# LSIC PRIMARY REPORT

# TECHNICAL APPENDIX

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# Contents

# 1. Introduction

This technical report serves as an appendix to the *Footprints in Time* Longitudinal Study of Indigenous Children Primary School Report (2022).

This LSIC Primary School report has been produced following the release of the twelfth wave of data collection, with the majority of LSIC children having completed primary school (Preparatory [aged ~5 years] to Year 6 [aged ~12 years]). Primary schools play a central role in supporting student learning, wellbeing, and connectedness, and the *Footprints in Time* study provides a platform for centring Indigenous voices, connecting stories, and exploring emerging themes related to the experience of Indigenous children and families in the Australian education system.

This report uses a mixed-methods approach, analysing both quantitative and qualitative data shared by LSIC participants, to explore primary school experiences from the perspective of children, parents, and teachers. Analyses are framed using a strengths-based approach and are underpinned by the understanding that all aspects of life are related. The report documents a range of topics including teacher cultural competence, racism, school-based Aboriginal and Torres Strait Islander education activities, parental involvement, engagement, attendance, and academic achievement.

In this technical report further details on measures and analytic approaches used are provided.

## 1.1 LSIC dataset restructuring

Due to the spread of ages for LSIC children in each annual wave of data collection, children's commencement and progress through primary school is not well aligned with the LSIC waves. For example, the Wave 5 dataset includes children in their preschool year up to Year 4.

For this reason, we restructured the LSIC data by children's year level at school, rather than analysing the data according to the wave at which children's data were collected. To do this, at each wave of data collection we identified the primary school year (grade) level in which children were enrolled, then combined all Year 1 data, Year 2 data, and so on. This provided us with data at each school year level.

For most analyses we use our newly restructured datasets based on school year level, creating new variables with a naming convention beginning with year level (e.g., y1_, y2_, etc). However, where it made sense to do so for some analyses, we sometimes instead use data from a specific Wave of LSIC (e.g., Wave 8). This was common in instances where perhaps the data for a variable was collected only at one wave or where we wanted to capture responses *across* multiple years of primary school. Where this approach is taken, we make this clear in the report, and provide the age range of the children in the wave being used.

We include preschool data where it could be identified that children were attending early childhood education and care in the year prior to entering formal schooling. This status is not always easy to identify within LSIC, especially given the different names used across jurisdictions (e.g., preschool, kindergarten, etc). We go on to use preschool data in some parts of the report, but not all.

To maximise the availability of data for longitudinal and other modelling, we often use an average (mean) of certain constructs within three distinct periods of primary school:

- Preparatory to Year 2 (early primary)
- Year 3 and Year 4 (mid primary)

- Year 5 and Year 6 (senior primary)

This approach meant that data were available for more children than it would otherwise be if we used only data from one specific grade.

# 2. Sociodemographic variables used across analyses

The following list of variables were agreed upon through consultation across the QUT team and with the Department of Social Services for common use across the report. Below, we describe the decisions made about which data point was used, and a rationale behind these decisions.

## 2.1 Child gender

Variable name: **xgender**

## 2.2 Child age in each school year level

Variable names created in restructured dataset: **y1_scage, y2_scage,** etc**.**

## 2.3 Remoteness area

Correlations for children's remoteness area across LSIC waves, and across our new dataset structured by children's school year level, were all above .90 suggesting a strong degree of consistency in remoteness area for participants across time.

We use the most complete data available on remoteness area (drawn from Waves 1 and Waves 2 of LSIC across most of our analyses). Note: additional children were added in Wave 2 to the LSIC cohort.

Variable name: **ara**

## 2.4 Level of relative Indigenous socioeconomic outcomes (IRISEO)

**IRISEO** is a composite, rank order variable derived from information on the employment, education, income, and housing characteristics of Aboriginal and Torres Strait Islander communities from Indigenous Regions across Australia (Biddle, 2009). This variable ranges from 1 to 10 (deciles) where higher numbers reflect higher socioeconomic outcomes. Correlations for children's Indigenous socioeconomic outcomes across LSIC waves and across our new dataset structured by children's school year level were all above .85.

We use IRISEO data from children's early school years (average of Prep to Year 2 for each child), and where this was missing (*n* = 148) we impute IRISEO from Wave 1 or Wave 2 of LSIC.

Variable name: **air10**

## 2.5 Experience of financial stress in the last year

Families were asked to respond yes/no to a series of items indicating financial stress in the last 12 months (LSIC items afi9_1 through to afi9_8):

- Could not pay bills on time
- Could not pay housing payments in time
- Went without meals
- Unable to heat or cool home
- Pawned/ sold something
- Assistance from welfare organisation
- Child could not do school activities

Responses of 'yes' were summed to create a score for financial stress ranging from zero to 8.

We created year level variables named **y1_afitotal,** etc.

Looking across time, this varied across waves with longitudinal correlations from .31.

In line with our treatment of 'early', 'mid', and 'late' primary school, we created MEANS for financial stress in each of these periods.

