



Australian Government
Department of Social Services

Footprints in Time

The Longitudinal Study of Indigenous Children

Report from Wave 5





The Footprints in Time team acknowledges all the traditional custodians of the land and pays respect to their Elders past and present.

Creative Commons licence



With the exception of the Commonwealth Coat of Arms, Department of Social Services Logo, photographs, images, signatures and where otherwise noted, all material presented in this publication is provided under a Creative Commons BY Attribution 3.0 <http://creativecommons.org/licenses/by/3.0/au/> licence.

The details of the relevant licence conditions are available on the Creative Commons website <http://creativecommons.org/licenses/by/3.0/au/legalcode>

The document must be attributed as the Department of Social Services (2015), *Footprints in Time: The Longitudinal Study of Indigenous Children—Report from Wave 5*

ISBN: 978-1-925007-73-2

Footprints in Time

The Longitudinal Study of Indigenous Children

Report from Wave 5





The photos of families and children used in the Report are from families participating in the study. Written permission to use these photos has been obtained in all instances. Aboriginal and Torres Strait Islander peoples are warned that this booklet may include photos of deceased persons.

This paper uses unit record data from the Longitudinal Study of Indigenous Children (LSIC). LSIC was initiated and is funded and managed by the Australian Government Department of Social Services (DSS) and is part of the department's National Centre for Longitudinal Data. The findings and views reported in this paper are those of the authors and are not necessarily the views of DSS, the Minister for Social Services or the Indigenous people and their communities involved in the study.

Unless otherwise stated, this report has been researched and written by LSIC staff from the Department of Social Services.

Contents

Chair's foreword	5
Overview	6
Introduction to this report	7
Important notes on reading this report	7
<hr/>	
Part A—Wave 5 update	9
It's a child's life	10
Learning new skills	10
Sleep	10
Dental health	12
Peers and friends	13
Children share their feelings	15
Favourite animals and pets	15
Family and social support	16
Children at play	17
Family life	19
Satisfaction with life	19
Parenting efficacy	21
Qualities valued by Indigenous primary carers	26
Housing and mobility	28
Housing conditions	30
Major life events	32
Culture and community	35
Working for a better future	35
Parental engagement in child's learning and development	36
School enrolment and attendance	45
Keeping children at school—factors affecting attendance and children's academic achievement	52
What can <i>Footprints in Time</i> tell us about transition to school?	56
References for part A	62
<hr/>	
Part B—Feature articles	65
Longitudinal patterns of language use, diversity, support, and competence	66
Turning back the tide of Indigenous language loss: children to the rescue?	71
The impact of multiple disadvantage on children's social and emotional difficulties	78
Multiple disadvantage and major life events	82
How do fathers affect the health and social and emotional wellbeing of Aboriginal and Torres Strait Islander children in <i>Footprints in Time</i> ?	90
The effect of maternal age at first birth on vocabulary and social and emotional outcomes for Aboriginal and Torres Strait Islander children	95
Acknowledgements	104

Part C – Appendices	105
Appendix A—Background to the study	106
Appendix B—Study terminology and definitions	108
Appendix C—Wave 5 content and demographics	112
Appendix D—Governance of the study	114
Access to data and research	115



Another year has passed by and once again *Footprints in Time* families have generously opened their doors to the study's fieldwork team to share aspects of their lives and those of their children to the benefit of all Indigenous Australian families.

It is a testimony to the commitment both of the participating families and the *Footprints in Time* fieldwork team that the number of interviews in Wave 5 has remained high.

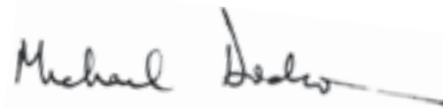
This project would be impossible to conduct and complete without the support of Indigenous families and communities. Children have to be nurtured and looked after, but this does not occur in a vacuum: it has to be examined in the context of family and community. If we wish to ensure Indigenous children are not, for example, disadvantaged when it comes to education, that education must not only provide them with the means to become productive members of society, it must also encourage and reinforce their knowledge, strength of connection and appreciation of their cultural heritage.

This report demonstrates that despite many parents having low levels of education relative to the Australian population as a whole, education is something Indigenous parents value and demand for their children. And they are taking steps to achieve this: parents support and assist their children through a wide range of educational

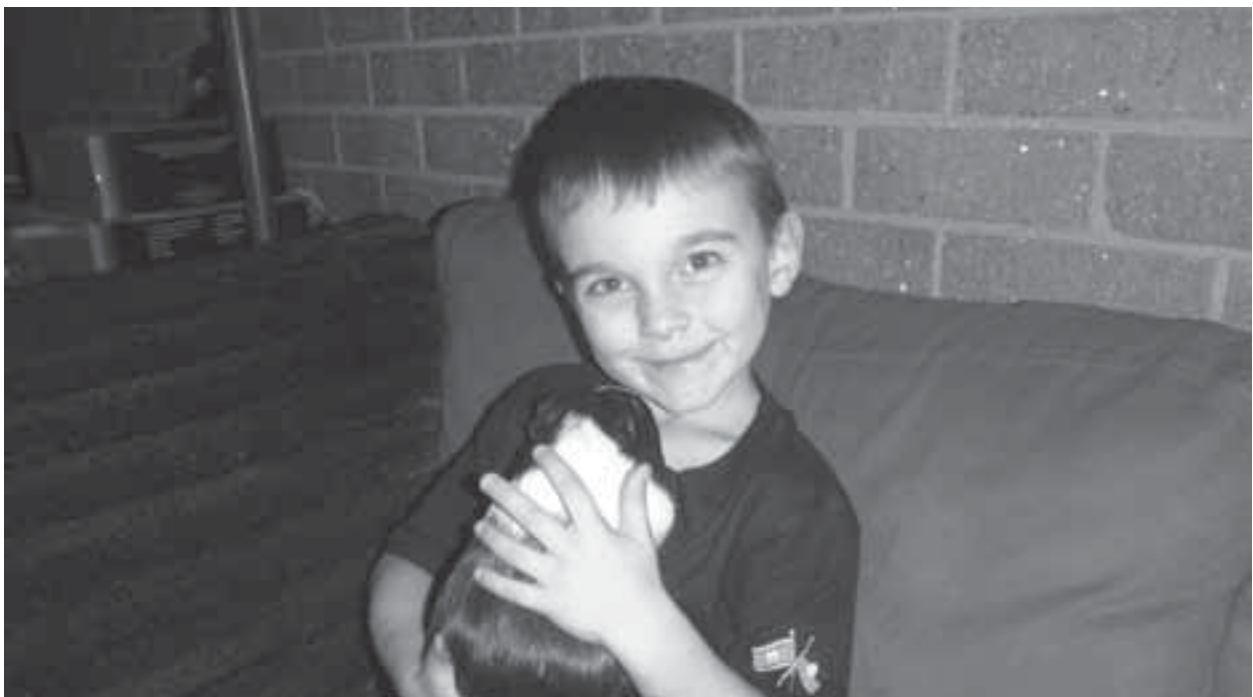
activities, and absences from school are in the main due to illness. The study also shows that teachers and schools are also working to assist Indigenous children make the most of their educational opportunities.

The strength of families is also a recurrent theme in the data. We all understand how important family is in any society and it is no different in Indigenous society. However, we need to appreciate in Indigenous society the extended family has an added role for children in strengthening and reinforcing cultural and kinship links that are ever present in their day to day lives. *Footprints in Time* is providing empirical evidence that cultural, personal and social resilience is an important protective factor for children, especially in times of adversity.

In reading a report like this it is easy to forget that the numbers equate to real people. It is my fervent hope the quotes and stories from the children, parents, teachers and the fieldwork team included in this report help readers relate successes and adversity discussed in this report to real people.



Professor Mick Dodson AM
Chair
Steering Committee



Overview

One of the main focuses of the Closing the Gap Agenda is the importance of early education both in terms of participation and achievement. It is well documented that in comparison with Australian children in general, Indigenous children have lower levels of school attendance and poor educational outcomes. Yet not all Indigenous children do poorly. This report concentrates on identifying what works to produce positive outcomes and what difficulties need to be overcome in order to produce more positive outcomes for all Indigenous children.

Previous reports have shown that primary carers of *Footprints in Time* children value education as an important step for a better future for their children. This report discusses the high levels of support they are providing in their children's early schooling through connections with the schools and encouragement through learning activities. Parental engagement with school is shown to have a positive association with higher literacy scores. Schools are also providing assistance with programs to ensure

Indigenous children feel comfortable in the school environment. Most children are encouraged to attend school and the most common reason for absence is illness of the child.

However, non-attendance is also shown to be associated with financial stress. This, as with many indicators of disadvantage, is more prevalent among families with Indigenous children. The number of major life events that Indigenous children experience, often as a result of disadvantage, is much higher than for non-Indigenous children and this is associated with greater social and emotional difficulties, which science is now showing may have detrimental long-term effects on physiological development.¹

What is overwhelmingly apparent from the data is that like parents everywhere, the parents of the *Footprints in Time* children want their children to be happy and successful. The emphasis placed on Indigenous heritage may vary between parents but the desired outcome is the same.



¹ See, for example, Shonkoff, J & Garner, A 2012, 'The lifelong effects of early childhood adversity and toxic stress', *Paediatrics*, vol. 129, no. 1, pp. 232–46.



Footprints in Time is the name given to the Longitudinal Study of Indigenous Children, an initiative of the Australian Government. The study is conducted by the Department of Social Services (DSS) (previously the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA)) under the guidance of the *Footprints in Time* Steering Committee, chaired by Professor Mick Dodson AM. The study aims to improve the understanding of, and policy response to, the diverse circumstances faced by Aboriginal and Torres Strait Islander children, their families and communities.

This report is the fifth in a series of reports produced for each wave of data collection. The report provides a selection of research findings, predominantly from Wave 5 but covering all waves. The range of topics covered in this report showcases both the richness of the data and the potential for further research. Interested researchers are encouraged to apply for the data.

Further information about the study, including the fieldwork methodology and attrition rates, is available in the appendices. Readers may also wish to refer to earlier reports for more details about the development phase of the study and for results from the first four waves.

Important notes on reading this report

Analysis for this report is based on the beta, or preliminary, version of the Wave 5 dataset. Using the official release of the dataset may provide slightly different results.

The report has been primarily written by non-Indigenous analysts from DSS. While every effort has been made to interpret the data within Indigenous contexts, there may be instances where a greater understanding of Indigenous cultures might aid interpretation. We strongly encourage potential data users to draw on the strengths of an interdisciplinary approach with Indigenous collaborators.

Throughout the report, short boxed stories describe some of the experiences of the Research Administration Officers (RAOs), the *Footprints in Time* interviewers.

As a longitudinal study, *Footprints in Time* provides a unique opportunity to follow the development of a group of children and examine the factors contributing to their individual and collective outcomes. The children are divided into two cohorts. Previously, these have been referred to as the 'B cohort' and the 'K cohort'. For ease of comprehension, this report uses the terms 'younger

cohort' and 'older cohort' respectively. The younger cohort consists of children born in 2006, 2007 and 2008 and the older cohort consists of children born in 2003, 2004 and 2005. In Wave 5, most children in the younger cohort were 4½ to 6 years old (88.5 per cent), and in the older cohort were 7½ to 9 years old (88.5 per cent). The mean ages of the two cohorts were 61 and 96 months respectively.

Due to the cross-sequential design of the study, in Waves 4 and 5 the younger cohort are the same age the older cohort were in Waves 1 and 2 respectively. This allows data to be pooled across cohorts to examine a larger sample of 3½ to 6 year-olds.

In Wave 5, 728 children and their primary carers were interviewed for the younger cohort and 530 children and their primary carers were interviewed for the older cohort, bringing the total study sample to 1,258. Unless otherwise stated in this report, only those children interviewed for Wave 5 of the study are referred to. There are 909 children about whom data has been collected in all five waves.

The majority of information was collected by Indigenous interviewers from the primary carer, who was the person with primary responsibility for the care of the child. The term 'primary carer' has a broader meaning than 'parent'. Information was collected about both the child and the family context in which they live. Where possible, interviewers go back to the same primary carer each year. However, sometimes the parent or carer is not available, has limited time or is no longer living with the study child, and a different carer is interviewed about the study child. About 4 per cent of children had different primary carers from the previous interview. Although 91.6 per cent of children had a primary carer who was either their birth mother or their father, some children had grandparents, foster parents or other relatives as their primary carers.

The primary carers are predominantly women (97.6 per cent) with an average age of about 34.5 years, looking after young children. Although all the children are Indigenous, 17.5 per cent of primary carers in Wave 5 are not.

Although *Footprints in Time* is not designed to be representative, it does provide a sizeable sample of Indigenous children in two age groups and their families. In 2011, the year of the last census, the children were around 4 and 7 years old. *Footprints in Time* includes 4.2 per cent of all 4 year-old Indigenous children in Australia and 3.2 per cent of all 7 year-old Indigenous children in Australia.² The study contains children from different states as well as all different levels of remoteness, reflecting the diversity of the Indigenous population. In Wave 5, 28.4 per cent of the sample lived in urban areas, 48.7 per cent in areas of low isolation, 13.8 per cent in areas of moderate isolation and 9.1 per cent in areas of high or extreme isolation.

Unless specifically stated, percentages provided in this report are based on the numbers of responses and do not include participants who refused to answer a question or responded that they did not know. For most variables, the number of missing responses was very low (less than five). The number of respondents is provided in cases where the number of missing responses may make a significant difference.

The term 'average' in this report has been used instead of 'mean' but has the same meaning.

The term 'significant' may be understood to mean the same as 'statistically significant'. Significance tests have been applied where appropriate and, unless otherwise stated, it may be assumed that the term 'significant' means at the 95 per cent confidence level ($p < 0.05$). A brief definition of this and other statistical terms used in this report is available in Appendix B.

2 Calculated using 2011 Census data on ABS Table Builder (30/8/2014).

PART A

Wave 5 update

It's a child's life	10
Family life	19
Culture and community	35
References for Part A	62



Learning new skills

In Wave 5, primary carers were asked a series of questions about the physical development of their child. The questions about being able to tie a shoe lace or bow and being able to ride a bike without training wheels asked of the older cohort were also asked in Waves 3 and 4. Comparing the development across the three waves we can build up a picture of the physical skills that children are learning over time. In Wave 3, only 29.7 per cent³ of the children could tie a bow well. By Wave 4 this had increased to 51.8 per cent and to 70.0 per cent by Wave 5. This varies slightly by level of relative isolation: only 58.9 per cent of children in remote areas could do this activity well in Wave 5 compared with around 70 per cent in areas with less isolation. Also, girls are more likely than boys to be able to do it well (78.6 per cent of girls and 62.0 per cent of boys).

In Wave 5, 88.4 per cent of the older cohort could ride a bicycle without training wheels compared with 79.7 per cent in Wave 4 and 64.1 per cent in Wave 3. Children in areas of high or extreme isolation were more likely to be able to ride than children in urban areas but there was little difference between boys and girls.

Three new questions about the older cohort children's abilities were included in Wave 5: tell the time using an analogue clock, know their left from their right and write clearly. Table 1 shows the percentage of responses for these three questions.

Table 1: Older cohort children's abilities, per cent

Ability level	Tell time	Left/right	Write clearly
Yes—well	29.6	83.2	79.6
Yes—not well	32.5	12.7	16.8
Not yet	38.0	4.1	3.6
Total number	514	519	525

Being able to tell the time is not a skill that many of the children in the older cohort have yet mastered, unlike being able to distinguish between left and right and being able to write clearly. Children in year 3 at school are more likely to be able to tell the time well than are children in year 2. Children in areas of high isolation are most likely to be able to tell the time well (35.7 per cent) whereas in areas of moderate isolation, only 9.0 per cent of children can tell the time well. Similarly, children in areas of

moderate isolation are least likely to distinguish their left and right or to write clearly. In terms of the sex of the child, girls are more likely to be able to do both these activities well.

Interestingly, language also plays a part in children's ability to know left from right. Children whose dominant language is English are significantly more likely to know the difference between left and right than are children whose dominant language is an Indigenous language or who speak equally fluently in English and an Indigenous language. This may reflect the different way Indigenous languages describe relative placement (Levinson 1997).

Without controlling for other differences, all three of these skills are individually significantly associated with children's English reading scores as measured by the Progressive Achievement Test in Reading (PAT Reading).⁴ Children who know the difference between left and right (either yes—well or yes—not well) had average reading scores 17.9 points higher than those who did not. Similarly, children who could tell the time (either yes—well or yes—not well) had average reading scores 10.8 points higher than those who could not. Children who could write clearly had average reading scores 10.6 points higher than those who could not write clearly or whose clarity of writing was only OK.

Sleep

Sleep is especially important for children as it directly impacts on mental and physical development (Sleep Foundation 2014). The amount of sleep a child needs for normal development depends on the individual child, but a preschool child aged 3 to 5 years typically sleeps between 11 and 13 hours every night and a school-aged child aged 5 to 12 years needs around 10 to 11 hours (Sleep Foundation 2014). For the first time in Wave 5, there is data about the times children wake up and go to bed, enabling us to also calculate the length of time children are sleeping (or at least the time between going to bed and waking up) to the closest 15 minutes.

The average length of time *Footprints in Time* children are sleeping during the week is 10.6 hours.⁵ Children in the younger cohort are sleeping on average slightly longer (10.6 hours) than children in the older cohort (10.4 hours). Interestingly, children who are not yet at school are sleeping less

³ All these figures exclude children who have a disability or whose parent said they didn't know.

⁴ PAT Reading scores in Wave 5 range from 17.3 to 130.3 with a median score of 88.6 and a standard deviation of 25.3.

⁵ These times are averages based on times provided in 15 minute intervals.



Table 2: Children’s sleep time by level of relative isolation, per cent both cohorts

	Urban	Low	Moderate	High/Extreme	Total
Less than 10 hours	9.4	15.3	21.5	32.4	16.0
10 to 11 hours	64.9	64.2	67.7	59.5	64.4
More than 11 hours	25.7	20.5	10.8	8.1	19.6
Average hours:minutes	10:43	10:35	10:19	10:08	10:33
Number of children	350	590	158	111	1,209

(10.3 hours) than children in the younger cohort who are at school (10.7 hours). This is perhaps because those not at school are having a daytime sleep or rest. The most commonly selected time for children in both cohorts to go to bed on weeknights is 8.30pm and the most commonly selected time for children to wake up is 7.00am. On weekend nights, primary carers were most likely to respond that children do not have a regular bedtime. Of those for whom a specific time was stated, the younger cohort most commonly went to bed at 8.30pm and the older cohort at 9.00pm.

The amount of sleep time *Footprints in Time* children have varies by level of isolation. Table 2 shows that children living in areas with higher levels of isolation tend to sleep less than the urban children. There is no statistical difference between children living in areas of moderate isolation and children living in areas of high or extreme isolation. However the urban, low and the combined moderate/high/extreme categories are all significantly different from each other. Table 2 includes children in both cohorts as age of the child was not found to be significantly associated with the average hours of sleep. This analysis has not taken into account the time of the year the interview was conducted or the length of daylight hours at the latitude of the areas in which the children live, both of which may have an impact on waking and bedtimes.

It was not always possible to calculate the sleep time for all children. For example, four primary carers responded that their child had no regular waking time. In addition, 27 primary carers responded that their child had no regular bedtime and 22 responded that the child’s bedtime depends of the length of their daytime nap. However, it does not appear that lack of regular bedtime is related to sleeping problems for the 217 children who had difficulty getting to sleep or staying asleep: only five had no regular bedtime.

Of the children who had problems getting to or staying asleep, 56.7 per cent had experienced their sleeping problems on four or more nights a

week in the last month. The most common reasons were overexcitement or overstimulation followed by wanting to stay with the primary carer and being afraid. The average hours of sleep for these children was 10.7 hours, slightly higher than average, but it may be that the time they went to bed and the time they went to sleep are quite a distance apart. However, it is interesting to note that they woke up about the same time as average.

The proportion of children experiencing sleep difficulties decreases with age. At 1 year of age 29.7 per cent of *Footprints in Time* children experienced sleep difficulties. This decreased to 20.6 per cent for children aged 6 years and 16.5 per cent for children aged 8 years.

By looking at the sleeping data of children for whom there is five waves of data (the balanced panel), it is possible to examine the persistence of sleep problems. Table 3 shows the number of waves that children had sleep problems reported by their primary carers.

Table 3: Proportion of children experiencing sleep problems by number of waves

Number of waves	Number of children	Percentage of children
0	376	41.4
1	220	24.2
2	149	16.4
3	87	9.6
4	53	5.8
5	24	2.6
Total	909	100

For the balanced panel, in each of Waves 1–4, around 26 per cent of primary carers reported that their child had sleeping problems. In Wave 5 this decreased to 18.1 per cent. However, the table shows that nearly 60 per cent of the children had experienced sleeping problems at some stage over the 5 waves. In a bivariate analysis with social and emotional difficulties scores from Wave 4,⁶ we find

6 For more information on this score refer to Appendix B.

that children who have had sleeping difficulties at any time during the first four waves had average difficulty scores 2.7 points higher ($p < 0.001$) than those who had never had sleeping difficulties.

The data also shows an association with overall health. In general, children who have less than 10 hours sleep per night are more likely to have primary-carer-reported poor or fair health. Blunden and Camfferman (2013) also note that recent findings suggest links between obesity and reduced sleep duration. While the *Footprints in Time* data show children who are underweight or obese have between 10 and 15 minutes less sleep a night, the differences are not statistically significant in this analysis. Children whose primary carer reported that they had experienced chest infections such as bronchitis or pneumonia in the previous 12 months also had about 10 minutes less sleep per night than children who had not experienced chest infections. This finding is significant at the 90 per cent level ($p < 0.1$). On the other hand, children whose primary carer reported that they suffered from asthma did not have significantly different sleep times from children who did not. However, these children were significantly more likely to have experienced sleep difficulties.

Dental health

Good oral health is an essential part of overall health. Tooth loss can restrict eating and may thereby lead to weaker nutritional intake. The ramifications of poor oral health can be immense and there is a marked oral health disparity between Indigenous and non-Indigenous Australians. In Australia, Indigenous people have more caries, periodontal disease and tooth loss than other Australians, and given that problems are likely to go untreated, are also more likely to have teeth removed (University of Adelaide Indigenous Oral Health Unit 2014). Brushing teeth regularly is a major activity in the prevention of dental problems. ‘Teeth should be brushed twice a day, preferably after breakfast and before bedtime’ (Simply Teeth 2014). Each wave, *Footprints in Time* asks how often children brush their teeth and about any visits to the dentist. Figure 1 shows that as children get older, the rate at which they tend to brush their teeth also increases, up until 5 years of age. After 5 years, the rate remains more or less stable.

Less than half of the children (48.3 per cent) had seen a dentist or dental nurse in the 12 months prior to interview. Seven primary carers indicated

Figure 1: Frequency of teeth brushing by age of child, per cent

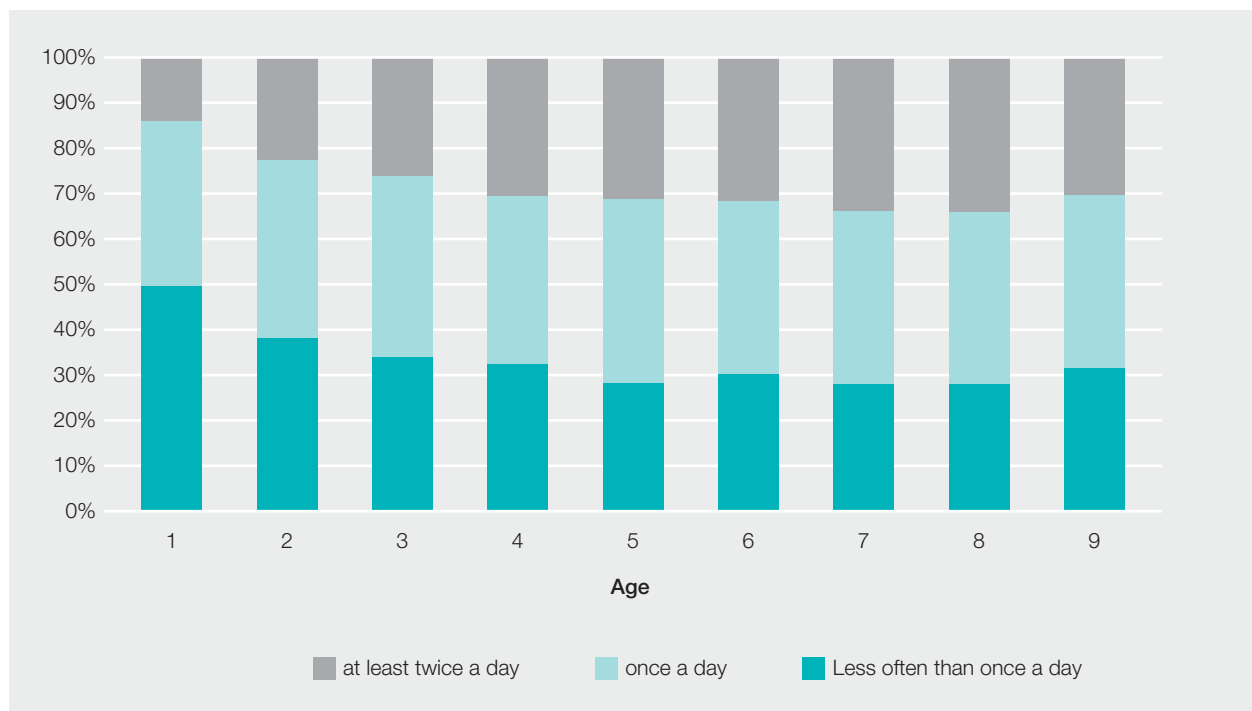




Table 4: Dental service access by level of relative isolation, per cent

Type of service	Urban	Low	Moderate	High/extreme	Total
School	44.3	39.6	59.1	43.1	44.1
Aboriginal Medical Service	10.9	24.6	6.8	3.4	16.0
Private practice	25.3	8.8	4.5	0.0	12.1
Hospital	11.5	13.7	12.4	27.6	13.9
Community health centre	12.6	16.1	21.6	27.6	17.0

Note: Totals add up to more than 100 per cent as some children visited more than one type of service. There were also a small number of children who visited an 'other' type of service not shown in the table.

that they were not sure. Of those who responded to the questions about where the child had been to a dentist, the most common response was at school (44.1 per cent) followed by Aboriginal Medical Centre (16.0 per cent). However the pattern of access was quite different by level of relative isolation. Children were least likely to visit a dentist at school if they lived in areas of low isolation but this group was most likely to visit a dentist at an Aboriginal Medical Centre. Private practice dental care was most commonly provided to children in urban areas. The differences between areas by level of relative isolation are likely to be a reflection of the accessibility of appropriate services in the area. The fact that for all levels of isolation, children were most likely to visit a dentist through their school is an indication of widespread provision of dental services through schools. However, this raises the question about whether children who are not yet school age have access to appropriate services.

As children get older, primary carers are more likely to report that they have experienced dental problems in the last year. This proportion increases from 5.9 per cent when they are 1 year old to around 40 per cent when they are 6 years old.



From this age the proportion remains fairly stable between 38.2 and 42.1 per cent.

If a child had experienced one or more problems with their teeth, their primary carer was significantly more likely to report poorer overall health for their child. The data also show a statistically significant association between dental problems and the number of times the child drank soft drink in the day prior to interview. Children who had experienced problems with their teeth were more likely to have drunk soft drink and were more likely to have drunk it more times in the day.

One study child was so impressed with the new *Footprints in Time* toothbrush that I had given her that she sat on the chair brushing her teeth while I was interviewing her.

Peers and friends

Having friends provides support and promotes mental health and wellbeing. Friendships also help children develop their social and emotional skills. Children who have more friends are more likely to be self-confident and are more likely to perform better at school (Kids Matter 2014).

When they enter school, children have increased opportunity to select who they wish to play and become friends with. For some, this involves playing with the same group of children while others have no particular group or prefer to play alone. Primary carers of children in the older cohort were asked whether their child usually played with the same group of friends. Of the 530 children in the cohort, 371 children (70.0 per cent) were reported by their primary carer as playing with the same group, 25 (4.7 per cent) preferred to play alone and 125 (23.6 per cent) did not always play with the same friends. Of the remaining 9, 8 primary carers



Table 5: Parental perception of child's friendship groups, per cent

What parents think about their child's friends	Definitely not	Usually not	Sometimes	Mostly	Always
They are a good group of kids (4)	2.5	1.1	20.2	24.8	51.5
You worry when study child is with their friends (4)	46.1	15.9	22.4	2.9	12.7
They are a bad influence on study child (4)	57.2	16.1	21.3	1.9	3.5
They need to be closely supervised by adults (0)	33.3	18.7	23.9	6.8	17.3
They like school (23)	2.6	1.2	12.9	23.9	59.5
They like sports (13)	2.8	2.2	9.8	19.3	65.9
They are often in trouble (13)	45.3	21.5	27.7	2.2	3.4
They respect elders, aunties and uncles (20)	2.6	1.1	13.1	20.5	62.7
They have nothing to do (17)	44.4	20.3	25.1	4.5	5.7
They try out things they are not old enough for (7)	79.1	4.7	6.3	4.7	5.2
They are helpful and kind (6)	1.9	1.9	17.8	21.6	56.8
Study child has a fun time with them (47)	0.6	0.6	5.6	17.0	76.2

Note: Numbers in brackets indicate the number of 'don't know' or 'refused' responses to the particular question. The percentages in the columns do not include missing responses.

said that they did not know. The primary carers whose child always played with the same group of friends were asked a series of questions about the characteristics of their child's friends.

Over half (51.5 per cent) of the primary carers said that their child always played with 'a good group of kids' and a further quarter considered they were mostly 'a good group of kids'. Only 2.5 per cent of parents said that their children definitely did not play with 'a good group of kids'.

The responses show that on the whole the parents are happy with the friendships that their children have formed. The two main exceptions are for the

questions asking about whether primary carers are worried about them when they are with their friends and whether they need to be closely supervised by adults. Relatively high proportions in the 'always' category may reflect the age of the child rather than the primary carers' attitudes to the child's friends.

The responses to these questions may be turned into a measure reflecting parental satisfaction with the children's friendship groups.⁷ The measure assigns a score of between 10 and 50, where high scores reflect higher parental satisfaction. This can then be used to determine associations with child outcomes. The measure of parental satisfaction

⁷ The measure excludes the questions about needing close supervision by adults and liking sports. The alpha for this measure is 0.8.



Table 6: Child reported feelings, per cent

How often do you ...	Lots	Sometimes	Hardly ever
... feel happy	54.3	42.6	3.2
... get scared	11.7	47.5	40.8
... feel sad	6.3	53.4	40.4
... get angry or mad	21.8	49.1	29.1
... feel proud	59.2	36.2	4.7

with friendship groups does not show a significant association with reading outcomes for children. However, higher social and emotional difficulties scores in Wave 4 were significantly associated with lower primary carer satisfaction with the child's friendship group in Wave 5.

Children share their feelings

As the children get older the *Footprints in Time* study is asking them to share with us more information about themselves. The children in the older cohort were asked how often they felt certain emotions; happiness, fear, sadness, anger and pride. Table 6 shows the responses given by the children.

Overall, the children said they experience the positive emotions lots of times and the more negative emotions less frequently. The majority of children responded that they feel happy and proud on lots of occasions and most do not live with lots of fear or sadness. It is worth noting that most of the children who said that they feel sad or scared lots of times also responded that they also felt happy lots of time or sometimes. On the whole there are no differences in the response patterns to the questions by level of relative isolation. The one exception is found in the question about feeling happy. Children in areas of moderate isolation were significantly more likely to respond that they felt happy lots of the time than children living in areas of low isolation. The question about feeling happy was also the only one that showed significant differences for boys and girls. Girls were significantly more likely than boys to respond that they felt happy lots of the time.

Favourite animals and pets

People have been living with animals throughout history but it is only in recent times that scientific studies have sought to prove the beneficial effects of keeping animals as pets. Studies have found that:

- Children who grow up learning to treat a pet as a member of the family tend to mature into adults with greater empathy towards other members of society (Poresky 1990).

- Children who grow up with pets have less risk of allergies and asthma (Johns Hopkins Medicine 2014).
- Pets may promote a healthy lifestyle through increasing exercise by activities such as walking a dog, riding a horse, playing with a kitten (News in Health 2014).

At the age of 5 years, the children in the younger cohort are developing their own preferences. In Wave 5, they were asked about their favourite animals. Of the 728 children in the younger cohort, 667 children specified their favourite animal.

Not surprisingly, some children talked about their pets as being their favourite animals. While some children mentioned animals with which they were familiar or wanted as pets such as cats and dogs, other children mentioned more exotic animals which they wanted to meet such as dinosaurs and elephants.

Children in the younger cohort were also asked if they had a pet and if so were invited to tell us about that pet. There were 487 children who said they had pets but at least six went on to say that either their pet had died or run away or that they





didn't have one but would like one. Reflecting the children's favourite animals, dogs and cats were the most common pets followed by birds (including chickens), guinea pigs and rabbits. There were also seven children who had pet snakes. The number of girls who had dogs was the same as for boys but girls were more likely than boys to have cats. Of the 352 children who had a dog as a pet, 105 (29.8 per cent) also mentioned it as their favourite animal and of the 122 who had a pet cat, 30 (24.6 per cent) mentioned it as their favourite.

As part of the household, the family pet is sometimes hard for interviewers to ignore. Dogs, goats and even draught horses make it difficult to get past the gate. Interviewers are not always as enthusiastic about snakes and rats as their owners, and dogs climbing up your legs, biting your ankles or fighting in the background can make interviewing difficult.

Family and social support

As they begin to make sense of their world, young children tend to seek advice and comfort from the adults in their lives, although in some cases they will turn to their peers. *Footprints in Time* children in the older cohort were asked a series of questions about who they would go to for assistance or to talk to in

various situations. These included who they would go to for help with homework, if they were hurt or sick, if they were sad or upset, if they wanted to talk about something good that had happened, if they were being bullied, if they needed money or if they wanted to learn about being Aboriginal or Torres Strait Islander. Children were asked to nominate all the different people to whom they would turn in each situation.

In all situations except being bullied, children were most likely to nominate their mother as the person they would turn to. Nearly 80 per cent of children turned to their mothers when they were sick or hurt. Just over 60 per cent of children turned to their mother but not their father while around 20 per cent turned to both their mother and father and a further 6 per cent turned to their father but not their mother. The situation in which children were most likely to turn to their fathers was when they wanted to talk about something good that had happened (36.6 per cent). Children not living with their father in the household were less likely to seek help from their father.

Children who experienced bullying were most likely to turn to their teacher for help (71.3 per cent) suggesting that this is very much a school based problem. Teachers were also seen as someone to turn to for help with homework (12.5 per cent) but not as often as children turned to mothers

(68.7 per cent) or fathers (19.6 per cent). Children also turned to their teacher when they were sick or hurt (22.7 per cent).

Mothers and fathers again played the most important role in helping their children learn about being Aboriginal or Torres Strait Islander although the difference between the two was much smaller than for all other situations (39.9 per cent for mothers and 30.6 per cent for fathers). Not surprisingly, children are more likely to go to their mothers to learn about being Aboriginal or Torres Strait Islander if their mother is Indigenous (43.3 per cent vs 23.8 per cent for non-Indigenous mothers). Grandmothers and teachers were also seen as good sources of information for this (21.5 per cent and 21.7 per cent respectively). Children were most likely to ask for help from Aboriginal elders or leaders when they wanted to learn about being Indigenous; 12.0 per cent of children nominated them as someone they would ask. Interestingly, a number of children nominated the *Footprints in Time* interviewer as someone they would ask about this.

One study child asked his friend to come over to his house while I was interviewing him. He told him 'this is the lady that does black fellas stuff with me'.

Another child asked her mother 'when is my Aboriginal teacher coming to see me?'

Friends were most likely to be someone with whom to discuss something good that had happened (15.0 per cent), compared to seeking their help or advice in other situations.

Overall, most children had someone they felt comfortable going to for problems or talking with. Of the different situations asked about, children were most likely to say they turned to no-one for help with homework (5.5 per cent) and only two children (0.4 per cent) said they turned to no-one when they were sick. In all situations, more than a quarter of the children had more than one person they would go to. Children were especially likely to share with more than one person when something good had happened (43.8 per cent) and were least likely to ask more than one person for help with homework (25.2 per cent)

Children at play

Play is so important for optimal child development that it has been recognised by the United Nations High Commission for Human Rights as a right of every child. Play is essential to development because it contributes to the cognitive, physical, social and emotional wellbeing of children (Ginsberg 2007).

The learning benefits of play are as numerous as the play activities children engage in. Children in the older cohort were invited to tell us their favourite thing to do when they are not at school. There were 509 children who provided an answer and between them they liked to do a wide range of activities. Many of the children provided more than one activity that they particularly enjoyed. Their responses have been grouped to provide information about the types of activities they engage in. The most commonly mentioned activities were playing the computer or other console based games, watching TV or DVDs and playing with their friends. Responses have been grouped into indoor and outdoor type activities.⁸ Many children listed more than one activity and many (36.3 per cent of the responses) said they enjoyed both indoor and outdoor activities.



⁸ There are a number of responses for which the indoor outdoor distinction cannot be made, for example, "playing with friends".



Indoor type activities were mentioned by 367 children (78.9 per cent of responses). These included watching TV, playing computers, playing with toys, reading, musical activities and doing arts and crafts. There were 103 (20.2 per cent) children who mentioned watching TV or DVDs as a favourite activity but over 40 per cent of these children also mentioned an outdoor activity. Computers and console-based games were the most popular activity, with 316 children (62.1 per cent) saying they enjoyed these. Computer-based activities were more popular with boys than with girls (66.0 per cent as opposed to 57.9 per cent). Girls were more likely to mention activities such as arts and craft, reading and music. Overall the same proportion of boys as girls (79.8 and 78.1 per cent respectively) nominated an indoor activity as one of their favourites.

Outdoor type activities were mentioned by 263 children (51.7 per cent of responses). These included playing various ball sports, going to the park, riding bikes, swimming and fishing. Trampolining was specifically mentioned as a favourite by 28 children. Of the children who responded to this question, 48.6 per cent of girls and 56.5 per cent of boys mentioned an outdoor type of activity. These types of activities

involve physical activity and, besides the obvious advantages of increasing physical health and fighting obesity, they promote skills such as social interaction, decision making and leadership, confidence and resilience (Ginsberg 2007).

Contact with other people was especially important for children in their activities out of school, with 117 children specifically mentioning that they liked to do things with their friends and 56 children mentioning playing or spending time with various family members, especially siblings and cousins. Boys and girls were equally likely to enjoy spending time with family and friends but children who lived in areas of higher isolation were more likely to state that they enjoyed this.

Examples of children's favourite activities outside of school

'I like going on YouTube and playing with my rabbit'

'Art, dancing, singing. Play with my brothers, annoying my eldest brother, singing'

'Playing with friends, playing cops and robbers, playing the Play Station'

'Playing with family and friends, watching DVDs, jumping on the trampoline, going looking for bush tucker'

'Making cubby house with my friends and playing with my family'

'Doing my homework, reading, eating healthy food'

'Going shopping with Mum, playing Uno with Mum, painting and making jewellery, playing with Dad'

'Play, I surprise my Mum by cleaning up'

'I like to write songs'

'I like to design clothes for my Barbie'

Visiting one of the islands one day, I saw a group of boys around 10 years old who had made a raft from an old shipping crate. They had launched it into the water and were diving from it for crayfish. They sailed around the island on this raft. Each boy took his turn to remain on the raft as lookout; there were sharks on one side of the island and crocodiles on the other.

Satisfaction with life

According to Biddle (2011), there are two main types of wellbeing data collected in large scale surveys—emotional wellbeing and life satisfaction. Emotional wellbeing data has been collected in *Footprints in Time* in several waves and in Wave 5 data about life satisfaction is available for the first time.

Primary carers were asked to rate their satisfaction with various aspects of life as well as their overall satisfaction on a scale of 0 to 10 on which 0 indicated total dissatisfaction and 10 indicated complete satisfaction. The *Footprints in Time* questions are the same as those asked in the Household, Income and Labour Dynamics in Australia (HILDA) Survey, a nationally representative survey of the general Australian population. Biddle (2011) noted that earlier research (Shields et al. 2009) identified a number of individual and area level characteristics that were associated with life satisfaction. These included age, partnership status, health, unemployment, neighbourhood characteristics and income. Many of these correlates have been found to vary considerably between Indigenous and non-Indigenous people. Given that Indigenous Australians are more likely to be unemployed, single parents and living in comparatively disadvantaged areas, it would therefore seem likely that they would report lower levels of life satisfaction (Biddle 2011).

