numbers and words in a small booklet, with simple instructions and encouragement from the interviewer. Who am I? is not language dependent and is suitable for children with limited English. The assessment takes about 10 minutes to complete and is suitable for preschool children and children in the first two years of school. In Wave 5 the long form of the instrument, with a maximum score of 43, was administered to the younger cohort. The short form of the instrument was administered to the older cohort in Wave 1 and the younger cohort in Wave 4. The older cohort also undertook the long form in Waves 2 and 3. The booklets are scored by the Australian Council for Educational Research (ACER).

Progressive Achievement Test in Reading (PAT Reading) (ACER 2008) measures the child's achievement in English reading comprehension. *Footprints in Time* uses an adaptation of the ACER test whereby the questions get progressively difficult and children are sequenced out after three out of four incorrect answers. It was completed by 507 children in the older cohort in Wave 4. The tests are designed to be administered toward the end of a school year but cover a range of school years and ages. As data is collected for *Footprints in Time* throughout the year, the test for the previous year level is considered most appropriate (that is, for Year 2 children a PAT 1 test would be most appropriate). Scores are scaled for difficulty so that they can be compared across different tests and age groups. The score does not control for age. Questions change each year. Wave 5 scores ranged from 17.3 to 130.3 with an average of 83.2.

Matrix Reasoning Test (Wechsler 2003) is a non-verbal intelligence test in which the child is presented with an incomplete set of pictures and asked to select from five options the picture that completes the set. The Matrix Reasoning Test is one of a range of measures from the Wechsler Intelligence Scale for Children–Fourth Edition (WISC-IV). Items are presented in increasing degree of difficulty. It was asked for the first time in Wave 4 of the older cohort and again in Wave 5. The same test is administered each year and the scaled score controls for age. Responses are scaled to provide a score between zero and 19. Wave 5 scores for the *Footprints in Time* children ranged between one and 16, with an average of 8.3.

Adult measures

Social and Emotional Wellbeing (SEWB) score is a measure created from the number of positive responses primary carers gave to a series of seven questions asking how they have been feeling in the previous three months.

- Have you stopped liking things that used to be fun?
- Have you felt like everything is hard work (even little jobs are too much)? Felt too lazy to do anything?
- Have you ever felt so worried that your stomach has got upset?
- Have you ever felt so worried it was hard to breathe?
- Do you get angry or wild real quick?
- Have you felt so sad that nothing could cheer you up? Not even your friends make you feel better?
- Do you do silly things without thinking that you feel ashamed about the next day?

Possible responses to these questions were 'lots', 'fair bit', 'little bit' and 'never'. Response categories can be assigned a numeric value for each question. These can then be summed to create a scale measuring social and emotional wellbeing.

These questions came from the Strong Souls questionnaire developed to assess the emotional wellbeing of participants in the Aboriginal Birth Cohort Study during the Wave 3 follow-up (Thomas et al. 2010).

Strong Souls Resilience measure is created from the responses of primary carers to 12 statements about what helps them to get through hard times. They were asked on a four point scale how often the statements applied to them.

The statements are based on those in the Strong Souls measure developed by the Menzies School of Health Research to assess the social and emotional wellbeing of Indigenous youth participating in the Aboriginal Birth Cohort (ABC) Study (Thomas et al. 2010). They include:

- When you get sad or upset, you are able to find something that cheers you up.
- You have a strong family who help each other.
- You get used to big changes in your life quickly.
- You know someone who is a really good person.
- You laugh and make lots of jokes.
- You are really into something.
- You are a good son or daughter to your family.
- You know a lot about [your] Aboriginal or Torres Strait Islander family history and culture.
- People say you are really good at something.
- You got an older person looking out for you.
- You got lots of friends.
- When you are sad or upset you have a person you can talk to

Response categories were allocated a score of between zero and three and the scores for each respondent then summed to give a total score between zero and 36. Higher scores indicate greater levels of personal, social and cultural resilience. Analysis of scale properties were undertaken with advice from Professor Stephen Zubrick. A technical paper detailing the work can be obtained by emailing lsicdata@dss.gov.au.

Physical Health is measured with a global health measure in which primary carers were asked to rate their own health on a five-point scale from excellent to poor. In some articles in this report, this question has been dichotomised to create a variable indicating the presence or absence of poor health. Primary carers were also asked to respond to the same question in relation to the child, and the data can be used in a similar way for the children.

Financial Stress Indicator is based on seven questions about whether the family has experienced different types of financial stress such as being unable to pay bills, being unable to heat the home or having to do without meals. The number of 'yes' responses are then added to provide a financial stress indicator. The number of responses can then be divided in different ways to indicate the presence or level of financial stress. The question about whether for financial reasons the primary carer had not been able to send the child to school or preschool as often as they liked was added in Wave 4.

Parenting Empowerment and Efficacy (PEEM) (Freiberg, Homel & Branch 2014) was developed during the Pathways to Prevention project: a research–practice partnership between Griffith University, Mission Australia and Education Queensland. The *Footprints in Time* Wave 5 data collection included a subset of 14 of the 20 PEEM items. These 14 items included 10 of the 11 items from the 'Efficacy to Parent' subscale and 4 of the 9 items from the 'Efficacy to Connect' subscale. The responses to the questions can be combined to form a parenting efficacy score ranging between 14 and 140, where higher scores indicate greater parenting efficacy. For a more detailed explanation of this measure, refer to the article on page 21.

Community measures

Index of Relative Indigenous Socioeconomic Outcomes (IRISEO) is a measure of community level socioeconomic advantage based on a principal components analysis of nine variables from the 2006 Census—three related to employment, three related to education, two related to housing and one related to income. Unlike the similar and better known Socioeconomic Indexes for Areas (SEIFA), this measure is calculated specifically for Indigenous Australians (Biddle 2011).

Level of relative isolation (LORI) is a classification of remoteness indicating the relative distance of localities from population centres of various sizes. LORI has five categories: none (urban), low, moderate, high and extreme. In the dataset the last two categories are combined as numbers in these areas are small. This report uses LORI rather than the Accessibility/Remoteness Index of Australia (ARIA), as LORI has been designed to take account of Indigenous language and other culturally-specific geographic characteristics. LORI was originally developed for the Western Australian Aboriginal Child Health Survey (Zubrick et al. 2004).

Glossary of statistical terms

Regression models

A regression model is used to identify associations between a dependent variable (also called an outcome variable, such as children's social and emotional difficulties or parental mental health) and one or more independent variables (also called explanatory variables, such children's age, number of major life events). It shows how the typical value of the dependent variable changes when any one of the independent variables changes and all other independent variables remain fixed.

Coefficient

In statistical analysis the coefficient quantifies the amount by which the dependent variable changes with each point increase in the independent variable. In understanding the magnitude of the coefficient, it is important to understand the scales of both the dependant and independent variable.

A standardised or beta coefficient shows how many standard deviations a dependent variable will change per standard deviation in the independent variable.

R Squared (R2)

This figure is provided on regression models to estimate the proportion of the variance with the dependent variable that is explained by the model. It is expressed as a number between 0 and 1. The higher the number, the greater the extent to which the independent variables in combination explain the variance in the dependent variable.

Statistical significance

This refers to whether any of the differences observed between groups are real or simply due to chance. The Oxford Dictionary defines it as 'The extent to which a result deviates from that expected to arise simply from random variations or errors in sampling'. It may be expressed as $p \leq 0.05$ which means that the likelihood of the difference being due to the characteristics of the sample is less than or equal to five per cent.

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