- Prep to Year 2: **p2fin**
- Year3/4: **midfin**
- Year5/6**: latfin**

## 2.6 Total number of life events in the last year

At each wave of data collection, parents were asked to report on whether they or a close family member have experienced major life events in the past year. Such events, majority of which are stressful (e.g., badly hurt or sick, loss of a job, family member passing away, problems with police etc.), impact family and child wellbeing. In LSIC, a derived variable that sums the total number of these significant life events experiences in the last 12 months is available (ameleve).

In our restructured datasets we renamed this by school grade level **y1_ameleve,** etc.

This varied across waves with longitudinal correlations from .46.

In line with our treatment of 'early', 'mid', and 'late' primary school, have created MEANS for significant life events in each of these periods.

- Prep to Year 2: **p2lifev**
- Year3/4: **midlifev**
- Year5/6**: latlifev**

## 2.7 Total number of people in the household

Correlations across prep to Year 2 data on this variable ranged from .54 suggesting some change over time.

In our newly restructured datasets these were named as **y1_ahtfoth,** etc.

In line with our treatment of 'early', 'mid', and 'late' primary school, have created MEANS for total number of adults and children living in each household.

- Prep to Year 2: **p2htot**
- Year3/4: **midhtot**
- Year5/6**: lathtot**

## 2.8 Percentage of Indigenous children in community

This is available only at LSIC Wave 2 when AEDC data was linked at the community level only.

Variable name: **badc_d5**

## 2.9 Percentage of children in community vulnerable on AEDC

This is available only at LSIC Wave 2 when AEDC data was linked at the community level only. This is used as a proxy indicator of community in relation to child development outcomes.

Variable names

**badc_vul1** (percentage vulnerable on 1 or more domains of AEDC)

**badc_vul2** (percentage vulnerable on 2 or more domains of AEDC)

## 2.10 SEIFA

**SEIFA** is an index created by the Australian Bureau of Statistics which ranks areas in Australia according to the relative socio-economic advantage. Higher rankings represent higher socio-economic advantage of the local area. The index is based on information from the five-yearly census data. More information can be found by searching SEIFA on the Australian Bureau of Statistics website. Correlations across the primary school years on SEIFA ranged from .61 to .89, thus showing some instability.

In our restructured datasets we renamed this by school grade level as **y1_aad10_mix**, etc**.**

Note, the 'mix' refers to the fact that we ensured that the two LSIC variables for SEIFA 2006 and 2016 were merged where the two scores were available to retain as many complete cases as possible on a single SEIFA variable at each school year level.

In line with our treatment of 'early', 'mid', and 'late' primary school, we created MEANS for SEIFA in each of these periods

- Prep to Year 2: **p2seifa**
- Year3/4: **midseifa**
- Year5/6**: latseifa**

## 2.11 Highest education level of parent 1

LSIC uses 15 categories of parent 1 highest education. These were recoded as follows

- 4: Bachelor or higher degree
- 3: Other post school qualification (including certificates, diplomas and other non-school quals)
- 2: completed high school (including year 12 or equivalent and certificate of completion)
- 1: incomplete high school (including still at school, year 11 or lower completed).

Correlations across Prep to Year 2 were .84 and higher, suggesting some movement.

We renamed our recoded variables (as per above) in our newly structured datasets as **y1_ped,** etc.

To create variables with the most complete data available on parent education, variables across early, mid, and late primary school were merged to create an indicator of parent education level at those times:

- Prep to Year 2: **p2pared**
- Year 3/4: **midpared**
- Year 5/6: **senpare**

# 3. Chapter 1 technical appendix

## 3.1 Chapter 1 Tables and Figures

**Table 1.1** The LSIC Primary School Report dataset by remoteness

| | Full LSIC study | Preschool | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|---|---|
| **N children (%)** | 1759 (100) | 967 (55) | 1237 (70) | 1226 (70) | 1217 (69) | 1221 (69) | 1240 (70) | 1196 (68) | 1181 (67) |
| **Child age months *M (SD)*** | - | 52.3 (6.4) | 66.3 (5.9) | 78.8 (6) | 91.3 (5.3) | 103 (5.3) | 115.2 (5.6) | 127.5 (5.4) | 139.1 (5.3) |
| **Female %** | 50 | 50 | 49 | 50 | 51 | 51 | 50 | 52 | 52 |
| **Remoteness *n* (%)** | | | | | | | | | |
| **Major city** | 433 (27) | 271 (28) | 346 (28) | 341 (28) | 342 (28) | 337 (28) | 358 (29) | 338 (28) | 347 (29) |
| **Inner regional** | 421 (24) | 278 (29) | 297 (24) | 333 (27) | 319 (26) | 330 (27) | 334 (27) | 332 (28) | 320 (27) |
| **Outer regional** | 228 (13) | 145 (15) | 172 (14) | 192 (16) | 191 (16) | 203 (17) | 211 (17) | 204 (17) | 195 (17) |
| **Remote** | 249 (14) | 93 (10) | 158 (13) | 130 (11) | 134 (11) | 125 (10) | 1198 (10) | 130 (11) | 126 (11) |
| **Very remote** | 426 (24) | 180 (19) | 264 (21) | 230 (19) | 231 (19) | 226 (19) | 218 (18) | 192 (16) | 193 (16) |
| **Teacher data available *n* (%)** | - | 322 (33) | 477 (39) | 506 (4) | 488 (40) | 523 (43) | 553 (45) | 575 (48) | 589 (50) |
| **Major cities** | - | 113 (35) | 153 (32) | 147 (29) | 147 (31) | 148 (28) | 161 (29) | 170 (30) | 175 (30) |
| **Inner regional** | - | 94 (29) | 134 (28) | 162 (32) | 151 (31) | 159 (30) | 161 (29) | 183 (32) | 194 (33) |
| **Outer regional** | - | 52 (16) | 69 (14) | 85 (17) | 73 (15) | 95 (18) | 112 (20) | 93 (16) | 108 (18) |
| **Remote** | - | 36 (11) | 58 (12) | 53 (10) | 44 (9) | 58 (11) | 33 (6) | 58 (10) | 48 (8) |
| **Very remote** | - | 27 (8) | 63 (13) | 59 (12) | 72 (15) | 68 (13) | 86 (16) | 71 (12) | 64 (11) |
| **School data available (MySchool) *n* (%)** | | | 558 (45) | 686 (56) | 988 (81) | 1184 (97) | 1210 (98) | 1183 (99) | 1169 (99) |
| **Major cities** | - | | 179 (32) | 200 (29) | 278 (28) | 317 (27) | 326 (27) | 324 (27) | 344 (29) |
| **Inner regional** | - | | 129 (23) | 175 (26) | 275 (28) | 314 (26) | 327 (27) | 326 (28) | 320 (27) |
| **Outer regional** | - | | 76 (14) | 98 (14) | 124 (13) | 152 (12) | 163 (13) | 156 (13) | 193 (17) |
| **Remote** | - | | 64 (11) | 76 (11) | 110 (11) | 147 (12) | 145 (12) | 148 (13) | 126 (11) |
| **Very remote** | - | | 110 (20) | 137 (20) | 201 (20) | 254 (21) | 229 (19) | 229 (19) | 186 (16) |

# 4. Chapter 2 technical appendix

## 4.1 Chapter 2 Tables and Figures

**Table of data illustrated in Figure 2.1** Percentage of LSIC children who speak an Indigenous language by remoteness area

| | Doesn't speak an Indigenous language n (%) | Speaks an Indigenous language n (%) |
|---|---|---|
| **Major Cities** | 347 (94%) | 22 (6%) |
| **Inner Regional** | 310 (92%) | 26 (8%) |
| **Outer Regional** | 136 (75%) | 45 (25%) |
| **Remote** | 114 (65%) | 62 (35%) |
| **Very Remote** | 85 (28%) | 222 (72%) |
| **Full LSIC sample** | 992 (72%) | 377 (28%) |

**Table of data illustrated in Figure 2.2** Dominant language of LSIC children by remoteness area

| | Dominant in an Indigenous language n (%) | Dominant in English n (%) | Equally fluent in English and an Indigenous language n (%) |
|---|---|---|---|
| **Major Cities** | 1 (<1%) | 363 (99%) | 3 (1%) |
| **Inner Regional** | 1 (<1%) | 335 (>99%) | 0 (0%) |
| **Outer Regional** | 4 (2%) | 171 (95%) | 5 (3%) |
| **Remote** | 8 (5%) | 157 (92%) | 6 (4%) |
| **Very Remote** | 26 (9%) | 150 (52%) | 110 (38%) |
| **Full LSIC sample** | 40 (3%) | 1176 (88%) | 124 (9%) |

**Table 2.1** Parent report of developmental delay or disability

| | Parents report developmental delay n (%) | Parents report disability n (%) |
|---|---|---|
| **Preparatory** | 24 (2.5%) | 21 (2.0%) |
| **Year 1** | 28 (2.3%) | 37 (3.0%) |
| **Year 2** | 24 (2.0%) | 31 (2.5%) |
| **Year 3** | 21 (1.7%) | 46 (3.8%) |
| **Year 4** | 21 (2.5%) | 22 (2.6%) |
| **Year 5** | 13 (2.1%) | 34 (5.6%) |
| **Year 6** | 17 (2.8%) | 26 (4.3%) |

**Table of data illustrated in Figure 2.3** School sectors attended by LSIC children

| | Percentage of Children (%) |
|---|---|
| **Independent** | 4 |
| **Catholic** | 9 |
| **State** | 87 |

**Table of data illustrated in Figure 2.4** Structure of schools attended by LSIC children

| | Percentage of Children (%) |
|---|---|
| **Combined (primary and secondary school)** | 23 |
| **Primary** | 73 |
| **Special** | 4 |

**Table of data illustrated in Figure 2.5** Enrolment size (number of students) of schools attended by LSIC children

| | Percentage of Children (%) |
|---|---|
| **35 or less** | <1 |
| **35 to 100** | 4 |
| **101 to 200** | 13 |
| **201 to 400** | 40 |
| **401 to 600** | 22 |
| **600 or more** | 21 |