However, when compared with HILDA responses from 2012, it appears that this is not the case.

Footprints in Time primary carers have higher levels of overall life satisfaction than that of the general population. Of the nine specific areas asked about, *Footprints in Time* respondents rated their satisfaction higher than their HILDA counterparts in six. The three areas they were not as satisfied with were their homes, their employment opportunities and the amount of free time they had. These differences may in part be due to the characteristics of the *Footprints in Time* sample. The HILDA sample is representative of the whole population aged 15 years and older, whereas the *Footprints in Time* sample primarily includes mothers with young children. It is not surprising that mothers of young families feel more time poor relative to the population overall. Many primary carers choose not to work so they can look after their children and therefore there is a high rate of item non-response to the question about employment opportunities. A high proportion of *Footprints in Time* families live in areas with high disadvantage and many reported problems with their house. Another possible reason for this seeming paradox of greater satisfaction despite higher levels of disadvantage is the way in which the questions are asked. Anecdotal evidence from the *Footprints in Time* interviewers indicates that many Indigenous people, especially in more remote communities, find the questions that use 10 point scales difficult to respond to. The difficulty in interpreting the scale by Indigenous people was also mentioned by Biddle. There is likely a combination of reasons that explain why Indigenous people report having higher levels of

Table 7: Average satisfaction in HILDA and *Footprints in Time*, scores out of 10

Satisfaction	HILDA	<i>Footprints in Time</i>
The home in which they live	8.0	7.6
Employment opportunities	7.0	6.5
Financial situation	6.5	6.9
They feel safe	8.2	8.8
The community in which they live	6.7	7.6
Their health	7.3	7.8
Their relationships [^]	8.3	8.6
The neighbourhood in which they live	7.8	8.1
The amount of free time they have	6.7	6.1
Overall life satisfaction	7.9	8.4

[^] *Footprints in Time* asks about relationships in general, whereas HILDA asks about satisfaction with their current partner.

Source: HILDA Wave 12 weighted averages and *Footprints in Time* Wave 5.

Table 8: Average satisfaction in *Footprints in Time* and HILDA by sex, scores out of 10

Satisfaction	<i>Footprints in Time</i> women	<i>Footprints in Time</i> men	HILDA women	HILDA men
The home in which they live	7.6	8.0*	8.0	8.0
Employment opportunities	6.5	7.1*	7.0	7.1*
Financial situation	6.9	6.7	6.5	6.5
They feel safe	8.8	9.1*	8.3	8.2*
The community in which they live	7.6	7.7	6.6	6.8*
Their health	7.8	7.9	7.4	7.3*
Their relationships [^]	8.6	8.8	8.5	8.2*
The neighbourhood in which they live	8.1	8.5	7.8	7.8*
The amount of free time they have	6.0	6.6*	6.8	6.6*
Overall life satisfaction	8.4	8.6	7.9	7.9

[^] In *Footprints in Time* the majority of fathers for whom there are data live with the primary carer, whereas a large proportion of women report not having a partner in the household.

* There is a statistical difference between men and women at $p < 0.05$ (comparisons are within surveys only).

Source: HILDA Wave 12 weighted averages and *Footprints in Time* Wave 5.



overall life satisfaction. Biddle suggests there may be specific Indigenous factors that are related to the determination of life satisfaction for Indigenous peoples that are not necessarily captured by this set of questions (Biddle 2011).

Do men and women report the same levels of satisfaction? Although the majority of primary carers are women, their responses can be compared

with those of the men asked in the Dads Survey. Table 8 compares the average scores of men and women in *Footprints in Time*. In *Footprints in Time* there are 180 responses in the Dads Survey and 30 male primary carers and 1,228 female primary carers. Comparisons of satisfaction by sex are also provided for HILDA.

With the exception of their financial situation, men in *Footprints in Time* report higher levels of satisfaction than women. However, these differences are only significant in relation to the homes in which they live, their employment opportunities, their safety and the amount of free time they have. While both men and women in HILDA report the same average levels of overall life satisfaction there is more significant variation between the sexes in different aspects of their lives. Men in HILDA are on average more satisfied with their employment opportunities and the communities in which they live and women are on average more satisfied with their safety, health, relationships and the amount of free time they have. Women in HILDA are also on average marginally, but nevertheless significantly, more satisfied with the neighbourhoods in which they live.

Footprints in Time primary carers rated their overall life satisfaction very highly with 39.1 per cent rating it as 10 out of 10. However, there were quite significant differences depending on the level of isolation of the areas in which they live. For the most part, primary carers in areas of higher isolation were happier across all areas of life with 59.0 per cent of all primary carers in areas of moderate

Table 9: Average levels of satisfaction by level of relative isolation, per cent

Satisfaction with...	Urban	Low	Moderate	High/extreme
The home in which they live	7.4	7.6	7.9	7.5
Employment opportunities	6.1	6.3	#7.4	#7.2
Financial situation	6.2	#6.7	##7.8	##8.1
They feel safe	8.6	8.8	9.0	9.0
The community in which they live	6.8	#7.5	##8.7	##9.0
Their health	7.2	#7.8	##8.4	##8.5
Their relationships	8.3	#8.6	##9.2	##8.9
The neighbourhood in which they live	7.9	8.1	8.5	8.3
The amount of free time they have	5.3	#6.0	##7.4	##7.2
Overall life satisfaction	7.9	#8.4	##9.0	##8.7

Note: The difference between categories is statistically significant if the number of # symbols is different.

isolation rating their overall satisfaction as 10 and 51.3 per cent in areas of high or extreme isolation compared with only 30.0 per cent in urban areas and 36.4 per cent in areas of moderate isolation. Generally, differences between moderate and high/extreme were not statistically different. People in urban areas were the least satisfied with all areas of their lives, especially with the amount of free time they had. Table 9 shows the average levels of satisfaction for each aspect of life by the level of relative isolation.

The # and ## symbols in the table indicate which levels of relative isolation are significantly different from each other. For example, the aspects of life that are not statistically different across different levels of relative isolation (i.e. there are no # symbols across the row) are the home in which they live, feeling safe and the neighbourhood in which they live. The difference in satisfaction with financial situation between urban areas and areas of low isolation is statistically significant, and satisfaction with financial situation for people in areas of moderate and high/extreme isolation is statistically different from low and urban but not from each other. It is worth noting that *Footprints in Time* respondents living in urban areas have the same average overall life satisfaction as the average of all HILDA respondents, the majority of whom live in urban areas, reflecting the overall population distribution of Australia. People in urban areas in *Footprints in Time* also report average levels of satisfaction with their safety, health, relationships and neighbourhoods that are more closely aligned to those reported in HILDA than those reported for more isolated areas in *Footprints in Time*.

Parenting efficacy

Measuring parenting efficacy in *Footprints in Time*

The quality and stability of a child’s human relationships in the early years lay the foundation for a wide range of later developmental outcomes that really matter (National Scientific Council on the Developing Child 2004). In the early years, the most important relationships children have are with their parents. Strategies for supporting parents are recognised as an effective way to improve the health, well-being and development of children. Parenting is influenced by many factors, including the behaviour and characteristics of the child, the health and psychological well-being of the parent and the contextual influences of stress and support. Parenting difficulties are a major source of stress for parents, and parenting self-efficacy has been shown to be an important buffer against parenting stress (Bloomfield & Kendall 2012).

This article examines how self-reported parenting efficacy is measured in *Footprints in Time* and how primary carers see themselves in the role of parents.

The Parent Empowerment and Efficacy Measure (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 PEEM was used as a core outcome measure in the Pathways to Prevention family support service. Aboriginal and Torres Strait Islander peoples made up approximately 16 per cent of the more than 1,000 families who participated in the Pathways to Prevention project.

The PEEM aims to measure carers' sense of personal agency with respect to their parenting role. Parents' responses indicate the degree of confidence with which they approach and manage the challenges of raising children and feel empowered to find and make use of formal services and informal support systems in order to achieve their goals as a parent and help their children thrive.

In its full form the PEEM consists of 20 items that measure parent empowerment as a general construct, but the measure also provides an indication of efficacy along two distinct dimensions. These two subscales (Efficacy to Parent and Efficacy to Connect) measure (i) confidence to make parenting decisions and carry out parenting responsibilities, and (ii) confidence to access parenting support and resources when needed, and to participate as part of mutually supportive networks to meet one's own and one's children's needs.

The *Footprints in Time* Wave 5 data collection included a subset of 14 of the 20 PEEM items.⁹ 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.

Table 10 shows the questions used in the *Footprints in Time* PEEM scale and the average responses based on a 10 point scale with 1 being 'this sounds nothing like me' and 10 being 'this sounds exactly like me'. Primary carers are least likely to feel they can stay calm and manage even when it is stressful and most likely to feel that their children feel secure.

The responses to the questions can be combined to form a parenting efficacy score¹⁰ ranging between 14 and 140, where higher scores indicate greater self-reported parenting efficacy. Scores for the *Footprints in Time* carers ranged from 32 to 140 with an average of 125.6. Compared to the responses to the same questions administered for the Pathways to Prevention project, *Footprints in Time* primary carers rate their parenting efficacy as relatively high. Using the same 14 questions used by *Footprints in Time* the Pathways to Prevention project had average scores of 110.7, a difference of nearly 15 points.

However, the Pathways to Prevention sample differs from the *Footprints in Time* sample in two important ways. Firstly, the Pathways to Prevention included both Indigenous and non-Indigenous respondents and secondly, the project was conducted wholly within Brisbane. The average score for the Indigenous sample within Pathways to Prevention was 119, much higher than the 110.7 of the whole sample. Among the *Footprints in Time* sample, primary carers from Brisbane had the second lowest average scores (121 points), a difference of only two points from the Pathways to Prevention Indigenous sample. Additionally, the *Footprints in Time* data also show that primary carers in urban areas have lower average scores than their counterparts in more remote areas. While the *Footprints in Time* results remain slightly higher than those from Pathways to Prevention, this difference is small enough to suggest that results from the two studies are comparable.

Table 10: Average responses to PEEM questions, score out of 10

Measure	Average response
I find it easy to talk to people like teachers, doctors and nurses about my children	8.8
I know how to get useful information about how my children's needs change as they grow	9.0
I feel good when I think about the future for my children	9.0
I can work out what to do if any of my children have a problem	9.2
We have clear rules and routines in my family	8.6
I can find services for my children when I need to	9.2
In my family there is more to enjoy than worry about	9.0
I stay calm and manage life even when it's stressful	8.2
I believe my children will do well at school	9.3
I feel that I am doing a good job as a parent	9.2
I feel good about myself	8.7
I feel good about the way my children behave	8.5
I can make time for my children when they need it	9.3
I know my children feel secure	9.5

⁹ © Griffith University, Parenting empowerment and efficacy measure (PEEM), *Footprints in Time* adaptation.

¹⁰ Using the *Footprints in Time* data, this scale has a Chronbach alpha of 0.88 and a Kaiser-Meyer-Olkin measure of sampling adequacy of 0.93.

As PEEM is a self-reported measure, there are a number of factors to consider when evaluating its use. It does not tell us whether the respondents are good parents, if indeed there is any agreed-upon definition of a good parent. It does tell us how the respondents see their own parenting skills in terms of producing their desired outcomes in their children. The literature shows that parenting self-efficacy is important when exploring differences in parenting skills (Sevigny & Loutzenhiser 2010).

As noted in the discussion above, there is a large difference between Indigenous and non-Indigenous parents in the overall scores on this measure. There are a number of possible reasons for this, the first and most obvious one being that Indigenous parents do in fact have higher levels of confidence in their parenting skills. However, there may also be cultural and historical factors underlying this difference.

One difficulty with measuring abstract concepts with rating scales occurs because cultures differ in their tendency towards nay-saying (Hofstede 1980). In other words, some cultures are more likely to select responses in one area of the scale—such as predominantly in the middle or either end. There is certainly clustering around 10, ‘this sounds exactly like me’. For all questions except for the question about managing stressful situations, more than 50 per cent of respondents selected the top

category and 15.3 per cent of respondents who answered all questions have ‘perfect’ scores of 140. While responses are spread across all steps of the scale for each question, the distribution is far from normal, which is not surprising for these types of questions.

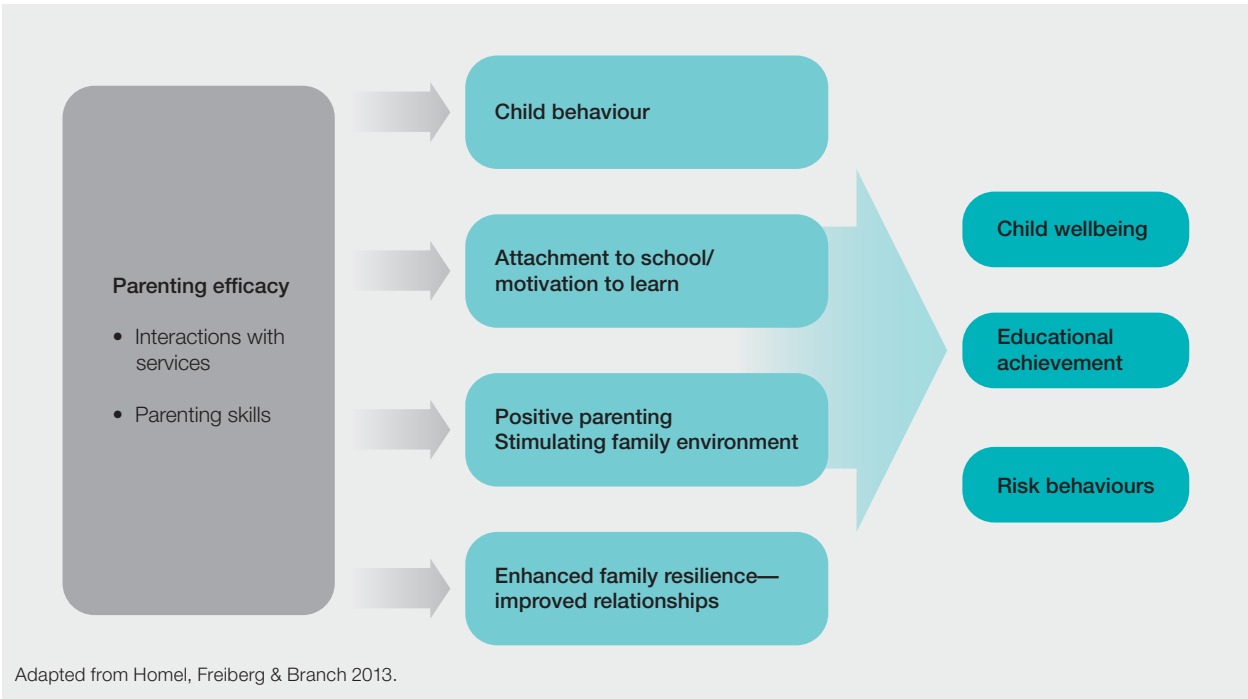
This analysis attempts to draw out what is important in predicting self-reported parenting efficacy within a sample of parents of Indigenous children.

What helps parents of Indigenous children see themselves as effective and empowered parents?

This analysis uses PEEM as an outcome measure to examine what characteristics are associated with changes in self-reported parenting efficacy.

Much of the literature around ‘parenting self-efficacy’ primarily relates to articles about measures of parenting self-efficacy, programmes to improve parenting efficacy, evaluations of such programmes or literature about how service providers can provide assistance. Sevigny and Loutzenhiser (2010) comment that little is known about the predictors of parenting efficacy. Much of the literature on parenting efficacy discusses the relationship between parenting efficacy and parenting skills, demonstrating that parents with better parenting efficacy have better parenting skills, which in turn lead to better outcomes for the child.

Figure 2: Parenting efficacy and empowerment



Adapted from Homel, Freiberg & Branch 2013.

Footprints in Time data does not demonstrate a significant association between children’s learning outcomes and self-reported parenting efficacy; neither PAT Reading scores for the older cohort nor Renfrew Vocabulary scores¹¹ for the younger cohort were significantly associated. This may suggest that self-reported parenting efficacy is not related to educational attainment in Indigenous children, but it is more likely that the results are due to the measures used or possibly the early stage of children’s education.

The only outcome that showed a significant association with self-reported parenting efficacy is children’s social and emotional difficulties, as measured through Goodman’s Strengths and Difficulties Questionnaire (SDQ),¹¹ which showed a significant association ($p < 0.01$). Using pre-release Wave 6 data (the SDQ was not available in Wave 5), a one-point increase in self-reported parenting efficacy scores is associated a 0.04 point decrease in children’s social and emotional difficulties scores, resulting in a possible variation of up to 5 points on the 40 point difficulties score. Children’s abilities to interact socially were also significantly associated with self-reported parenting efficacy; a one-point increase in self-reported parenting efficacy is associated with a 0.02 point increase in prosocial skills, resulting in a possible variation of up to 2 points on the 10 point prosocial scale.

This analysis now examines what factors may have an impact on self-reported parenting efficacy. Research using the first wave of the Longitudinal Study of Australian Children (LSAC) found that parents had higher self-reported parenting efficacy if they had greater levels of community support, perceived themselves as better off financially, had higher levels of partner support and had enough help from family and friends (Yu 2011). However,

this research does not discuss whether there was a statistical difference between categories nor does it discuss the relative importance of these factors.

Table 11 uses PEEM in *Footprints in Time* to look at the same factors Yu found to influence self-reported parenting efficacy in relation to an Indigenous sample. It is not possible to exactly replicate Yu’s work in the *Footprints in Time* context as the same variables are not available. The self-reported parenting efficacy measure in LSAC is based on a single question asking parents to rate their efficacy as a parent rather than a scale such as PEEM.

The *Footprints in Time* data does not include a variable about whether primary carers receive help from family and friends. For the purpose of this analysis, two different measures are examined: Strong Souls and satisfaction with relationships. Strong Souls (Thomas et al. 2010) is a scale measure of cultural, social and personal resilience that includes questions about family and friends and has been used here as the closest measure to that used by Yu. It is an Indigenous-focused construct that covers not only people’s inherent capability to recover from negative events and adapt to stress but also the family and community support mechanisms they have around them to help in such situations. It has a possible range of 12–48, with higher scores indicating higher levels of resilience. (Refer to Appendix B for more information about this measure.) Satisfaction with relationships is a single question asking primary carers to rate their level of satisfaction on a scale of 0 to 10.

The results in the bivariate column show the relationship between each variable independently and the self-reported parenting efficacy measure. All except having a partner in the household show a positive association with self-reported parenting efficacy.

Table 11: Relationship of selected factors to PEEM scores in LSAC and *Footprints in Time*

LSAC measure	<i>Footprints in Time</i> measure	Results— bivariate	Results— multivariate
Greater levels of community support	Satisfaction with feeling part of your local community	1.9***	0.2***
Perceived financial status	Perceived financial status (Not enough or just enough/can save some)	1.0*	n.s.
Partner support	Partner in the household	1.4	n.s.
Help from family and friends	Satisfaction with relationships	2.5***	0.2***
	Strong Souls	0.9***	0.2***

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; n.s.—not significant

11 This measure is described further in Appendix B.



The multivariate column shows what happens when all the variables are included in the model but with no other control variables included. The results show the standardised coefficient that equalises the scales of the independent variables to allow easier comparison. Perceived financial status becomes not statistically significant when other factors are taken into account. Of the three variables that remain significant, all have the same effect size.

Having a partner in the household and perceived financial status are not significant when the other variables are held constant. However, using other finance-related measures, such as the number of financial stress indicators experienced, demonstrates that financial considerations are an important factor in relation to self-reported parenting efficacy for primary carers in *Footprints in Time*. With scores ranging between 0 and 7, higher numbers of financial stress indicators experienced are associated with lower self-reported parenting efficacy scores.

There are potentially many other factors that could be associated with self-reported parenting efficacy in general and Indigenous parents in particular. Coleman and Karraker (2000) found that higher parenting efficacy was found in mothers of more social children¹² and among mothers who were

better educated and had higher family income. Heath et al. (2011) make several references to the importance of communities as well as safety in their discussion on Indigenous parenting styles.

The analysis next explores the association between self-reported parenting efficacy scores with the primary carers' social and emotional wellbeing, their cultural, personal and social resilience (Strong Souls measure), satisfaction with relationships, satisfaction with feeling part of their local community, perceived community safety, and the number of financial stress indicators experienced by the family in the previous 12 months. This last is a different measure of financial stress to the one used in Table 11.

Table 12 presents these variables in a bivariate model with PEEM scores. The effect shows the strength and direction of the association and the asterisks indicate the level of statistical significance.

Unlike perceived financial status, financial stress is significantly associated with self-reported parenting efficacy; for each additional financial stressor experienced (range: 0–7), PEEM scores decrease by 1.2 points. Primary carers who report living in a quite safe or very safe community have average PEEM scores 4.3 points higher than those who report living in a community that is not safe.

Table 12: Factors associated with PEEM scores—bivariate regression analysis

Characteristic	Coefficient
Strong Souls	0.9***
Primary carer social and emotional wellbeing ¹³	0.6**
Satisfaction with relationships	2.5***
Satisfaction with feeling part of their community	1.9***
Community is quite or very safe	4.3***
Financial stress	-1.2***

*** p<0.001; ** p<0.01; * p<0.05.

The effects of some variables are stronger than others and reduce or negate the association of other variables with self-reported parenting efficacy when used in combination. Table 13 shows the results for a model using all of the variables from Table 12 together and controlling for other demographic characteristics; study child sex, primary carer health, primary carer partner status, primary carer education and socio-economic advantage. The latter is measured by IRISEO,

¹² Sociability of children was examined but did not demonstrate statistical significant in a bivariate regression model with PEEM. As a child outcome, it is not further analysed in this research.

¹³ See Appendix B for information about this measure

Table 13: Factors associated with PEEM scores—multivariate regression analysis

Characteristic	Standardised coefficient
Strong Souls	0.2***
Social and emotional wellbeing	-0.0
Satisfaction with relationships	0.2***
Satisfaction with feeling part of their community	0.2***
Community is quite or very safe	0.1**
Number of financial stress indicators	-0.1*
Socio-economic advantage (IRISEO) (deciles)	-0.1**
Study child is female	0.0
Primary carer health is excellent	-0.1***
Primary carer has partner in household	0.0
Primary carer education (Year 12 or University degree)	-0.1*

*** p<0.001; ** p<0.01; *p<0.05.

which is explained in Appendix B. This model has a sample of 1,012 and accounts for 24.7 per cent of the variance in scores.

Of the main variables of interest all but parental social and emotional wellbeing remained significant in a multivariate model. The table shows that Strong Souls, satisfaction with relationships and satisfaction with feeling part of the community all have the same standardised effect size (0.2) on variation within the PEEM scores.

PEEM scores also increase with community safety and better parental health and decreases with greater financial stress. However, living in areas of greater advantage and having a higher level of education results in lower PEEM scores when holding all other variables constant. This could be explained by the various interactions between PEEM, Strong Souls, education and IRISEO. People with stronger social networks have higher self-reported parenting efficacy and live in more isolated areas, which in turn tend to be of lower socio-economic status. People with higher education also tend to live in more urbanised areas and may be less likely to have strong social support.

While primary carer social and emotional wellbeing is significant in a bivariate model, once the Strong Souls measure is controlled for, it is no longer significant.¹⁴

It is worth mentioning that the strength in this model comes primarily from the variables of interest, and even after removal of the control variables the model still accounts for 22.9 per cent of the variance in scores.

The analysis so far has looked at primary carers of Indigenous children without taking account of the Indigenous status of the primary carer. In the sample from the above model, 16.9 per cent of the primary carers are non-Indigenous. Excluding these from the model does not change the relationships significantly.

One further point to mention is the effect of the stolen generation policies. In Wave 5, primary carers were asked whether they had anyone in their family who was adopted, fostered or removed from country. Of the 1,258 respondents in Wave 5, 2 refused to answer, 49 (3.9 per cent) said they did not know, 508 (40.4 per cent) said that someone in their family had been adopted, fostered or removed from country and 699 (55.6 per cent) said that no-one in their family had. This variable was tried in the model but showed inconsistent results with different sample groups so was not included.

In conclusion, it appears that for Indigenous primary carers, resilience (as measured by Strong Souls), satisfaction with relationships, feeling part of the community and community safety are important in explaining variance in self-reported parenting efficacy.

Qualities valued by Indigenous primary carers

Values are abstract concepts of what is important and worthwhile, enabling a sense of identity. They vary between cultures, not only between Indigenous and non-Indigenous people but within different Aboriginal and Torres Strait communities. According to the Secretariat of National Aboriginal and Islander Child Care (SNAICC), Aboriginal and Torres Strait Islander people's values and beliefs are based on an understanding of the world that integrates the spiritual with the material and emphasises the individual's relationship to community (SNAICC 2013a).

Understanding the values Indigenous parents have may provide an insight into understanding children's outcomes. Indigenous parents may place importance on letting children know who they are, defining a child's identity through their connections to everything in life (SNAICC 2013a).

¹⁴ The correlation between these two variables is 0.34.

Table 14: Top five values parents wish to develop in their children, Australia (WVS) and *Footprints in Time* in Wave 5

Australia (World Values Survey)	<i>Footprints in Time</i>
Tolerance and respect for other people	Tolerance and respect for others
Feeling of responsibility	Independence
Independence	Feeling of responsibility
Hard work	Hard work
Determination and perseverance	Unselfishness

The World Values Survey (WVS) is run by a worldwide network of social scientists studying changing values and their impact on social and political life. It carries out nationally representative surveys in 97 societies. Representative national samples of each society are interviewed about a range of values, including a series of questions about what values parents consider most important for their children to develop (World Values Survey 2014). These questions were included in Waves 2 and 5 of *Footprints in Time*. Primary carers were asked to select five of the ten options they considered the most important. It should be noted that non-selection of a particular quality does not mean that the primary carer does not consider that value important; only that they rate other values more highly. Using the WVS data, it is possible to compare responses from Australia in general to those of the *Footprints in Time* parents. The data used is from the 2012 wave of the Australian WVS and the *Footprints in Time* data is from Wave 5, collected in 2012.

Both datasets show that Australian parents value tolerance and respect above the other values. The top four values selected by both groups are the same but independence is rated slightly more highly by Indigenous parents. Thrift/saving, obedience

and religious faith were least likely to be selected by both groups. How different people interpret or define these values may vary considerably across cultural backgrounds. The Australian responses may come from a diverse range of cultural backgrounds whereas the *Footprints in Time* responses come from a primarily Indigenous background. However, even within the *Footprints in Time* sample, there are Indigenous and non-Indigenous primary carers who make slightly different choices on average and Indigenous carers who come from many different Indigenous cultural backgrounds.

Table 15 shows the difference in selection patterns by levels of relative isolation. In any row, # symbols indicate where there is a statistically significant difference between levels of relative isolation. Rows in which there are no # symbols show no statistical difference between any of the categories.

The proportion of respondents selecting tolerance and respect, responsibility, and thrift and saving is not statistically different by level of relative isolation. Independence, imagination, determination and unselfishness are valued more highly by primary carers living in areas of lower isolation. Religious faith and hard work are qualities valued

Table 15: Qualities by level of relative isolation, per cent

Quality	Urban	Low	Moderate	High/extreme
Tolerance and respect	88.4	89.4	84.2	83.9
Independence	81.6	77.0	#65.5	#63.4
Feelings of responsibility	70.3	68.1	63.6	74.1
Hard work	45.0	#54.2	##64.9	###78.6
Imagination	40.8	37.9	#18.8	#9.8
Unselfishness	40.5	41.3	#25.5	#22.3
Obedience	32.3	#30.2	33.3	#41.1
Thrift/saving	27.5	28.8	33.9	27.7
Determination/perseverance	47.6	#37.4	##26.7	###16.1
Religious faith	12.5	14.8	#29.7	#42.9

Note: The difference between categories is statistically significant if the number of # symbols is different.

more highly by primary carers living in areas of higher isolation. The likelihood of selection of obedience by primary carers living in urban areas and areas of moderate isolation are not significantly different from any of the other categories. There is however a significant difference between primary carers in areas of low isolation and those in areas of high isolation.

By comparing responses between Waves 2 and 5 of the *Footprints in Time* data, it is possible to see whether there was any change in attitudes between 2009 and 2012.

By looking at the responses in cases where the same primary carer provided responses in both waves (1,042) it is possible to examine the stability of responses. For all qualities, 60 per cent or more primary carers responded in the same way for both waves. The most consistent were religious faith (82.7 per cent), tolerance and respect (77.8 per cent) and independence (70.4 per cent). Respondents were most likely to change their responses in terms of unselfishness (39.2 per cent). The qualities most likely to be chosen in Wave 2 but not Wave 5 were imagination, unselfishness and obedience and the qualities most likely to be chosen in Wave 5 but not Wave 2 were hard work, determination and perseverance and feeling of responsibility. This variation between waves suggests that different values may be emphasised more depending on the child's age.

In Wave 5, the same series of questions was also asked of the fathers in the Dads Survey. By limiting the primary carer responses to women only, we can compare the responses of mothers and fathers. In examining the results, a number of caveats should be borne in mind, not least of which is the much smaller sample of fathers (179 compared with 1,185 mothers). Additionally, the vast majority (88.9 per cent) of fathers in this sample are living in the same household as the primary carer, whereas only 64.3 per cent of mothers have a partner living in the household. Figure 4 shows that for both mothers and fathers tolerance and respect is the most important value to pass on to their children, followed by independence. While hard work is seen to be equally important as independence for fathers, mothers see it as less important than responsibility.

As the children in the study get older, it will be interesting to undertake research into whether the values held by their primary carers are associated with the children's schooling.

Housing and mobility

There is a commonly held view that the Australian Indigenous population is highly mobile (Biddle & Markham 2013). A comparison of 2006 and 2011 census data shows that in the five year period between the two censuses, 43.7 per cent

Figure 3: Values primary carers wished to develop in their children, per cent

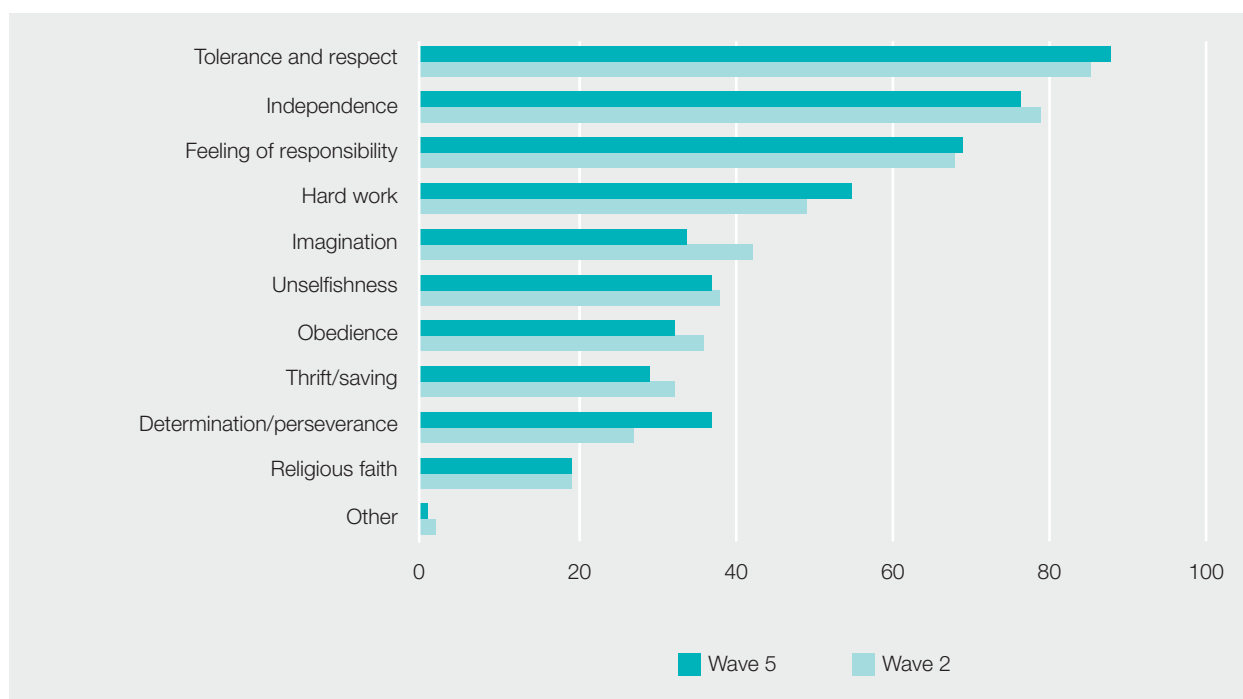
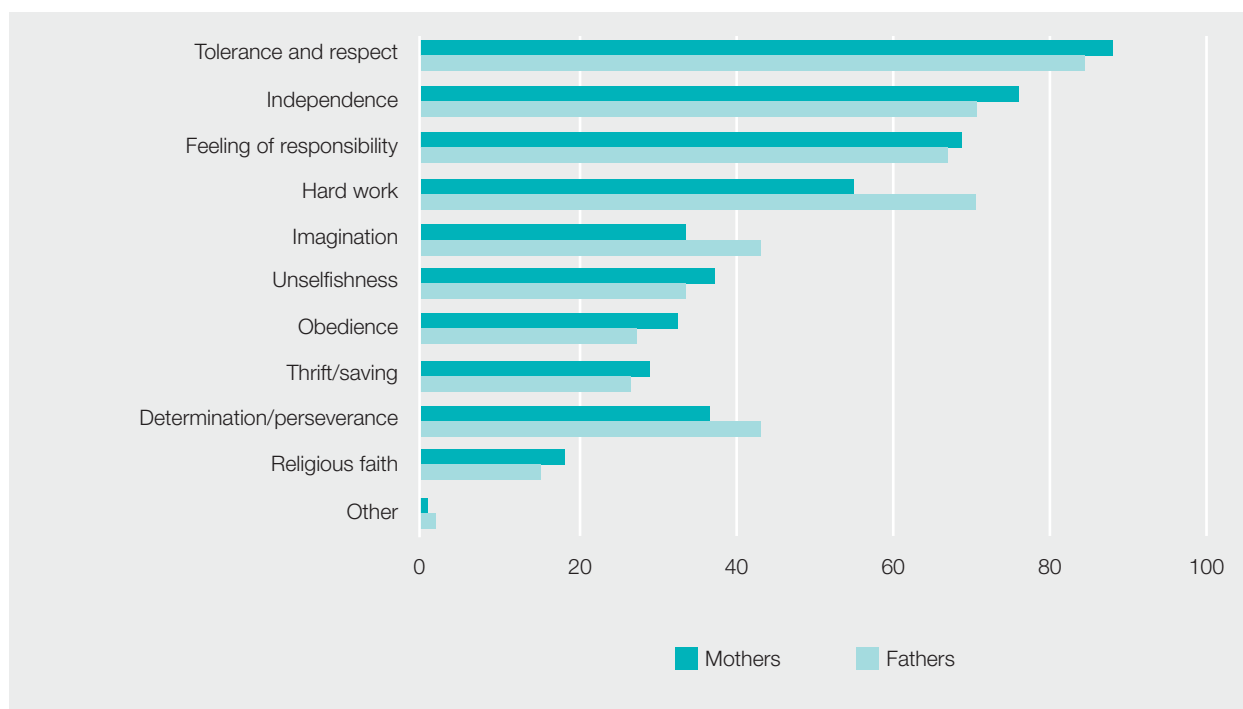


Figure 4: Values mothers and fathers wished to develop in their children, per cent



of Indigenous Australians had changed usual residence. However, when examined by age group, Biddle and Markham found that the proportion of children aged 5 to 9 years moving house in this period was slightly higher, at around 48 to 49 per cent. Each year *Footprints in Time* respondents are asked if the child has moved house since the previous interview. The *Footprints in Time* sample, the majority of who are in the 5 to 9 year age group at the time of Wave 5 interview, follow a very similar trend with 48.1 per cent of children having moved in the five years between Waves 1 and 5.¹⁵

People move house for a wide range of stated reasons, such as wanting a better home, moving close to family or friends or tenancy problems. Some people move to take up employment opportunities, while others move following a relationship breakdown. When people do decide to move, they need to take into account issues such as moving their child from one school to another or the stability of their housing tenure and consequent upheaval. The literature (Biddle & Markham 2013) also demonstrates that people move more often when they are younger than when they are older. So what are the drivers for those who move out of

their area compared to those who stay in their own area? And how are these different from families who choose to move locally when compared to those who stay in the same home. Of the 909 children whose families have been interviewed in all five waves, 51.9 per cent had had no moves over the period, 26.4 per cent had had one move, 16.2 per cent had two, 4.5 per cent had three and 1.0 per cent had four, in total 693 moves.¹⁶

Families are asked the main reason for moving. The reasons may be grouped into five categories; housing (such as wanting a bigger or smaller home, cheaper rent or purchasing their own house), employment (such as moving to be closer to work or better job opportunities), health and education (such as to be nearer medical or education facilities), family (such as moving to be closer to or further from family) and lifestyle (such as changing neighbourhood or being closer to homelands).

Footprints in Time families most commonly move for housing reasons and among these reasons, moving to a bigger or better home was the most often cited, accounting for more than one-fifth of all housing related moves. The next most common reasons were the landlord asking the tenant to

¹⁵ This includes only children about whom data was collected in every wave.

¹⁶ As data is only recorded about whether the child's family has moved since the previous wave interview and not about the number of moves, this number is likely to underestimate the total number of moves.

Table 16: Reasons for moving

Reason for moving	Number	Percentage of total
Housing	392	56.6
Employment	15	2.2
Health and education services	23	3.3
Family	140	20.2
Lifestyle	63	9.1
No reason specified	60	8.7

leave and being allocated public housing. Of those families who said they had moved for family reasons, the most commonly cited reason was to be close to family and friends.

Using five waves of data longitudinally, it is possible to identify up to four moves for each child in the dataset. There are a range of factors that are significantly associated with higher or lower odds of moving locally or moving out of area.¹⁷ In this analysis, 'area' is defined as Indigenous area (an ABS classification of Australia into areas with a minimum of 250 Indigenous usual residents).¹⁸ The first analysis compares all people moving out of the Indigenous area, to all people who stayed within their own area (both moving locally and non-moving), with a total of 4,885 observations and 1,571 respondents. The second analysis uses only the data of participants who stayed within their local area (3,581 observations and 1,130 respondents). After dropping cases of respondents who move out of area, families that moved locally are compared to those who stayed in the same home. All results reported below are significant at the 95 per cent confidence level.

People who had a new job or returned to study were significantly more likely to move to a new area. They may have moved to a new area in order to take up a particular job, or found work after having moved. However, starting a new job or returning to study was not related to moving within the local area. Primary carers were more likely to move house both locally and out of area after splitting up with their partner.

Families were also less likely to move house if the study child was old enough to attend school. In line with this, parents were also less likely to move house as they got older.

Torres Strait Islander parents were significantly more likely to move away from their local area than any other group, but significantly less likely to move house within their local area.

Type of housing tenure had a very significant effect on moving house. Compared to those who are paying a mortgage or own their home outright, families renting from a community organisation or renting government housing were almost twice as likely to move out of their area, while those renting privately were three times as likely to move away. Families living rent free, or in alternative housing arrangements such as living in a shelter or hostel, or with family, were four and a half times more likely to have moved away from their area by the following year. Those in government/community housing were not significantly more likely than home owners to move around within their local area, but private renters were more than five times as likely to move locally and those in alternative housing were more than eight times as likely to move, compared to home owners.

Families living in moderately or highly isolated areas were one and a half times as likely to move locally, but were no more likely than urban and regional families to move out of their area.

Housing conditions

Are Footprints in Time primary carers satisfied with their home? The earlier article in this report on life satisfaction showed that *Footprints in Time* families were less satisfied with their home than the average Australian but were happier with their neighbourhoods. In Wave 5, respondents were asked whether their homes needed any major repairs and if so how easy it was to have things fixed. Nearly two-thirds of respondents said that their home did not need any major repairs. Of those whose houses needed repairs, nearly one-half identified only one type of problems, although some unfortunate householders identified up to 13 different types of problem. Table 17 shows the types of housing problems experienced by *Footprints in Time* families.

¹⁷ A preliminary analysis to investigate sources of variation in the data associated with the clustering of observations within areas and within individuals (repeated responses over time) showed that the odds of moving varied significantly between areas and between people within areas. It was therefore necessary to control for these sources of variation using a 'multilevel' or 'mixed effects' logistic regression analysis before introducing explanatory variables into the analysis.

¹⁸ There are 429 Indigenous areas in Australia and *Footprints in Time* respondents live in 146 areas.



Table 17: Housing problems

Type of problem	Families experiencing	Number of problems identified
Structural and electrical	176	311
Major plumbing	178	261
Roof/doors/windows	186	209
Outdoor	95	115
Essential services	72	98
Other	76	76
Total	421	1,070

The table highlights the fact that many families are experiencing multiple housing problems. The most common individual problems identified were problems with windows, doors, screens or locks, plumbing problems with the bath or shower, major electrical problems and major cracks in the walls or floors. Of those who provided a response to whether it was easy to get these problems repaired, 31.5 per cent said 'yes', 33.5 per cent said 'not always' and 35.0 per cent said 'no'. The most common reason given for difficulties in getting

repairs done was the landlord, council or housing commission taking a long time to do repairs. Expense was the next most commonly cited reason.

Primary carers were also asked whether the houses they lived in had a range of amenities. Of the amenities asked about, families were most likely to not have a heater or an air-conditioner. However, many of the families without these live in areas in which the climate makes them unnecessary. The majority of houses had working cooking facilities, a fridge, a flushing toilet, a bath or shower, a washing machine, a kitchen sink and a laundry tub. Around 86 per cent of families had all seven amenities. This was more prevalent in urban areas and areas of low relative isolation. In these areas less than 10 per cent did not have one or more of these amenities, whereas in areas of moderate isolation this rose to 26.6 per cent and to 33.0 per cent in areas of high or extreme isolation.

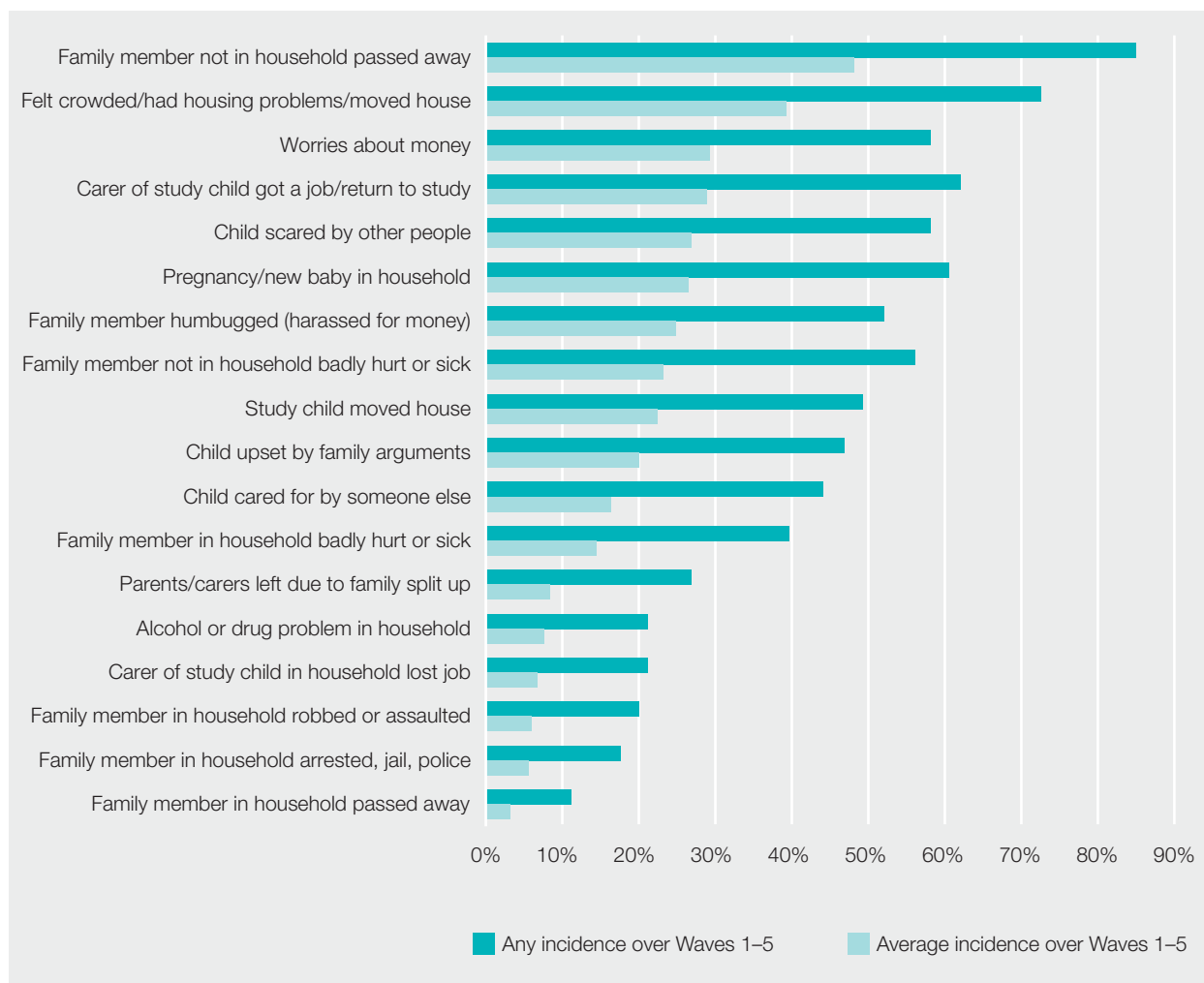
Of those who did not have all amenities, two-thirds were lacking one amenity, the most common being cooking facilities. There were 15 families who were missing four or more of these basic amenities.

Primary carers were asked what they thought about the communities in which they lived in Wave 4 and those who had moved were asked about their community in Wave 5. The questions covered three aspects of the community; whether it was a good community in general, whether it was safe for children and whether there were good places for children to play. On the whole most people thought they lived in a 'good community for little kids' with 73.1 per cent responding it was very good or good. Safety was more of an issue with 61.5 per cent saying their neighbourhood was very safe or quite safe. In terms of places to play, 54.2 per cent said there were at least a few good places to play.

Major life events

Previous *Footprints in Time* reports (FaHCSIA 2012, 2013) have included information about major life events that the families have experienced in the previous 12 months. This time we examine the prevalence of these events over the five-year period between 2008 and 2012. Figure 5 shows the proportion of *Footprints in Time* families reporting each of these events averaged over the five-year period as well as the proportion of families experiencing each event at least once over the five-year period.

Figure 5: Prevalence of major life events over the 2008 to 2012 period, per cent



Note: Two events about moving house are included; the variable 'felt crowded/had housing problems/moved house' changed from Wave 3 to additionally specify crowding and moving rather than just housing problems; moving house is also included as one of the questions asked about in the series of questions about major life events. The variable 'study child moved house' is derived from address data.



Table 18: Frequency of experience of major life events over 5 years (2008 to 2012), per cent

Major life event	Once	Twice	Three or more times
Family member in household passed away	9.5	1.5	0.2
Family member in household been arrested, been in jail, or in trouble with the police	13.4	3.5	1.0
Family member in household mugged, robbed or assaulted	16.1	3.5	0.7
Carer of study child in household lost job	17.0	3.4	1.2
Alcohol or drug problem in household	14.9	4.0	2.5
Parents/carers left due to family split up	20.2	5.2	1.4
Family member in household badly hurt or sick	26.9	8.5	4.3
Child cared for by someone else	28.5	10.0	5.8
Child upset by family arguments	25.1	13.0	8.8
Family member not in household badly hurt or sick	30.6	16.0	9.5
Study child moved house	30.0	15.2	4.2
Child scared by other people	27.7	17.8	12.7
Family member humbugged (harassed for money)	24.9	14.1	13.2
Worries about money	25.0	16.1	17.2
Carer of study child got a job/returned to study	29.6	16.5	16.3
Pregnancy/new baby in household	28.8	18.2	12.7
Felt crowded/had housing problems/moved house	26.2	20.9	25.6
Family member not in household passed away	24.7	27.6	32.8

Over the five-year period, the most commonly experienced event is a death outside the household with nearly half of all families experiencing this in any given year and 85.1 per cent of families experiencing the event at least once over the period. At the other end of the scale the event least likely to be experienced is a death of a family member in the household. On average in any year in the period, children were more likely to be in families who experienced worries about money than have a carer return to work or study. However over the five-year period, more children were in families in which the carer had returned to work or study. More than 60 per cent of children lived in families in which one of their carers had returned to work or study over the five-year period in contrast to only just over 20 per cent who lived in families in which their carer had lost their job.

All of these events can occur multiple times both across waves and within waves. While the data does not identify the number of times an event occurs for each family in a year, it is possible to look at the number of years in which families experience each event. Table 18 shows the proportion of children in families experiencing an event in one, two or three or more years.

Most children experience events in only one year. The two exceptions to this are housing problems and a death outside the household.

Many of these life events are also asked of families in the Longitudinal Study of Australian Children (LSAC), allowing a comparison with a nationally-representative sample of families with children of the same age. This means that we can compare the incidence of major life events experienced by Indigenous children in *Footprints in Time* and Australian children as represented by LSAC. At the time of Wave 4 in both studies, the older cohort from *Footprints in Time* and the younger cohort in LSAC were both aged around 6 to 7 years, so the following analysis used four waves of data rather than five.

There are a number of differences between the datasets that need to be taken into account when examining the data. Data is collected on an annual basis for *Footprints in Time* but every two years for LSAC. However, for LSAC most of the questions ask about the last 12 months. This means that the results for *Footprints in Time* are an average of four years over a four-year period (2008–2011) whereas for LSAC results are an average of four years over a seven-year period (2004–2010). While the children

Table 19: Comparison of prevalence (annual average) of major life events in *Footprints in Time* and LSAC, per cent

<i>Footprints in Time</i> 2008–2011		LSAC 2004–2010	
Major life events in the past 12 months		Life events in the last year	
Pregnancy/new baby in household	22.5	Pregnant/had a baby	19.0
Primary carer or partner badly hurt or sick	7.5	Illness, injury or assault to primary carer or partner	7.7
Other relatives badly hurt or sick	29.9	Illness, injury or assault to close relative	15.0
Family member in household passed away	3.8	Parent, partner or child died	3.8
Family member not in household passed away	49.4	Close friend or other relative died	22.5
Carer of study child in household lost job	6.7	Lost job but not from choice	6.4
Worries about money	30.9	Had a major financial crisis	11.0
One or more financial stress events 2010–2011*	45.6	One or more financial stress events 2004–2010*	24.6
Alcohol or drug problem in household	8.0	Household drug or alcohol problem	3.0
Family member in household mugged, robbed or assaulted	6.3	Valuable lost or stolen	5.7
Family member in household arrested, in jail, problem with police	5.4	Legal problems	2.3
Parents/carers left due to family split up	7.7	Relationship separation	3.5
Study child moved house	20.4	Study child moved house in last 2 years	28.5

* For more information about financial stress indicators refer to Appendix B.

were the same age at Wave 4, their ages at Wave 1 are different for the two studies. In *Footprints in Time* the children were aged around 4 years and in LSAC the children were aged about 1 year. Additionally, the wording of the questions may also mean some of the questions may cover, either intentionally or through respondent interpretation, different scenarios. The wording of questions from both studies has been included in the table to enable identification of possible concerns with the comparison. Only events that are asked about by both studies are included; there are other events asked about in both studies that have not been included as they are not considered comparable.

It is worth noting the difference in average household size for the two groups. Over the period, the average number of people in *Footprints in Time* households was 5.2 and in LSAC it was 4.4.

The table shows a large difference between the studies. The only event that LSAC children experience more than *Footprints in Time* children is moving house but the time frame for this is one year in *Footprints in Time* and two years in LSAC. Loss of job by a primary carer and a death inside the household are experienced by similar proportions in both studies. For all other events *Footprints in Time* children have a much higher level of experience over the four-wave period than LSAC children. The question in the major life events series

about financial concerns shows a particularly large difference and this may be due to the difference in the wording of the questions. To gauge whether this is the case, an additional measure has been calculated and added to the table (one or more financial stress events 2010–2011). The financial stress measure is derived from a series of six questions that are the same in both studies. The proportion shown represents the proportion of children whose families have responded in at least one year that they have experienced one or more indicator of the listed financial stressors. While the proportional gap between the two studies lessens for this measure, there is still a much higher prevalence for the *Footprints in Time* children.

While death of someone not in the household remains the most commonly experienced event for *Footprints in Time* children, LSAC children are less likely to have experienced this than financial stress.

The impact of experiencing high levels of major life events on children is further discussed in the articles ‘Measuring disadvantage: does one size really fit all?’ and ‘Multiple disadvantage: what about the children?’ in Part B.



Professors Karen Martin and Lester-Irabinna Rigney stress the need to privilege the voices, experiences and lives of Aboriginal and Torres Strait Islander peoples (Martin 2003) and *Footprints in Time* aims to do this. To date, the wave reports have concentrated on analysis of data provided by respondents, primarily through quantitative data but also through the qualitative data wherever possible. One set of voices which has not been heard as much through these reports are those of the RAOs—the Indigenous officers who interview the families of our children. Their involvement and feedback plays no small part in the development, delivery and interpretation of the data. The following article “Working for a better future” is from Sharon Barnes, who has worked with *Footprints in Time* since 2003. She is *Footprints in Time*’s first and longest serving Indigenous RAO and is responsible for managing the field work across all *Footprints in Time* sites.

Working for a better future

I have had many different roles with *Footprints in Time* for over 10 years; from liaising with our Elders to testing questionnaires, recruiting Indigenous staff, interviewing and training. Now I manage the field

work and the Indigenous staff, known as Research Administration Officers (RAOs), who conduct our interviews across Australia.

Our RAOs live and work in broad areas we call sites. The families don’t all live close together so we travel a lot and we usually work alone. We try and visit the same families each time so the families get to know their RAO and we get to know them. The high retention rates for the study are due to the commitment and dedication of all our staff (Indigenous and non-Indigenous) and our families.

A lot of people ask me ‘why have you stayed so long in the same job?’ The answer is the challenges that we face every day to provide high quality data. This is so positive changes can be made for our children, our grandchildren and our future children, so they can grow up with better opportunities, be healthier, stronger and free from the disadvantages that so many Indigenous people have faced in the past.

The families play a huge part in me staying: the smiles on the faces of the children, the excitement and the trust and commitment the families have given us to be able to keep the study is not replaceable.

Diversity is another reason. I work across all the sites in the study. I have worked in areas that most public servants would not have the opportunity to work in. I mainly work from a 'mobile' office, although I do have desks scattered across Australia. My main office location in Batemans Bay (New South Wales) is a whole-of-government office. So one day I can be looking at the ocean in Batemans Bay, the next I can be working in Galiwin'ku, Northern Territory, or in the middle of Australia.

No day is ever the same. As we work with families we work whenever our families are available—after hours, weekends and public holidays. Most days I am 'on the road' to somewhere—I could be going to interview families and this might involve sitting under a tree in 40+ degree heat to flying to other sites in Australia or sitting in meetings in Canberra. I have used nearly every mode of transport over the years—well maybe not camels yet! Obviously planes and cars are the main things we use but we have also used helicopters, barges, ferries and even a dingy! Have you ever heard of a water taxi? Yep we use them too!

This is why I do this, why I have stayed for so long: I believe this study can make a change for the future. I believe our children deserve to grow up stronger, healthier and have better opportunities. I'm not here for the money, glory or my name in lights; I am here to help make positive changes for the future.

Parental engagement in child's learning and development

Parents are the first teachers. Even when the child begins formal schooling, parents' role as educators remains as important as that of the school teachers. Research in Australia and overseas¹⁹ has shown that greater parental involvement in children's learning and educational activities leads to better outcomes not only for the child, but for their families and communities as well.

Evidence shows that parental involvement is (Olsen & Fuller 2008):

- good for the child
Research has shown that parental involvement improves achievement regardless of socioeconomic status, ethnic background, or the parents' education level; it improves grades and test scores, school attendance and school completion rates, increases motivation and improves self-esteem, decreases socio-emotional, mental health and behavioural problems and leads to decreased use of drugs and alcohol.
- good for the parent
Parents who are more engaged in their child's learning spend more time with the child and are more confident in their decision-making ability and their efficacy as a parent; greater involvement also improves parents' understanding of teachers and their jobs and of the school curriculum.
- good for teachers
Teachers feel happier if they feel supported by parents, more enthusiastic and satisfied with their job; teachers who talk with parents more often can understand their pupils' families better, especially if they come from different cultural backgrounds.
- good for schools
Schools that engage parents are more supported and respected in the community; programs run by these schools are usually more successful.

Parental involvement can take many forms, from participation in school-based activities (such as helping with fundraising or excursions, or participating in school committees) to supporting the child at home (reading books, helping them with homework and creating an atmosphere that supports learning). The *Footprints in Time* study collects information on parental involvement in both home and school-based activities from parents, children and teachers at school.

Table 20: Number of children's books in the house in Wave 5, per cent

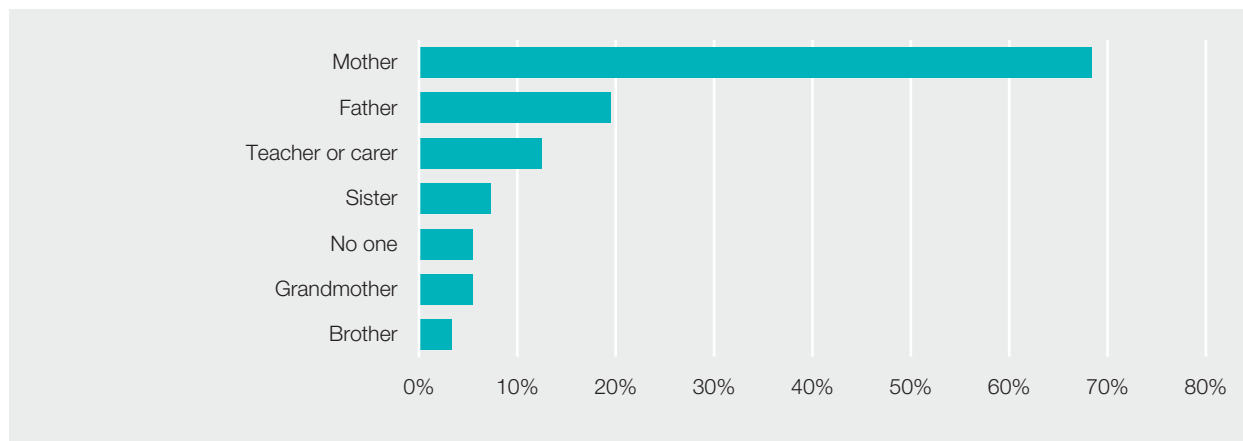
Number of books	0–10	11–30	31–50	51 or more	Total (N)
All respondents	24.5	25.5	15.1	34.9	1,249
Younger cohort	24.0	26.2	15.4	34.5	722
Older cohort	25.2	24.5	14.8	35.5	527

¹⁹ For a summary of evidence from an Australian perspective, please see Emerson et al. 2012. For a summary of UK evidence, please refer to DCSF (2008).

Table 21: Parent-reported frequency of checking or helping with homework, per cent

Frequency	Every day	A few times a week	Once a week	A few times a month or less often	Not given homework	Total (N)
Older cohort	45.6	23.6	13.8	4.4	12.6	522

Figure 6: Who does study child go to for help with homework? (most common responses)



Note: Multiple response question. The percentage refer to proportions of respondents who selected each option.

Involvement in home-based activities

In almost all waves of the survey, parents were asked about the number of children’s books they had in the house. While the number of books may not seem an obvious measure of parental involvement, it provides an indication of investment the parents have been able to make into the child’s learning, and also of the child’s exposure to books and reading, together with parents reading books to the child and taking the child to a library.

In Wave 5, families were about evenly split between those who had more than 30 children’s books in the house and those who had 30 books or less (Table 20). The number of books was about the same for the older and younger cohort.

Most children (about three-quarters) had someone read a book to them in the week before the Wave 5 interview. As could be expected, the proportion of families reading to the child was higher for the younger cohort (84 per cent) than for the older cohort (64 per cent).

Most parents (61.3 per cent) said that the child²⁰ had been to a library in the month prior to the Wave 5 interview; however, in many cases the

person accompanying them was a teacher (carer) or a friend. Just over 15 per cent of all responding parents said the child went to the library with a family member.

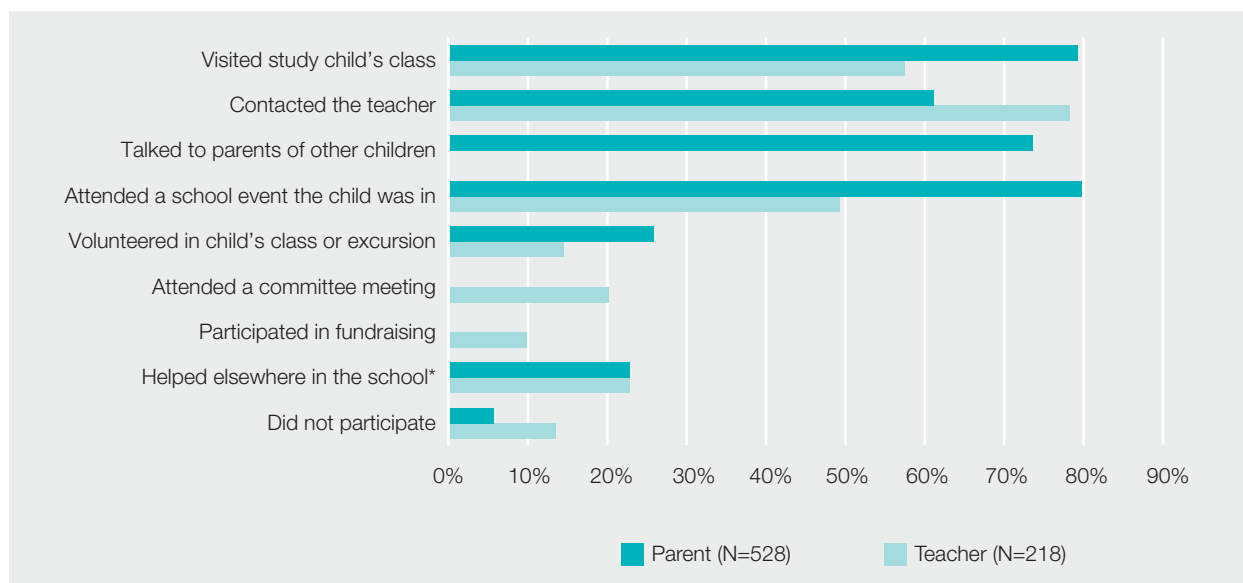
Parents of the older children (most of who were in Year 2 or 3 in Wave 5) were asked how often they helped the child with homework (Table 21). About one in eight parents (12.6 per cent) said that the child was not given homework at school. Most parents (69.2 per cent of all parents, or 79.2 per cent of parents whose children did get homework) were checking the child’s homework at least a few times a week.

The Wave 5 data allow some comparison of parents’ and children’s reports of homework assistance. For the first time in Wave 5, children in the older cohort were asked who they would go to if they needed help with homework (children could name more than one person). Most children said that they would go to their mother (68.7 per cent), and 19.6 per cent named their father (Figure 6). However, 5.5 per cent of responding children said that they had no one to help them with homework, and a further 7.1 per cent named their teacher only.²¹

²⁰ In Wave 5, this question was asked of the younger cohort only.

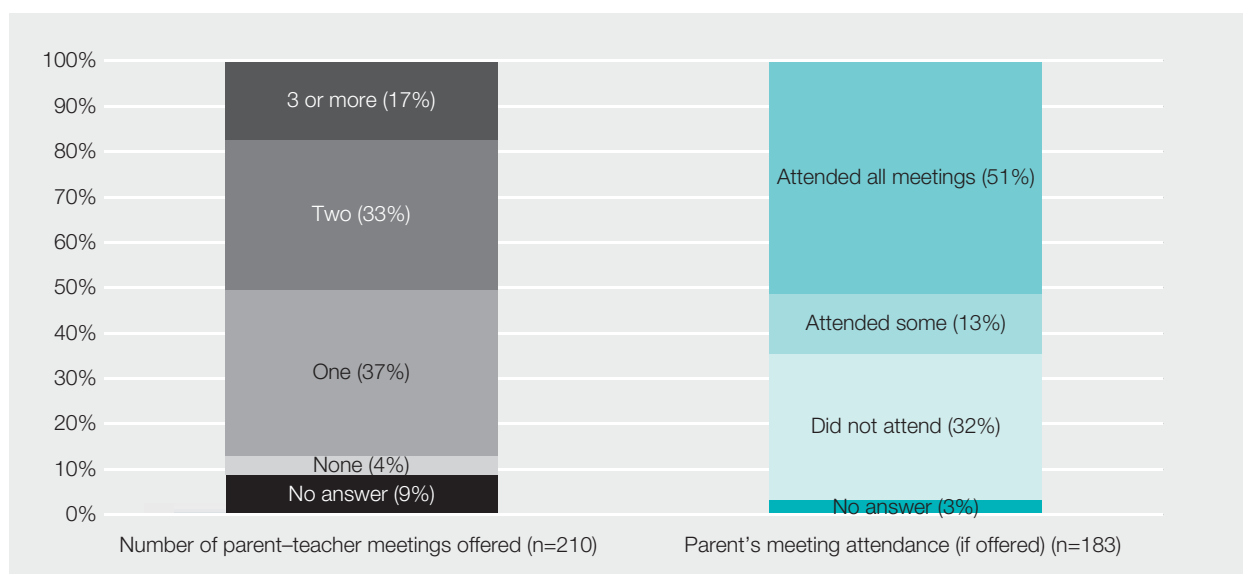
²¹ Parents’ and children’s reports of homework help do not always agree. About one-half of children whose parents report checking or helping with homework regularly say that they have no one (or only a teacher) to help them with homework. Similarly, about half of children whose parents report that the child is not given homework say they do get help with their homework from someone in the family. This may suggest recall differences, or may be due to differences in perceptions of parents and children as to what constitutes help with homework.

Figure 7: Parents' and teachers' reports on parental participation in school activities, Wave 4



Notes: Parents' and teachers' responses to the same questions are shown together where possible.
 *The teacher response for this category includes 'participated in other activities'.

Figure 8: Parent-teacher meetings offered to and attended by parents, (teacher responses, Wave 5, older cohort)



Involvement in school-based activities

The measures of parental involvement discussed so far described support for learning activities provided by parents at home. Another broad type of parental involvement is engagement directly with the school. In Wave 4, a series of questions about participation in school-based activities was asked of parents of the older cohort children. The teachers were asked a similar series of questions in Waves 2 through 5.

Figure 7 summarises responses on parental school engagement provided by parents and teachers of the older cohort of children in Wave 4. As the figure shows, only a small proportion of parents (5.5 per cent according to parents' responses, and 13.8 per cent according to teachers' responses) did not participate in any of the school activities. While parents' and teachers' responses do not always agree, this could at least in part be explained by the differences in question wording.²²

²² Parents were asked about involvement during the current (or previous) school term, while the teachers were asked about the current year. In addition, parents talked about their own participation, while the teachers were asked about involvement of any of the study child's parents or carers. Teachers may also not be fully aware of parental involvement for all children.



According to both parents and teachers, the most common forms of parental involvement in school were visits to the child's class, direct contact with teachers, talking to parents of other children, and attending school events. Moreover, of the almost 500 parents who said they participated in school activities, most (78.8 per cent) said they participated in three or more types of activities (out of six). Similarly, teachers said that of all parents who participated, 54.2 per cent participated in three or more activities (out of eight).²³

In Wave 5, teachers said that almost one-half (46.7 per cent) of parents had informal discussions with the teacher a few times a month, and one-quarter (27.4 per cent) of parents had these discussions with the teacher a few times a week or every day. Just under one-quarter (23 per cent) of parents had not had a discussion with the teacher during the current school year, and in a further 2.9 per cent of cases the opportunities for discussions were not available.

According to teachers' reports, the majority of parents (66.8 per cent for the older cohort in Wave 5) are very much or somewhat involved in the child's learning and development. At the same time, about 18.3 per cent of responses were that the teacher did not think that the parents were involved, and in 14.9 per cent of cases the teacher did not know the parents of the child well enough to make the judgement.

Teachers of the older children also said that most parents were offered at least one parent-teacher meeting during the school year of the interview (Figure 8), and one-half of parents were offered two or more meetings. In about one-half of cases where at least one meeting was offered, parents of the study children attended all meetings that were offered by the teacher; however, in 32 per cent of cases none of the meetings offered by the teacher were attended by the parents or carers of the study child.

Relationships between parental involvement and children's outcomes

The previous section has shown that the parents in the *Footprints in Time* study are substantially involved in their children's learning and development. This section will look at evidence of any relationship between parental involvement and children's outcomes in the *Footprints in Time* data.



The three measures we use here to look at achievement are PAT Reading scores for the older cohort, and Who am I? and Renfrew scores for the younger cohort.²⁴ Table 22 shows individual relationships between each outcome variable and parent involvement measure—that is, only one measure of parent involvement is considered at a time, and no other characteristics of the child or parent are taken into account.

As Table 22 demonstrates, most of the parental engagement measures collected in *Footprints in Time* are significantly related to children's cognitive outcomes. The number of children's books in the house is one such indicator. Children in the older cohort who have 51 or more children's books in the house have average PAT Reading scores 14.3 points higher than children who have 10 or fewer books in the house. Similarly for children

²³ Parental involvement may be underestimated if the type of involvement is not included in the list of activities asked about.

²⁴ In Wave 5, the PAT-R scores in the *Footprints in Time* data range between 17 and 130 points, the Who am I? scores range from 0 to 43 and the Renfrew scores range from 0 to 49. For more information on these measures refer to Appendix B.

in the younger cohort, both the Who am I? and Renfrew scores increase with the number of books; children with 51 or more books at home have Renfrew scores full 10 points higher than children with 10 or fewer books.

Parent-reported frequency of checking and helping with homework does not seem to be significantly related to reading achievement (PAT Reading), except for the children who are not given homework, who have scores of 15.5 points

lower compared to others. However, children who themselves report that they have no one to help them with homework have PAT Reading scores 14 points lower than if they named someone (apart from a teacher) who they would go to for help.

Reading books to children seems to be associated with improved scores for the younger cohort but not so much for the older children. Having been to a library is beneficial for the child, but the relationship differs between the three scores. There is a strong

Table 22: Bivariate relationships between parental engagement and study child test scores (cohort as indicated)

Engagement indicators	Wave 5 scores		
	PAT-R [older cohort]	Who am I? [younger cohort]	Renfrew [younger cohort]
Home-based activities			
Parent reported:			
Number of children's books in the house (reference = 0–10):			
11–30	8.3*	2.5**	6.2**
31–50	8.3*	3.4**	8.2**
51 or more	14.3**	3.7**	10.0**
Parent checks homework [older cohort only] (reference = every day):			
A few times a week	–4.4	–	–
Once a week	–5.8	–	–
A few times a month or less often	–0.3	–	–
Not given homework	–15.5**	–	–
Read book to the study child	–1.1	3.0**	3.8**
Study child visited a library in the past month [Wave 4 for older cohort] (reference = no):			
Adult relative took child to a library	12.4**	4.0**	4.5**
Child went to a library but not with adult relative (i.e., with teacher, sibling, friend, or by self)	9.5**	5.2**	0.5
Study child reported:			
No one to help with homework [older cohort]^	–14.0**	–	–
School-based activities			
Number of activities parents involved with at school:			
Parent-reported [Wave 4, older]	1.5†	–	–
Teacher-reported [Waves 4 and 5 combined]	1.8†	0.9**	1.4**
Other teacher-reported measures: [Waves 4 and 5 combined, older]			
Teacher's overall assessment of parents' involvement (reference = parents not involved):			
Somewhat involved	10.4*	–	–
Very involved	18.8**	–	–
Teacher does not know the parents enough to tell	9.8†	–	–
Number of teacher–parent meetings missed	–3.2†	–	–

Notes: † p<0.1; *p<0.05; **p<0.01.

^ Includes if only teacher helps with homework.

– Data not available for a given cohort/wave.



positive relationship between being taken to a library and PAT Reading and Who am I? scores, irrespective of who took the child. Going to a library without an adult relative had non-significant effect on the Renfrew score; however, if the child was taken to a library by an adult relative, this was associated with a 4.5 point increase in their Renfrew score.

Measures of involvement in school-based activities, which were collected from both parents and teachers, were converted into indexes by counting the types of activities the parents participated in at school (maximum of 6 for parent-reported activities, and 8 for teacher-reported activities). Both the parent- and teacher-reported parental involvement measures were positively related to the child's scores—the more activities the parents participated in at school, the higher the children's average scores. In addition, if the teachers thought that the parents of the child were somewhat or very involved in the child's education, the children's PAT Reading scores were 10 to 19 points higher than those of children whose parents or carers were, in teacher's opinion, not involved in the child's education. Finally, the more meetings with teacher the parents missed, the lower the children's scores were.

Family characteristics associated with greater parental involvement

Greater involvement in a child's learning and development places additional demands on the family resources, and some parents may be more constrained than others. More prosperous families may be able to afford more books for their children. Working parents, especially those who are single, may not have as many opportunities to visit school during work hours, which may make it more difficult to participate in a range of school-based activities. This section looks at how demographic and socio-economic characteristics of families are related to the level of parental engagement.

Tables 23 and 24 provide a list of findings on how selected family characteristics are related to parental involvement in the home and school-based learning activities of the children. The *Footprints in Time* data highlight several important points:

- There is some evidence of locational disadvantage. Children in more remote areas have fewer books in their home and lower chances of visiting a library. Both of these may at least in part be due to lower availability of books and libraries in remote areas.



Table 23: Relationship between parental involvement and selected family characteristics: home-based activities

Location:
<ul style="list-style-type: none">Families in urban areas are more likely to have more than 50 children's books in the house (57.3 per cent), compared to 13.2 per cent of families in highly or extremely isolated areas. This may in part be due to greater availability of children's books in more urban areas.
<ul style="list-style-type: none">Children living in moderately, highly or extremely isolated areas are less likely to be given homework than children living elsewhere (6.8 per cent versus 31.5 per cent).
<ul style="list-style-type: none">If children are given homework, it is checked at least a few times a week by 87.7 per cent of parents in urban areas, compared to 75.8 per cent of parents elsewhere.
<ul style="list-style-type: none">The greater the level of isolation, the less likely the children were to visit a library with an adult relative: this decreased from one in five families in the urban areas to less than one in 10 in the moderately, highly or extremely isolated areas.
Demographics:
<ul style="list-style-type: none">The number of children's books in the house does not differ significantly by the study child's age; however, parents in their 30s and 40s have more children's books in their home than older or younger parents.
<ul style="list-style-type: none">Partnered parents tend to own more children's books.
<ul style="list-style-type: none">The frequency of checking and helping with homework declines slightly as children grow up: if given homework, 83.2 per cent of children in Year 2 have their homework checked several times a week or every day, compared to 74.3 per cent of children in Year 3.
<ul style="list-style-type: none">The frequency of checking homework does not change significantly with parents' age or partnered status.
<ul style="list-style-type: none">Younger children are more likely to have books read to them (84.2 per cent) than the older children (64.0 per cent).
Parent's education:
<ul style="list-style-type: none">Parents with higher education (Bachelor degree or above) are more likely to engage in a range of home-based children's learning activities:<ul style="list-style-type: none">more likely to read books to children (88.2 per cent, compared to 74.4 per cent for everyone else)more likely to have taken the child to a library (one-third of families, compared to 13 per cent for other families)tend to own more children's books: 73.6 per cent of parents with a Bachelor degree or higher have more than 50 children's books in the house, and less than 2 per cent have 10 books or fewer. In contrast, among parents who did not complete Year 12, only 21.6 per cent own more than 50 books, and 37.2 per cent have 10 or fewer.
<ul style="list-style-type: none">Parent-reported frequency of checking homework does not differ significantly by the parent's education.
<ul style="list-style-type: none">Similarly, children's reports of having no one to help them with homework do not vary significantly by parent's education level (this may be due to the small number of children who report having no help).
Socio-economic position of the family:
<ul style="list-style-type: none">Children in families whose only source of income is government benefits are more disadvantaged compared to families that receive wages or salaries:<ul style="list-style-type: none">fewer children's books in the house: one-quarter (24.7 per cent) of families who receive only benefits own more than 50 children's books, compared to 43.5 per cent of families that receive wages or salariesmore likely to have no one to help them with homework, although the difference is not big (16.3 per cent versus 10.2 per cent)slightly less likely to have an adult relative take them to a library (11.7 per cent, as opposed to just under 18 per cent of families who receive wages and salaries).
<ul style="list-style-type: none">Families with a weekly income below \$400 are two times less likely to own more than 50 children's books compared to families with a weekly income of \$1,000 or more (23.5 versus 52.3 per cent).
<ul style="list-style-type: none">Parents in higher-income families tend to help with homework more frequently, while families with low incomes are more likely to say that the children are not given homework. Children in lower income families are also more likely to say they have no one to help with homework.
<ul style="list-style-type: none">Families with weekly incomes of \$1,000 or more are more likely to have read a book to the child in the past week (79.4 per cent), compared to families on incomes less than \$400 a week (69.1 per cent); however, the proportions are roughly the same for all families receiving \$400 or more per week, at about 77 per cent.



Table 24: Relationship between parental involvement and selected family characteristics: school-based activities

<p>Parent report of involvement in school (Wave 4)</p>	<ul style="list-style-type: none"> • Parental report of involvement in school-based activities increases with parent's education level. • Remoteness is not significantly related to parental involvement, except in the areas of low isolation, where parents tend to be less involved than in other areas. 	<ul style="list-style-type: none"> • Parents in their 30s are likely to participate in more school activities than parents of other ages, and partnered parents tend to participate in more activities than unpartnered parents. • Parents in higher-income families (\$800 a week or more) report participating in more school activities.
<p>Teacher report of parental involvement in school (Wave 5)</p>	<ul style="list-style-type: none"> • Teacher-reported parental involvement in school-based activities is significantly greater for parents with Bachelor degree or higher compared to any other education level. • Teacher-reported parental involvement decreases in the more remote areas. 	<ul style="list-style-type: none"> • Parents in their 30s and 40s participate in more school activities than parents of other ages, and partnered parents tend to participate in more activities than unpartnered parents. • Teachers of children from higher-income families (\$800 a week or more) report higher parental participation in school activities.

Note: Parental involvement in this table is measured as the number of activities parents were involved in at school.



- The level of parental involvement does not seem to change with the child's age (except for parent-reported homework checking and families reading to the child, which can be expected to decline as children grow up); however, there is some evidence that parents in their 30s and 40s tend to own more children's books and are more likely to be engaged with the school than younger or older parents. The same applies for partnered parents, compared to those without a partner in the household.
- Parental education is very strongly related to involvement. Parents with a higher level of education are more likely to read to their children, take them to a library, to own more children's books, and to participate in more activities at school.
- Similarly, families with higher earnings, and those that do not draw their income solely from government benefits, are more likely to read to the children, have more children's books, check homework more frequently, and participate in more activities at school.

Since certain parent and family characteristics are associated with greater levels of involvement in the schooling and educational activities of the child, it is unclear whether parental involvement is in itself an important factor for improving the child's outcomes, or whether the apparent positive effect of involvement is due to the demographic and socio-economic characteristics of the family. The next section will attempt to resolve this question.

Table 25: Relationships between parental engagement and study child test scores—results from multivariate models (cohort as indicated)

Parental engagement activity	Wave 5 scores		
	PAT-R [older cohort]	Who am I? [younger cohort]	Renfrew [younger cohort]
Home-based activities			
Number of children's books in the house (reference = 0–10):			
11–30	3.4	0.6	2.7**
31–50	3.2	1.6†	4.8**
51 or more	7.3†	1.6†	5.1**
Parent checks homework every day [older cohort]	4.6	–	–
Child not given homework [older cohort]	0.6	–	–
Someone read a book to the study child in the past week	–1.8	1.8*	1.1
Adult relative took child to a library [^]	12.3*	0.9	1.3
Child went to a library, but not with adult relative [^]	9.4*	2.3**	–1.0
No one to help child with homework [older cohort] ^{^^}	–10.7*	–	–
School-based activities			
Number of parent-reported activities [Wave 4, older cohort]	–0.1	–	–
Number of teacher-reported activities [Waves 4 and 5 combined]	–0.8	0.4†	0.0
Teacher thinks parents are not involved [older cohort]	–10.0†	–	–
Number of observations	358	587	620
Adjusted R ²	0.091	0.412	0.353

Note: † p<0.1; *p<0.05; **p<0.01.

[^] Wave 4 for older cohort.

^{^^} Includes if only teacher helps with homework.

– Data not available for a given cohort/wave.

Effect of family characteristics on the relationship between parental involvement and child outcomes

One way to disentangle the relationship between family characteristics, parental involvement and child outcomes is to estimate a multivariate regression model of child outcomes controlling for family characteristics together with all the measures of parental involvement. Such a model would also take into account that parental engagement is likely to occur in many shapes or forms, and that families that are more engaged in one way are likely to be involved in other ways as well.