**Table of data illustrated in Figure 2.6** Percentage of children in multi-age / grade classrooms

| | Percentage (%) of Children | |
|---|---|---|
| | Multi-age/Multi-grade (Team Teaching) | Multi-age/Multi-grade (Single Teacher) |
| **Prep** | 4 | 15 |
| **Year 1** | 9 | 28 |
| **Year 2** | 8 | 32 |
| **Year 3** | 8 | 44 |
| **Year 4** | 12 | 40 |
| **Year 5** | 6 | 43 |
| **Year 6** | 10 | 38 |

**Table of data illustrated in Figure 2.7** Average class size across primary school for full LSIC sample and by remoteness

| | Average class size across primary school |
|---|---|
| **Major Cities** | 25.36 |
| **Inner Regional** | 24.14 |
| **Outer Regional** | 22.82 |
| **Remote** | 23.14 |
| **Very Remote** | 21.27 |
| **Full LSIC sample** | 23.68 |

**Table of data illustrated in Figure 2.8** Proportion of Aboriginal and Torres Strait Islander children (as reported by teachers) in classrooms for the full LSIC sample by remoteness

| | Average percentage (%) of class that is Aboriginal or Torres Strait Islander |
|---|---|
| **Major Cities** | 13 |
| **Inner Regional** | 28 |
| **Outer Regional** | 36 |
| **Remote** | 51 |
| **Very Remote** | 79 |
| **Full LSIC sample** | 36 |

**Table of data illustrated in Figure 2.9** Proportion of all children in classes that have a disability or developmental delay (as reported by teachers) by remoteness area

| | Average percentage (%) of class that has a disability or developmental delay |
|---|---|
| **Major Cities** | 9 |
| **Inner Regional** | 12 |
| **Outer Regional** | 15 |
| **Remote** | 11 |
| **Very Remote** | 13 |
| **Full LSIC sample** | 12 |

**Table of data illustrated in Figure 2.10** Percentage of LSIC children in Year 3 whose teachers report that their class has access to specialist teachers by remoteness

| | Percentage (%) of Children | | | | |
|---|---|---|---|---|---|
| | Major Cities | Inner Regional | Outer Regional | Remote | Very Remote |
| **Teacher Librarian** | 72 | 70 | 69 | 52 | 24 |
| **Music Specialist** | 68 | 50 | 51 | 55 | 23 |
| **Physical Education Teacher** | 71 | 52 | 53 | 81 | 81 |
| **Computing Support Teacher** | 28 | 37 | 61 | 4 | 26 |
| **Learning Support Teacher** | 74 | 52 | 73 | 30 | 33 |
| **Language Other Than English Teacher** | 35 | 24 | 19 | 33 | 23 |
| **English as a Second Language Teacher** | 42 | 19 | 11 | 19 | 7 |
| **Indigenous Language Teacher** | 9 | 17 | 16 | 23 | 27 |

**Table 2.2** Number (and percentage) of children for whom teachers report an Individualised Education Plan of any kind

| | Teachers report Individualised Education Plan - n (%) of children that have teacher-report data |
|---|---|
| **Preparatory** | 120 (25%) |
| **Year 1** | 124 (25%) |
| **Year 2** | 171 (35%) |
| **Year 3** | 217 (41%) |
| **Year 4** | 201 (36%) |
| **Year 5** | 327 (57%) |
| **Year 6** | 368 (62%) |

**Table of data illustrated in Figure 2.11** Percentage of LSIC children receiving one or more years of specialized services at school due to disability or need (as reported by teachers) by remoteness area

| | Percentage (%) of children receiving specialist services at school |
|---|---|
| **Major Cities** | 51 |
| **Inner Regional** | 49 |
| **Outer Regional** | 51 |
| **Remote** | 42 |
| **Very Remote** | 30 |
| **Full LSIC sample** | 45 |

# 5. Chapter 3 technical appendix

## 5.1 Teacher cultural competency score

For each child, their teacher at any given wave is a given a composite (summed score) of their level of training across five cultural competency domains, listed below (dgb1611 to dbg1655):

- *General cultural awareness:* Have you learned general cultural awareness?
- *Indigenous cultural awareness:* Have you learned Indigenous cultural awareness?
- *Indigenous knowledge*: Have you learned how to teach Indigenous knowledge?
- *Teach Indigenous children:* Have you learned how to teach Indigenous children?
- *Indigenous language:* Have you learned one or more Indigenous languages?

Teachers' responses to the above questions were categorized into:

- Yes, I studied as an *undergraduate*
- Yes, I received *in-service training*
- Yes, as a part of *post-graduate studies*
- Yes, I learned this *on the job*
- *No*

For the first three responses, reflecting *professional training* (i.e., undergraduate, in-service training, or post-graduate) teachers were given a score of 2, whereas, when "*on the job"* was reported, teachers were given a score of 1 on that domain. When teachers reported "*No*", they were given a score of 0 for that domain. These scores across all five items were then summed to form a composite scale score ranging from 0 to 10. A score of 0 would reflect a teacher who responded "*No*" to all cultural competency training items and therefore had not received any training/learning across these domains, whereas a score of 10 would reflect a teacher who had received professional training across all five cultural competency domains.