Table 25 provides results from a multivariate regression model that accounts for all parental involvement measures simultaneously, plus includes additional controls for the child, parent and family characteristics. These additional controls include study child's sex, their Aboriginal or Torres Strait

Islander status, age in months, and whether their dominant language is Indigenous, as well as the age, highest education level and partnered status of primary carer, source(s) of family income, amount of weekly family income and IRISEO decile.²⁵

A number of parental involvement measures retain their strong relationship with child's achievement scores, although as can be expected, taking account of child and family characteristics reduces their significance and magnitude. For the older cohort, the PAT-R score is still significantly higher for children who had visited a library (with a parent or someone else), and lower for children who say that no one helps them with homework. The number of children's books in the house is related (albeit not very strongly) to higher scores, and teacher's assessment of parents as not being involved in the child's education is associated with lower scores. Daily checking of homework, as well as parent- and

²⁵ To maximise available sample, variables from Wave 4 and teacher questionnaire were coded to 0 if these were not available, and additional binary variables were included as regressors to indicate the absence of Wave 4/teacher data. Therefore, the coefficients on the variables from Wave 4 and/or teacher questionnaire should be interpreted as interaction terms only applying to those children for whom the relevant information was available in the data. Both binary variables for absence of Wave 4 parent or teacher questionnaires were not significant.

teacher-reported indexes of parental involvement in school activities were found not to be significant.

For the younger cohort the number of children's books in the house is associated with higher scores, especially the Renfrew score (which is about 5 points higher for children who have 31 or more books in their home, compared to children who have 10 or fewer). Reading books to children and taking them to a library, as well as the teacher-reported index of parental involvement at school are also positively related to Who am I? test scores.

It needs to be noted that although the above analysis shows significant positive relationship between parents' involvement and children's academic achievement, the link is not necessarily direct or causal. It is possible that other key characteristics of children and their families (observed or unobserved) play a role. For instance, if parents of children with higher intellectual abilities are more likely to invest in the further development of their children by participating more actively in their learning, ordinary regression analysis like the one above will overestimate the impact of parental involvement on children's outcomes. If, on the other hand, parents of children who are struggling in their studies are more likely to be involved in their children's learning activities, ordinary analysis will underestimate the effect of parental involvement on the scores. Although the analysis presented here attempts to reduce the possible bias by taking into account background information about the child and their family, future research may address this issue more comprehensively by using different research techniques or taking advantage of added waves of data.

Discussion

Parental participation in children's learning and development has been shown to have positive effects on children's achievement and wellbeing, as evidenced in Australian and international research. However, to date no data source allowed this kind of analysis for Indigenous children in Australia. The results presented in this article confirm that parental involvement is an important determinant of a child's performance in cognitive tests in *Footprints in Time*. Although parental involvement is shown to be related to a family's socio-economic and demographic characteristics, controlling for these characteristics in a comprehensive model does not

eliminate the effect of parents' participation. This suggests that, as in the broader literature, parental involvement is good for the children irrespective of the family's socio-economic status, child's characteristics or where the children live.

School enrolment and attendance

In his statement to the House of Representatives in February 2014, Prime Minister Tony Abbott proposed adding a new target to the existing Closing the Gap targets: 'namely to end the gap between Indigenous and non-Indigenous school attendance within five years' (Abbott 2014). He pointed out that 'it's hard to be literate and numerate without attending school', and that the most basic target of all is 'the expectation that every child will attend school every day' (Abbott 2014). However, lack of sound evidence remains an obstacle for achieving this target (Purdie & Buckley 2010; Daraganova, Mullan & Edwards 2014).

The *Footprints in Time* survey contains rich information on school engagement.²⁶ In this article we conduct a simple, descriptive analysis using *Footprints in Time* to understand the incidence of, as well as key reasons for, non-enrolment and non-attendance.

The analysis shows that

- Age is one of the most important factors for school enrolment—very few children are not enrolled in school by age 6—but age does not matter much for school attendance.
- Lower school readiness scores, poor parental education and having recently moved house are also associated with a higher probability of non-enrolment but not significantly related to absence from school.
- In contrast, health issues (other than long-term health conditions or disability) are a key influencing factor for school attendance but not significant for school enrolment.
- Financial factors matter for both enrolment and attendance but in different ways. Non-enrolment seems to be more related to ongoing disadvantaged financial status (e.g. low income and reliance on government benefits) whereas non-attendance is more associated with day-to-day financial issues (e.g. experiencing financial stress).

²⁶ For brevity this article uses a general term of school to cover various educational institutions, including primary school and various other institutions offering transitional education to primary school, which are referred to differently by jurisdictions; for example, kindergarten and preschool. They can be specified for some children at some waves in the *Footprints in Time*, but not always. Education in Australia is compulsory from age 5 but different jurisdictions differ in the cut-off dates for enrolment.

Table 26: School enrolment and reasons for non-enrolment, by child age

School enrolment	Age 4		Age 5		Age 6	
	N	%	N	%	N	%
Total sample:	1,504	100	1,070	100	604	100
Enrolled in school	1,075	71.5	992	92.7	598	99.0
Not enrolled in school	429	28.5	78	7.3	6	1.0
Main reasons for non-enrolment:	331	100	67	100	6	100
Child does not need it	34	10.3	4	6.0	–	–
Child has disability or special needs	2	0.6	1	1.5	–	–
Child would be unsettled at school	33	10.0	1	1.5	–	–
Child is too young	94	28.4	10	14.9	–	–
Transport problems	3	0.9	5	7.5	–	–
Not available locally	13	3.9	3	4.5	–	–
Cannot get a place	17	5.1	3	4.5	–	–
Cost is too high	26	7.9	4	6.0	–	–
Not flexible enough/unsuitable times	2	0.6	1	1.5	–	–
Concerned with quality of program	2	0.6	–	–	–	–
Family/partner does not approve	2	0.6	1	1.5	–	–
Don't feel comfortable dealing with school	4	1.2	–	–	–	–
Have decided not to send child yet	50	15.1	10	14.9	1	16.7
No other Indigenous children at school	1	0.3	–	–	–	–
Do not want child taught by non-Indigenous carers	2	0.6	–	–	–	–
No cultural program available	1	0.3	–	–	–	–
Too much paperwork to complete	1	0.3	–	–	–	–
Attends childcare (so doesn't go to school)	3	0.9	2	3.0	–	–
Other	41	12.4	22	32.8	5	83.3

Note: Since the observations of both cohorts at all five waves were pooled together for the analysis by age, the number of observations (i.e., N) in this table refers to person-wave rather than person. Statistics for age 6 (only 6 children not enrolled) are for reference only. Children without valid enrolment information were excluded.

– Data not available or no observations.

School enrolment

In this report school enrolment is defined as enrolment in any preschool, kindergarten or school, which may be government, Catholic or independent/private. Enrolment information is available in all waves for the older cohort children and from Wave 4 onward for the younger cohort.

Table 26 reports school enrolment and main reasons for non-enrolment by child age. As very few children in the sample were not enrolled in school by age 6, we focus on ages 4 and 5.²⁷ It should be noted that children not enrolled in school were more likely to leave the survey before Wave 5, so enrolment at an older age is likely to be overestimated.

Obviously enrolment increases with age as shown in Table 26. Young age is also one of the most common reasons provided by the primary carers for non-enrolment. As expected, this reason becomes less common as the children get older.

Other main reasons for non-enrolment include: 'cost too high', 'child does not need it', 'child would be unsettled at school', 'have decided not to send child yet', 'transport problems', and school availability/accessibility issues. 'Other' responses not included in the list of reasons become relatively more common at an older child age. These include such reasons as recent or imminent family moves, waiting on documentation to enrol the child, and child being home schooled as the family is

²⁷ Only six children were not enrolled at age 6, none at age 7 and just one at age 8.

Table 27: Selected characteristics of children and primary carers by child age and school enrolment (E = enrolled, NE = not enrolled)

Characteristics	Age 4		Age 5	
	E	NE	E	NE
Total number of observations (person-waves) [^]	1075	429	992	78
Characteristics of child:				
Average age of child (months)	53.8	52.8	65.0	62.7
Average Renfrew word finding vocabulary score (0–50) [†]	21.3	19.1	26.3	22.4
Average Who am I? (WAI) score (short-form at Waves 1 and 4 (0–28)) [†]	15.4	14.4	18.9	15.1
Average Who am I? (WAI) score (long-form at Waves 2, 3 and 5 (0–44)) [†]	21.4	19.6	27.8	21.4
Child living at different address since last interview (%)	20.8	29.3	21.8	39.7
Characteristics of primary carer:				
Primary carer having Year 11 or below education (%)	35.6	46.4	37.1	62.7
Primary carer employed (%)	37.9	23.8	36.9	19.5
Income after deductions less than \$250 per week (%)	13.3	20.8	14.5	25.8
Source of income—government benefits* (%)	73.6	83.8	75.6	93.6
Source of income—wage/salary* (%)	54.5	38.3	48.9	29.5
Primary carer affected by income management (%)	7.4	3.3	8.0	1.3
Primary carer or a close family member badly hurt or sick last year (%)	16.2	11.0	15.7	6.6
Primary carer has clear rules and routines (Wave 5 only) (%)	95.0	86.8	91.9	79.3

Note: Both young and older cohorts in all five waves are pooled together. Children without valid enrolment information were excluded. All the pairs of statistics for enrolled (E) and not enrolled (NE) children in this table are significantly different at the 5% level (t test).

[^] The actual number of observations varies by characteristic.

[†] Renfrew and WAI scores were only available for children at young ages. In particular, short-form WAI was used for the older cohort children at Wave 1 and the younger cohort children at Wave 4 (possible values ranging from 0 to 28), and long-form WAI was used for the older cohort at Waves 2 and 3 and the younger cohort at Wave 5 (values ranging from 0 to 44).

* Main source of income was asked at Waves 1 and 2 and all sources of income were asked at other waves: families may have income from both wage/salary and government benefits.

travelling. Health and disability are rarely identified as a consideration.

Table 27 lists by child age selected characteristics of children and their primary carers, which are all statistically significantly different by enrolment status:

- **Age** (in months): children not enrolled in school were significantly younger than those enrolled (by one month among the children aged 4 and by more than two months among those aged 5).²⁸
- **Developmental measures:** children not enrolled in school had significantly lower Who am I? (WAI) and Renfrew vocabulary scores²⁹ than their enrolled peers of roughly the same age. Further tests show that among children not enrolled at a previous interview, those enrolled now have significantly higher Renfrew test scores than those still not enrolled (after controlling

for age and previous scores), indicating school enrolment significantly improves the test scores. Among children not yet enrolled, higher Renfrew scores are also associated with a slightly higher likelihood of enrolment at the next interview, but the relationship is not statistically significant after controlling for age. As such, it seems that the causal direction is more likely to be school enrolment leading to higher test scores than the other way around.

- **Moving house:** children not enrolled were significantly more likely to have recently moved house than those enrolled.
- **Education and employment of primary carers:** children not enrolled in school were significantly more likely than those enrolled to have a primary carer with lower levels of education (Year 11 or below). They were also more likely to be not employed.

²⁸ Age is based on age in months at time of interview.

²⁹ Refer to Appendix B for information about these two measures.



- **Family income:** for children not enrolled in school, family income after deductions was more likely to be less than \$250 per week, more likely to be from government benefits, and less likely to be from wage or salary in comparison to children enrolled in school. This is consistent with the reported reason by primary carers that cost is too high.
- **Major life events:** compared to children enrolled in school, children not enrolled in school were significantly less likely to have a primary carer or close family member who had been badly hurt or sick in the last year.
- **Primary carers having clear rules and routines** (only available at Wave 5): the primary carers of children enrolled in school were significantly more likely to have clear rules and routines than the primary carers of children of the same age and not enrolled in school.

Other characteristics of the child, primary carer and family were also examined but were not consistently statistically significant across ages. Other child characteristics examined include:

sex, health, disability, serious injury or sickness in the last 12 months, and being scared by other people. Other primary carer characteristics include: sex, age, partnering status, working full-time, experiencing financial stress in the last 12 months, and having concerns about children's behaviour or development. Other household/family characteristics include: household composition, and level of relative isolation (LORI) of area.

School attendance

Information about school attendance is from a question asked of the primary carer each wave since Wave 2 about whether the study child went to school every day he/she was supposed to go last week. The attendance rate refers to the proportion of children attending school every day they were enrolled for in the week prior to interview. In cases where primary carers reported school absences due to the school not being available or open (e.g. for holidays), children were treated as having attended school every day (about 140 observations in Waves 3 to 5 in total).



Table 28: School attendance and main reasons for absence, by school year

School attendance	Preschool [^]		Pre-Year 1		Year 1		Year 2		Year 3	
	N	%	N	%	N	%	N	%	N	%
Total sample:	863	100	993	100	648	100	505	100	219	100
Attended school	728	84.4	812	81.8	548	84.6	430	85.1	191	87.2
Absent from school	135	15.6	181	18.2	100	15.4	75	14.9	28	12.8
Main reasons for absence:	133	100	179	100	99	100	75	100	27	100
Study child had illness/injury	65	48.9	96	53.6	54	54.6	35	46.7	9	33.3
Parent/guardian had illness/injury	5	3.8	11	6.2	7	7.1	4	5.3	1	3.7
Cultural commitments	3	2.2	4	2.2	1	1.0	–	–	2	7.4
Sorry business†	4	3.0	4	2.2	2	2.0	3	4.0	–	–
Study child didn't want to go	21	15.8	26	14.5	6	6.1	14	18.7	3	11.1
Family events	17	12.8	11	6.2	14	14.1	10	13.3	8	29.7
Lack of transport	1	0.7	8	4.5	1	1.0	3	4.0	–	–
Other	17	12.8	19	10.6	14	14.1	6	8.0	4	14.8

Note: Since the observations of both cohorts at all four waves with attendance information (i.e., Waves 2–5) were pooled together for the analysis by age, the number of observations in this table refers to person-wave rather than person. Only six children were attending Year 4.

[^] Preschool refers to year before school.

† According to the Australian National Dictionary Centre, sorry business is a ceremony associated with death http://andc.anu.edu.au/australian-words/meanings-origins?field_alphabet_value=241.

– Data not available or no observations.

Across waves among the 1,424 children whose primary carers ever provided school attendance information, 1,000 (70.2 per cent) had never been reported being absent from school in the week prior to the interview, 342 (24.0 per cent) had been reported absent at just one wave, 67 (4.7 per cent) at two waves, 14 (1.0 per cent) at three waves, and a single child at all the four waves from Wave 2 to Wave 5.³⁰ This seems to indicate that on the whole it is not the same children who are absent all the time. However, some caution should be exercised here as many children in the sample were not enrolled or had not participated in all waves of the survey. Further, the reference time is relatively short: the week before the interview.

At any given wave primary carers reported more than 80 per cent of enrolled children attended school every day last week.³¹ It is noteworthy that attendance defined in this way is not directly comparable with some other sources; in particular, it tends to be lower than using an alternative definition based on days attended/absent (e.g. total

attended days divided by total enrolled days),³² which is commonly used by states and territories (Daraganova, Mullan & Edwards 2014).

Parents play a key and often decisive role in the school attendance of a child, especially when the child is young. However, the child is not necessarily without influence; for instance, to avoid school they can pretend to be sick or just skip school without parental knowledge. As such, with respect to school attendance the child could be a joint decision maker. Teachers and peers at school are also among the potential key players in this matter.

According to the primary carers, the most common reason for non-attendance is injury or illness of the child, accounting for one-third to over half of the observations (see Table 28). Other main reasons include: the child did not want to go, family events, parent/guardian had illness or injury, lack of transport and cultural commitments. That some children were absent from school because they did not want to go is consistent with the conjecture of joint decision making and may also reflect the high

30 The reported reason for this child's absence was illness or injury at all the four waves.

31 As the attendance is based on primary carer report, absences unknown by primary carers are not counted. However, considering the young ages of the *Footprints in Time* children in the current study, there are not likely to be many such cases. Nonetheless, the attendance rates reported here may be slightly overestimated.

32 The article "Keeping children at school" in this report examines attendance based on proportion of days attended as reported by the teacher.

importance that some Indigenous primary carers place on developing independence in their children (refer to the article 'Qualities valued by Indigenous primary carers').

While the reasons provided by the primary carers may be the direct causes of school absence, the reasons themselves and thus school absence may be affected by other more fundamental factors. For instance, why did children not want to go to school?

Table 29 compares a few select characteristics of children and primary carers by school attendance status and may help understand the key influencing factors of school attendance/absence. The patterns are much more complex than those observed for school enrolment.

- The most consistent finding from Table 29 is that the primary carers of children having not attended school every day in the previous week were more likely to have experienced financial stress in the last year than the carers of children having attended school every day. The differences are statistically significant for all year levels considered except for Year 3, where the sample size is relatively small (191 children attended school and 28 children absent) and thus the results are less reliable.
- Differences are also observed, though not always statistically significant, in the primary carer's employment status and main source of income. Generally the primary carers of children having attended school every day last week were more likely to be employed and have their main source of income from wage or salary (rather than government benefits).
- We expect school-related factors such as bullying and relationships with teachers and other students to be important for school attendance (Purdie & Buckley 2010; Teasley 2004). Unfortunately these questions were not asked to all children at all waves in the same way, which makes the analysis difficult. Nonetheless, Table 29 indicates that school attendance is positively associated with good relationships with teachers and other students and negatively associated with bad school experiences such as bullying. This may explain why some children did not want to go to school.
- Table 29 also shows a few negative trends across school years. Firstly, school bullying tends to increase with school year. Secondly, in contrast to bullying, the proportion of children who like their teachers tends to decrease with school year although a vast majority of them like

their teachers in all year levels (from 93.1 per cent at year before school to 84.3 per cent at Year 3). Thirdly, fewer children at a higher school year report their teacher is nice to them (from 88.7 per cent at pre-Year 1 to 76.7 per cent at Year 3). In addition, nearly one-third of children (ranging from 28.2 per cent at pre-Year 1 to 35.7 per cent at Year 2) thought other school kids were not nice to them.

Many other characteristics of children, primary carers and family have been investigated and their associations with attendance have not been found to be consistently statistically significant. While their statistics are not reported in Table 29, a few points are worthy of note:

- First, according to the reports of the primary carers, illness and injury of the child is the most common reason for school absence, and indeed we find children absent from school sometime in the previous week were more likely than those having attended school every day to have poor or fair health and to have been badly hurt or sick in the last 12 months. However, the differences were not always statistically significant. This result may reflect differences in the parental assessment of a child's general health overall and any particular injury or illness that affected school attendance in the previous week (e.g. catching flu). They are certainly correlated but still quite different. In most cases whether a parent/guardian has been badly hurt or sick in the last 12 months is not significantly different by school attendance either.
- Second, the level of family income is generally not statistically significant by school attendance status, even though having experienced financial stress in the last 12 months generally is associated with a significantly higher probability of school absence. Note that having a low income is neither sufficient nor necessary for financial stress to occur; financial management skills and the availability of assistance and support (either from friends/relatives or the government) are also important factors.
- Third, independent or private schools generally have the highest attendance rates (about 94 per cent), followed by government schools (about 84 per cent) and then Catholic schools (about 82 per cent), but the differences are not statistically significant.

It should be noted that these findings are indicative only. Caution should be taken before drawing any firm conclusions based on the results, as they

Table 29: Select characteristics of children and primary carers by school year and school attendance
(A = attended every day, NA = not attended every day)

Characteristics	Preschool [^]		Pre-Year 1		Year 1		Year 2		Year 3	
	A	NA	A	NA	A	NA	A	NA	A	NA
Total number of observations (person-waves)	728	135	812	181	548	100	430	75	191	28
Characteristics of child:										
Average age of child (months)	54.5	53.9	65.4	66.0	77.8	77.0	91.3	91.8	99.8	101.6
Average Renfrew word finding vocabulary score (0–50)	22.6	21.4	26.2	24.9	30.3	31.1	23.5	32.0#	–	–
Average Who am I?(WAI) score (short-form at Wave 4) (0–28)	14.0	14.1	16.6	17.2#	14.7#	27.0#	–	–	–	–
Average WAI score (long-form at Waves 2, 3 and 5) (0–44)	21.7	21.3	27.9	27.4	34.1	32.5	32.9	26.5#	–	–
Characteristics of primary carer:										
Primary carer employed (%)	37.7	27.6	39.0	29.6	40.8	31.0	46.7	37.3	41.5	50.0
Source of income—government benefits (%)†	77.0	87.4	74.3	81.0	78.0	87.0	82.1	82.7	84.7	78.6
Source of income—wage/salary (%)†	54.4	43.0	53.1	41.9	56.3	50.0	57.9	49.3	53.2	60.7
Experiencing financial stress last year (%)	38.8	53.8	45.0	56.7	41.4	55.2	42.0	57.3	49.7	57.1
Primary carer affected by income management (%)	7.7	11.9	7.1	7.7	6.0	7.0	10.3	2.7	11.1	7.1
School related factors:										
Study child was bullied at school (%)*	–	–	19.9	27.7	24.8	31.6	32.1	35.7	29.3	48.1
Study child was bullied at school for being Indigenous (%)*	4.6	4.6	9.4	9.3	7.8	12.1	8.7	20.7	–	–
Study child likes teacher (%)	94.3	86.0	91.5	90.1	89.6	86.7	86.8	81.2	84.7	80.8
Study child likes school (%)	94.2	84.4	93.3	90.9	95.7	87.5	–	–	–	–
Teacher nice to study child (%)	–	–	88.6	88.7	83.6	80.5	81.8	70.8	78.8	61.5
Other kids nice to study child at school (%)	–	–	75.6	56.5	68.7	56.4	65.1	60.6	69.7	57.7

Notes: Both younger and older cohorts in all the four waves with attendance information (i.e., Waves 2–5) are pooled together; the attendance questions were only asked for the children enrolled in school. In the pooled sample only six children were in Year 4, so Year 4 is not included. A cell is left blank if no information is available or there are too few observations with non-missing values.

Bold pairs of statistics for attendees (A) and non-attendees (NA) are significantly different at the 5% level (t test).

[^] The actual number of observations varies for each characteristic; for instance, short-form WAI was only used for the older cohort children at Wave 1 and the younger cohort children at Wave 4, so virtually no short-form WAI scores were available for children aged 7 or 8 years (mostly attending Year 2 or above).

^{^^} Preschool refers to year before school.

† Main source of income was asked at Waves 1 and 2 and all sources of income were asked at other waves; families may have income from wage/salary and government benefits.

* Only available for the older cohort children at Waves 3 and 5.

Available for the older cohort at Waves 2 and 4, and available for the younger cohort at Waves 4 and 5.

Less than ten observations in total.

– Data not available or no observations.

are mainly based on bivariate analyses and some important (maybe unobserved) factors are not taken into consideration. While the results reported by child age for enrolment and by school year for attendance are certainly of interest, they hide differences between cohorts and across waves (years), which are left for further exploration with more complex techniques.

Finally, two relevant studies are particularly noteworthy. First, Biddle (2014) conducted multivariate analysis using Wave 3 of the *Footprints in Time* data and highlighted health as a critical determinant of school attendance. Main carer not being employed and family's main source of income not being wages or salaries were also found to be associated with a lower probability of school attendance but not statistically significant.

Second, using Waves 1 to 4 of the Longitudinal Study of Australian Children (LSAC) data, Daraganova, Mullan and Edwards (2014) found that Indigenous children, though under-represented in LSAC, were significantly (1.55 times) more likely than non-Indigenous children to be absent more frequently from school³³ at age 6–7 years (roughly the age of the older cohort *Footprints in Time* children at Waves 3 and 4). Other factors associated with school absence at age 6–7 years included: currently being enrolled in Pre-Year 1 (as opposed to Year 1), being bullied by classmates, being less school ready at 4–5 years old, having more emotional or behavioural problems, living in a family with a mother not working, living in a family on government income support benefits, and living in a regional area. This study recommended interventions targeting children’s levels of school readiness, and supporting families with lower levels of education and children who are bullied at school in their early years.

Keeping children at school—factors affecting attendance and children’s academic achievement

School attendance and Year 12 completion rates are much lower for Indigenous children than for non-Indigenous children and decreasing this disparity is a priority of the Council of Australian Governments (COAG)’s Closing the Gap agenda.

Analysis of the data from the Longitudinal Study of Australian Youth (LSAY) has shown that parental aspirations influence children’s educational and occupational aspirations. Gemici et al. (cited in Nguyen & Blomberg 2014) note that students whose parents aspire for them to attend university are four times more likely to complete Year 12 and eleven times more likely to attend university compared with those whose parents expect them to choose non-university pathways. While the LSAY research examines educational aspirations and outcomes of children who are in secondary school, children’s attitudes and values are being influenced by their parents from a much earlier age (Changing Minds 2014).

As discussed in the Wave 3 report in this series (FaHCSIA 2012), primary carers in *Footprints in Time* consider their child’s education to be important and many expressed hope that their children will go further in their education than they

did themselves. While only about one-third of primary carers in the *Footprints in Time* study had completed Year 12, and less than 10 per cent had a university qualification in 2012, an overwhelming majority said that they expected their child to at least finish secondary school. One in three hoped the child would get a university degree.



³³ Daraganova, Mullan and Edwards (2014) measure school attendance as number of days during which children of a particular age were absent from school during the relevant four-week period.



Table 30: Primary carer educational expectations for their children, per cent

Expectation	<i>Footprints in Time</i>	LSAC
Leave school before finishing secondary school	2.0	1.3
Complete secondary school	48.8	17.6
Complete trade or vocational training	14.1	14.0
Go to university or complete a degree	30.8	59.7
Obtain post-graduate qualifications	4.4	7.4
Number	504	3,989

Table 31: Teacher educational expectations for the children, per cent

Expectation	Primary carer	Teacher
Leave school before finishing secondary school	2.0	23.7
Complete secondary school	48.8	30.8
Complete trade or vocational training	14.1	19.9
Go to university or complete a degree	30.8	24.4
Obtain post-graduate qualifications	4.4	1.3
Number	504	156

In Wave 3 primary carers of the older cohort were asked whether they had liked school as a child. Of those asked, 88.5 per cent said that they liked primary school a lot or a bit. Interestingly, parents who disliked primary school were just as likely to attain a higher qualification or degree as parents who had liked primary school.

Primary carers of children in both *Footprints in Time* and the Longitudinal Study of Australian Children (LSAC) were asked how far they thought their child would go in their education. Table 30 compares response rates of primary carers about children in the two studies. The LSAC children are from the younger cohort in Wave 4 (when they were aged 6 or 7 years) so they are comparable in age and educational experience to the *Footprints in Time* children.

Primary carers in both studies believe that their children will complete at least secondary school. The rates for children leaving school before finishing or completing a trade or vocational training were similar across both studies. However LSAC primary carers were nearly twice as likely to expect that their child would go on to university.

Footprints in Time teachers were also asked how far they thought children would go in their education. Table 31 shows the comparison between teacher and parent responses. Note that although teacher responses were received for 210 children in the older cohort, there are only 156 responses to this particular question. This may be influenced by the

relatively young age and early stage of the children's education.

Footprints in Time teachers are much more likely to say that children will leave school before finishing secondary school than are primary carers. However both teachers and primary carers are more likely to expect that children will complete secondary school or complete a degree than other options although teachers expect lower proportions for both categories. If primary carer responses are restricted to the sample for those with responses from both primary carer and teacher, primary carer responses do not differ much from those shown in the table.

Table 32 shows that primary carers have relatively high expectations for the children compared with the teachers. It is likely that primary carers and teachers have very different bases for their predictions: primary carers' may be based more on their hopes and aspirations for their children while teachers' may be based more on their observations to date of the child's academic abilities and willingness to learn. However, there is evidence that schools and teachers with high expectations of their Indigenous students can increase engagement and achievement (Helme & Lamb 2011).

Teachers completed a series of questions about literacy and numeracy skills for children in both cohorts and approach to learning for children in the older cohort. Responses to these questions can be summed to create a measure of how well the children are doing in each of these three domains,

Table 32: Learning outcomes by teachers' educational expectations

Teacher expectation	Teacher-rated achievement scale	PAT Reading
Leave school before finishing secondary school	39.4	71.1
Complete secondary school	63.3	84.9
Complete trade or vocational training	64.1	86.0
Go to university or complete a degree	73.7	93.3
Obtain post-graduate qualifications	90.0	105.2
Number	142	125

Note there are only two observations in the 'obtain post-graduate qualifications' category.

as well combining the literacy and numeracy domains to create a measure of academic achievement. On average, children's literacy was rated at 32.0 out of 50, numeracy at 27.2 out of 40 and approach to learning at 17.5 out of 24. On the combined literacy/numeracy measure children achieved an average of 60.0 out of 90. Table 32 shows the average combined literacy/numeracy scores and PAT Reading scores (open ended with a top score of 130 achieved in Wave 5) for each level of teacher prediction.

Overall, combined literacy/numeracy achievement scores and PAT Reading scores are significantly associated with teachers' predictions of how far children will go in their education. Primary carer predictions were only significantly associated with higher combined literacy/numeracy achievement scores and PAT Reading scores if they thought their child would go to university or obtain a post-graduate qualification.

Many teachers of *Footprints in Time* children identified regular attendance as key to educational success. When asked about what works and does not work for the individual children and for Indigenous children in general, 98 out of 425 responses (23.0 per cent) mentioned attendance. The common theme through these responses was that attendance at school assisted children in their academic outcomes.

'Continual attendance over the year contributes to continuity of learning, routines, friendships.'

'Regular attendance at kindergarten is paramount.'

'Parents are not seeing that attendance patterns in preschool are a predictor of later school attendance.'

'What is difficult for Indigenous children is being away from preschool for long periods of time when family visit other communities/the community of their family. The long break can be difficult for children to reconnect with school. The other problem is preschool/school attendance is often asked 'Do you want to go today?'

'In general—when students are made to go to school every day, their learning improves greatly. Not working—students as little as [pre-year 1], being given choices by carers about attending school.'

Teachers were asked to estimate to the nearest 10 per cent the attendance rate since the beginning of the year of children in the older cohort.³⁴ Of the 199 children for whom their teachers provided a response, more than half (61.3 per cent) had attendance rates of at least 90 per cent and 77.9 per cent had attendance rates of at least 80 per cent. Just over 9 per cent had been present

Table 33: Average scores by teacher-reported parent involvement, Wave 5

Level of involvement	Literacy scores	Numeracy scores	PAT Reading scores
Not involved	27.1	23.3	72.6
Somewhat involved	30.3	26.6	84.2
Very involved	37.5	30.3	88.2
Don't know parents enough to comment	30.2	26.3	84.7

34 As teachers complete the forms at different times of the year, this period will be different for each child.



for 50 per cent or less of the time. However, teachers of children whose attendance was very poor may not have felt they knew the child well enough to complete the survey. This data should therefore not be used to make assumptions about school attendance rates of Indigenous children in general.

However, the data can be used to examine differences within the group. Using the combined literacy/numeracy achievement scores it is possible to look at the impact of attendance on children's learning outcomes. Children who attended less than 80 per cent of the time had average scores 20 points lower than children whose attendance was more regular ($p < 0.001$).

Children with excellent or very good health had better attendance rates than those with good or fair health: 83.3 per cent of children with better health attended school at least 80 per cent of the time compared with 65.0 per cent of the time for children with poorer health. Of the 142 children for whom teachers reported reasons for absences, illness was the most common reason with 77.5 per cent of those children being away due to illness. Poorer health was also associated with poorer outcomes for both literacy and numeracy. Children with poorer health had literacy scores 5.7 points lower and numeracy scores 3.2 points lower.

Another common theme to teacher responses about what works well for Indigenous children is the importance of parental and family support, not only in terms of their attendance but also their academic

outcomes. There were 94 (22.1 per cent) children for whom teachers mentioned the importance of family support. One teacher provided the following quote.

'Parent involvement and cooperation in getting children to school with healthy food on time'

Teachers were asked how involved they believed the parents to be in the children's learning and development. Table 33 shows the relationship between teacher-reported parent involvement and children's learning outcomes.

The table clearly shows the same pattern of impact across the three learning outcomes. Children whose primary carers are more involved in their development demonstrate better literacy and numeracy outcomes. However, only being 'very involved' is statistically different from being 'not involved'.

While many primary carers expect that their child will complete secondary school, 67.3 per cent had not finished Year 12 themselves. However, children whose primary carer had completed Year 12 were more likely to have higher school attendance rates (attendance of at least 80 per cent) and also have an average literacy and numeracy scores of 10.7 points higher. Although the *Footprints in Time* children are as yet in the early stages of their education and there is plenty of time for changes to occur, attendance and parental support are already showing important associations with children's educational outcomes.



What can *Footprints in Time* tell us about transition to school?

A successful transition into school creates a pathway for positive academic, social and wellbeing outcomes. A successful transition is one that enables the child to feel comfortable, connected and engaged with the school environment and community; facilitates readiness to learn; and promotes, among parents and families, a feeling of engagement in the school experience and school community (SNAICC 2013b).

Readiness for school does not reside wholly in the child; it is a multi-faceted construct in which children's abilities and health, family capacity, early childhood services and supports, schools and the broader community all play an important part (Dockett, Perry & Kearney 2010). Readiness may best be understood as the match between the child and the institutions that serve the child including families, schools and communities.

According to Dockett, Perry and Kearney (2010), school readiness incorporates three major components:

- children's readiness for school
- school's readiness for children
- the capacity of families and communities to provide the necessary opportunities, conditions and supports to optimise children's development and learning.

This article examines what the data can tell us about the school readiness that Indigenous children

in *Footprints in Time* have experienced. In terms of ready schools, the SNAICC report identifies outputs in various areas of school readiness that facilitate Indigenous children's transition to school including: positive school and family relationships; Aboriginal and Torres Strait Islander staff presence; positive relationships between teachers and Indigenous students; cultural competence of all school staff involved in the transition process; and valuing Aboriginal and Torres Strait Islander knowledge and ways of learning. *Footprints in Time* can provide information that may be useful in each of these areas and these are each addressed separately in this article.

In addition to information collected from primary carers and the children, *Footprints in Time* collects information from the children's teachers. In considering data from the teachers' questionnaire there are a number of caveats to consider.

As teachers are approached about the study children if and once the primary carer has given permission, the time of the year that the teacher completes the questionnaire for each child varies. This may have an impact on how well the teacher knows the child and their family. It should also be noted that in some cases the teacher has several *Footprints in Time* children in their class, so proportions and numbers refer to the number of children, not the number of individual teachers unless specifically stated. Unfortunately there are many children at school for whom there is no completed teacher questionnaire, which means that while the data can give an idea of school's readiness for individual children within the sample, it would be inappropriate to draw conclusions from the data about school readiness for Indigenous children either in *Footprints in Time* or in general.

A total of 375 teachers provided responses to the teacher survey for 473 children; 263 children in the younger cohort (55.6 per cent of teacher responses) and 210 children in the older cohort (44.4 per cent of teacher responses). This accounts for 39.6 per cent of all children in the older cohort and 41.2 per cent of the children in the younger cohort who attend school. Most of the teachers (318) had only one *Footprints in Time* child in their class. The remainder had between two and seven.

Positive school and family relationships

One way in which children may become familiar with the school environment is to visit the school prior to their first day of school. In this way, primary carers can help prepare their child to become familiar with the environment without the other



Table 34: School practices to involve parents

Activity	Number who said yes	Percentage of all responses
Orientation activities	409	88.9
Parent participation in program	315	68.5
Formal meetings about child's progress	368	80.0
Parent education programs	240	52.2
Social activities for parents	291	63.3
Regular newsletters	324	70.4
Other	58	12.6
None	0	0

pressures the first day of school may bring. Primary carers of older cohort children who had already started school in Wave 3 were asked if their child had visited the school before their first day. The vast majority (85.8 per cent) had. In wave 5, primary carers of the younger cohort were asked the same question. Slightly fewer children (83.4 per cent) had visited the school prior to their first day but the small difference between the cohorts is not statistically significant.

As discussed earlier, parental responsibility for a child's learning does not stop once they enter school. Teachers were asked a series of questions about practices used in their schools to involve parents. There were 13 students for whom there was no response so the total number of responses is 460. Note this is based on response per child, so both teachers and schools may be counted more than once (see Table 34).

Teachers who gave 'other' as a response were asked to describe parental involvement activities offered at their school. Responses include:

- open afternoon
- assemblies
- excursions to important cultural places
- talking to parents when they come to pick up the child
- open door policy
- community visits
- home visits
- family night concert.

For most of these 460 children there are a number of activities available, with eight children having all seven types of activities available and 50.8 per cent having five or more activities available. (Parental involvement in school is further discussed in the article 'Parental engagement in child's learning and development' on page 36.)

Another way of keeping in touch with parents is through parent-teacher meetings. This may be through special parent-teacher evenings that all parents are invited to attend or may involve requests for meetings with the parent of a child about whom the teacher has particular concerns. Teachers of the older cohort were asked about the number of parent-teacher meetings offered for the child so far at the time of questionnaire completion. Of the 191 children for whom there are valid responses, there were only eight for whom no interview had been offered. The majority had been offered one (77) or two (70), although up to 12 were offered. The data does not distinguish between general parent-teacher nights available to all students and specially requested interviews. The data also includes the number of interviews the primary carer attended. It is not clear from the data whether subsequent interviews were offered because of previous lack of attendance by the primary carer. Of the 177 children whose teachers offered interviews to their primary carers, 94 (53.1 per cent) had primary carers who attended all interviews. One-third attended no interviews. Of these more than half had only missed one interview but other primary carers had missed up to six.

In Waves 3 and 4, primary carers of the older cohort were asked whether they thought that the study child's teacher understands the needs of families from an Indigenous background (see Table 35).

In both waves more than half the primary carers felt that the study child's teacher understood the needs of Indigenous families. Analysis of the *Footprints in Time* data shows that this perception of the child's teacher is significantly associated with attendance. Children of primary carers who responded 'well' or 'very well' to this question were more likely to have attended school every day they were supposed to in the previous week than those whose primary carer who responded 'just OK' or 'not done at all'.

Table 35: How well teacher understands the needs of Indigenous families, per cent

Response	Wave 3	Wave 4
Very well	25.4	29.7
Well	33.1	32.0
Just OK	20.7	15.6
Not done at all	20.7	22.8
Number	507	482

Table 36: Indigenous staff and education workers in school, per cent

Response	Indigenous teachers/staff	Indigenous education workers ³⁵
Currently doing	83.0	80.0
Working on	2.2	1.0
Not doing	14.8	19.0
Number	182	195

Aboriginal and Torres Strait Islander staff presence

When teachers and children have some common background, such as culture or language, teachers tend to view children more positively (Saft & Pianta 2001 in Dockett, Perry & Kearney 2010), reinforcing the importance of involvement of local Indigenous staff in Indigenous children’s schooling (Dockett, Perry & Kearney 2010).

According to the Australian Council for Educational Research (ACER) ‘Staff in Australia’s schools’ survey report, in 2010 1 per cent of teaching staff in government primary schools and 0.6 per cent in secondary schools were Indigenous (McKenzie et al. 2011). Of the teachers responding to the *Footprints in Time* questionnaire in Wave 5, 10 responded they identified as being Aboriginal, one teacher identified as being Torres Strait Islander and 3 teachers identified as both. The Aboriginal teachers are all in urban areas or areas of low isolation. Between them, these 14 teachers had 22 children from the study in their classes.

Teachers of the older cohort were asked about whether there were Indigenous staff or teachers at the school and whether there were Indigenous education workers at the school (see Table 36). These were part of a series of questions examining Indigenous education focus, which will be examined in more detail later in this article.

The majority of children whose teachers responded to the survey attend schools in which there are Indigenous teachers or education workers.

Positive relationships between teachers and Indigenous students

‘When they are well supported by parents and teachers and they feel safe and loved, learning will occur.’ (quote from a *Footprints in Time* teacher)

Teachers of *Footprints in Time* study children were asked a series of 15 questions about their relationship with the study child.³⁶ The questions use a five point response scale. The responses to these questions can be combined into a single measure and converted to provide a score between 1 and 5, on which higher scores indicate a more positive relationship. For a total of 454 children, the average score is 4.3,³⁷ indicating that on the whole teachers felt they have a positive relationship with the study child. The scores ranged between 2.2 and 5 with 42 children (9.3 per cent) having a relationship score of 5. The relationship between the teacher and child and the combined literacy and numeracy scores (for more information about this refer to the article ‘Keeping children at school’) is both marked and significant. Compared with children in the bottom quartile of the relationship scale, children in the second quartile have average

35 Indigenous Education Workers are known by different titles Australia wide: NT—Aboriginal and Islander Education Worker, WA—Aboriginal and Islander Education Officer, SA—Aboriginal Education Worker, QLD—Community Education Counsellor, NSW—Aboriginal Education Assistant, VIC—Koori Educator (ref: <http://samekidssamegoals.org>).

36 These questions are from the Student–Teacher Relationship Scale – Short Form (Pianta 1992).

37 Scores were calculated pro rata if one or two responses were missing. Scores were not calculated if there were more than two responses missing.

scores 11.2 points higher on the combined literacy and numeracy scale and children in the top two quartiles have scores on average 18.3 points higher. The same is seen for the approach to learning scale (for more information about this, refer to the article 'Keeping children at school'), with average scores higher by 3.8 and 6.7 points respectively. However, it must be remembered that this association does not indicate causality. For example, it may be easier for teachers to develop strong relationships with children who have good literacy and numeracy skills rather than a strong relationship being the cause of those skills. Teacher–child relationships are bidirectional, with both teacher and child contributing to the nature of the relationship (Rudasill et al. 2006 in Dockett, Perry & Kearney 2010).

Cultural competence of all school staff involved in the transition process

Although evidence in the literature regarding successful school transition points to the need for schools and teachers to be culturally competent, there is little consensus on what this means in practical terms. Overall cultural competence may comprise a number of different competencies:

- commitment to Aboriginal and Torres Strait Islander self-determination and respectful relationships
- cultural awareness
- cultural respect
- cultural responsiveness
- cultural safety
- cross-cultural practice and care (SNAICC 2013b).

Footprints in Time teachers were asked a number of questions about their cultural competence including whether they had had any formal training, where they had received this training and what additional training they thought they would benefit from.

Teachers of the younger cohort were asked what Indigenous-specific training they had received. There were 115 teachers (teaching 135 children between them) who described the training they had received and 54 (teaching 56 children) who responded that they had received no Indigenous-specific training. There were also a further 23 teachers (teaching 54 children) who responded that they did not know. Responses from teachers about the types of training they had received were varied and included:

- personal experience, such as teaching in remote schools or growing up with other Indigenous children
- professional development courses
- courses as part of tertiary qualifications
- policy training and awareness
- conferences
- language courses
- state and local training
- working alongside Indigenous teacher aides
- being Indigenous themselves.

Teachers of children in the older cohort were asked a set of questions about whether they had received specific types of training and if so, how that training had been delivered. Table 37 shows the responses to these questions. There are responses from 165 teachers. Teachers could select more than one response.

While most teachers had received training in general cultural awareness, fewer teachers had received Indigenous-specific training. Teachers were most likely to have learned Indigenous-specific knowledge and teaching skills on the job. Teachers were much more likely to have received training in these skills as an undergraduate if they were in the 25 to 34 years age group.

Table 37: Teacher training, number

Training	As an undergraduate	In-service training	As part of post graduate studies	Learned on the job	No
General cultural awareness	66	72	14	1	10
Indigenous cultural awareness, appreciation or cultural safety	56	61	9	84	19
How to teach Indigenous knowledge	35	45	4	63	59
How to teach Indigenous children	41	47	6	94	23
One or more Indigenous languages	5	6	1	15	141



Table 38: Further training desired, Wave 5

Type of training	Number	Percentage
Indigenous cultures in general	156	44.6
Indigenous culture in your local area	228	65.1
How to teach Indigenous children successfully	235	67.1
How to teach Indigenous knowledge appropriately	214	61.1
Indigenous language training	112	32.0
Other training or study	15	4.3
I feel confident I have sufficient training	44	12.6

Even though most teachers in the study had received training, many still felt that they would benefit from further training in Indigenous culture or teaching Indigenous children. There are responses to questions about further training from 350 teachers (see Table 38).

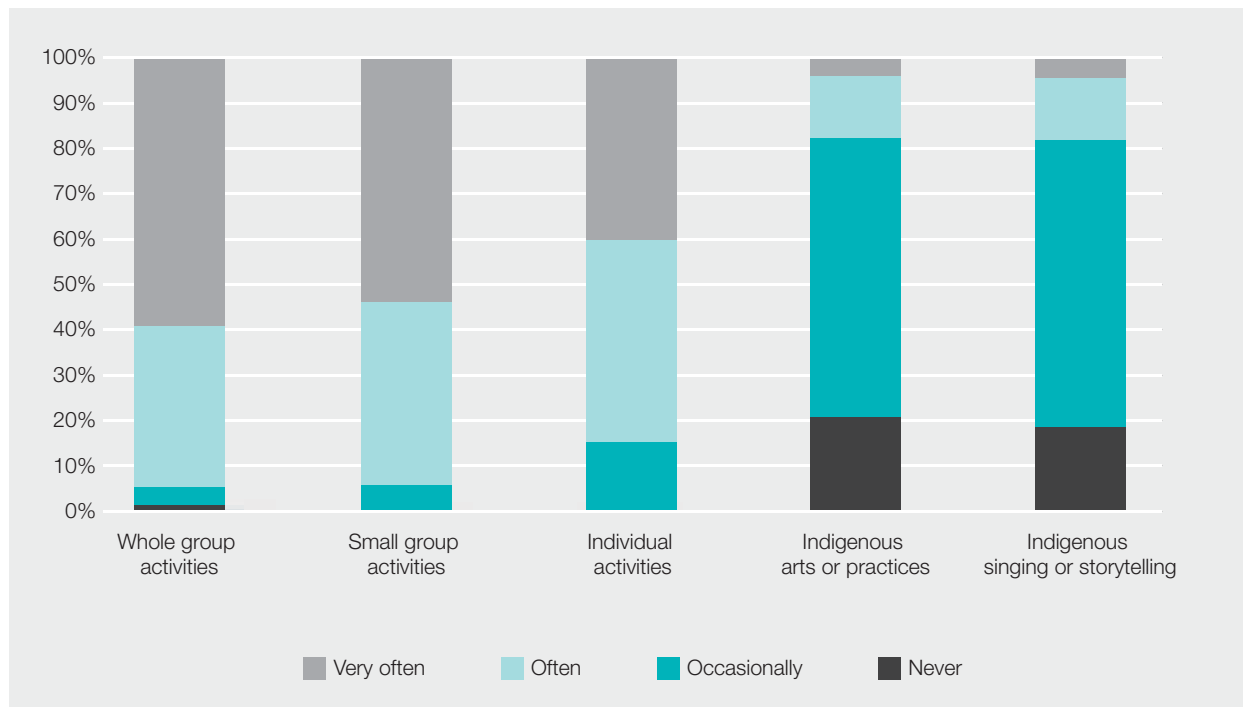
Nearly two-thirds of the teachers selected more than one of the five specific areas listed. Of those who specified ‘other training or study’ they would like to receive, several mentioned Indigenous-specific courses or always wanting to learn more. One teacher mentioned wanting to have ESL training and another to learn Kriol.

Around one-quarter of the study children speak an Aboriginal or Torres Strait Islander language and primary carers reported that around 9 per cent were learning one in school in Wave 5 (refer to articles on language in Part B). As Tables 37 and 38 show, Indigenous languages is an area of learning

in which few teachers have received training, as well as the one in which they are least likely to feel they would benefit from further training. Of the 375 teachers who provided survey responses, two said that they speak, read and write an Indigenous language and 38 said that they speak a few words only. Yet there are 23 teachers who teach classes in which all the children speak an Indigenous language. One of the two teachers who speak, read and write an Indigenous language and 11 who speak some words only teach classes in which all the children speak an Indigenous language.

Another way in which the cultural divide may be bridged in the classroom is through other staff working with the teacher. In the free text responses about what works well for Indigenous children, several of the teachers mention that they have Indigenous teacher aides working in the classroom with them.

Figure 9: Types and frequency of classroom activities, per cent



Valuing Aboriginal and Torres Strait Islander knowledge and ways of learning

Children learn in different ways. Some absorb information best when reading or seeing it, some absorb it best when hearing about it and others learn through doing. Teachers were asked to specify what they had found to work well for Indigenous children’s learning outcomes. In relation to their learning styles, teachers most commonly mentioned children learning through hands-on activities. Other commonly mentioned themes were ‘working in small groups’ and ‘having clear structure and routines’.

- ‘Hands on real life activities small group activities’
- ‘More hand on activities more practical activities / give simple directions’
- ‘Working well: hands on, explicit instruction. Using resources which are specific to their understanding’

Teachers were asked how often they conducted specific types of activities in the classroom (see Figure 9).

The majority of children participate in small group activities often or very often but they are equally likely to participate in whole group activities often or very often. Of the children who participated in whole group activities very often, 73.9 per cent also participated in small group activities very often.

Indigenous-specific activities (such as Indigenous arts or practices and Indigenous singing or storytelling) were done less frequently with less than 20 per cent of children in this sample participating in them often or very often. Teachers are more likely to do these two activities very often in classes in which there are more Indigenous children.

Teachers were further asked whether they conducted any of these activities in an Indigenous language. Two teachers (three children) conducted all activities in an Indigenous language and 48 teachers (78 children) conducted some of the activities in an Indigenous language. There were 340 children for whom all teaching activities were conducted in English.

Some of the teachers also commented on the importance of Indigenous culture and learning in the question about what works well for Indigenous children in the school setting.

- ‘Working well is language and culture lessons, opportunity for student to express themselves, creating a safe and warm classroom.’
- ‘Recognition and value placed on the culture in the whole school setting through display of artwork, inclusion of texts in class and celebration, activities and performers during NAIDOC week.’
- ‘Relating their work to their own real life experiences and valuing and integrating Indigenous culture into teaching and learning activities.’
- ‘Hands on and real life or life like experiences links to both cultures—‘white’ and Indigenous.’
- ‘Integrating Indigenous perspectives in the curriculum—it helps them connect with their culture and history, particularly those children who are disconnected as time has gone on and they may have very little knowledge of their elders/ancestors.’
- ‘The presence of [Indigenous] staff who are here every day to give lessons and to support. Being immersed in language through song, activities and dance.’

Concluding comments

From the responses to the teacher’s survey, the schools attended by the *Footprints in Time* children appear to be implementing many activities and learnings to assist Indigenous children transition to school. However, what has not been examined is the number of different practices within each school. Also not examined in this article, largely due to small sample size, is how geographic differences influence what is put in place to help Indigenous children make the transition. As the study collects more information about the children over the next years of their schooling, further analyses will unpack what helps a successful transition to school.

References for part A

Abbott, T 2014, *Statement to the House of Representatives – Closing the Gap*, 13 February 2014, <http://indigenous.gov.au/prime-minister-abbott-statement-to-the-house-of-representatives-closing-the-gap0/>.

Australian Bureau of Statistics 2011, *Family Characteristics, Australia, 2009–10*, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4442.0Main%20Features22009-10?10?opendocument&tabname=Summary&prodno=4442.0&issue=2009-10&num=&view=>.

Biddle, N 2011, Measuring and analysing Indigenous wellbeing, CAEPR Lecture Series Lecture 2, <http://caepr.anu.edu.au/Measuring-and-analysing-wellbeing.php>.

Biddle, N 2014, ‘Developing a behaviour model of school attendance: policy implications for Indigenous children and youth’, CAEPR Working Paper No. 94/2014, Australian National University, Canberra.

Biddle, N & Markham, F 2013, Mobility, CAEPR Indigenous Population Project 2011 Census Papers, Paper 9, <http://caepr.anu.edu.au/Publications/census-papers/2013CP9.php>.

Bloomfield, L & Kendall, S 2012, ‘Parenting self-efficacy, parenting stress and child behaviour before and after a parenting programme’, *Primary health care research and development*, vol. 13, no. 4, pp. 1–9.

Blunden, S & Camfferman, D 2013, ‘Can sleep contribute to “closing the gap” for Indigenous children?’, *Medical Journal of Australia*, vol. 199, no. 1, pp. 19-20.

Changing Minds website available at http://changingminds.org/explanations/values/values_development.htm (accessed 21/07/2014).

Coleman, P & Karraker, K 2000, ‘Parenting self-efficacy among mothers of school-age children: conceptualization, measurements and correlates’, *Family Relationships*, vol. 49, no. 1, pp. 13-24.

Daraganova, G, Mullan, K & Edwards, B 2014, *Attendance in primary school: factors and consequences*, Occasional Paper No. 51, Department of Social Services, Canberra.

DCSF [the Department of Children, Schools and Families] 2008, *The impact of parental involvement on children’s education*, DCSF, Nottingham, UK.

Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2012, *Footprints in Time: The Longitudinal Study of Indigenous Children Key Summary Report from Wave 3*, FaHCSIA, Canberra.



Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2013, *Footprints in Time: The Longitudinal Study of Indigenous Children Key Summary Report from Wave 4*, FaHCSIA, Canberra.

Dockett, S, Perry, B & Kearney, E 2010, *School readiness: what does it mean for Indigenous children, families, schools and communities?*, Issues paper no. 2, produced for Closing the Gap Clearing House.

Emerson, L, Fear, J, Fox, S & Sanders, E 2012, *Parental engagement in learning and schooling: lessons from research*, a report by the Australian Research Alliance for Children and Youth (ARACY) for the Family-School and Community Partnerships Bureau, Canberra.

Freiberg, K, Homel, R & Branch, S 2014, 'The Parent Empowerment and Efficacy Measure (PEEM): a tool for strengthening the accountability and effectiveness of family support services', *Australian Social Work*, vol. 67, no. 3, pp. 405–18.

Ginsberg, K 2007, 'The importance of play in promoting health child development and maintaining strong parent-child bonds', *Official Journal of the American Academy of Pediatrics*, vol. 119, no. 1, pp. 182–91.

Heath, F, Bor, W, Thompson, J & Cox, L 2011, 'Diversity, disruption, continuity: parenting and social and emotional wellbeing amongst Aboriginal peoples and Torres Strait Islanders', *The Australian and New Zealand Journal of Family Therapy*, vol. 32, no. 4, pp. 300–13.

Helme, S & Lamb, S 2011, *Closing the school completion gap for Indigenous students*, Resource sheet no. 6 for the Closing the Gap Clearing House, available at www.aihw.gov.au/uploadedFiles/ClosingTheGap/Content/Publications/2011/ctgc-rs06.pdf.

Hofstede, GH 1980, *Culture's consequences: international differences in work related values*, Sage, Beverly Hills, CA.

Homel, R, Freiberg, K & Branch, S 2013, 'Early prevention in social disadvantaged communities: how to do it, and its impact on positive child development and wellbeing', presentation at the Anglicare National Conference, Brisbane, 15–18 September.

Johns Hopkins website available at http://www.hopkinsmedicine.org/news/media/releases/newborns_exposed_to_dirt_dander_and_germs_may_have_lower_allergy_and_asthma_risk, accessed 29/08/2014.

Kids Matter website available at <http://www.kidsmatter.edu.au/families>, accessed 10/07/14.

Levinson, S 1997, 'Language and cognition: the cognitive consequences of spatial description in Guugu Yimithirr', *Journal of Linguistic Anthropology*, vol. 7, no. 1, pp. 98–131.

Martin, K (Booran Mirraboopa) 2003, 'Ways of knowing, being and doing: A theoretical framework and methods for indigenous and indigenist research', *Journal of Australian Studies* vol. 27, no. 76, pp. 203–14.

McKenzie, P, Rowley, G, Weldon, PR & Murphy, M 2011, 'Staff in Australia's schools 2010: main report on the survey', http://research.acer.edu.au/tll_misc/14.

National Scientific Council on the Developing Child 2004, Young children develop in an environment of relationships, Working paper No. 1, retrieved from <http://www.developingchild.net>.

News in Health website available at <http://newsinhealth.nih.gov/2009/February/feature1.htm>, accessed 29/08/2014.

Nguyen, N & Blomberg, D 2014, The role of aspirations in the educational and occupational choices of young people, Longitudinal Study of Australian Youth, Briefing Paper 29, NCVER, Adelaide, <http://www.isay.edu.au/publications/2710.html>.

Olsen, G & Fuller, ML 2008, *Home–school relations: working successfully with parents and families*, 3rd edition, Pearson/Allyn and Bacon, Boston, Massachusetts, pp.129–30.

Pianta, R, 1992, *Student-Teacher Relationship Scale—Short Form* Unpublished measure, University of Virginia, Charlottesville, VA.

Poresky, R 1990, 'The Young Children's Empathy Measure: Reliability, Validity and Effects of Animal Bonding', *Psychological Reports*, vol. 66, pp. 931–36.

Purdie, N & Buckley, S 2010, *School attendance and retention of Indigenous Australian students*, Issue paper No 1, produced for the Closing the Gap Clearinghouse.

Secretariat of National Aboriginal and Islander Child Care (SNAICC) 2013a, *Supporting carers to care for our children*, available at <http://www.supportingcarers.snaicc.org.au/3.3b.html>, accessed 29/08/2014.

Secretariat of National Aboriginal and Islander Child Care (SNAICC) 2013b, Supporting transition to school for Aboriginal and Torres Strait Islander children: what it means and what works?, available at www.snaicc.org.au/_uploads/rsfil/03193.pdf

Sevigny, PR & Loutzenhiser, L 2010, 'Predictors of parenting self-efficacy in mothers and fathers of toddlers', *Child: Care, Health and Development*, vol. 36, pp. 179–89.

Shields, M.A., Wheatley Price, S. and Wooden, M. 2009. 'Life satisfaction and the economic and social characteristics of neighbourhoods', *Journal of Population Economics*, 22 (2): 421–443.

Simplyteeth website available at <http://simplyteeth.com/category/sections/Child/4CaringTeethGums/OralHygieneProgramme.asp?category=child§ion=4&page=2>, accessed 23/8/2013.

Sleep Foundation website available at <http://sleepfoundation.org/sleep-topics/children-and-sleep>, accessed 27/08/2014.

Teasley, ML 2004, 'Absenteeism and truancy: risk, protection, and best practice implications for school social workers', *Children and Schools*, vol. 26, no. 2, pp. 117–28.

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', *Australian and New Zealand Journal of Psychiatry*, vol. 44, no. 1, pp. 40–48.

University of Adelaide Indigenous Oral Health Unit <http://www.adelaide.edu.au/arcpho/iohu/indigenoushealth>, accessed 10/07/14.

World Values Survey available at http://www.worldvaluessurvey.org/wvs/articles/folder_published/article_base_110, accessed 10/07/14.

Yu, M 2011, 'Parenting efficacy: how can service providers help?', *Family Relationships Quarterly*, No.19, available at <https://www3.aifs.gov.au/cfca/publications/family-relationships-quarterly-no-19>.

PART B

Feature articles

- Longitudinal patterns of language use, diversity, support, and competence 66
- Turning back the tide of Indigenous language loss: children to the rescue? 71
- The impact of multiple disadvantage on children's social and emotional difficulties 78
- Multiple disadvantage and major life events 82
- How do fathers affect the health and social and emotional wellbeing of Aboriginal and Torres Strait Islander children in *Footprints in Time*? 90
- The effect of maternal age at first birth on vocabulary and social and emotional outcomes for Aboriginal and Torres Strait Islander children 95
- Acknowledgements 104



Longitudinal patterns of language use, diversity, support, and competence

Sharynne McLeod and Sarah Verdon, Charles Sturt University, Australia

Background

Children's acquisition of speech and language is a major area of focus in childhood. Speech and language competence enables positive educational and social outcomes in childhood and occupational outcomes in adulthood (McCormack et al. 2009). Cultural beliefs, practices and identity are transmitted through language. Children's language and culture are inextricably linked with the development of their personal identity and sense of belonging. For example, the Early Years Learning Framework for Australia states:

Children's use of their home languages underpins their sense of identity and their conceptual development. Children feel a sense of belonging when their language, interaction styles and ways of communicating are valued. They have the right to be continuing users of their home language as well as to develop competency in Standard Australian English. (Commonwealth of Australia 2009, p. 38)

The ability to speak multiple languages can facilitate relationships and communication within the family (e.g. with grandparents) and the community. In addition, the ability to speak more than one language has been linked to cognitive and social benefits (Adesope et al. 2010; Bialystok 2011; Gathercole et al. 2010; Nguyen & Astington 2014). Therefore it is important to provide opportunities for children to develop competencies in multiple languages. It is also important to celebrate Indigenous children's speech and language competence (McLeod, Verdon & Bennetts Kneebone 2014), and understand factors that promote children's use and maintenance of Indigenous languages (Verdon & McLeod 2014).

Australia has been identified as the continent where the most rapid decline in languages is occurring (Nettle & Romaine 2000). For example, the results of the recent National Indigenous Languages Survey indicate that of the 250 Indigenous languages originally spoken only 13 are still spoken across all generations and 100 languages are endangered (Marmion, Obata & Troy 2014). Intergenerational transmission of Indigenous Australian languages is important. For example, Article 13 of the United Nations (2008) Declaration on the Rights of Indigenous Peoples states:

Indigenous peoples have the right to revitalise, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places and persons. (United Nations 2008)

The aim of this article is to describe longitudinal patterns of language use, diversity, support and competence by Indigenous children in *Footprints in Time* during the early years.

Method

The sample used in this report contained 1,031 children from both cohorts of *Footprints in Time* who were present at Waves 1, 2, 3, and 4 of data collection. Children were aged between 0 and 6 years at Wave 1 of data collection and data were collected each year. There were 534 males (51.8 per cent) and 497 females (48.2 per cent). Level of relative isolation for the children in this sample was reported as high/extreme for 71 children (6.9 per cent), moderate for 128 children (12.4 per cent), low for 515 children (50.0 per cent) and urban for 317 children (30.7 per cent). The Indigenous status of the children was reported as Aboriginal (89.5 per cent, $n = 923$), Torres Strait Islander (5.7 per cent, $n = 59$) or both Aboriginal and Torres Strait Islander (4.8 per cent, $n = 49$). Questions pertaining to the children's speech and language were extracted from the dataset and were analysed.

Languages spoken by the children over time

The children in the sample spoke between one and seven languages (see Table 39). At Wave 1, 84.7 per cent were learning to speak one language while 15.3 per cent were multilingual (i.e. spoke at least two languages). By Wave 3, more children were multilingual (24.3 per cent) and a similar number (24.4 per cent) were reported to speak multiple languages at Wave 4.

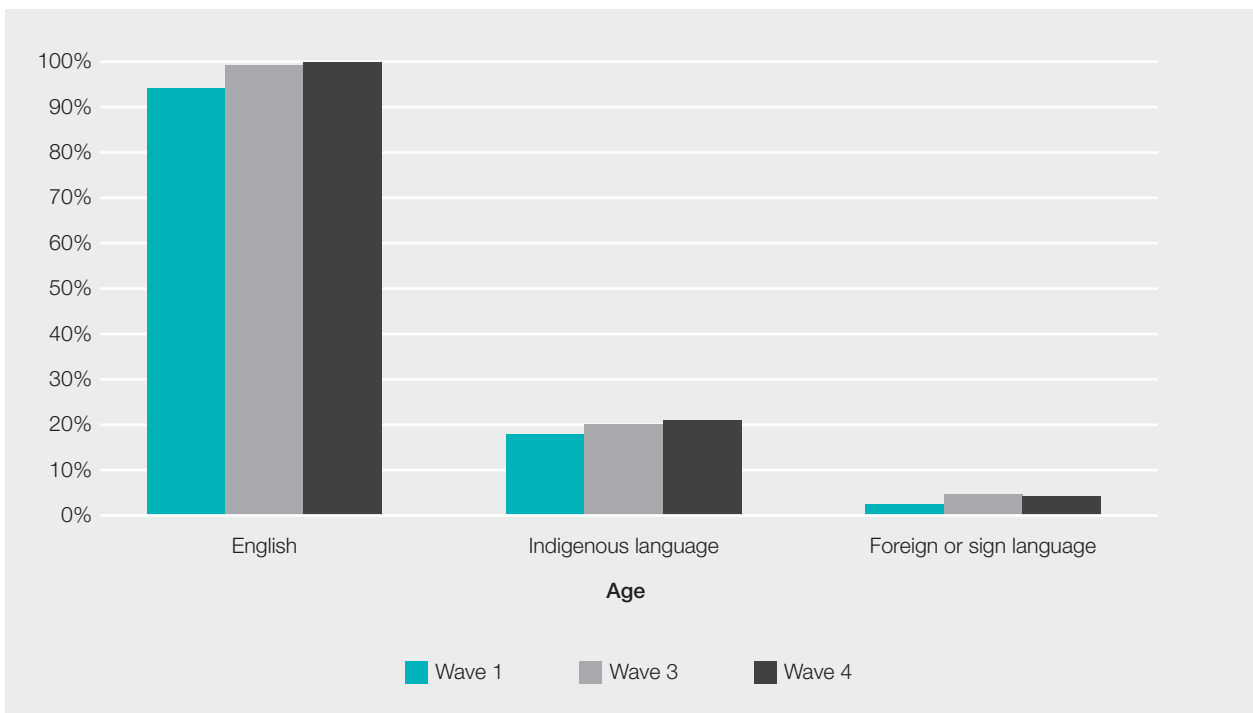
The type of language spoken by the children was reported at Waves 1, 3, and 4 (see Figure 10). At Wave 1, 94.4 per cent were learning to speak English and 18.0 per cent were learning to speak an Indigenous language. By Wave 3, the number of children speaking English had increased to 99.3 per cent and the number of children speaking an Indigenous language also increased to 20.1 per cent. By Wave 4, all of the

Table 39: Total number of languages spoken by the children across waves (n = 1,031), per cent

Wave	1	2	3	4	5	6	7
Wave 1	84.7	11.6	2.9	0.6	0.2	–	–
Wave 3	75.7	19.1	4.3	0.8	–	–	–
Wave 4	75.6	18.9	4.5	0.8	0.1	0.1	0.1

Notes: 'is learning to speak' was used for the younger cohort. This question was not asked at wave 2.
 – Data not available or no observations.

Figure 10: Type of languages spoken by the children by wave (n = 1,031)



Notes: Children could speak more than one language type. This question was not asked at Wave 2

children (100 per cent) were reported to speak English and approximately one-fifth (21.0 per cent) spoke an Indigenous language. By Wave 4 the majority of the children were attending school, so the increase in children's use of English over time may be as a result of English being spoken at school, as well as on television, and within the children's social environments. A small number of children throughout the sample used a foreign or sign language.

Dominance in languages spoken by the children was reported at Waves 1, 3 and 4 (see Table 40). At Wave 1, primary carers of the older cohort (n = 423) were asked to report the language fluency of their children. There were 86.1 per cent of children who were dominant in English, 10.6 per cent who were dominant in an Indigenous language and 3.1 per cent who were equally fluent

in English and an Indigenous language. In Waves 3 and 4 primary carers of both cohorts (n = 1,031) were asked to report the fluency of the language(s) of their children. In Wave 3, 85.3 per cent of children were dominant in English, 7.5 per cent were dominant in an Indigenous language and 4.0 per cent were equally fluent in English and an Indigenous language. By Wave 4, 86.0 per cent of children were dominant in English, 7.9 per cent were dominant in an Indigenous language and 4.8 per cent were equally fluent in English and an Indigenous language.

At Wave 3, primary carers were asked about the kind of English spoken at home. Approximately half of the families (55.7 per cent) reported that their English did not contain any Indigenous words and would sound the same as that spoken by a non-Indigenous person. English that was 'sometimes

Table 40: Dominance in languages spoken by the children by wave, per cent

Wave	Dominant in English	Dominant in an Indigenous language	Equally fluent in English and an Indigenous language	Missing data
Wave 1 (n = 423)*	86.1	10.6	3.1	0.2
Wave 3 (n = 1,031)	85.3	7.5	4.0	3.3
Wave 4 (n = 1,031)	86.0	7.9	4.8	1.4

* This question was not asked for the younger cohort in this wave.

mixed with a few Aboriginal or Torres Strait Islander words’ was used in 28.0 per cent of children’s homes and English ‘mixed with lots of Aboriginal or Torres Strait Islander words (which might be difficult for a non-Indigenous person to understand)’ was used in 15.9 per cent of children’s homes.

At Wave 3, primary carers were asked whether they would like their child to learn an Indigenous language at school. Learning an Indigenous language at school was valued by almost all of the primary carers in the study. Half (51.4 per cent) indicated that they would like an Indigenous language to be available as a second language at school, and 28.0 per cent indicated that they would like their child to learn an Indigenous language in a bilingual program, learning both English and an Indigenous language. Some (10.0 per cent) indicated that they would like the study child to learn an Indigenous language as a compulsory second language and very few (0.9 per cent) wanted an Indigenous language to be used as the main language at school, with English taught as a second language. Few primary carers (7.7 per cent) did not want their child to learn an Indigenous language at school.

Language environment and support

At Waves 2 and 3, the 1,031 children’s language and literacy support was described. There was consistency in the percentage of children who were read a book in the last week (Wave 2 = 82.1 per cent, Wave 3 = 82.9 per cent)³⁸ and the percentage of children who were told an oral story in the last week (Wave 2 = 69.1 per cent, Wave 3 = 70.8 per cent). By Wave 3, many of the children were able to read themselves and 79.0 per cent were listened to as they read in the last month. The people who read, told stories and listened to the children read included parents,

siblings, grandparents, aunts, uncles, cousins, friends, teachers and others, demonstrating wide family and community support for language and literacy development.

Speech and language competence

Primary carers were asked two questions regarding whether they had worries about their children’s communication (see Table 41). The first question considered whether primary carers had worries about how their children talked and made speech sounds. There were 13.5 per cent of parents who were concerned at Wave 1 (7.2 per cent ‘yes’; 6.3 per cent ‘a little’), 17.3 per cent at Wave 3 (8.0 per cent ‘yes’, 9.3 per cent ‘a little’) and 21.4 per cent at Wave 4 (11.6 per cent ‘yes’; 9.8 per cent ‘a little’). The increase in the percentages relates to children’s language development as they grow older. In Wave 1, those in the younger cohort were just learning to talk (most were 0 to 2 years old). In later waves the children were talking, so speech and language concerns would be more apparent. The primary carers’ main area of concern was that the children’s speech was not clear to others (Wave 1 = 7.3 per cent, Wave 3 = 9.3 per cent, Wave 4 = 12.3 per cent). The second question considered whether primary carers had worries about how their children understood what they said. There were 4.4 per cent of primary carers who were concerned at Wave 1, 5.1 per cent at Wave 3 and 5.2 per cent at Wave 4.

Another study undertaken by the Australian government, the Longitudinal Study of Australian Children (n = 4,983) also asked about parental concern regarding their children’s speech and language competence. These findings were similar to those reported by *Footprints in Time* families. That is, when children were 4 to 5 years old, 25.2 per cent had concerns about their children’s

38 Don’t know and refused responses have not been omitted in this analysis.



Table 41: Primary carers' concerns about their children's expressive and receptive speech and language competence over time, per cent

Wave	Concerns about how your child talks and makes speech sounds				Concerns about how your child understands what you say			
	Yes	A little	No	Missing/other	Yes	A little	No	Missing/other
Wave 1 (n = 1,031)	7.2	6.3	81.3	5.2	1.7	2.7	95.1	0.5
Wave 3 (n = 1,031)	8.0	9.3	82.5	0.2	1.9	3.2	94.9	0.0
Wave 4 (n = 611)	11.6	9.8	78.6	0.0	2.0	3.3	94.6	0.0

Note: These questions were not asked of the older cohort in Wave 4.

speech (11.8 per cent 'concerned', 13.4 per cent 'a little concerned'), and 9.5 per cent had concerns about their children's understanding of language (4.4 per cent 'concerned', 5.1 per cent 'a little concerned') (McLeod & Harrison 2009).

In Waves 3 and 4 primary carers were asked whether they were receiving intervention (e.g. from a speech pathologist) for children's speech and language difficulties. In Wave 3, there were 6.7 per cent of the entire sample receiving intervention for expressive speech and language difficulties and 2.3 per cent who were receiving intervention for difficulties understanding language. In Wave 4, only those in the younger cohort who were identified as having a speech or language concern were asked about receiving intervention. There were 9.0 per cent who were receiving intervention for expressive speech and language difficulties and 1.8 per cent who were receiving intervention for difficulties understanding language. Primary carers were asked to indicate why the children were not receiving speech therapy and their responses were entered using free text. The reasons included that they were on a waiting list, could not afford to pay to visit a speech pathologist,³⁹ their teachers had not suggested that intervention was required, they thought that their child would grow out of their speech difficulties, and they were seeing other specialists. These reasons resonate with other Australian studies of children with speech and language difficulties (McAllister et al. 2011; Ruggero et al. 2012), indicating reasons that children did not attend speech pathology services included long waiting lists and because parents were waiting for teachers to recommend intervention before they made contact with a speech pathologist.

Summary

Indigenous Australian children in *Footprints in Time* included in the current article were culturally and linguistically diverse. Many were multilingual with some speaking up to seven languages. Most of the children spoke English (with all of the children speaking English by Wave 4). One-fifth of children spoke an Indigenous language, and the percentage slightly increased over the four waves of data. Indigenous Australian children have rich cultural and linguistic traditions and their speech and language competence is promoted through family and community experiences, including book reading and telling stories. Almost all primary carers wanted their children to learn an Indigenous language at school in some capacity. Primary carers were concerned about children's speech and language competence at similar rates as reported for all



³⁹ Free speech pathology services are available in community health settings, and in some states also in schools and preschools. There may be a waiting period, and a limitation on the number of sessions offered for free services.



Australian children. While some children were receiving speech pathology services, others were unable to, or did not plan to access services. Encouraging Indigenous children's speech and language competence is an important endeavour for families, communities and society to support children to grow up strong.

References

Adesope, OO, Lavin, T, Thompson, T & Ungerleider, C 2010, 'A systematic review and meta-analysis of the cognitive correlates of bilingualism', *Review of Educational Research*, vol. 80, pp. 207–45.

Bialystok, E 2011, 'Reshaping the mind: the benefits of bilingualism', *Canadian Journal of Experimental Psychology*, vol. 65, no. 4, pp. 229–35.

Commonwealth of Australia 2009, *Belonging, being and becoming: the Early Years Learning Framework for Australia*, Australian Government Department of Education, Employment and Workplace Relations, Canberra.

Gathercole, VCM, Thomas, EM, Jones, L, Guasch, NV, Young, N & Hughes, EK 2010, 'Cognitive effects of bilingualism: digging deeper for the contributions of language dominance, linguistic knowledge, socio-economic status and cognitive abilities', *International Journal of Bilingual Education and Bilingualism*, vol. 13, pp. 617–64.

Marmion, D, Obata, K & Troy, J 2014, *Community, identity, wellbeing: the report of the Second National Indigenous Languages Survey*, Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), Canberra, Australia.

McCormack, J, McLeod, S, McAllister, L & Harrison, LJ 2009, 'A systematic review of the association between childhood speech impairment and participation across the lifespan', *International Journal of Speech-Language Pathology*, vol. 11, no. 2, pp.155–70.

McAllister, L, McCormack, J, McLeod, S & Harrison, LJ 2011, 'Expectations and experiences of accessing and participating in services for childhood speech impairment', *International Journal of Speech-Language Pathology*, vol. 13, no. 3, pp. 251–67.

McLeod, S & Harrison, LJ 2009, 'Epidemiology of speech and language impairment in a nationally representative sample of 4- to 5-year-old children', *Journal of Speech, Language, and Hearing Research*, vol. 52, no. 5, pp. 1213–29.

McLeod, S, Verdon, S & Bennetts Kneebone, L 2014, 'Celebrating young Indigenous Australian children's speech and language competence', *Early Childhood Research Quarterly*, vol. 29, no. 2, pp. 118–31.

Nettle, N & Romaine, S 2000, *Vanishing voices: the extinction of the world's languages*, Oxford University Press, New York, NY.

Nguyen, T-K & Astington, JW 2014, 'Reassessing the bilingual advantage in theory of mind and its cognitive underpinnings', *Bilingualism: Language and Cognition*, vol. 17, pp. 396–409.

Ruggero, L, McCabe, P, Ballard, KJ & Munro, N 2012, 'Paediatric speech-language pathology service delivery: an exploratory survey of Australian parents', *International Journal of Speech-Language Pathology*, vol. 14, no. 4, pp. 338–50.

United Nations 2008, *United Nations Declaration on the Rights of Indigenous Peoples*. Geneva, Switzerland, retrieved from http://www.un.org/esa/socdev/unpfi/documents/DRIPS_en.pdf.

Verdon, S & McLeod, S 2014, *Intergenerational language exchange in young Indigenous Australian children*, manuscript in submission.

Turning back the tide of Indigenous language loss: children to the rescue?

Deborah Kikkawa, Department of Social Services

For the majority of the period since white colonisation of Australia, various policies have had the effect of subverting Indigenous Australian languages. Consequently many Indigenous languages have been lost and many others are in danger of being lost.

Although attitudes have changed in the last 50 or 60 years, Australia remains a mono-linguistic country. While speaking an Indigenous language is no longer frowned upon, it is still a struggle for speakers of some languages to use their language and thereby ensure its continuation into the future. The best way to preserve a language is to pass it down to the next generation and encourage communication in that language. The children therefore become an important factor in the continuation of language, and possibly a barometer of the likelihood of language continuation in the future.

Australian Indigenous languages account for 2 per cent of the 7,000 languages spoken throughout the world. Unfortunately they also comprise 9 per cent of the world's critically or severely endangered languages (Forrest 2013). Of the original number of more than 250 known Australian Indigenous languages, only about 145 are still spoken and 110 are critically endangered (<http://arts.gov.au/indigenous/languages>). The children in *Footprints in Time* represent the next generation of Indigenous children to whom the responsibility for the preservation of their languages is being passed.

As such, *Footprints in Time* data may provide an understanding of the context in which Indigenous children across Australia are acquiring Australian Indigenous languages.

This research compares the linguistic abilities of young Indigenous children in *Footprints in Time* with those of their primary carers and describes the linguistic environment in which this generation of Indigenous children are growing up. The data is from Wave 4, a time in the children's lives when all of the older cohort and 60.2 per cent of the younger cohort were in school or an early education program.

In Wave 4 all children are listed as speaking English. For children who use another language at home, some may have been unfamiliar with English until they started school. Others may have heard it more widely used in the community or the media. Some children's knowledge of English may be

limited. The majority of interviews with the primary carers from whom the data about languages was collected were conducted in English (1,178), with 24 conducted in an Indigenous language and 81 in a creole.

For this analysis, creoles are dealt with separately from other traditional Indigenous languages. While the creoles are classified as separate languages and are primarily used for communication by and with Indigenous people, they were not in existence as Indigenous languages in Australia prior to white settlement. They are modern Indigenous languages that reflect the contact with the English language (www.ourlanguages.net.au).

Table 42 shows the numbers and types of languages being spoken by both cohorts of *Footprints in Time* children in Wave 4. Of the 320 children (24.9 per cent of the sample) who speak either a traditional Indigenous language or a creole, 53 speak both a traditional Indigenous language and a creole.

Table 42: Language types spoken by the children in Wave 4

Language type	Number
English/Aboriginal English	1,283
Traditional Indigenous language	204
Creole	169
Foreign language	41
Sign language	4
Total children	1,283

Table 43: Numbers of languages spoken by the children in Wave 4

1	2	3	4	5	6	7
925	285	60	10	1	1	1

Table 43 shows the number of languages children speak; 27.9 per cent speak 2 or more languages to some extent. This is a much higher rate of multilingualism than for Australian children in general (McLeod 2011; Verdon, McLeod & Winsler 2014).

Parental input is critical to the language use of children. Intergenerational transmission is the key path to the children learning Indigenous languages. Children are much more likely to speak or learn an Indigenous language if their parent speaks one (Forrest 2013).

Table 44: Parent and child speakers by language type, number and percentage

Language	Primary carer		Study child	
	Number	per cent	Number	per cent
English	1,225	95.8	1,283	100.0
Indigenous language	229	17.9	204	15.9
Creole	174	13.6	169	13.2
Foreign	36	2.8	42	3.3
Sign	1	0.1	4	0.3
Total	1,279		1,283	

Note: As some people speak multiple languages, percentages do not add up to 100. There were four primary carers in Wave 4 for whom there was no language information.



There are 322 primary carers who speak a traditional Indigenous language and/or a creole. This is 25.9 per cent of primary carers compared with 24.9 per cent of their children. While slightly more primary carers speak a traditional Indigenous language and/or creole at this stage, it should be noted that these children are still young and there is plenty of time for them to learn new languages especially as language learning becomes more common in school in later years. Some children may also lose the ability to speak one or more of their current languages if they move to different linguistic environments.

Information about the specific languages spoken by the respondents is collected and is used to derive variables for the dataset such as the language type and dominant languages of respondents. Due to the nature of the clustering of languages, the release of language names could potentially result in the identification of respondents. For that reason, individual language names are not made publicly available in the datasets. Language names have been used in this analysis to determine the extent to which endangered languages are being spoken. However, languages are not identified by name and are labelled using a letter of the alphabet.