## 5.2 Parent-report of child's experience of racist-bullying

For this report, we used two related LSIC items that were asked of parents:

1. Ace22: *As far as you know, has Study Child been bullied or treated unfairly at preschool/school because (he/she) is Aboriginal or Torres Strait Islander?* (available from Preschool to Year 4)

2. Ace50a: *Has Study Child been bullied or treated unfairly at school because they are an Aboriginal or Torres Strait Islander?* (available from Year 2 to Year 6)

An indicator was then developed for every child for each year level in the primary school years. Parents who responded "*No*" to both questions (in the years where they were overlapping) received a 0 (indicating no racist bullying). If parent responded "*Yes*" to either ace22 or ace50a then the student received a 1 (indicating they had experience racist bullying).

For overall analyses, any experience of racist bullying across the primary school years (i.e., receiving a score of 1 at any year level) was coded as 1 and no experiences of bullying across the primary school years was coded as 0.

Children were also given a composite/summed score representing the number of year levels their parent reported the child experiencing racist bullying.

## 5.3 Additional quantitative variables

- **Teachers' gender (dbg1):** all teachers in the LSIC dataset, across Preparatory to Year 6, were asked to report whether they are "male or female".
- **Teachers' Indigenous status (dbg3):** all teachers in the LSIC dataset, across Preparatory to Year 6, were asked to report if they are "of Aboriginal and/or Torres Strait Islander origin".
- **Teacher years of experience teaching Indigenous students(dbg18d):** all teachers in the LSIC dataset, across Preparatory to Year 6, were asked to report how many months experience they have teaching Indigenous children.
- **Teacher additional training they would benefit from:** From Preparatory to Year 6, teachers were asked to indicate whether they feel they would benefit from additional training across the following domains:
    - Learning about Indigenous cultures in general (dbg18)
    - Learning about Indigenous cultures in local area (dbg13)
    - Learning to teach Indigenous children successfully (dbg17_3)
    - Learning to teach Indigenous knowledge appropriately (dbg17_4)
    - Indigenous language training (dbg17_5)

  Teachers were also asked to indicate if they feel they would benefit from training in other area (dbg17_6), or if they are confident that they have sufficient training (dbg17_7).
- **Parents' experiences of racism at their child's school:** Parents were asked to report on the frequency and location of experiences of racism across the following areas:
    - People try to pick fights with you because you're Aboriginal and/or Torres Strait Islander (arm1a_8)
    - Told you're not Aboriginal and/or Torres Strait Islander (arm1b_8)
    - Told you get all this free stuff because you're Aboriginal and/or Torres Strait Islander (arm1c_8)
    - Stared at rudely because you're Aboriginal and/or Torres Strait Islander (arm1d_8)
    - Ignored by people because you're Aboriginal and/or Torres Strait Islander (arm1e_8)
    - Some Aboriginal or Torres Strait Islander people said you don't look Aboriginal and/or Torres Strait Islander (arm1f_8)
    - Told that you are too sensitive (too worried) about racism (arm1g_8)
    - See people being treated unfairly/simply because they are Aboriginal and/or Torres Strait Islander (arm1h_8)

  For this report, Wave 10 data was used when parents reported these instances as occurring at their child's school.
- **Proportion of Indigenous enrolments at the school (indstpct):** MySchool data reports the percentage of Indigenous enrolments within the child's school (I.e., the number of Indigenous student enrolments divided by the total number of students in the school).
- **Remoteness (ara):** We use the most complete data available on remoteness area (drawn from Waves 1 and Waves 2 of LSIC). Note: additional children were added in Wave 2 to the LSIC cohort. The *Australian Statistics Geographical Standard* ratings consist of five categories: Major Cities of Australia, Inner Regional Australia, Outer Regional Australia, Remote Australia, and Very Remote Australia.
- **Peer Relationship Problems (asq1_6, asq1_11, asq1_14, asq1_19, asq1_23):** this is a subscale of the *Strengths and Difficulties* (Goodman, 2001), comprising 5 items tapping child's relationships, friendships, whether they play alone, if they are picked on etc. Response options include *not true, somewhat true,* and *certainly true.* Scores across the 5 items are summed, with potential scores ranging from 0 to 10, with higher scores indicating higher levels of problems with peers. In Chapter 3, scores across Year 3 and Year 4 are averaged, forming a middle schooling score, and scores across Year 5 and Year 6 are averaged, forming a later schooling score.

- **School Managing (ace87_1 to ace87_5):** This five-item scale uses parent-report to determine how children are managing with school. The following five items are included:
    - How well do you think (STUDY CHILD) is managing in school with school work?
    - How well do you think (STUDY CHILD) is managing in school with making friends?
    - How well do you think (STUDY CHILD) is managing in school with being good?
    - How well do you think (STUDY CHILD) is managing in school with feeling strong?
    - How well do you think (STUDY CHILD) is managing in school with knowing where to be and when?

  Responses options were recoded to 1= *not very well at all*, 2= *not very well,* 3= *reasonably well,* 4= *well*, and 5= *extremely well.* A mean of the 5 items was computed at each year level (with scores ranging from 1 to 5). In Chapter 3, scores across Year 3 and Year 4 are averaged, forming a middle schooling score, and scores across Year 5 and Year 6 are averaged, forming a later schooling score.
- **NAPLAN Attainment*:*** In Chapter 3, Year 3 and Year 5 NAPLAN scores for reading (y3read and y5read) and numeracy (y3num and y5num) were used as outcome variables.

## 5.4 Additional quantitative analyses

Chapter 3 explores associations across a range of variables using separate analyses, all adopting a statistical significance threshold of $p<.05$. Independent group t-tests were conducted in instances where the means of continuous variables were compared across two groups. Chi-square tests of independence examined the association between categorical or dichotomous variables. Pearson's bivariate correlations were also used to determine the association between continuous variables.

## 5.5 Chapter 3 Tables and Figures

**Table of data illustrated in Figure 3.1** Percentage of male teachers represented in the LSIC data across the primary years

| | Percentage (%) of Teachers who are Male |
|---|---|
| **Preschool** | 4 |
| **Prep** | 3 |
| **Year 1** | 4 |
| **Year 2** | 10 |
| **Year 3** | 13 |
| **Year 4** | 16 |
| **Year 5** | 24 |
| **Year 6** | 32 |

**Table of data illustrated in Figure 3.2** Percentage of Indigenous teachers represented in the LSIC data across the primary years

| | Percentage (%) of Teachers who are Indigenous |
|---|---|
| **Preschool** | 13 |
| **Prep** | 7 |
| **Year 1** | 4 |
| **Year 2** | 6 |
| **Year 3** | 4 |
| **Year 4** | 5 |
| **Year 5** | 6 |
| **Year 6** | 5 |

**Table of data illustrated in Figure 3.3** Composite cultural competency training scores of students' Year 6 teachers (range from 0 to 10)

| | Number of Teachers |
|---|---|
| **0** | 5 |
| **1** | 10 |
| **2** | 22 |
| **3** | 15 |
| **4** | 108 |
| **5** | 51 |
| **6** | 53 |
| **7** | 48 |
| **8** | 207 |
| **9** | 32 |
| **10** | 42 |

**Table of data illustrated in Figure 3.4** Proportion of teachers reporting that they would benefit from additional training and/or learning, by type

| | Percentage (%) of Teachers | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Prep** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Learning to teach Indigenous children successfully** | 64 | 74 | 60 | 58 | 54 | 58 | 60 |
| **Learning to teach Indigenous knowledge appropriately** | 60 | 61 | 62 | 56 | 55 | 57 | 56 |
| **Learning about Indigenous cultures in local area** | 61 | 61 | 61 | 58 | 56 | 56 | 62 |
| **Learning about Indigenous cultures in general** | 44 | 48 | 41 | 40 | 40 | 41 | 44 |
| **Indigenous language training** | 30 | 32 | 35 | 35 | 34 | 39 | 39 |
| **Confident have sufficient training** | 14 | 13 | 17 | 16 | 22 | 20 | 22 |
| **Other training or study** | 6 | 5 | 5 | 6 | 4 | 5 | 4 |

**Table of data illustrated in Figure 3.5** Parent/carers experiences of racism/discrimination at their child's school

| | Percentage (%) of Parents Who Reported "Yes" |
|---|---|
| **People picked fights with parent** | 8 |
| **Parent was ignored by people** | 9 |
| **Parent saw other people treated unfairly** | 13 |
| **Parent was stared at rudely** | 14 |
| **Parent told they get free stuff** | 15 |
| **Parent was told they are too sensitive** | 16 |
| **Parent told they don't look Indigenous** | 18 |
| **Parent told not Indigenous** | 20 |

**Table of data illustrated in Figure 3.6** Parent-report of child bullied because of being Aboriginal or Torres Strait Islander according to remoteness

| | Percentage (%) of Children | |
|---|---|---|
| | **Bullied between Year 2 and Year 6** | **Not** |
| **Major Cities** | 32 | 25 |
| **Inner Regional** | 24 | 25 |
| **Outer Regional** | 15 | 12 |
| **Remote** | 9 | 14 |
| **Very Remote** | 21 | 24 |

**Table 3.1** Teachers reports of how they deal with racism, discrimination or prejudice in their classrooms

| Responses that are internal to the classroom | Responses that are external to the classroom |
|---|---|
| • Discuss incident directly with affected students<br>• Consistently discuss and promote cultural awareness, inclusion and respect<br>• Celebrate diversity and difference<br>• Educate students about racism and implications for behaviour<br>• Incident forms the basis of class discussion<br>• Leverage opportunities to address racism through curriculum and teaching, including through stories and literature<br>• Set/reiterate teacher's expectations for behaviour<br>• Emphasise sameness and equality – that everyone should be treated the same way<br>• Explicitly teach appropriate behaviour, language, social, interpersonal skills<br>• Discuss using previous incidents as examples<br>• Restorative justice<br>• Circle time<br>• Formally record the incident | • Address with reference to the school policy or rules<br>• Discuss incident with affected families<br>• Refer to school executive/leadership<br>• Address through school-level programs aimed at values, character and behaviour<br>• Refer to ARCO [Anti-Racism Contact Officer] or similar<br>• Address with reference to religious beliefs<br>• Seek support from Aboriginal staff<br>• Seek support from school counsellor |