In total, *Footprints in Time* children speak 52 traditional Indigenous languages and 2 creoles. Linguistic databases—AUSTLANG and Ethnologue (www.austlang.aiatsis.gov.au, www.ethnologue.com)⁴⁰—were used to identify which languages spoken by *Footprints in Time* children are classified as no longer being spoken, critically endangered or having very few speakers. There are 37 languages spoken by the children that fall into this category. These languages are spoken by 106 children, accounting for 8.3 per cent of the total Wave 4

Table 44 compares the number and percentage of parents and children speaking each type of language.

While all children speak English, even if only to a minimal degree, there are at least 54 children who are living in households in which their primary carer does not speak English. There were 105 children (around 8 per cent of the sample) whose primary carers were interviewed in a traditional Indigenous language or creole, suggesting low levels of English proficiency.

40 Although they use different classifications, both databases were used as neither contained details about all the different languages spoken by the children.

sample. Of these, five children speak two of these languages and one child speaks three.

For each language that the primary carer or child speaks, the primary carers are asked whether they 'speak it as their main language', 'speak alright' or 'speak some words only'. This question is used to determine the child's and primary carer's dominant language. The dominant language is counted as the language or languages that are spoken to the greatest degree. In the dataset, this is categorised as English, an Indigenous language or equally fluent in both. There are 39 children for whom it was not possible to determine their dominant language. For this analysis, creoles have been separated from traditional Indigenous languages to create two additional categories—creole and equally fluent in English and a creole.

English is most prevalent as the dominant language for both primary carers (74.3 per cent) and children (84.7 per cent). This means that about one-quarter of the primary carers and around 15 per cent of the children are dominant in an Indigenous language (either traditional or creole).⁴¹ After English, primary carers are most likely to speak both English and an Indigenous language equally fluently (13.8 per cent compared to only 1.5 per cent of children), while children are more likely to speak a creole as their dominant language (5.6 per cent compared with 3.1 per cent of their parents). Just over 3 per cent of both parents and children speak a traditional Indigenous language as their dominant language.

Forrest (2013) found that the probability of children learning or speaking an Indigenous language was highest (0.81) when their parents spoke both

English and an Indigenous language equally fluently compared to being dominant in an Indigenous language (0.65) and dominant in English (0.31).

Many of the 52 languages spoken by the children are only spoken by one or two, which makes it difficult to draw any conclusions about patterns of transfer and use within languages. However, there are a few languages that have a large enough number of speakers. Table 45 shows the number of children speaking each of the nine most commonly spoken creoles and traditional Indigenous languages by the dominant language of the child. The remainder of the children who speak those languages did not speak them as a dominant language or there is no information about the level of ability in that language.

Speakers of creole A and language C are most likely to speak that language as their dominant language, suggesting it is most likely the language of the community. Speakers of creole B are most likely to be equally dominant in that language as well as English, suggesting that English is widely used in the community.

Languages E to I are all endangered, so it is perhaps not surprising that there are only a few speakers who are dominant in those languages.

Languages spoken by the parents play a particularly important role in determining which languages children learn and the extent to which they speak them. Children are most likely to adopt the language used by their parents. If only one parent speaks a language, children are most likely to use the language used between the parents to

Table 45: Children's dominant language by specific Indigenous language, number

Language	Total number of study children speakers	Dominant in this language	Equally dominant in English	Dominant in English
Creole A	88	64	7	3
Creole B	84	5	55	17
Language C	38	26	9	2
Language D	31	12	2	16
Language E*	23	0	1	1
Language F*	15	0	1	2
Language G*	9	2	4	0
Language H*	8	0	4	4
Language I*	7	0	2	4

*Endangered languages.

41 None were dominant in a foreign or sign language.

communicate (De Houwer 2007). This analysis is limited to language use of the primary carer only and does not include the interplay of languages within the two-parent relationship. Table 46 compares the knowledge of the nine languages from Table 45 by primary carers and their children.

The two creoles have a high level of both primary carer and child speaking the language. However, for some of the languages there is a surprisingly low overlap of both primary carers and children speaking it. This may be due to children speaking only a few words of the language, which they have

learned outside the home (e.g. such as from school or a friend) or primarily speaking the language with another family member such as their father or grandparents.

Languages C and G have particularly high proportions of primary carers speaking the language with their child. It is interesting to note that languages A, C, D, F and H have more children than primary carers speaking them. This suggests that children speaking these languages are not necessarily reliant on their primary carer for the acquisition of those Indigenous languages.

Table 46: Language use common to primary carers and their children

Language	Total number of primary carer speakers	Total number of child speakers	Both primary carer and child speakers
Creole A	80	88	71
Creole B	94	84	63
Language C	31	38	29
Language D	23	31	21
Language E	33	23	12
Language F	6	15	4
Language G	11	9	9
Language H	1	8	0
Language I	9	7	3





Table 47: Who children are speaking Indigenous languages with, per cent

Language	Everyone	Parents	Grandparents	Other family	Friends	Teacher	Total Number
A	90.9	6.8	4.5	2.3	1.3	0.0	88
B	22.9	73.5	66.3	69.9	50.6	1.2	83
C	0.0	97.4	97.4	100.0	92.1	5.3	38
D	38.7	41.9	32.3	48.4	9.7	16.1	31
E	14.3	66.7	52.4	9.5	0.0	4.8	21
F	57.1	7.1	28.6	14.3	0.0	7.1	14
G	88.9	0.0	11.1	11.1	0.0	0.0	9
H	37.5	0.0	12.5	0.0	37.5	50.0	8
I	71.4	14.3	28.6	0.0	0.0	0.0	7

Note: A and B are creoles, C–I are traditional Indigenous languages.

Table 48: Preferred method of delivery by level of relative isolation, per cent

Preferred delivery method	Urban/low	Moderate/high/extreme	Total
As a main language	0.6	2.5	1.0
In a bilingual program	21.5	62.2	31.2
As a compulsory second language	9.8	11.4	10.2
Available as a second language	58.6	17.9	49.0
No	9.4	6.2	8.7

For each language, primary carers are asked about who the child speaks that language with. In response to this question, respondents either selected ‘everyone’ or a combination of other people. The totals in Table 47 don’t always match previous tables as information about who the child speaks with may be missing. Higher numbers in ‘everyone’ suggest that the language is more broadly community based.

Creole A appears to be much more widely spoken throughout the community in contrast to creole B, which seems to be spoken more within the family group. Language C is spoken within the family and friends context but not within the community.

Language D seems to be both family and community based. It also has a relatively high number of children (5) speaking with the teacher. These children are all in the one area. This particular language also has the highest number of children learning it at primary school.

Language E seems to be more family based than community based.

The smaller numbers of speakers make it more difficult to draw conclusions about the other languages. Languages F and G seem to be spoken more widely in the community rather than

restricted to the family. Language H is the third most commonly learnt language in school, so it is understandable that half the children speak it with their teacher.

In addition to learning Indigenous languages in the family and community setting, children have increasing opportunities to learn Indigenous languages at school. The majority of children in the *Footprints in Time* sample are as yet in lower primary school, where there is a greater emphasis on learning English than on learning other languages. However, some children are already learning other languages and parents were asked their preferences for the role that Indigenous languages should play in the education of their children.

In Wave 3, parents were asked whether and how they would like their children to learn an Indigenous language at school. Table 48 shows how important primary carers consider Indigenous languages to be for their child’s education and shows the difference between attitudes of parents in urban and more remote areas.

In most Australian schools the main language of instruction is English, with other languages playing a lesser role. Overall most parents (91.3 per cent) support having Indigenous languages in the

Table 49: Number of children learning to write in an Indigenous language

Language	Yes	Not yet	No—not going to learn	Total
Creole A	7	25	6	38
Creole B	7	22	14	43
Language C	22	2	0	24
Language D	2	2	5	9
Language E	0	10	1	11
Language F	2	3	1	6
Language G	3	0	1	4
Language H	3	0	0	3
Language I	1	0	1	2

Note: Total numbers include only those children for whom there is data about whether they read and write.

curriculum but very few want it as the main language of instruction (1.0 per cent), which suggests Indigenous primary carers in *Footprints in Time* consider English to be important for children's outcomes. However, the preferred method of delivery varies considerably depending on the level of isolation. Primary carers in communities in areas of lower relative isolation (which also have a lower incidence of Indigenous language speakers) are more likely to prefer languages offered as a second language compared with primary carers from areas of high isolation, who prefer to have languages delivered through a bilingual program. Primary carers in areas of higher isolation were also more likely to support having Indigenous languages included in the curriculum (97.5 per cent compared with 90.6 per cent). When asked about their top five cultural priorities to pass on to their children, 30.1 per cent of parents nominated speaking an Indigenous language (27.3 per cent in areas of lower isolation and 38.9 per cent of parents in areas of higher isolation). *Footprints in Time* primary carers are much more likely to support more intensive language programs if the child or parent speaks an Indigenous language.

In Wave 5, primary carers were asked whether the child is learning an Indigenous language at school and if so, which one. A total of 106 responded that the child is learning an Indigenous language but some went on to name 'Aboriginal English' or 'local Aboriginal language'. Of the children who were attending school and whose parent knew whether they were learning an Indigenous language, 9.3 per cent were learning one or more Indigenous language. Parents listed about 30 different languages that children were learning at school. This compares to 6.4 per cent learning a foreign

language. Not surprisingly, these numbers are clustered within communities and may therefore not be representative of Indigenous language learning in schools across Australia. Of the top nine most spoken languages discussed previously, 19 children were learning language D, 16 were learning language F and 10 were learning language H in school.

In the past traditional Indigenous languages relied on verbal communication rather than written communication. However, ways of expressing some of these languages in written form have developed over time and some of the children in *Footprints in Time* are learning not only to speak but also to write in their Indigenous languages. The questions about whether the child is learning to write in an Indigenous language were only asked about children in the older cohort. Unfortunately, this only gives us information about small groups of children and there are only sufficient numbers of children to look at the patterns in the two creoles and language C (see Table 49). Overall 52 children were learning to read and write in an Indigenous language.

Many of the children had not started to learn to read or write in their language but the intention of the parents at least is that they will at some stage in the future. The exception is language C, which most of the children had already started learning to read and write.

Conclusion

After the losses of the previous two centuries, the process of re-establishing Indigenous languages has a long way to go, and for some languages, it is already too late. However, the old adage 'better late than never' is fitting here and the *Footprints in Time*

data suggests that Indigenous languages do not appear to be dying with this generation. The data shows that more than 8 per cent of the children in the sample speak an Indigenous language considered to be critically endangered. The best scenario now and into the future is that the children will help to reinvigorate some languages. We will be able to examine this with later waves of data.

Overall, nearly a quarter of the children in the sample speak an Indigenous language (traditional or creole) to a greater or lesser extent. While children continue to learn languages from their parents they also have other opportunities to learn from other community members and at school. Even at the early stage of schooling for the *Footprints in Time* children in Wave 5, more children are learning Indigenous languages than foreign languages. Primary carer support for learning Indigenous languages is also strong and children have opportunities to learn Indigenous languages.

References

Attorney General's Department, Ministry for the Arts National Indigenous Languages Policy website available at <http://arts.gov.au/indigenous/languages>.

Australian Indigenous Languages Database available at www.austlang.aiatsis.gov.au,

Ethnologue Languages of the world available at www.ethnologue.com.

De Houwer, A 2007, 'Parental language input patterns and children's bilingual use', *Applied Psycholinguistics*, vol. 28, pp 411–24.

Forrest, W 2013, The intergenerational transmission of Indigenous languages, presentation at the LSAC–LSIC Conference, Melbourne, 13-14 November 2013.

McLeod, S 2011, 'Cultural and linguistic diversity in Australian 4- to 5-year-old children and their parents', *Journal of Clinical Practice in Speech-Language Pathology*, vol. 13, no. 3, pp. 112–19.

Our languages website available at www.ourlanguages.net.au.

Verdon, S, McLeod, S & Winsler, A 2014, 'Language maintenance and loss in a population study of young Australian children', *Early Childhood Research Quarterly*, vol. 29, pp. 168–81.



The impact of multiple disadvantage on children's social and emotional difficulties

Deborah Kikkawa, Department of Social Services

Using the Longitudinal Study of Australian Children (LSAC) and *Footprints in Time*, a comparison of social and emotional difficulties scores for Indigenous and non-Indigenous children shows that Indigenous children on average have much higher levels of difficulties. Indigenous children also experience a disproportionate level of disadvantage. This research examines the extent to which disadvantage affects social and emotional outcomes for Indigenous and non-Indigenous Australian children.

There is no generally accepted definition of disadvantage, although there are certain elements that are common in definitions and measures across a wide range of studies and publications. In the report 'How Australia is faring', the multiple disadvantage headline indicator is defined as 'the proportion of people aged 18 to 64 years experiencing three or more of six disadvantages' (Australian Social Inclusion Board 2012). The six disadvantages are across three domains: economic (joblessness, low income), social (inability to get support in a crisis, feeling unsafe at home after dark) and personal (low educational attainment, poor health) (Australian Social Inclusion Board 2012). Using this measure, there were around 640,000 Australians (or 4.6 per cent of the Australian population) who experienced multiple disadvantage in 2010 (Australian Social Inclusion Board 2012).

But are these measures of disadvantage relevant in relation to developing policies to address the gap in social and emotional wellbeing between Indigenous and non-Indigenous children?

Low educational attainment is an often-cited indicator of disadvantage. However, in 2010 people experiencing multiple disadvantages were more likely to have completed their Year 10 School Certificate or equivalent than people in 2006 were (Australian Social Inclusion Board 2012). Clearly, the goal posts are changing; higher education is no longer the advantage it was in protecting against disadvantage. Low educational attainment is also commonly cited as having an adverse effect on child outcomes. However, data from *Footprints in Time* has shown that when other factors are accounted for, the primary carers' level of education does not have a significant association with social and cognitive outcomes for Indigenous children. Conversely, a family member reading to the child contributes to a positive outcome, suggesting it is a matter of what parents do rather than what parents

know that plays a significant role in their children's outcomes (FaHCSIA 2013).

Another commonly accepted disadvantage indicator is low income. However, analysis from the Household, Income and Labour Dynamics in Australia (HILDA) Survey has shown that, although the two are often linked, low income does not necessarily equate to financial stress. For example, a pensioner may have low income but their fixed expenses (such as mortgage repayments) are likely to be less and therefore they may not experience financial stress (Wilkins et al. 2006).

It seems that circumstances that are generally accepted to lead to poor outcomes are not necessarily good predictors of poor outcomes occurring for children in *Footprints in Time*. So how does multiple disadvantage drive poor social and emotional outcomes for children and why do some children have good outcomes despite experiencing multiple disadvantage?

This article examines whether the various measures of disadvantage are associated with the social and emotional wellbeing outcomes of Indigenous and non-Indigenous children in Australia, as represented by *Footprints in Time* and LSAC.

Methodology

This analysis uses cross-sectional and longitudinal data from the first four waves of LSAC and *Footprints in Time*. At the time of Wave 4, LSAC children in the younger cohort and *Footprints in Time* children in the older cohort were both aged around 6 to 7 years. This gives a sample size of 4,242 in LSAC and 534 in *Footprints in Time*.

Children's social and emotional wellbeing is measured using the Strengths and Difficulties Questionnaire (SDQ) (Goodman 2012). It allows attribution of a score across five domains of social and emotional wellbeing: emotional symptoms, conduct problems, hyperactivity, peer problems and prosocial behaviour. The first four domain scores are added together to provide an overall social and emotional difficulties score out of 40. Higher scores indicate greater levels of difficulties. The fifth scale is a measure of the child's social skills and provides a score out of 10 (refer to Appendix B for further information).

Due to the design and weights applied to the LSAC data, it is representative of the Australian population. The *Footprints in Time* data, on the other hand, was not designed to be representative. The total *Footprints in Time* sample includes about

5 per cent of the Australian Indigenous children in this age group.

All children in *Footprints in Time* are identified by their primary carer as being Aboriginal, Torres Strait Islander or both. However, their primary carer may be neither. The LSAC sample also includes some children identified as Aboriginal or Torres Strait Islander. These have been removed from the LSAC data for the purposes of this analysis.

The measures of disadvantage are defined within both datasets as follows:

- **SEIFA** (Socio-economic Index for Areas—Advantage and Disadvantage) is a measure that allows comparison across all geographic areas in Australia in terms of advantage and disadvantage.
- **A jobless household** is one in which neither the primary carer or, where applicable, their partner have a job at the time of the Wave 4 interview.
- **Financial stress** is a measure derived from 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. ‘Yes’ responses are then added to give a total financial stress indicator. For this analysis, any family experiencing one or more indicator is considered to have experienced financial stress.
- Being a **single parent** has been defined as the primary carer not having a partner in the household. It should be noted that this does not necessarily mean that there are no other adults in the household, and that partners in a household are not necessarily the study child’s biological, foster or adoptive parent.

- **Low educational attainment** has been defined as having attained a level of education of Year 11 or below and not attained any subsequent qualifications.
- **Poor health** is based on a global health question asking primary carers how good they believe their health to be. Primary carers who rated their health as fair or poor as opposed to good, very good or excellent are considered to have poor health.
- For *Footprints in Time*, **low income** is defined as receiving \$600 a week or less after deductions are taken out. For LSAC, the cut-off is the same but is based on household income before tax. Therefore, the cut-off for low income in LSAC has been set at \$670 to provide a net of \$600.⁴²

While the number of children in the household is not necessarily seen as a measure of disadvantage, it does highlight the need for increased financial resources. The LSAC measure includes the number of siblings in the household (with one added for the study child) and the *Footprints in Time* measure is the total number of children (anyone under 16 years) in the household.

Results

The following table clearly shows that *Footprints in Time* children experience much higher levels of disadvantage than the LSAC children. The results for the Socio-Economic Indexes for Areas (SEIFA) Advantage and Disadvantage reinforce that LSAC is representative of the overall population. However, *Footprints in Time* children are over-represented in the lower half of the population with 80 per cent living in areas in the bottom 5 SEIFA deciles.

Table 50: Percentage of children experiencing different types of disadvantage

Measure of disadvantage	LSAC	<i>Footprints in Time</i>
SEIFA Advantage & Disadvantage (bottom 5 deciles)	50.1	80.0
Jobless household	11.1	39.4
Financial stress	21.6	45.0
Single parent primary carer	16.3	39.0
Low educational attainment of primary carer	43.3	56.1
Poor health	8.4	13.5
Low income (<\$600 net per week)	13.4	41.9
Age of primary carer, years	37.3	35.1
Average number of children in household	2.6	3.1

⁴² This was calculated using www.paycalculator.com.au.

Table 51: Average scores for Strengths and Difficulties Questionnaire

Domains	LSAC	<i>Footprints in Time</i>
Emotional symptoms	1.7	2.7
Conduct problems	1.5	2.6
Peer problems	1.3	2.1
Hyperactivity	3.5	4.7
Total difficulties	8.1	12.2
Prosocial behaviour	8.4	8.7

Table 52: Association of measures of disadvantage on children's SDQ difficulties scores

Measure of disadvantage	LSAC	<i>Footprints in Time</i>
SEIFA Advantage & Disadvantage (bottom 5 deciles)	0.80***	1.17
Jobless household	1.34***	0.26
Financial stress	1.52***	1.74***
Single parent primary carer	1.26***	-0.26
Low educational attainment of primary carer	0.94***	0.43
Poor health of primary carer	1.68***	2.55***
Low income (<\$600 net pw)	-0.17	0.48
Number of observations ⁴³	3,799	437
Adjusted R ²	0.0829	0.0471

***p<0.001; **p<0.01; *p<0.05.

On average, *Footprints in Time* children also live in households with greater numbers of children and have primary carers who are younger than their LSAC counterparts.

Using scores from the Strengths and Difficulties Questionnaire (SDQ), Table 51 compares the average social and emotional difficulties scores in each domain for children in both studies. Note that each domain is a score out of 10. Each domain has a different level that is considered to be normal. The SDQ is used worldwide and norms have been developed for each country. Australia's norms are based on a cohort from Victoria and, while the cohort may have included Indigenous children, there are no norms specifically developed for Indigenous children. While the norms are used in this research, we note that there is no guidance on how accurately they reflect difficulties in Indigenous populations. With that caveat in mind, all average scores in Table 51 are within the Australian norms. Children with total difficulties scores of 13 and below are considered to be in the 'normal' range so while both groups are on average within this range,


the *Footprints in Time* children tend to have greater levels of social and emotional difficulties.

Overall, children in *Footprints in Time* experience much higher levels of difficulties than do children in LSAC. Yet despite this, children in *Footprints in Time* have slightly higher average prosocial scores than children in LSAC. Prosocial behaviour includes being considerate, sharing and being helpful and kind.

Bivariate ordinary least squares (OLS) regression with each of the measures of disadvantage shows a significant association with difficulties scores for all of the measures in LSAC. In contrast, for *Footprints in Time* difficulties scores only demonstrate a statistical significance for low socio-economic status, living in a jobless households, experiencing financial stress, poor primary carer health and low income. Having a primary carer who is a lone parent or has a low level of education is not significantly related to children's difficulties scores.

Table 52 shows the results from a multiple OLS regression model for each study using all the disadvantage measures shown in Table 50. No other control variables are included.

⁴³ Lack of significance for *Footprints in Time* may be partially explained by the relatively small sample size; however, variables for the single parent primary carer and low educational attainment are not significant even in the bivariate models, suggesting that the smaller sample size is not the only explanation.



The numbers show the average change in scores of children experiencing that type of disadvantage and the stars indicate that the difference is statistically significant. That is, in LSAC a child living in an area in the bottom 5 SEIFA deciles has an average difficulties score of 0.80 points higher than a child living in an area in the top 5 deciles. Of the seven variables, six are significant for LSAC but only two are significant for *Footprints in Time*. Remembering that increases in SDQ scores reflect greater levels of difficulties, the results suggest that the presence of all but one of the measures of disadvantage (low income) are associated with increased social and emotional difficulties for LSAC children. The effect of low income is likely to have been moderated by the inclusion of other variables such as joblessness, financial stress and SEIFA. The greatest increases in scores are associated with poor health of the primary carer and financial stress, which are the only two measures that also have a significant association with social and emotional difficulties scores in *Footprints in Time*. The effect size is also greater for *Footprints in Time* children than it is for LSAC children. This means that these two disadvantages are associated with larger increases in difficulties score for *Footprints in Time* children than for LSAC children.

This difference between the two groups in the number of significant indicators may be due to the comparatively high proportion of children living with these disadvantages. If everyone around a child lives with similar levels of disadvantage, that child may not recognise the particular circumstance as a disadvantage. Redmond and Skattebol (2014) found that children's experience of poverty does not concern a lack of things but exclusion, especially from participation in activities and events that other young people take for granted.

These results suggest that either these measures of disadvantage do not have the same effect on social and emotional difficulties scores for non-Indigenous and Indigenous children or they do not capture the effect for Indigenous children.

Conclusion

While many of the disadvantage indicators used to target those in need of economic buffering and additional services do indeed have an impact on the social and emotional wellbeing of Australian children in general, the same cannot be said of Indigenous children. This suggests that policies aimed at counteracting these disadvantages directly may not have a positive impact in reversing the high levels

of social and emotional difficulties experienced by Indigenous children.

While many of the circumstances used as indicators of disadvantage are likely to lead to worse social and emotional outcomes for children, it is generally due to the experience of the negative events they can trigger rather than the presence of the circumstances themselves. For example, low-income levels may lead to financial stress, which can in turn have negative effects on the child's social and emotional wellbeing. However, if financial stress is not actually experienced due to, for example, the parent's ability to budget or receiving services in kind, the negative impact is less likely to occur due to low income. Additionally, if children are not being 'left out' through not having a similar standard of living or not being able to join in the same activities as their peers, low income is not likely to be recognised by them as a disadvantage and therefore unlikely to be associated with changes in their social and emotional wellbeing.

References

Australian Social Inclusion Board 2012, *How Australia is faring*, 2nd edn, Department of Prime Minister and Cabinet, Canberra.

Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2013, *Footprints in Time: The Longitudinal Study of Indigenous Children Key Summary Report from Wave 4*, FaHCSIA, Canberra.

Goodman, R 2012, SDQ: scoring the SDQ, accessed from <http://www.sdqinfo.org/py/sdqinfo/c0.py>.

Redmond, G & Skattebol, J (2014) 'Filling in the details – Significant events and economic disadvantage among young people in Australia', *Zeitschrift für Pädagogik*, 60(4) pp. 552-568.

Wilkins, R, Warren, D, Hahn, M & Houg, B 2006, *Families, Incomes and Jobs, Volume 8: A Statistical Report on Waves 1 to 8 of the Household, Income and Labour Dynamics in Australia Survey*, University of Melbourne, Melbourne.

Multiple disadvantage and major life events

Deborah Kikkawa, Department of Social Services

Many of the circumstances frequently used as measures of disadvantage are associated with worse social and emotional outcomes for children. However, this is generally due to the negative experiences or events such circumstances can trigger. For example, low income only has a negative impact if it leads to financial stress.

The article 'Major life events' in Part A showed that Indigenous children experience more of these events, and have much higher levels of social and emotional difficulties, than non-Indigenous children. This analysis examines the relationship between the experience of major life events and children's social and emotional outcomes.

A 'major life event' is any event that can have a substantial impact on a person's wellbeing (Wilkins & Warren 2012). While these types of events are not necessarily regarded as negative, unwelcome or unexpected, they are generally accepted as having an impact nonetheless. They may also be perceived differently by each member of the household. Some of these events—such as births, deaths and marriages—are related to the normal human life cycle while others—such as the loss of a job, leading to possible financial hardship or social isolation—can be regarded as environmental stressors.

A great deal of research, especially in the area of mental health, has been done on negative adult outcomes that have their origins in childhood (e.g. Green et al. 2010). However, if events that occurred during childhood can have a negative impact years after they occur, it is likely that they also had a negative impact at the time.

In the report *Deep and persistent disadvantage in Australia* (McLachlan, Gilfillan & Gordon 2013), the Productivity Commission notes that 'what distinguishes high-risk children from other children is not exposure to a specific risk factor but rather a life history characterised by multiple familial disadvantages'. The report also states that 'following the same people over a number of years is critical to understanding deep and persistent disadvantage' and that 'few [surveys] ask questions about ... critical life events' (McLachlan, Gilfillan & Gordon 2013).

As well as measuring children's social and emotional wellbeing, both the Longitudinal Study of Australian Children (LSAC) and *Footprints in Time* ask primary carers about the major life events they have experienced over the previous 12 months.



Because these questions are asked in every wave, it is possible to examine the extent to which children are being exposed to these events, both individually and in combination. Note, however, that the number of times the type of event has occurred is not asked. Therefore it is only possible to analyse whether a child has experienced an event during a wave, but not how often that child has experienced it.

Zubrick and colleagues (2005) found that children in the Western Australian Aboriginal Child Health Survey (WAACHS) who had experienced up to two major life events during the previous twelve months had a 15 per cent chance of developing clinically significant social and emotional difficulties. This rose to 25 per cent for children who had experienced three to six major life events and 42 per cent for children who had experienced seven or more.

Methodology

This analysis uses data from Waves 1 to 4 of both LSAC and *Footprints in Time*. The outcome variable for this analysis is the social and emotional difficulties score described in the previous article (see page 78).

WAACHS used a series of 14 questions upon which the findings of Zubrick et al. (2005) are based. While both LSAC and *Footprints in Time* also ask questions about the major life events families experienced during the previous year, the number of questions, the wording and the people being asked about mean that not all questions are directly comparable. The first step, therefore, is to create a comparable set of indicators. Table 53 compares



Table 53: Major life events in LSAC and *Footprints in Time*

LSAC	<i>Footprints in Time</i>
Pregnancy or birth of a baby to P1 or P2*	Pregnancy or birth of a baby to P1 or P2
Injury, illness or assault to P1 or P2	P1 or P2 has been badly hurt or sick
Injury, illness or assault to other close relative	Other close family member has been badly hurt or sick
Parent, partner or child died	Death of a close family member or friend in the household
Close family friend or another relative died	Death of a close family member or friend not in the household
P1 or P2 lost their job	P1 or P2 lost their job
Had a major financial crisis	Family had serious money worries
Moved house in the last two years	Moved house in the last year
Someone in the household had a drug or alcohol problem	Someone in the household had a drug or alcohol problem
Something valuable was lost or stolen	Someone in the household has been mugged, robbed or assaulted
P1 or P2 had problems with the police and a court appearance	P1 or P2 has been arrested, in jail or had problems with the police
Separated from spouse or partner	Any of the child's carers left because of a family split

*P1= primary carer; P2=secondary carer (usually P1's partner)

the set of 12 variables developed from the two studies. The differing wording of the questions may have had an impact on the response rates.

LSAC interviewing only takes place every two years, and *Footprints in Time* interviews take place annually. However, in both studies, the questions (except for the LSAC question about moving house, see below) relate to events that took place during the 12 months prior to interview.

One of the greatest differences is in the questions identifying whether a family member was the victim of a crime: the *Footprints in Time* question has a stronger emphasis on being the victim of personal violence whereas the LSAC question deals more with property loss. In LSAC, the event relating to personal violence has been included in the question about illness.

In relation to housing, LSAC families were asked if they had moved in the last two years. The *Footprints in Time* question about housing includes problems with the house itself, and overcrowding, as well as whether the family has moved. These three elements were not addressed separately until Wave 4. Therefore, in order to make the questions in the two studies more comparable, the data for *Footprints in Time* is derived from a different question about whether the study child is living at the same address as the previous interview, rather than the major life events question.

In Wave 1 of LSAC, the younger cohort was not asked about pregnancy or the birth of a baby, or about whether the family had moved house, as the

children were only 6 to 18 months old at the time. These questions were, however, included for the *Footprints in Time* children as they were older at the time of the first wave.

The resulting sets of 12 major life events are reasonably comparable and, with the exception of pregnancy, birth and moving house, were included in both surveys in all four waves. However, it should be borne in mind that the different wording of the questions in the two studies may be responsible for some of the differences in results.

Results—major life events

Tables 54 and 55 show the percentage of major life events experienced in each wave by children present in Wave 4. The number of major life events has been divided into two categories; 'low' for two or fewer events in one year, and 'high' for three or more. Zubrick and colleagues divided the second category further, into 'medium' for three to six events and 'high' for seven or more. However, as previously noted, 14 events were included in the WAACHS analysis. Only 12 have been used in this analysis, and the numbers experiencing 7 or more are very low. Both LSAC and *Footprints in Time* ask about other major life events that have not been included here, as they are not available in both studies.

The tables show that *Footprints in Time* children experience a much higher number of major life events than LSAC children. Analysis using a broader range of event types has shown that

Table 54: Prevalence of major life events by wave in LSAC, per cent

Wave	Low (0–2)	High (3+)
1	92.8	7.2
2	90.7	9.3
3	93.5	6.5
4	86.8	13.2

around 10 per cent of children in *Footprints in Time* experienced seven or more major life events each year over three years (FaHCSIA 2012).

LSAC does show an increase in the percentage of children experiencing higher numbers of major life events in Wave 4, although this is still well below the level experienced by children in *Footprints in Time*. There is no clear reason for this increase; there are increases in about half the events across the years but generally these are not large. Further waves of data will help to determine whether this is an anomaly or the beginning of a trend.

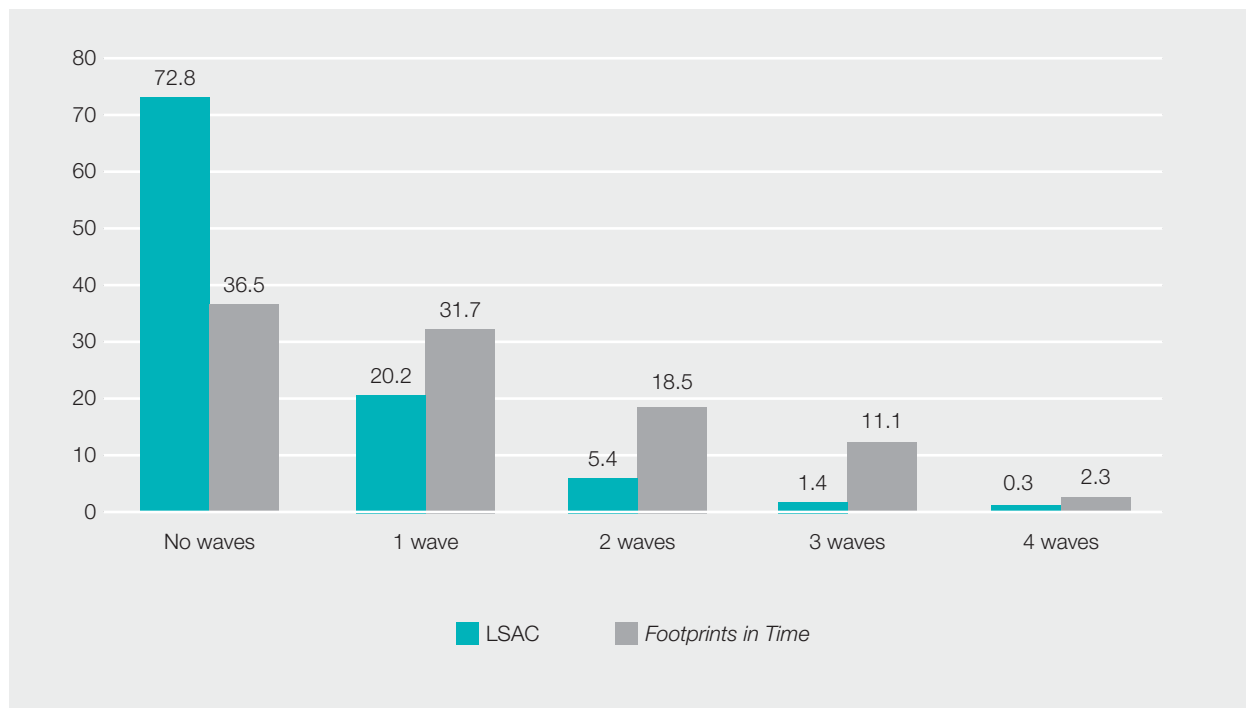
Table 55: Prevalence of major life events by wave in *Footprints in Time*, per cent

Wave	Low (0–2)	High (3+)
1	73.8	26.2
2	74.2	25.8
3	70.8	29.2
4	70.4	29.6

Figure 11 shows the experience of multiple major life events over time. It shows the proportion of children experiencing three or more events by the number of waves, and highlights the fact that—as well as experiencing more major life events in each year—proportionately more children in *Footprints in Time* are experiencing high numbers of events on an ongoing basis.

Nearly three-quarters of the LSAC children experienced no more than two events in any of the four years and only 0.3 per cent experienced three or more events in each year. In contrast, just over one-third of the *Footprints in Time* children were in the ‘low’ category in each year and 2.3 per cent experienced three or more events in each year.

Figure 11: Experience of three or more events by number of waves, per cent





Results—effects of major life events on children’s social and emotional outcomes

The results reported above show that Indigenous children have higher social and emotional difficulties scores and experience high numbers of major life events over a sustained period of time. This next section examines whether the experience of specific and multiple major life events is associated with increases in social and emotional difficulties, as measured by the ‘Strengths and Difficulties Questionnaire’ (SDQ) (Goodman 2012).⁴⁴

A bivariate regression model of the number of waves in which three or more events were experienced against social and emotional difficulties scores found that:

- LSAC children who experienced three or more events in one wave had average social and emotional difficulties scores 1.2 points higher than those who had never experienced three or more events, and those who experienced three or more events in two or more waves had average scores 2.6 points higher.

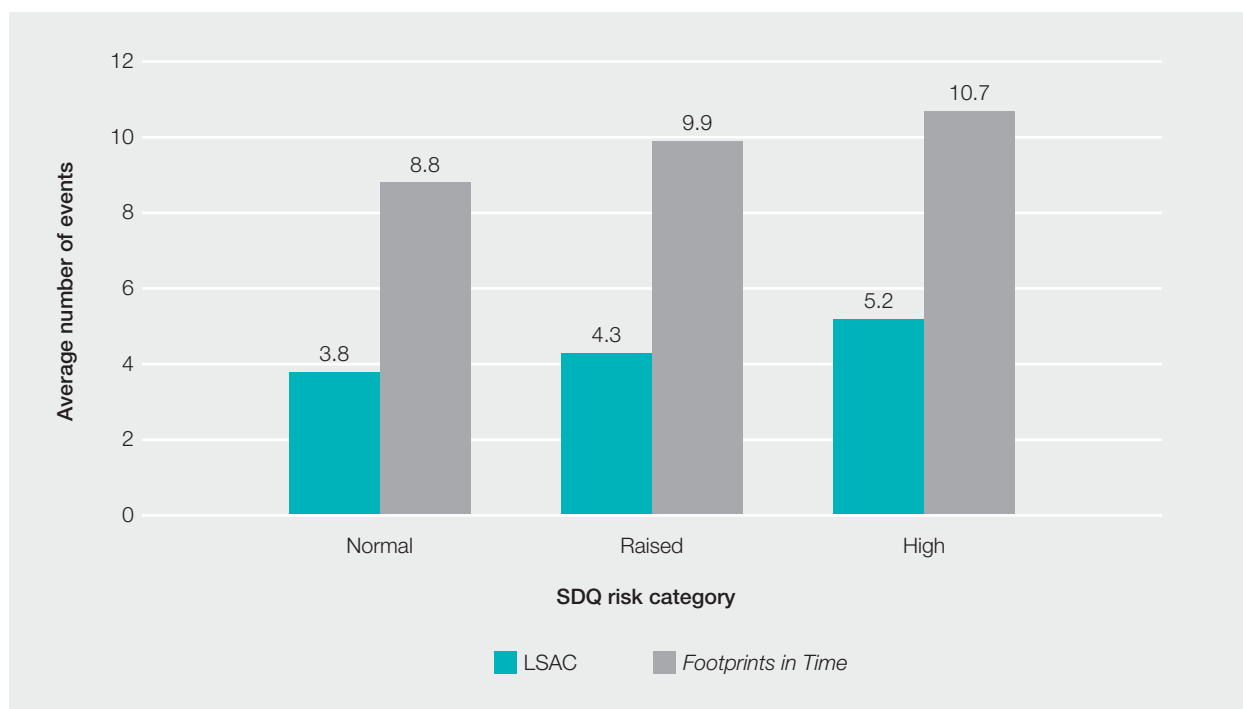
- *Footprints in Time* children who experienced three or more events in any number of waves (i.e. one or more) had average social and emotional difficulties scores 2.1 points higher than if they had never experienced three or more events.

Figure 12 shows the average number of major life events experienced across the four waves by children’s likelihood of developing social and emotional difficulties as measured by the total difficulties score categories in Wave 4.⁴⁵ Children who have higher total difficulties scores have experienced higher average numbers of major life events. There is no statistical difference in *Footprints in Time* between the ‘raised’ and ‘high’ risk categories, but these two categories combined are statistically different from the ‘normal’ category ($p < 0.001$). For LSAC, all three risk categories are statistically different. In all three risk categories, the average number of events experienced by *Footprints in Time* children is higher than for LSAC children. However, regardless of the starting point, an increase in major life events is associated with an increase in average social and emotional difficulties scores for children in both studies.

⁴⁴ For more information about this measure, refer to Appendix B.

⁴⁵ The ‘normal’ category for SDQ includes scores of 13 or below. The ‘raised’ category includes scores of 14 to 16 and the ‘high’ category includes scores of 17 or above.

Figure 12: Average number of major life events over four waves by SDQ risk categories



One of the most interesting results of this analysis is that when numbers of events experienced are converted into a proportion of the events that could have been experienced, it can be seen that a 1 per cent increase in experience of major life events over the four-year period was associated with a 0.169 point ($p < 0.01$) and 0.167 point ($p < 0.01$) increase in social and emotional difficulties scores for children in LSAC and *Footprints in Time* respectively. This suggests that an increase in major life events is associated with the same magnitude of increase in social and emotional difficulties for both groups.

Results—impact of primary carer’s mental health

While the average social and emotional difficulties scores of children increase with a higher experience of major life events, there are some children who have experienced high numbers of major life events but do not have high difficulties scores. This may be due to a number of factors, including those inherent to the child—such as personality type and resilience. It is also likely that some external factors can have an offsetting, or positive, effect. This analysis examines the impact of the primary carer’s mental health in offsetting the impact of high numbers of major life events.