# 6. Chapter 4 technical appendix

## 6.1 Teacher engagement score

From Year 2 to Year 6, data was available pertaining to teachers' level of engagement with the Indigenous community. Teachers were asked to indicate the number of instances in the last 6 months that they had:

- Had a conversation with Indigenous community members outside of the school in the community where they teach (dbg21_1)
- Have been invited to Indigenous family or Indigenous community gatherings in the community where they teach (dbg21_2)
- Have participated in Indigenous community events in the community where they teach (e.g., festivals, celebrations, gatherings) (dbg21_3)
- Have visited an Indigenous organisation in the community where they teach (e.g., youth organisation, health or housing organisation, political organisation, community centre) (dbg21_7)
- Have shared a meal or refreshments with Indigenous people in a social environment (dbg21_8)

Teachers reported on a scale from 0 to 7, with 0 representing no instances in the last 6 months, and 7 representing 7 or more instances in the last 6 months. Each student was given a "teacher engagement score" based on their teacher's responses across the five items. This score represented their teachers mean/average level of engagement across the five activities (scores range from 0 to 7). For some of our analyses, we use this averaged score of teacher engagement; however, for others we divide teachers into two groups: (i) teachers with a mean score of 0 – meaning they have not engaged with the Indigenous community in the last 6 months; and (ii) teachers with a mean score >0 – meaning they have engaged with the Indigenous community at least once in the last 6 months.

## 6.2 School's Indigenous education focus score

For each child, a School Indigenous Education Focus score was computed based on parent report of the school's delivery of Indigenous activities and initiatives. Parent reports were used at Year 1, 2, 4, and 5 (the only years where sufficient data was available) across the following 10 survey items (ace82_1 to ace82_10):

- Does (STUDY CHILD)'s school have Elders and other Indigenous people visiting and/or teaching in this school?
- Does (STUDY CHILD)' school have an Aboriginal and Torres Strait Islander language program?
- Does (STUDY CHILD)'s school have teachers who know their Aboriginal and Torres Strait Islander students are?
- Does (STUDY CHILD)'s school have teachers who understand the importance of identity and family connections?
- Does (STUDY CHILD)'s school have Personalised Learning Plans for Aboriginal and Torres Strait Islander students?
- Does (STUDY CHILD)'s school have Indigenous Education Workers?
- Does (STUDY CHILD)'s school have Indigenous teachers/staff (not including Indigenous Education Workers)?
- Does (STUDY CHILD)'s school formally recognise Aboriginal and Torres Strait Islander days of significance such as the Anniversary of the Apology and NAIDOC Week?

- Does (STUDY CHILD)'s school get involved in activities with the Aboriginal and Torres Strait Islander community?
- Does (STUDY CHILD)'s school teach about Aboriginal and Torres Strait Islander culture?

Provided parents responded to at least one item, the mean of items was calculated with the score ranging from 0 to 2, with 0 = *schools never deliver Indigenous initiatives*, 1 = *schools rarely/sometimes deliver Indigenous initiatives,* and 2 = *schools deliver Indigenous initiatives all of the time*.

## 6.3 Deserts or Oases

Using this "school Indigenous education focus" composite measure described above (ranging from 0 = *schools never deliver Indigenous initiatives* to 2 = *schools deliver Indigenous initiatives all of the time*), children whose school had a score of <1 were allocated into a Desert (schools that are systematically not engaging in Indigenous Education priorities), whereas children attending schools with a mean of 2 were allocated into an Oasis (schools that are systematically engaging in Indigenous Education priorities all of the time). The remaining students (whose schools scored above 1 but below 2) were coded as missing on this variable. This desert and oasis variable therefore created two groups of children for each year level with available data (Year 1, 2, 4, and 5). Sometimes early years (Year 1 and Year 2) were combined, as were the later years (Year 4 and 5) to enable longitudinal analyses.

## 6.4 Additional quantitative variables

- **Teacher report of Aboriginal and Torres Strait Islander education initiatives (dsv8_2 and dsv8_4 to dsv8_12):** While parent report is used for the most part in this Chapter, teachers were also asked to report on the commitment of their school to delivering Indigenous education initiatives. The following questions were asked:
    - Elders and other Indigenous people visit and/or teach in this school
    - This school is suing the Australian Curriculum cross-curriculum priority of Aboriginal and Torres Strait Islander histories and cultures in its teaching
    - The school has implemented an Aboriginal and Torres Strait Islander Language program
    - Teachers know who their Aboriginal and Torres Strait Islander students are, and understand the importance of their identity and family connections
    - Teachers at this school develop Personalised Learning Plans for Aboriginal and Torres Strait Islander students
    - An Indigenous Education Worker/s is/are employed at the school
    - Indigenous teachers/staff are employed in the school (not including IEWs)
    - This school formally recognises Aboriginal and Torres Strait Islander days of significance such as the Anniversary of the Apology and NAIDOC Week
    - This school has a Reconciliation Action Plan (RAP)
    - The school is involved in activities within the Aboriginal and Torres Strait Islander community