Primary carer’s mental health in LSAC is measured using the Kessler 6 scale. It consists of six questions about how the person has been feeling over the previous four weeks, and provides a continuous score of between one and five. The questions are:

In the past 4 weeks, how often did you feel:

1. Nervous?
2. Hopeless?
3. Restless or fidgety?
4. That everything was an effort?
5. So sad that nothing could cheer you up?
6. Worthless?

Primary carer’s mental health in *Footprints in Time* is measured using a series of seven questions with a reference frame to the previous three months. Each question is measured on a four-point scale with a possible total score range between 0 and 21, with higher scores reflecting better mental health. The questions are:



In the last three months

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

Given the different wording of the two measures, is it appropriate to use them to compare the effect of the primary carer’s mental health on outcomes for the two different groups of children? Conceptualizations and experiences of mental health have been internationally recognized as being strongly influenced by culture. The experience of disorders and depression are universal but the triggers, symptoms and understanding of these disorders vary among cultures (Thomas et al. 2010). However, while essentially measuring social and emotional wellbeing, the different measures do take account of the cultural differences that exist

for most respondents in each group. Additionally, the measures are not used to compare the two groups, but only to compare respondents within each group. Therefore, the differences between the measures used in the two studies should not invalidate the results of the analysis.

For this analysis, primary carers’ mental health scores have been divided into three approximately equal groups or terciles. Note that primary carers in the bottom third do not necessarily have poor mental health; it is simply poorer in comparison with the other respondents in the sample. Due to the relatively small spread of mental health scores (the majority fall between 4 and 5 on a scale of 1 to 5), it is not possible to split the sample into equal thirds, and the relative size of the terciles in each of the studies is not exactly the same.

Table 56 shows an inverse relationship between primary carers’ mental health and the children’s average difficulty scores. That is, the average difficulties scores increase as the primary carer’s (relative) mental health score decreases.

Table 56: Average difficulties scores by primary carer’s mental health tercile

Mental health	LSAC	Footprints in Time
Top	6.55	10.12
Middle	7.64	11.94
Bottom	10.35	14.46



Figure 13: Average difficulties scores by primary carer's mental health grouped by level of major life events experienced

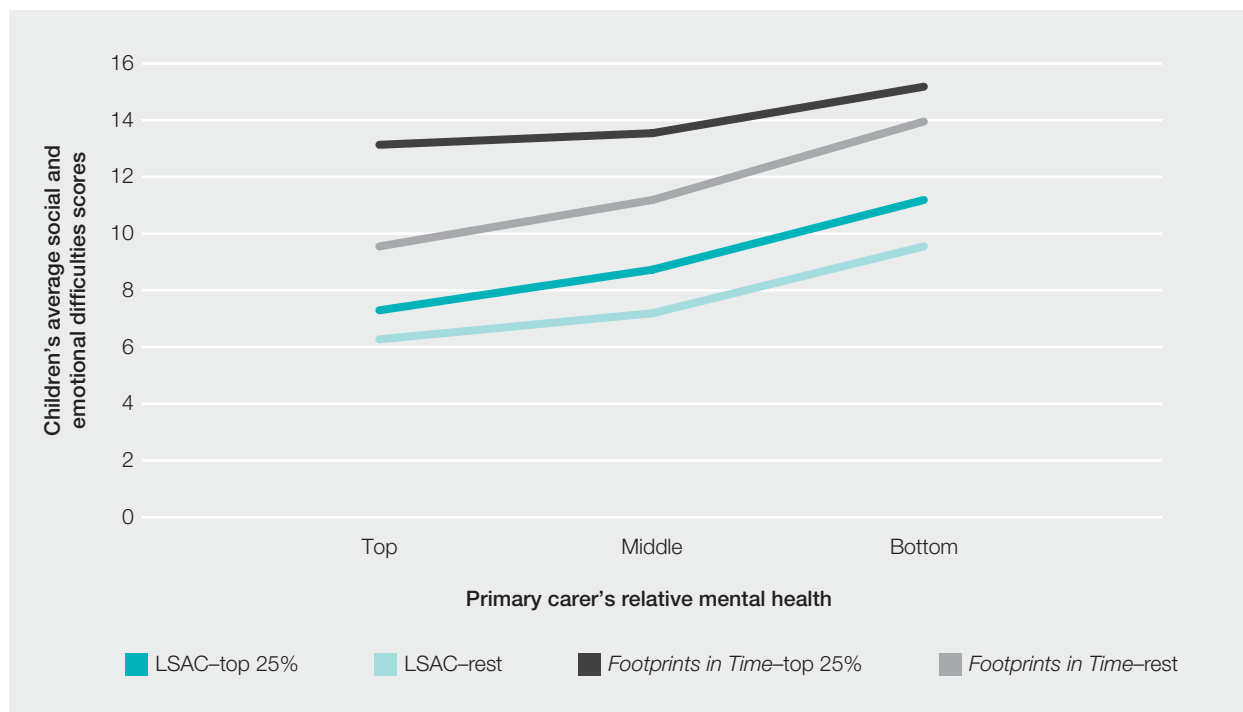


Figure 13 compares the difference in the average social and emotional difficulties scores of children by the primary carer's mental health according to whether or not they are in the top 25 per cent in terms of their experience of major life events, for each of the studies.

The same pattern is observed for children in both the bottom three quartiles of major life events experienced and the top quartile; that is, as the primary carer's mental health improves, children have lower average difficulties scores. While children surveyed in *Footprints in Time* have higher social and emotional difficulties scores than the children in LSAC, the results are the same: within each group, children whose mothers have better mental health have comparatively better social and emotional outcomes.

Results—changes over time

The analysis so far has focused on the social and emotional difficulties scores from Wave 4, but there are scores for Waves 3 and 4 for both studies. Previous analyses in this article examined the cross-sectional relationships between variables, identifying statistical significance and the size of effect related to the number of major life events experienced and the primary carer's mental health. However, this kind of analysis does not deal separately with differences in results between children and changes over time for the same child. Using Allison's hybrid

modelling technique (Allison 2009), it is possible to examine separately the extent to which children's difficulties scores vary both between children and for each child from one time point to another. This technique can therefore be used to address the question of whether or not a child's difficulties score will increase if they experience more life events, or will increase or decrease with changes to their primary carer's mental health. For this analysis, children who did not have the same primary carer in both waves were not included.

Table 57 shows that for an individual child in *Footprints in Time*, an increase of one point in their primary carer's mental health score from one year to the next decreases their difficulties score by an average of 1.59 points. Between children, however, the average decrease is larger (2.52). While supporting what we found earlier—that, in general, children experiencing more major life events had higher social and emotional difficulties scores—the hybrid model shows that there is no significant change for individual children from one year to the next. That is, a child experiencing a higher number of events from one year to the next will not have a worse score. As noted previously, this is possibly due to inherent personal characteristics such as resilience. However, this result could change with data over more time points. It seems likely that sustained increases or decreases in major life events will be significantly associated with changes in difficulties scores.



Table 57: Changes in difficulties scores between children and for children over time

		LSAC	<i>Footprints in Time</i>
Between children	Number of events	0.45**	0.71**
	P1 mental health	-3.02**	-2.52**
Children over time	Number of events	0.03	0.08
	P1 mental health	-1.05**	-1.59**

**p<0.05

Conclusion

The generally used measures of disadvantage only showed a significant relationship to social and emotional outcomes for non-Indigenous children. However, the relationship between major life events and children’s social and emotional development was significant for both Indigenous and non-Indigenous children in the *Footprints in Time* and LSAC samples respectively.

The link between circumstances and events became evident when the LSAC and *Footprints in Time* children were compared. *Footprints in Time* children not only experienced higher levels of disadvantage, but they also experienced higher levels of major life events. These in turn translated to overall higher social and emotional difficulties scores. However, children in both studies who experienced more events had higher average difficulties scores. As the relative impact of additional events was the same across both groups of children, and the *Footprints in Time* children experienced much higher proportions of events, this suggests that the higher social and emotional difficulties scores experienced by *Footprints in Time* children do not arise from higher levels of disadvantage but are due to living with higher numbers of major life events.

Good mental health of the primary carer seems to be a protective factor for children’s social and emotional development, and acts as a buffer for those children experiencing multiple major life events. While good mental health by itself cannot overcome the negative effect of multiple disadvantage, there is a clear suggestion that safeguarding parental mental health would provide a significant contribution towards achieving better social and emotional development and outcomes.

References

Allison, P 2009, *Fixed Effects Regression Models*, Sage Publications, Inc.

Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2012, *Footprints in Time: The Longitudinal Study of Indigenous Children Key Summary Report from Wave 3*, FaHCSIA, Canberra.

Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2013, *Footprints in Time: The Longitudinal Study of Indigenous Children Key Summary Report from Wave 4*, FaHCSIA, Canberra.

Goodman, R 2012, SDQ: scoring the SDQ, accessed from <http://www.sdqinfo.org/py/sdqinfo/c0.py>.

Green, G, McLaughlin, K, Berglund, P, Gruber, M, Sampson, N, Zaslavsky, A & Kessler, R 2010, 'Childhood adversities and adult psychiatric disorders in the national comorbidity survey replication I: associations with first onset of DSM-IV disorders', *Archives of General Psychiatry*, Feb, vol. 67, no. 2, pp. 113–23.

McLachlan, R, Gilfillan, G & Gordon, J 2013, *Deep and Persistent Disadvantage in Australia*, rev., Productivity Commission Staff Working Paper, Canberra.

Thomas, A, Cairney, S, Gunthorpe, W, Paradies, Y & Sayers, S 2010, 'Strong Souls: the development and validation of a culturally appropriate tool for assessment of social and emotional wellbeing in Indigenous youth', *Australia & New Zealand Journal of Psychiatry*, vol.44, no. 1, pp.40–48.

Wilkins, R & Warren, D 2012, *Families, Incomes and Jobs, Volume 7: A statistical report on Waves 1 to 9 of the Household, Income and Labour Dynamics in Australia Survey*, Melbourne Institute of Applied Economic and Social Research, Melbourne.

Zubrick, SR, Silburn, SR, Lawrence, DM, Mitrou, FG, Dalby, RB, Blair, EM, Griffin, J, Milroy, H, De Maio, JA, Cox, A & Li, J 2005, *The Western Australian Aboriginal Child Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and Young People, Volume 2*, Curtin University of Technology and Telethon Institute for Child Health Research, Perth, pp. 101,135–137.

How do fathers affect the health and social and emotional wellbeing of Aboriginal and Torres Strait Islander children in *Footprints in Time*?

Fiona Skelton, Department of Social Services

Introduction: Indigenous fathers' research

While there is plenty of research available on how fathers in general make important contributions to children's outcomes, there is little specifically about fathers of Indigenous children and how they affect children's outcomes. This article will examine the impact of father involvement, fathers' characteristics and partner relationship quality on the social and emotional wellbeing of *Footprints in Time* children.

Sarkadi et al. (2008) conducted a systematic review of longitudinal research showing effects of father involvement, finding that father engagement decreased children's behaviour problems and improved social and relational functioning. Fletcher et al. (2011) found father's depression in a child's first year of life related to poorer social and emotional wellbeing when the children were starting school. Kahn and colleagues (2004, cited in AIHW 2012) have shown that high quality parenting and good marital relationships can mediate the effects of poor mother mental health.

It might be argued that fathering and outcomes for children are relatively similar across cultures and social groups and there is no need to consider Indigenous children's outcomes separately. However, demographic differences with the general Australian population, such as the much younger age of Indigenous parents, higher rates of sole parenting, lower rates of employment and higher rates of living in remote areas (Biddle 2009) suggest fathers' influences on Indigenous children's outcomes should be considered separately.

D'Esposito et al. (2011) argue that research into the social and emotional wellbeing of Indigenous fathers and men caring for (Indigenous) children is 'virtually non-existent'. The relationship between fathering and Indigenous children's outcomes is also under-researched. Baxter and Smart (2010) use data from the Longitudinal Study of Australian Children (LSAC), to explore how fathers in couple families contribute to family life, including child wellbeing. Despite the very small sample of Indigenous fathers in LSAC; ranging across three waves from 0.8 per cent (equating to 23 fathers), to 1.6 per cent (or 58 fathers) (Baxter & Smart 2010, p. 167), some significant differences were reported in the analyses: Indigenous fathers were (sometimes) more involved in activities, were more inclined to be overprotective and had lower self-

efficacy than non-Indigenous fathers. The authors acknowledge in the closing remarks that the sample may be too small for statistical significance.

For all Australian children Baxter and Smart (2010) found better social and emotional child outcomes were associated with: older fathers, more highly educated fathers, fathers who had happier relationships with their partners and greater parenting support, and fathers with better mental health. Lower social and emotional wellbeing in children was associated with having an Indigenous father, or a father speaking a language other than English, poorer child health and being a boy rather than a girl. The report sheds some light on Indigenous fathering, but only in comparison with the Australian population as a whole and with such small numbers that relationships may not be replicated elsewhere.

What about differences within the Indigenous child population?

Armstrong and colleagues (2012) showed that Indigenous children involved in a greater number of activities—such as being read to, hearing stories and drawing with family members (including fathers)—had greater levels of prosocial behaviour than the children who did not experience as many activities.

The Western Australian Aboriginal Child Health Survey (WAACHS, Zubrick et al. 2005) found stressful events predicted emotional and behavioural problems for Aboriginal children, as did a child's poor physical health and their carer's ill health or use of mental health services. The WAACHS did not provide separate results for fathers and mothers; however, children who received poor quality parenting and lived in poor functioning families with poor communication, poor emotional support, little time together and poor cooperation were more likely to have emotional and behaviour problems (Zubrick et al. 2005).

Smyth et al. (2012) note that Indigenous cultural practices vary widely across Australia and that Indigenous fathers face compounding layers of social disadvantage but do not discuss research specific to Indigenous fathers and child outcomes. So although it is possible to find information about fathers' effects on child outcomes and about the sorts of things that affect Indigenous children's social and emotional wellbeing, there is little information available about how fathers affect Indigenous children's social and emotional wellbeing.

It is hypothesised that social and emotional wellbeing for young Aboriginal and Torres Strait Islander children will be affected by fathers' involvement in activities, the nature of the parenting relationship and fathers' educational levels. It is expected that the relationships will still be evident while controlling for factors usually associated with social and emotional wellbeing, such as age, stressful events, living in a more advantaged area and being a girl (Wake et al. 2008), and the child's own physical health (Zubrick et al. 2005).

Methods

The data used in this article is from the *Footprints in Time* primary carer interview Wave 3 data, as Wave 3 includes questions about partners' education and employment and about partner relationships. The primary carer interview is usually conducted with the mother of the study child and in Wave 3 only 36 fathers were interviewed as primary carers. Quantitative analysis of father responses alone is not desirable with such a small sample. Of the 1,276 responding mothers of the study child in Wave 3, 994 had a child older than 35 months, permitting analysis of their strengths and difficulties scores (Goodman 2012). These figures include three step and two foster mothers. Just over half (58 per cent) had a partner in the household. Primary carers who were grandmothers, aunts, cousins or of other relationship types (n = 84) were excluded as their partners were not likely to be fathers of the study child. It is not certain that the partner of the mother is the study child's biological father, as relationship to study child was not collected in wave 3, but it is the closest approximation that can be used. It seems likely that males living in the study child's household as a partner of the mother will at least be a father figure, if not a biological father. Of the partners, 76 per cent were Indigenous and 24 per cent were not.

Outcome measure: child social and emotional wellbeing

The final sample for this analysis includes 994 children with social and emotional difficulties scores (SDQ)⁴⁶ ranging from 0 to 31, with a mean of 12.2 and a standard deviation of 5.8. The maximum score possible is 40. Continuous SDQ scores were used for the multivariate model with SDQ difficulties scores as the dependent variable.

Ordinary least squares (OLS) regression showed no statistical difference between SDQ difficulties scores for children whose mothers had a partner in the household and those who were living with a lone mother, nor between SDQ scores and the Indigenous status of fathers.

Partner relationship and father's characteristics

A 'good partner relationship' score was created using 5 questions with answer options 'never, rarely, sometimes, often and always'. 'Showing signs that you care' and 'feeling supported as a parent' were added to reverse coded scores for 'disagreeing about bringing up the study child', 'arguing' and 'having arguments that lead to pushing and shoving'. There were 543 scores ranging from 8 to 25, with a mean of 20.6 and a standard deviation of 2.8. For the final statistical models, partner relationship scores were dichotomised at the mean, with scores above 20 equal to 1 and indicating a good, supportive partner and parenting relationship.

Additional father characteristics, sourced from mothers, include:

- education of father in household (\leq Year 11/ $>$ Year 11 = 52% of male partners)
- father in household working (no/yes = 73%)
- whether mothers sought advice about parenting from partners (no/yes = 20%)
- activities with father (whether mothers responded that children's fathers read to them, told them a story, drew pictures with them and/or listened to the study child read) (no/yes = 47%).

Other explanatory variables

Study child's characteristics included:

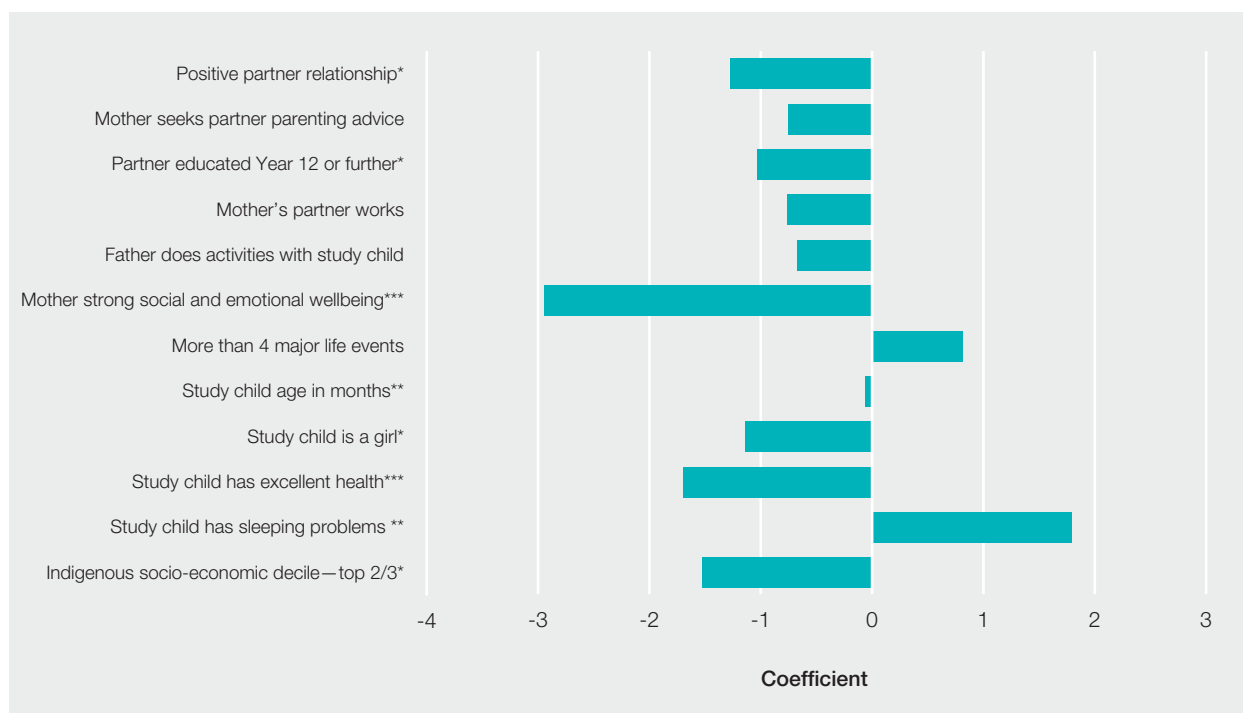
- age in months (range: 36 to 92 months)
- sex (male coded as 0/female coded as 1 = 50%)
- global health (very good, good, fair, poor coded as 0/excellent coded as 1 = 41%)
- had sleep problems (no/yes = 22%)

Mother's characteristics included:

- mother's social and emotional wellbeing: sum of 6 questions, dichotomised at mean (low/high social and emotional wellbeing = 64%)
- experience of four or more major life events in the past 12 months (no/yes = 55%).

46 Refer to Appendix B for information about this scale.

Figure 14: Fathers' contributions to reducing SDQ difficulties scores



*p<0.1; **p<0.05; ***p<0.01.

At the community level a continuous measure of Indigenous socioeconomic outcomes in deciles (Index of Relative Indigenous Socioeconomic Outcomes—IRISEO) based on 2006 Census area data is used. Increasing scores indicate communities with increased Indigenous employment and income, higher education levels and better housing (Biddle 2009). As IRISEO is moderately to strongly correlated with remoteness in *Footprints in Time* and speaking a language other than English at home (see also Biddle 2009 for the latter) only IRISEO was included in the final models rather than including remoteness separately in the model.

Results

In Wave 3, social and emotional difficulties scores were available for 994 children; however, only 580 mothers had a partner in the household. The final multivariate model has 450 observations and an adjusted R squared of 0.20, thus explaining 20 per cent of the variation in these children's difficulties scores.

Figure 14 shows, as hypothesised, that social and emotional difficulties scores decreased significantly where there was a good, supportive relationship between mothers and their partners. Scores were

also significantly lower for those children whose fathers had Year 12 or post-school education. Fathers' employment and fathers' involvement in specified activities did not significantly affect child social and emotional outcomes in the multivariate model.

As expected, social and emotional difficulties scores were significantly lower for children who were older, were girls, had excellent global health scores, were living in a more advantaged area and whose mothers had good social and emotional wellbeing. Difficulties scores increased significantly when children had sleeping problems but families' experience of major life events was no longer significant in the multivariate model.

Discussion

It is evident that the *Footprints in Time* children's social, emotional and behavioural wellbeing is affected by their fathers or father figures, when partners are present in the household. The analyses showed significant variation for *Footprints in Time* children, showing small but clear reductions in social and emotional difficulties scores with positive mother-partner relationships and when fathers had higher levels of education (Year 12 or greater).



It is important to note a number of limitations about this research. *Footprints in Time* is not a representative sample and results should not be generalised to all Indigenous children. Although the term ‘fathers’ has been used in this article, the majority of the analysis relates to mothers’ partners living in the household rather than fathers specifically. Some children may have a father who lives elsewhere as well as their mother’s current partner and both fathers may affect outcomes. Mothers in this analysis were also responding on behalf of fathers about education levels, partner employment and activities the children did with fathers. Mothers may underestimate father involvement in activities such as reading to the child if, for example, the reading had happened while a mother was at work.

It would be useful to control for fathers’ social and emotional wellbeing and their parenting style, as in addition to mental illness, parenting style has been shown to be associated with child wellbeing (Baxter & Smart 2010; Fletcher et al. 2011; Zubrick et al. 2005). Fathers’ social and emotional wellbeing and parenting approaches have been collected in *Footprints in Time* father interviews but the low response rates preclude much analysis (in Wave 1 approximately 1,630 primary carer interviews were conducted with females, plus 41 with male primary carers, but only 180 Parent 2 interviews with fathers are available). It would be interesting to see if the positive effects of father interaction—such as

increased activities—help ameliorate the effects of paternal depression.

Indigenous fathers are more likely to suffer from mental health problems than the general population (ABS 2010) and these problems are known to affect children’s social and emotional wellbeing. Mental health problems can also affect Indigenous people’s health and wellbeing in different ways to the non-Indigenous population; for example, a strong link has been found between depression and anger for young Indigenous people (Thomas et al. 2010). It should not be assumed that Indigenous children’s social and emotional wellbeing is affected by their fathers in the same way as non-Indigenous children.

It is interesting that the children of sole mothers did not have significantly different SDQ difficulties scores than the children of partnered mothers. The variation within the groups is perhaps the key to understanding variation in Indigenous children’s social and emotional wellbeing, rather than comparing the two. Partners are not the only providers of social and emotional support and perhaps further work could explore differences in child outcomes according to the kinds of support mothers receive.

There is a great deal of scope for further research relating to fathers or father figures of Indigenous children. In addition to the variables explored in this analysis there are issues that are particular to Indigenous fathers—such as passing on

Indigenous culture and teaching children how to deal with racism—that are worth exploring. As mothers' sense of identity has been shown to affect Indigenous children's social and emotional wellbeing (Armstrong et al. 2012), fathers' sense of identity is likely to be important too.

References

- Armstrong, S, Buckley, S, Lonsdale, M, Milgate, G, Bennetts Kneebone, L, Cook, L & Skelton, F 2012, *Starting school: a strengths-based approach towards Aboriginal and Torres Strait Islander children*, a report prepared by the Australian Council for Educational Research, Melbourne, for the Department of Families, Housing, Community Services and Indigenous Affairs, http://research.acer.edu.au/indigenous_education/27.
- Australian Bureau of Statistics (ABS) 2010, *The health and welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, October 2010. ABS cat. no. 4704.0, ABS, Canberra.
- Australian Institute of Health and Welfare (AIHW) 2012, *Social and emotional wellbeing: development of a Children's Headline Indicator Information paper*, cat. no. PHE 158, AIHW, Canberra.
- Baxter, J & Smart, D 2010, *Fathering in Australia among couple families with young children*, Occasional Paper No. 37, Australian Government Department of Families, Housing, Community Services and Indigenous Affairs, Canberra.
- Biddle, N 2009, *Ranking Regions: Revisiting an Index of Relative Indigenous Socioeconomic Outcomes*, Centre for Aboriginal Economic Policy Research Working Paper 50, Australian National University, available at: <http://caepr.anu.edu.au/Publications/WP/2009WP50.php>
- D'Esposito, F, Giallo, R, Stewart, P, Mensah, F & Nicholson, J 2011, 'True blue baby blues: mental health and socio-emotional wellbeing in Indigenous Australian men caring for infants and young children', *Growing Up in Australia and Footprints in Time: The LSAC and LSIC Research Conference*, Melbourne, 15-16 November.
- Fletcher, R, Feeman, E, Garfield, C & Vimpani, G 2011, 'The effects of early paternal depression on children's development', *The Medical Journal of Australia*, vol. 195, no. 11, pp. 685–89.
- Goodman, R 2012, SDQ: scoring the SDQ, accessed from <http://www.sdqinfo.org/py/sdqinfo/c0.py>.
- Sarkadi, A, Kristiansson, R, Oberklaid, F & Bremberg, S 2008, 'Fathers' involvement and children's developmental outcomes: a systematic review of longitudinal studies', *Acta Paediatrica*, vol. 97, no. 2, pp. 153–58.
- Smyth, B, Baxter, J, Fletcher, R & Moloney, L 2012, 'Fathers in Australia: a contemporary snapshot', in DW Shwalb, BJ Shwalb & ME Lamb (eds), *Fathers in cultural context*, Routledge, New York.
- 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', *Australian & New Zealand Journal of Psychiatry*, vol. 44, no. 1, pp. 40–48.
- Wake, M, Sanson, A, Berthelsen, D, Hardy, P, Misson, S, Smith, K, Ungerer, J and the LSAC Research Consortium 2008, *How well are Australian infants and children aged 4 to 5 years doing?*, Social Policy Research Paper no. 36, Department of Families, Housing, Community Services and Indigenous Affairs, Canberra.
- Zubrick, S, Silburn, S, Lawrence, D, Mitrou, F, Dalby, R, Blair, E, Griffin, J, Milroy, H, De Maio, J, Cox, A & Li, J 2005, *The Western Australian Aboriginal Child Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and Young People*, Curtin University of Technology and Telethon Institute for Child Health Research, Perth.

The effect of maternal age at first birth on vocabulary and social and emotional outcomes for Aboriginal and Torres Strait Islander children

*Fiona Skelton and Laura Bennetts Kneebone,
Department of Social Services*

Having a child as a teenager has been linked to poor outcomes for mothers and their children for a range of, often interrelated, health, social and demographic characteristics (Maynard 1997). But what do we know about the outcomes for children of young Indigenous mothers? Are they different from older Indigenous mothers? This research examines whether the age of the mother at the time of the birth of the oldest child is associated with vocabulary and social and emotional outcomes for Indigenous children.

In many countries, mothers who give birth as teenagers are more likely than older mothers to have low educational achievement and suffer from depression; their children generally do less well at school and are more likely to become involved in crime and drugs and become teenage mothers themselves (UNICEF 2001). Kamerman et al. (2003) note that families headed by teenage mothers, single parents and large families are at increased risk of disadvantage and dysfunction, with racial minority families in the United States, Canada, New Zealand and Australia of particular concern.

The Australian Institute of Health and Welfare (AIHW) includes teenage births in its 2011 headline indicators for children's health, development and wellbeing (AIHW 2011) due to health and social problems for children and mothers, including child behaviour problems. The 'Overcoming Indigenous Disadvantage' report devotes a subsection to the Indigenous teenage birth rate and concerns about child and maternal outcomes (SCRGSP 2011).

Bradbury (2011), in examining child outcomes in the Longitudinal Study of Australian Children (LSAC), found that children of older mothers had significantly better learning and social and emotional scores (using the Strengths and Difficulties Questionnaire or SDQ)⁴⁷ than those of younger mothers, until other characteristics were accounted for. Once child and family characteristics (including Indigenous status and maternal smoking) were controlled for there were no longer significant differences at the 0.05 level in children's learning scores, a result Bradbury attributes largely to mothers' education. Controlling for maternal age at first birth reduced the relationship even further.

However, social and emotional scores remained slightly but significantly poorer for the children of younger mothers, despite controlling for other characteristics.

Evans (2007) found teenage motherhood arises from social disadvantage rather than necessarily being the cause of further disadvantage. Levine, Pollack and Comfort (2001) found that the relationship between young mothers and children's academic and behavioural test scores was entirely explained by pre-birth characteristics, arguing that teenage motherhood is a 'marker' for poorer child outcomes, not a cause. Levine, Pollack and Comfort also note they found an indirect relationship between teenage births and lowered children's scores via increased family size. Kalb, Le and Leung (2014), however, use propensity score matching to compare women with similar characteristics in the Household, Income and Labour Dynamics in Australia (HILDA) and LSAC studies and find that although selection bias accounts for a large proportion of teenage mothers' poorer outcomes, becoming a mother as a teenager leads to further disadvantage. Women who had a child as a teenager had poorer education and labour market outcomes and poorer health than similar women who were older mothers (Kalb, Le & Leung 2014).

According to Larkins (2007), young Indigenous mothers in Townsville were often on the path to not completing school before becoming pregnant, and parenthood offered a chance to get their life on track. The teenagers with adequate social support in Larkins' study felt motherhood was at last something they were good at.

Indigenous teenagers are five times more likely than Australian teenagers in general to become teenage mothers (AIHW 2009). Additionally, young people who live in remote Australia are more likely to give birth in their teens than those in urban areas.

Biddle and Yap (2010) used the 2006 census to examine the life course for Indigenous Australians—including the timing of life events such as education and childbirth—in comparison with non-Indigenous Australians. They note that Indigenous women generally have children earlier in their lives than non-Indigenous women and have more children over the life course.

47 Refer to Appendix B for information about this scale.



Bradbury (2007), in comparing outcomes for children of Australian mothers in LSAC above and below age 23, controls for Indigeneity in his models and for age at first birth but does not examine outcomes separately for the children of Indigenous mothers. A composite research paper that examines a variety of outcomes in LSAC (Wake et al. 2008) finds that Indigenous 4 and 5 year-old children have much poorer social and emotional outcomes and slightly poorer learning outcomes than the non-Indigenous children, despite few differences in infancy.

It is widely known that Aboriginal and Torres Strait Islander children as a group do not achieve as well as non-Indigenous Australians at school (Zubrick et al. 2006). The achievement 'gap' between Indigenous and non-Indigenous children appears before children start school (Leigh & Gong 2008), upon entry to school (Centre for Community Health & Telethon Institute 2009) and widens as children move through the primary school years (Zubrick et al. 2006). What about within the Indigenous population? Do the children whose mothers had their first child as a teenager have poorer outcomes than the children whose mothers were older when they had their first child? Or are other variables that are associated with improved child outcomes more important?

There are a number of key characteristics that are often found to be related to children's vocabulary, development and social, emotional and behavioural difficulties. Parent education is often cited as a good predictor of child outcomes; however, Christian, Morrison and Bryant (1998) found that families who had low education levels but promoted literacy through daily reading, visits to the library and monitoring television viewing had children with higher receptive vocabulary scores than families with more highly educated mothers who did not actively promote literacy. The LSAC outcomes index paper (Wake et al. 2008) showed child learning outcomes increased with family literacy activities, attending a pre-year 1 education program, being read to by a family member and by sex, with girls doing better than boys. Speaking a language other than English, increased time spent watching television and family disadvantage also reduced scores.

Zubrick et al. (2004) found higher than usual social and emotional difficulty scores (SDQ) for Aboriginal children in Western Australia, with 26.3 per cent of children aged 4 to 11 years at high risk of clinically significant emotional or behavioural difficulties compared to 16.9 per cent of non-Aboriginal children. Scores were higher for boys, lower in extremely isolated areas and higher, though not significantly so, for the children of teenage mothers. Similar proportions of children in *Footprints in Time* (22.5 per cent) are considered at high risk of clinically significant emotional and behavioural difficulties (FaHCSIA 2012).

Using *Footprints in Time* data, it is possible to examine whether the relationships between teenage motherhood and children's reduced vocabulary scores and increased social and emotional difficulties persist once other factors in the children's lives are taken into account.

It is hypothesised that the children of mothers who had a child as a teenager will have lower vocabulary scores and higher social and emotional difficulties scores but that once other factors in the children's lives are taken into account, the relationship to maternal age at first birth will not be a strong predictor of child outcomes.

Methodology

Sample

Data for the analyses included both Indigenous and non-Indigenous mothers of Aboriginal and Torres Strait Islander children (in Wave 3 for example, 16.6 per cent of mothers were non-Indigenous). As a control, the analysis was repeated with non-Indigenous mothers excluded, but this made very little difference to the overall results, so these results will not be reported separately.

Of the 1267 mothers in the Wave 3 responding sample, only 12.9 per cent gave birth to the study child when aged less than 20 years. However, 506 (39.9 per cent) mothers had a son or daughter in the household born when the mother was a teenager and 761 (59.4 per cent) did not. The median age of mothers at the birth of the oldest child in the household was 20 years, with mothers' ages ranging from 13 to 44 years for this 'first' birth. More than three-quarters of the mothers (81.9 per cent) had their first child by age 25. The median age of these mothers at the time of responding to Wave 3 of the survey was 30, with a range of 18 to 48 years. As respondents were not asked about children ever born or their first birth, some mothers in the sample may have had a child as a teenager who is no longer living in their household.

Outcomes: child social and emotional wellbeing

Children's social and emotional wellbeing is measured using the Strengths and Difficulties Questionnaire (SDQ)⁴⁸ (Goodman 2012) administered as part of the primary carer interview.

The final sample for this analysis includes 909 children from Wave 3 with social and emotional difficulties scores ranging from 0 to 31, with a mean of 12.2. Children's ages ranged from 36-96 months. The maximum difficulties score possible is 40. Explanatory variables are either time invariant or collected at Wave 3.

Outcomes: expressive vocabulary

Analysis relating to expressive vocabulary scores has been drawn from five waves of *Footprints in Time* as vocabulary was assessed using the Renfrew Word Finding Vocabulary Test (Renfrew 1995)⁴⁹ for the older cohort in Waves 1 to 3 and the younger cohort in Waves 4 and 5 (and in Wave 6, which is yet to be released).

The final sample uses 2,157 test scores from five waves of data, comprising 1,150 children, with between 1 and 3 observations each. The score comprises total words named in English as very few children used words from another language to describe the pictures. Scores ranged from 0 to 50 with mean scores for the older cohort of 19.3 in Wave 1, 24.6 in Wave 2, and 31.3 in Wave 3 and means for the younger cohort at equivalent ages, were 19.4 in Wave 4 and 25.25 in Wave 5.

Secondary explanatory variables

Study child's characteristics included:

- age in months
- sex (male coded as 0/female coded as 1)
- global health (poor, fair, good/very good and excellent)
- parent concerned child has difficulty speaking or understanding what is said (no/yes)
- attended pre-school (Year 1 minus 2) at a pre-school, childcare centre with a preschool program, mobile preschool or Multifunctional Aboriginal Childcare Centre (no/yes)
- watches television 3 hours or more on week days (no/yes),
- family member read to child last week (no/yes).

Parent characteristics include:

- age at birth of the mother's oldest child in the household
- parent education (<Year 12/≥Year 12)
- English not always spoken at home (no/yes)
- seven or more major life events in that year (no/yes)
- parent has low social and emotional wellbeing (no/yes)⁵⁰
- parent undertaking further study (no/yes)

48 Refer to Appendix B for information about this scale.

49 Refer to Appendix B for information about this scale.

50 This is based on the Social and Emotional Wellbeing scale divided at the median. However, in the multivariate analysis the measure has been used as a continuous scale. Refer to Appendix B for more information about this scale.

- number of children in the household (<4/≥4)
- smokes (no/yes).

Deciles from the Index of Relative Indigenous Socioeconomic outcomes (IRISEO, Biddle 2009) have been coded for each child in the dataset. IRISEO rates the geographic area based on the socioeconomic wellbeing of Indigenous people who live there. This provides a more Indigenous-specific community level measure than Socioeconomic Indexes for Areas (SEIFA). A score of 1 indicates greater poverty and a score of 10 indicates greater wealth in that area.

Statistical analyses

Bivariate relationships between having been a teenage mother when the oldest child in the household was born and study child outcome variables were explored using chi-squared tests. Multivariate analysis with the social and emotional difficulties score as the dependent variable was conducted using OLS regression. A longitudinal mixed effects multilevel regression model was used to examine vocabulary scores across five waves of data. The model controls for geographical clustering in the sample and tracks changes in individual children's vocabulary over time as well as differences between children.

Independent variables were included in the models if bivariate relationships were found to be significant at the 5 per cent level with difficulties and vocabulary scores, irrespective of finding relationships between ever and never having been a teenage mother. Two additional variables not showing significant bivariate relationships at the 5 per cent level, sex and television watching, were included in the final multivariate model as they have been shown to affect vocabulary and social and emotional difficulties scores (Christian, Morrison & Bryant 1998; Wake et al. 2008). Boys in the current analyses had slightly but not significantly lower vocabulary scores than girls and watching television for 3 or more hours on weekdays was actually related to an increase in vocabulary scores by 0.8 points, as well as increasing social and emotional difficulties scores by 1.0 points, both significant at the 5 per cent level. Boys did have significantly higher difficulties scores.

The sample is spread across all deciles of IRISEO, with some clustering around the sixth decile. As IRISEO and remoteness are moderately to strongly

correlated for this sample (– 0.609), remoteness was not included separately as an explanatory variable. A t-test showed a significant difference in the mean IRISEO scores of ever and never teenage mothers ($p < 0.001$) with mothers who had not had a child as a teenager tending to live in more advantaged areas.

Results

The model⁵¹ shows that *Footprints in Time* children's vocabulary scores were on average lower if their mother was younger when she had her first child, even after controlling for other variables. Bivariate analysis shows that mothers who had their first child when older are more likely to have a higher education, fewer children and more stable lives (fewer major stress events). However, maternal age at first birth is still highly significant in predicting vocabulary scores (at the 1 per cent level), suggesting that waiting until you are older before starting a family has more far-reaching benefits.

Modelling⁵² using Wave 3 data shows that *Footprints in Time* children also have significantly lower social and emotional difficulties scores if their mothers had their first child when they were older. Each increase of one year in maternal age at first birth ($p < 0.01$) was associated with a 0.1 decrease in difficulties scores.

Figure 15 shows the characteristics of study children by whether their mother was ever or never a teenage mother. Chi-squared tests showed that several child characteristics at age 4 were related to having a mother who had given birth as a teenager. Children born to teen mothers were significantly less likely to report having very good or excellent health at age 4, less likely to have ever attended preschool and less likely to have been read to in the last week by a family member.

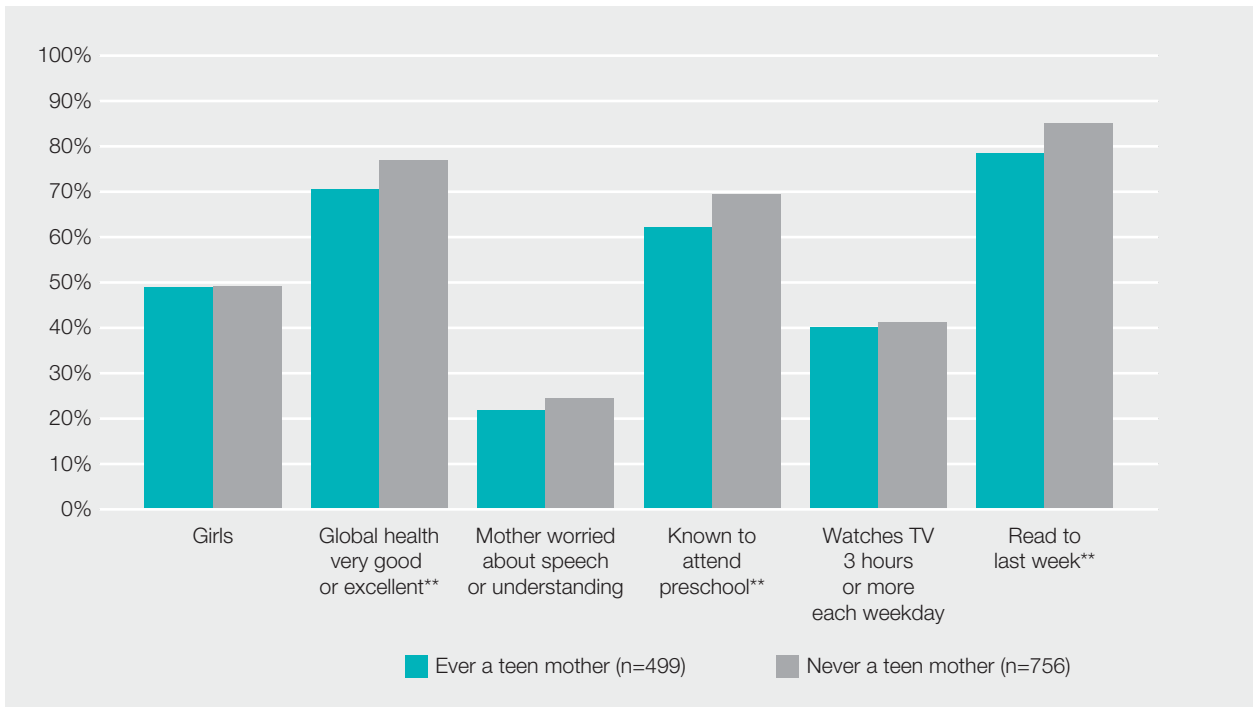
Figure 16 shows the proportion of parents with selected characteristics depending on whether or not they had ever been a teenage mother. Chi-squared tests showed significant relationships between having been a teenage mother and years of education, languages other than English being spoken at home, number of children in the household, smoking, and likelihood of having experienced 7 or more major life events.

51 Mixed effects longitudinal regression.

52 Multivariate OLS regression.

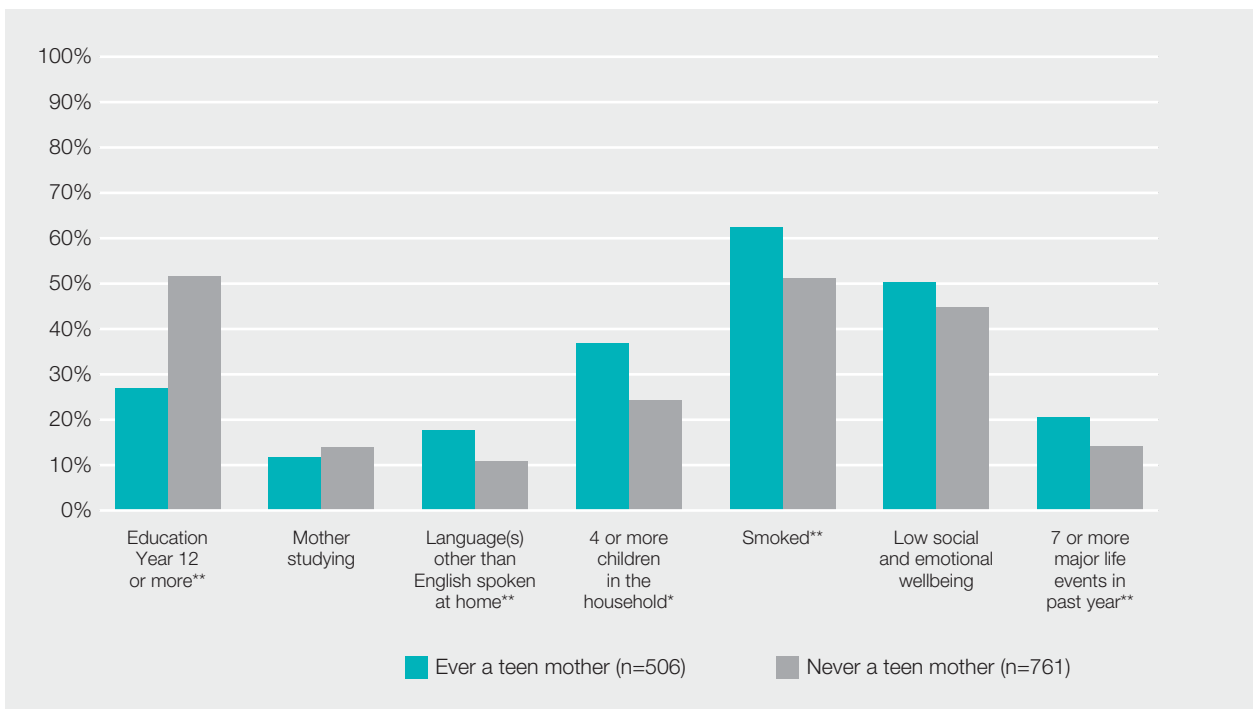


Figure 15: Characteristics of children aged 4 by whether their mother had a child when aged 19 or younger (n=1255).



Pearson's chi-squared difference significance <0.01**, <0.05*.

Figure 16: Proportion of Indigenous mothers with selected parent characteristics in Wave 3 by whether they ever or never had a child when aged 19 or younger (n=1267).

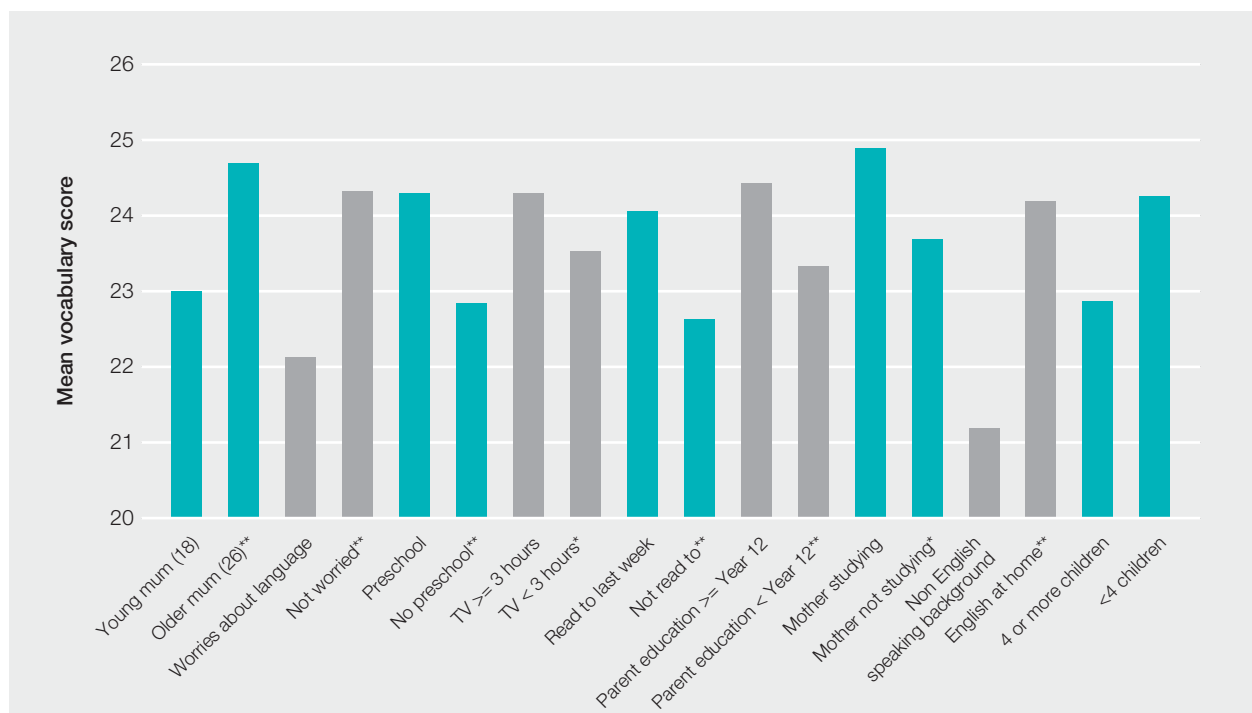


Pearson's chi-squared difference significance <0.01**, <0.05*.

Multiple classification analysis (MCA) allows the prediction of mean values while controlling for other predictors in the model. Figure 17 uses MCA to compare child and parent characteristics in the model. Higher vocabulary scores are associated with children having been to preschool, being read to in the previous week and watching television for 3 hours or more on a weekday. Children's vocabulary scores also tend to be higher when mothers are studying and have completed Year 12 or further education. Although not shown in Figure 17, scores also improved with children's age and if the study child lived in a more advantaged area. Child health and being female did not make a significant difference to vocabulary scores in the mixed effects model, nor did mothers' social and emotional wellbeing, smoking, or experience of major life events. Vocabulary scores tended to be lower when languages other than English were spoken at home, when mothers had concerns about study children's speech or understanding and with the presence of four or more children in the household.

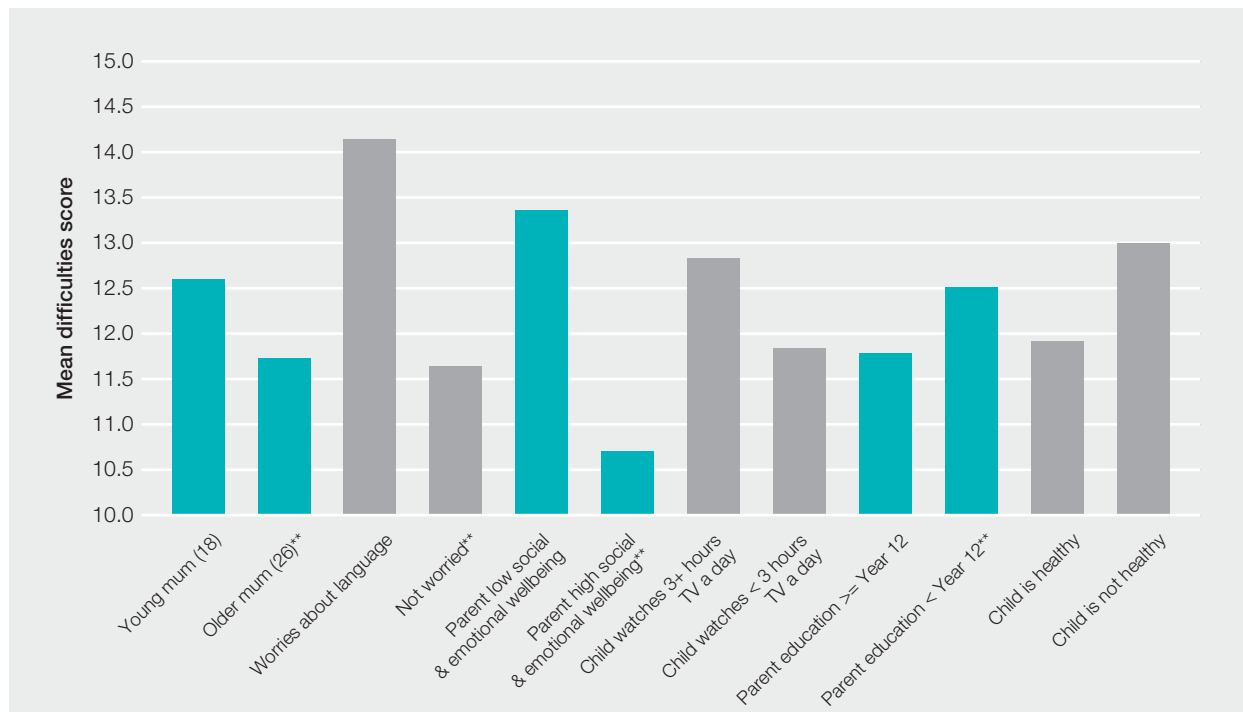


Figure 17: Estimated vocabulary scores by different mother and child characteristics (longitudinal analysis).



**p<0.01; *p<0.05.

Figure 18: Estimated difficulties scores by selected mother and child characteristics (Wave 3 data).



**p<0.01; *p<0.05

Figure 18 shows how the same factors affecting vocabulary scores affect the children’s social and emotional difficulties scores at Wave 3. Social and emotional difficulties scores decrease with increasing maternal age at first birth. Reduced scores are related to children being in good health and maternal education at Year 12 or higher (at the 10 per cent level). Reduced scores are also associated with being older and being a girl (not shown in Figure 18). Major life events did not change scores significantly in the model.

Children whose mothers had low social and emotional wellbeing or were concerned about their child’s speech or understanding had higher social and emotional difficulties scores. Scores were also higher if children watched three or more hours of television a day.

Discussion

It was hypothesised that the children of mothers who had their first child when they were a teenager would have lower vocabulary scores and increased social and emotional difficulties scores, and this was found to be the case. It was also hypothesised that once other characteristics were taken into consideration, maternal age at first birth would not have a strong relationship with vocabulary and

social and emotional difficulties scores. In fact the relationship between the outcome variables and maternal age at first birth was still significant in the multivariate and mixed effects models.

It seems that maternal age at first birth is related to vocabulary as well as social and emotional difficulties for the children in *Footprints in Time*. The study children’s outcomes generally improve with each year that mothers delay having their first child. As the *Footprints in Time* sample is not random these results should not be generalised to all Indigenous children and mothers. Nevertheless *Footprints in Time* does provide an opportunity to explore variation within a sizeable sample of Indigenous children and their mothers.

It is encouraging that anyone in the family reading to the study child provided one of the largest increases in vocabulary scores. This supports the literature (Levine, Pollack & Comfort 2001; Wake et al. 2006) suggesting that what parents and carers do and the experiences their children have, such as attending preschool, can be more important than the parents’ life circumstances. Biddle and Yap (2010) suggest that many Aboriginal and Torres Strait Islander families can draw on considerable family and social resources. Larkins (2007) found that young Indigenous women were confident

their families would support them if they were to become pregnant. So mothers with extended family support may have parents, grandparents, aunts and siblings that all assist in improving their child's vocabulary.

Gregson (2009) found that teenage mothers were quite competitive, wanting to demonstrate that they were good parents and made considerable efforts to encourage their child's development. The competitive nature of many teenage mothers and the desire of many Indigenous parents for their children to do well (Larkins 2007) suggests that young mothers who know that reading to children and attending preschool improves vocabulary will endeavour to ensure that their children are given these advantages.

Larkins (2007) found that young Indigenous mothers were concerned their children would be negatively affected by them returning to study. The number of mothers in this analysis who are studying is fairly small (n = 164 or 13.1 per cent of mothers of four year olds), but the relationship to improved vocabulary scores is a useful finding. This may be an important message for young mothers as Biddle and Yap, while noting many Indigenous women return to study later in the life course, found no evidence of an education 'catch-up' for the women who had children when young.

Indigenous mothers in *Footprints in Time* want their children to do well, get a good education, a good job and lead a good life (Robertson et al. 2011). However the best intentions can be thwarted by life circumstances. Zubrick et al. (2005) found a fivefold increase in the risk of clinically significant emotional and behavioural problems for the children in families dealing with seven or more life stress events. Although major life events did not change scores significantly in either model, mothers' mental health did affect children's social and emotional difficulties scores. This suggests that there is a need for culturally safe and supportive services, particularly for young Indigenous mothers who do not have families to support them and are likely to be facing large numbers of stressful life events.

Further research is needed to investigate the ways young Indigenous mothers with different social circumstances best receive social support; for example, supporting extended families as well as the mother herself. As the AIHW note:

While not all teenage births result in negative outcomes for mother and child, the circumstances that often contribute to teenage birth mean that many young mothers do not receive the support they need during and after the birth. (AIHW 2011)

References

- Australian Institute of Health and Welfare (AIHW) 2009, *A picture of Australia's children 2009*, cat. no. PHE 112, AIHW, Canberra.
- Australian Institute of Health and Welfare (AIHW) 2011, *Headline indicators for children's health, development and wellbeing 2011*, cat. no. PHE 144, AIHW, Canberra.
- Biddle, N 2009, *Ranking Regions: Revisiting an Index of Relative Indigenous Socioeconomic Outcomes*, Centre for Aboriginal Economic Policy Research Working Paper 50, Australian National University, available at: <http://caepr.anu.edu.au/Publications/WP/2009WP50.php>.
- Biddle, N & Yap, M 2010, *Demographic and socioeconomic outcomes across the indigenous Australian lifecourse: evidence from the 2006 census*, Research Monograph No. 31, Centre for Aboriginal Economic Policy Research, ANU E Press, available from http://epress.anu.edu.au/titles/centre-for-aboriginal-economic-policy-research-caepr/c31_citation.
- Bradbury, B 2007, *Child outcomes and family socio-economic characteristics, final report of the project: LSAC Outcomes and the Family Environment*, Social Policy Research Centre University of New South Wales.
- Bradbury, B 2011, *Young motherhood and child outcomes*, SPRC Report 1/11, prepared for the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs, submitted November 2007, published January 2011.
- Centre for Community Child Health and Telethon Institute for Child Health Research 2009, *A Snapshot of Early Childhood Development in Australia – AEDI National Report 2009*, Australian Government, Canberra.

Christian, K, Morrison, F & Bryant, F 1998, 'Predicting kindergarten academic skills: interactions among child care, maternal education, and family literacy environments', *Early Childhood Research Quarterly*, vol. 13, no. 3, pp. 501–21.

Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2012, *Footprints in Time: The Longitudinal Study of Indigenous Children—Key Summary Report from Wave 3*, FaHCSIA, Canberra.

Evans, A 2007, 'Social disadvantage and teenage motherhood: a cohort perspective', paper prepared for the 2007 HILDA Survey Research Conference, Melbourne, 19–20 July.

Goodman, R 2012, SDQ: Scoring the SDQ (cited June 2012); available at: <http://www.sdqinfo.org/py/doc/c0.py>.

Gregson, J 2009, *The culture of teenage mothers*, State University of New York Press, Albany, NY.

Kalb, G, Le, T & Leung, F 2014, Outcomes for teenage mothers in the first years after birth, Melbourne Institute Working Paper No. 6/14, available at SSRN: <http://ssrn.com/abstract=2435025> or <http://dx.doi.org/10.2139/ssrn.2435025>.

Kamerman, SB, Neuman, M, Waldfogel, J & Brooks-Gunn, J 2003, Social policies, family types and child outcomes in selected OECD Countries, Social, Employment and Migration Working Papers No. 6, Organization for Economic and Co-operative Development, Paris, France, available at <http://www.oecd.org/dataoecd/26/46/2955844.pdf>.

Larkins, S 2007, 'Attitudes and behaviours of teenage Indigenous women in Townsville, Australia, with respect to relationships and pregnancy: the "U Mob Yarn Up" Young Parents' Project', thesis submitted for the Degree of Doctor of Philosophy in the School of Medicine and the School of Indigenous Australian Studies, James Cook University.

Leigh, A & Gong, X 2008, Estimating cognitive gaps between Indigenous & non-Indigenous Australians, CEPR Discussion Papers No. 578, Centre for Economic Policy Research, Australian National University, Canberra.

Levine, J, Pollack, H & Comfort, M 2001, 'Academic and behavioral outcomes among the children of young mothers', *Journal of Marriage and Family*, vol. 63, pp. 355–69.

Maynard, RA 1997, 'The study, the context, and the findings in brief', in RA Maynard (ed.), *Kids having kids*, The Urban Institute Press, Washington, D.C, pp. 1–23.

Renfrew, C 1998, *Word Finding Vocabulary Test (The Renfrew Language Scales) Speechmark*, Milton Keynes.

Robertson, J, Bettini, E, Tamburro, C & Davies, A 2011, 'Mothers' aspirations for their Indigenous children', Australian Social Policy Conference 'Social Policy in a Complex World', Sydney, 6–8 July.

SCRGSP (Steering Committee for the Review of Government Service Provision) 2011, *Overcoming Indigenous disadvantage: key indicators 2011*, Productivity Commission, Canberra.

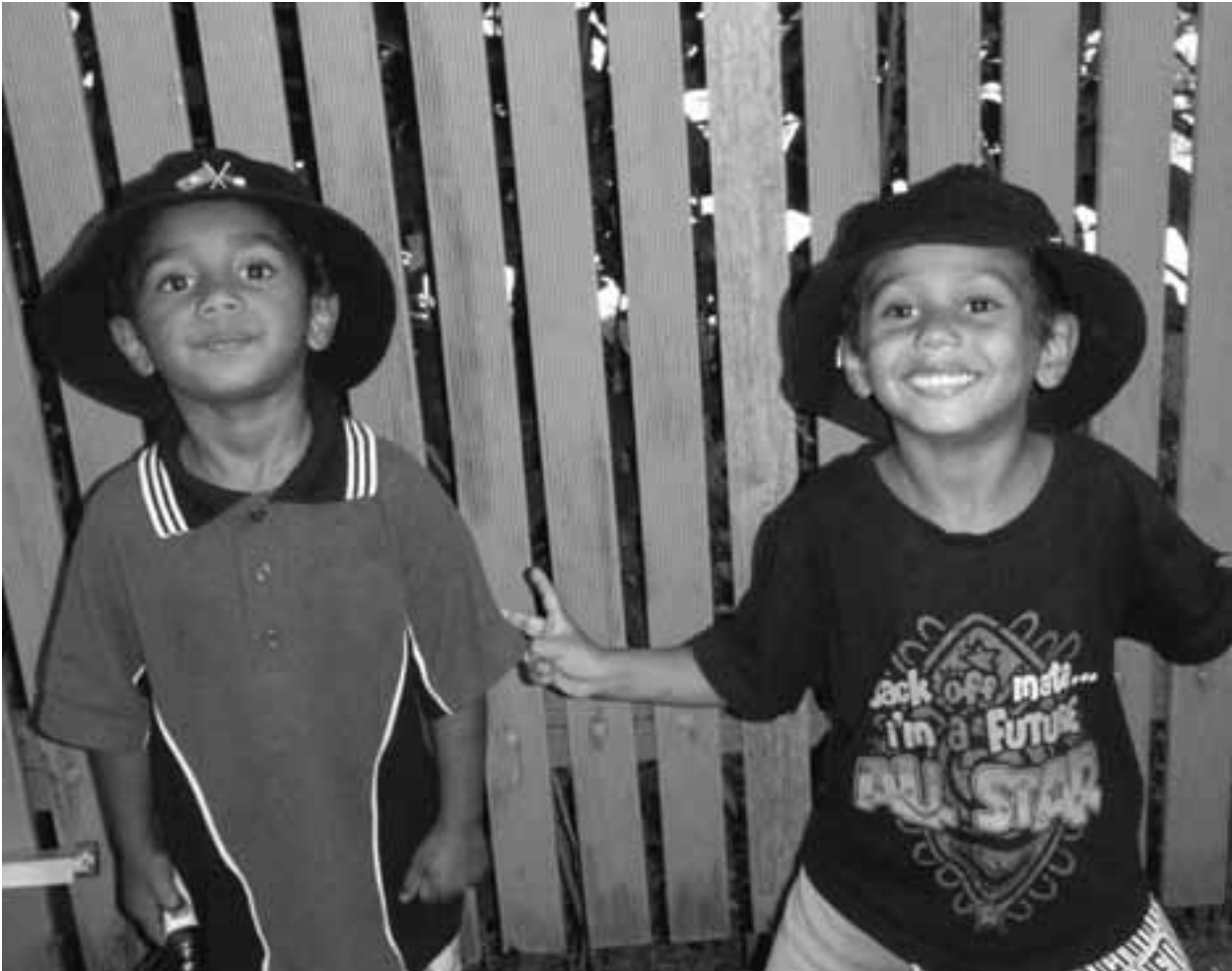
UNICEF 2001, A league table of teenage births in rich nations, Innocenti Report Card No. 3, UNICEF Innocenti Research Centre, Florence, available at <http://www.unicef-irc.org/publications/328>.

Wake, M, Sanson, A, Berthelsen, D, Hardy, P, Misson, S, Smith, K, Ungerer, J and the LSAC Research Consortium 2008, *How well are Australian infants and children aged 4 to 5 years doing?*, Social Policy Research Paper no. 36, Department of Families, Housing, Community Services and Indigenous Affairs, Canberra.

Zubrick, S, Silburn, S, Lawrence, D, Mitrou, F, Dalby, R, Blair, E, Griffin, J, Milroy, H, De Maio, J, Cox, A & Li, J 2005, *The Western Australian Aboriginal Child Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and Young People*, Curtin University of Technology and Telethon Institute for Child Health Research, Perth.

Zubrick, S, Silburn, S & De Maio, J, Shepherd, C, Griffin, J, Dalby, R, Mitrou, F, Lawrence, D, Hayward, C, Pearson, G, Milroy, H, Milroy, J, and Cox, A 2006, *The Western Australian Aboriginal Child Health Survey: improving the educational experiences of Aboriginal children and young people*, Curtin University of Technology and Telethon Institute for Child Health Research, Perth.

Acknowledgements



Footprints in Time—the Longitudinal Study of Indigenous Children (LSIC) would never have been possible without the support and trust of the Aboriginal and Torres Strait Islander families who opened their doors to the researchers and generously gave their time to talk openly about their lives. Our gratitude goes to them, and to the leaders and Elders of their communities who are active guardians of their people’s wellbeing.

Special thanks goes to the *Footprints in Time* Steering Committee and the subcommittee members, past or present, who, under the committed leadership of the Chair, Professor Mick Dodson AM, actively participated in grappling with the many challenges the study has faced in its development. Many of the members gave their time freely outside the committee meetings to provide expert advice to assist the study’s development.

PART C

Appendices

Appendix A—Background to the study	106
Appendix B—Study terminology and definitions	108
Appendix C—Wave 5 content and demographics	112
Appendix D—Governance of the study	114
Access to data and research	115



Appendix A—Background to the study

Commencing in 2008, *Footprints in Time* data has been collected on an annual basis from up to 1,700 Aboriginal and Torres Strait Islander children and their families. The study collects important information about:

- **the children**—their physical and mental health, how they develop socially and cognitively, their place in their family and community, and significant events in their life
- **the children’s families and households**—their health, work, lifestyle, and family and community connectedness
- **the children’s communities**—facilities, services, and social and community issues
- **services**—child care, education, health and other services used by the child’s family.

Study Objective

The main objective of the study is to collect high quality quantitative and qualitative data that can be used to provide a better insight into how Indigenous children’s early years affect their development. It is hoped that this information can be drawn upon to help close the gap in life circumstances between Indigenous and non-Indigenous Australians.

The *Footprints in Time* study has five key research questions, formulated under the guidance of the Steering Committee, which were designed to achieve this objective. These are:

- What do Indigenous children need to have the best start in life to grow up strong?
- What helps Aboriginal and Torres Strait Islander children to stay on track or get them back on track to become healthier, more positive and strong?



- How are Aboriginal and Torres Strait Islander children raised?
- What is the importance of family, extended family and community in the early years of life and when growing up?
- How can services and other types of support make a difference to the lives of Aboriginal and Torres Strait Islander children?

The study provides information for individuals, families, communities, service providers, researchers and governments. It aims to improve the understanding of, and policy response to, the diverse circumstances faced by Aboriginal and Torres Strait Islander children, their families and communities.

Study methodology

Footprints in Time employs an accelerated cross-sequential design, involving two cohorts of Indigenous children aged from 6 months to 2 years (the younger cohort also previously known as the Baby cohort, or B cohort) and from 3½ to 5 years (the older cohort also previously known as the Child cohort, or K cohort) in Wave 1. The design allows data covering the first nine or ten years of Aboriginal and Torres Strait Islander children's lives to be collected in six years. The two-cohort design also facilitates the comparison of the cohorts from Wave 4 onwards when their ages overlap, allowing the detection of changes due to different social conditions and policy initiatives.

Footprints in Time uses a non-random purposive sampling design from which eligible families were approached and voluntary consent obtained. The study focuses on 11 sites chosen, in part, to cover the range of socioeconomic and community environments where Aboriginal and Torres Strait Islander children live. The sample is not nationally representative; however, it reflects the distribution of Aboriginal and Torres Strait Islander children aged between 0 and 5 years across Australia in 2008 (except the Australian Capital Territory and Tasmania) and among urban, regional and remote areas.

Study informants

Wave 5 interviews collected data from:

- primary carer—the parent or carer who knows the study child best. In most cases this is the child's biological mother. Research Administration Officers (RAOs) undertake an extensive interview with the primary carer of every study child, asking questions about the study child, the primary carer and the household. It is a face-to-face interview.
- dad—the primary carer's male partner or another adult who has a father-like relationship with the study child. In most cases this is the biological father, but stepfathers are also common. In Wave 5, Dads Surveys were completed for 180 children.
- study child—the main focus of the study. Data is collected through direct assessments such as vocabulary assessments, practical exercises (Who am I?, the Progressive Achievement Test–Reading and the Matrix Reasoning Test) and child height and weight. The children also answer face-to-face interview questions.
- teachers and child care workers—complete written or online questionnaires that include their observations of the study children. In Wave 5, 473 children had a teacher complete the survey.

The survey is designed so that each child in the study is tracked and interviewed during each wave. However, the other informants may change depending on family and situational relationships.

For more detailed information about the study refer to the reports for Wave 1 and Wave 2 in this series of reports.

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 as 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 dependent 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.

References

- Australian Council for Educational Research (ACER) 2008, *Progressive Achievement Tests in Reading (PAT-R)*, 4th edn, ACER Press.
- Biddle, N 2011, *Ranking regions: revisiting an index of relative Indigenous socio-economic outcomes*, Centre for Aboriginal Economic Policy Research Working Paper 50, Australian National University, available at: <http://caper.aun.au/Publications/WP/2009WP50.php>.
- Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) 2012, *Footprints in Time: The Longitudinal Study of Indigenous Children Key Summary Report from Wave 3*, FaHCSIA, Canberra.
- de Lemos, M & Doig, B 1999, *Who am I? Developmental Assessment Manual*, ACER, Melbourne.
- Freiberg, K, Homel, R & Branch, S 2014, 'The Parent Empowerment and Efficacy Measure (PEEM): a tool for strengthening the accountability and effectiveness of family support services', *Australian Social Work*, vol. 67, issue3, pp. 405-418.
- Goodman, R 2012, *SDQ: Scoring the SDQ*, accessed from <http://www.sdqinfo.org/py/sdqinfo/c0.py>.
- Renfrew, C 1995, *The Renfrew Language Scales: Word Finding Vocabulary Test*, Speechmark Publishing Ltd, United Kingdom.
- Thomas, A, Cairney, S, Gunthorpe, W, Paradies, Y & Sayers, S 2010, 'Strong Souls; the development and validation of a culturally appropriate tool for assessment of social and emotional wellbeing in Indigenous youth', *Australia & New Zealand Journal of Psychiatry*, vol. 44, no. 1, pp. 40-48
- Wechsler, D 2003, *Wechsler Intelligence Scale for Children—fourth edition*, PsychCorp, Sydney.
- Zubrick, SR, Lawrence, DM, Silburn, SR, Blair, E, Milroy, H, Wilkes, T, Eades, S, D'Antoine, H, Read, A, Ishiguchi, P & Doyle, S 2004, *The Western Australian Aboriginal Child Health Survey: The Health of Aboriginal Children and Young People*, Telethon Institute for Child Health Research, Perth.

Appendix C—Wave 5 content and demographics

While there is a set of core questions that are asked on an annual basis, each wave of data includes new questions as dictated by the appropriateness of the children's age. In Wave 5, children in the younger cohort were asked the questions that were only asked of the older cohort in Wave 2.

In Wave 5 children in the younger cohort completed the Renfrew Language Scales: Word Finding Vocabulary Test for the second time. The older cohort completed the Matrix Reasoning Test and the Progressive Achievement Test in Reading, also both for the second time. In Wave 5, the reading test included level 2 in addition to levels P and 1.⁵³ As they get older, the older cohort is also being asked more questions about their own views, which in Wave 5 included questions about their own social and emotional wellbeing and who they would go to for help in various situations.

New topics about which primary carers were asked include confidence in their parenting skills, major problems with the house in which they lived, what they think about the study child's friendship group, and satisfaction with various aspects of life.

There are also a number of new questions relevant within the Indigenous communities, including whether anyone in their family had been raised in an institution, the sorts of activities the study child does to learn about Aboriginal and Torres Strait Islander culture and how many times a week the study child spends time with Aboriginal or Torres Strait Islander leaders or elders in the community.

Wave 5 response rates and non-response bias

Interviewing in Wave 5 was conducted between March and December 2012. Interviews were conducted by DSS's Research Administration Officers (RAOs), who are all Aboriginal or Torres Strait Islanders. Ideally participants are interviewed at 12 month intervals. The average length of time

between Wave 4 and Wave 5 interviews was 11 months with 58.7 per cent of the interviews conducted between 10 and 14 months.

The original Wave 1 sample included 1,671 families. A further 88 new entrant families were added to the study in Wave 2. A total of 1,759 families have participated in one or more waves of *Footprints in Time*. Of this sample, 909 families (51.7 per cent) have participated in all five waves of the study; 387 families (22.0 per cent) have participated in four waves; 229 families (13.0 per cent) have participated in three; 125 families (7.1 per cent) have participated in two; and 109 (6.2 per cent) have participated in one wave.

If the characteristics of families who drop out of the study are different from the characteristics of families who continue to participate, attrition (dropout) may become a problem. Table 59 reports the percentages of children whose primary carers participated in all five waves of *Footprints in Time* and percentages of children whose primary carers participated in Wave 5, by various Wave 1 characteristics. There were 88 families who entered the study in Wave 2 and these are excluded from these figures.

The highest reinterview rates occur for children who, in Wave 1, lived in urban areas and were in the younger cohort. Primary carers had higher reinterview rates if they were employed, non-Indigenous, partnered in Wave 1 and either owned their own home or were renting privately.

Nevertheless, there is a relatively high level of participation among all groups. While respondents may not participate every year of the study, they remain relatively well engaged from year to year. For example, while only 36.8 per cent of families living in areas of high or extreme remoteness participated every year, 63.9 per cent participated in Wave 5.

Table 58: *Footprints in Time* sample size and retention

Wave	Sample size				Sample retention (per cent)	
	P1	P2/Dads	SC	Teacher or carer	Previous Wave	Wave 1 sample
Wave 1	1,671	257	1,469	45	–	100.0
Wave 2	1,523	268	1,472	163	85.9	85.9
Wave 3	1,404	–	1,394	329	86.1	79.8
Wave 4	1,283	213	1,269	442	81.9	72.8
Wave 5	1,258	180	1,244	473	85.5	71.8

Note: Sample retention is based on primary carer responses.

⁵³ These correspond to year levels at school.

Table 59: Percentage of Wave 1 respondents re-interviewed by selected sample characteristics

Wave 1 characteristics	Number in Wave 1	All waves	Wave 5
Level of relative isolation (LORI)			
Urban	432	67.1	81.5
Low	825	54.8	71.4
Moderate	259	42.5	61.8
High/extreme	155	36.8	63.9
Index of Relative Indigenous Socioeconomic Outcomes (IRISEO) quintile			
1st quintile (most disadvantaged)	194	41.8	58.8
2nd quintile	283	45.2	66.1
3rd quintile	704	56.7	71.9
4th quintile	242	60.3	77.7
5th quintile (most advantaged)	248	62.5	82.7
Child's sex			
Male	850	54.9	72.2
Female	821	53.8	71.4
Child's Indigenous status			
Aboriginal	1,464	55.5	71.8
Torres Strait Islander	110	48.2	77.3
Both Aboriginal and Torres Strait Islander	97	44.3	66.0
Child's age group			
Younger cohort	954	55.7	72.9
Older cohort	717	52.7	70.4
Primary carer's sex			
Male	41	68.3	80.5
Female	1,630	54.0	71.6
Primary carer's Indigenous status			
Indigenous	1,425	51.5	69.7
Non-Indigenous	246	71.1	84.1
Primary carer's partnership status			
Partner in household	919	58.4	74.9
No partner in household	752	49.5	68.1
Primary carer's labour force status			
Employed	495	58.8	79.0
Not employed	1,159	52.4	68.8
Home ownership status			
Home owner*	283	72.6	83.9
Private rental	325	62.7	81.6
Public or community housing rental	1,012	47.5	66.0
Total	1,671	54.4	71.8
Number responding	1,671	909	1,200

* Includes paying off the mortgage and owning outright.

Note: LORI, IRISEO and primary carer characteristics are based on the characteristics of Wave 1 primary carers. The primary carer might have changed after Wave 1, but if the child and his or her family continued to participate in the study they were accounted for in the reinterviewed group. The numbers in the table therefore reflect the proportions of children whose primary carers were interviewed, not the proportions of primary carers who were reinterviewed.

Appendix D—Governance of the study

Steering Committee (members involved in the development of Wave 5)

Professor Mick Dodson AM, National Centre for Indigenous Studies, Australian National University (ANU) (Chair)

Dr Karen Martin, Southern Cross University (Deputy Chair)

Ms Adele Cox, Consultant

Ms Catriona Elek, Secretariat of National Aboriginal and Torres Strait Islander Studies

Dr Jill Guthrie, Australian Institute of Aboriginal and Torres Strait Islander Studies

Dr Sarah Holcombe, National Centre for Indigenous Studies (ANU)

Dr Boyd Hunter, Centre for Aboriginal Economic Policy Research (ANU)

Mr Shane Merritt, University of New England

Ms Nancy Pearson, Torres Strait Regional Authority

Professor Ann Sanson, University of Melbourne

Professor Sven Silburn, Menzies School of Health Research

Mr Paul Stewart, University of Melbourne

Dr Penny Tripcony, Indigenous Education Consultant

Dr Maggie Walter, University of Tasmania

Dr Margo Weir, Education Consultant and Cross-cultural Researcher

Professor Stephen Zubrick, Curtin University of Technology

Research Administration Officers—Wave 5

Joshua Atkinson, Michael Barnes, Sharon Barnes, Cheryl Grant, Naomi Hawthorne, Sandra Hooper, Eileen Kris, Cheryleen O'Loughlin, Cynthia O'Loughlin, Sandra Patten, Geraldine Saunders, Kathleen Smith, Roslyne Thorne, Leah Tratt, Christine Urbanowski, Annie Wacando, Terry Watson.



Access to the data

The datasets used in this report are available to approved users for their own research. The more data users there are, the more useful the contributions of the families involved in the study will be. This Wave 5 report has only skimmed the surface of the *Footprints in Time* datasets. We hope others will be inspired to delve deeper and unlock more of the potential of this unique study.

Existing and new data users can apply for a licence for Release 5⁵⁴ data by completing the appropriate deed. Copies of these, together with fact sheets about licensing arrangements can be downloaded from the *Footprints in Time* website: www.dss.gov.au/lxic.

Queries about using *Footprints in Time* data can be directed to LSICdata@dss.gov.au.

General queries about the *Footprints in Time* data should be directed to LSIC@dss.gov.au.

Queries about access to the *Footprints in Time* datasets should be directed to longitudinalsurveys@dss.gov.au.

Access to research

All researchers who have access to the datasets are required under licence to make their research publicly available as appropriate. Researchers must upload bibliographic details of their research using *Footprints in Time* or any of the Department of Social Services' other longitudinal studies into a publicly available searchable database available at <http://flosse.dss.gov.au>

⁵⁴ Release 5 includes Waves 1, 2, 3 and 4 in addition to Wave 5.

National Centre for Longitudinal Data



The Australian Government Department of Social Services recognises the key role data plays in understanding the wellbeing of all Australians over the life course. The National Centre for Longitudinal Data (NCLD) brings together under one banner four of the department's longitudinal studies:

- *Growing up in Australia*: the Longitudinal Study of Australian Children (LSAC),
- *Footprints in Time*: the Longitudinal Study of Indigenous Children (LSIC),
- *Building a New Life in Australia*: the Longitudinal Study of Humanitarian Migrants (BNLA), and
- Household, Income and Labour Dynamics in Australia Survey (HILDA).

Information about how to apply for the data sets from the studies can be found at www.dss.gov.au/nclid.

NCLD facilitates government leveraging greater analytical value from its data assets by focusing strongly on cross-survey analysis to inform the development of long-term social policy priorities. It seeks to influence the architecture of longitudinal surveys in Australia through collaboration and discussion with the research and policy community.

Visit the Centre website at www.dss.gov.au/nclid for information about:

- each of the longitudinal studies
- how to access the longitudinal data
- research presentations and publications based on the data
- the NCLD conference proposed for 2016.

Email longitudinalstudies@dss.gov.au to enquire about the studies.