  Potential responses included *currently doing*, *working on it,* and *not doing.*
- **Child report on school-based language programs:** For this report, Wave 8 child-report data relating to language programs were used. The following questions were analysed:
    - What languages do you learn at school? (csc19)
        - The data was then divided into Indigenous languages, foreign languages, or sign language, and the number of languages across these categories was coded.
    - How do you learn this language? (csc49)
        - Options include school lessons or one of the main languages at school (bilingual program)

    - How often do you have lessons at school for this language? (csc20)
        - Options include *every day, most days, or once or twice a week*
- **Classroom proportion of Indigenous students:** this variable was calculated by using teacher reported number of Indigenous students in the classroom (dgc6c), divided by teacher reported number of students in the classroom (dgc2).
- **Remoteness (ara):** We use the most complete data available on remoteness area (drawn from Waves 1 and Waves 2 of LSIC). Note: additional children were added in Wave 2 to the LSIC cohort. The *Australian Statistics Geographical Standard* ratings consist of five categories: Major Cities of Australia, Inner Regional Australia, Outer Regional Australia, Remote Australia, and Very Remote Australia.
- **Parent-report child experiences of racism (Chapter 3):** For overall analyses, any experience of racist-bullying across the primary school years (I.e., receiving a score of 1 at any year level) was coded as 1 and no experiences of bullying across the primary school years, coded as 0. See Chapter 3 technical report for more details.
- **Proportion of Indigenous enrolments at the school (indstpct):** MySchool data reports the percentage of Indigenous enrolments within the child's school (i.e., the number of Indigenous student enrolments divided by the total number of students in the school).
- **Classroom-based Aboriginal or Torres Strait Islander activities:** From Preschool to Year 6, teacher report data is available across the following questions:
    - How often do you teach Indigenous arts of practices (e.g., painting, dance, or food collecting, hunting) (dpc2_5)
    - How often do you listen to or participate in Indigenous singing or storytelling or exhibitions (dpc2_6)
    - Are any of these activities conducted in an Indigenous language? (dpc14a)

  For the first two items, response options included *never*, *occasionally*, *often,* and *very often.* In Chapter 4, the *occasionally* and *often* responses were collapsed together. The final question used *all, some*, or *none* as the response options.
- **Teacher cultural competency score (Chapter 3):** A score of 0 would reflect a teacher who responded "*No*" to all cultural competency training and therefore had not received any training/learning across these domains, whereas a score of 10 would reflect a teacher who had received professional training across all five cultural competency domains. See Chapter 3 technical report for more details.
- Patterns of **parent responses when asked whether they would like Study Child to learn an Indigenous language at school (alp21)** were also explored across year levels. In Wave 3 and Wave 11 parents were asked "Would you like (STUDY CHILD) to learn an Indigenous language at school?" with the following response options available:
    - In a bilingual program (learning English and an Indigenous language)
    - As a compulsory second language
    - Available as a second language
    - As the main language used at school (English taught as a second language)
    - No
- **School is good for Indigenous students (teacher report: dpc21_7):** From Preparatory to Year 4, students' teachers were asked to rate their agreement with the statement *"this school supports Indigenous children well"* on a 5-point scale from s*trongly disagree* to *strongly agree.* For this report, the prevalence of strongly agree/agree responses were explored.
- **School is good for Indigenous students (parent report: ace89):** From Year 3 to Year 6 students' parents were asked whether they think that the school is good for Indigenous children, with rating options being *yes, sometimes,* or *no.*

- **ICSEA:** MySchool data provides school-level Index of Community Socio-Educational Advantage [ICSEA] score. The ICSEA value is based on parents' occupation and education, the school's geographical location, and the proportion of Indigenous students.

## 6.5 Additional quantitative analyses

Chapter 4 explores associations across a range of variables using separate analyses, all adopting a statistical significance threshold of $p<.05$. Independent group t-tests were conducted in instances where the means of continuous variables were compared across two groups. One-way analysis of variance (ANOVA) tests were run to compare three or more groups on a continuous variable. Significant differences were then followed up using Bonferroni adjusted post-hoc comparisons. Chi-square tests of independence examined the association between categorical or dichotomous variables.

## 6.6 Chapter 4 Tables and Figures

**Table of data illustrated in Figure 4.1** Average proportion of parents who report All of the time to school-based Aboriginal and Torres Strait Islander education services

| | Percentage (%) of Parents Responding 'All of the Time' | | | |
|---|---|---|---|---|
| | Year 1 | Year 2 | Year 4 | Year 5 |
| **Elders visit or teach** | 32 | 31 | 39 | 36 |
| **Teach about culture** | 45 | 44 | 48 | 52 |
| **Involved within the Indigenous community** | 54 | 53 | 57 | 58 |
| **Teachers develop PLPs** | 57 | 57 | 58 | 69 |
| **Teachers understand importance of cultural identity** | 60 | 65 | 60 | 60 |
| **Recognise days of significance** | 77 | 75 | 78 | 81 |
| **Teachers know Indigenous students** | 79 | 79 | 73 | 75 |

**Table of data illustrated in Figure 4.2** Teacher report on extent to which they conduct classroom activities in Indigenous languages

| | Percentage (%) of Teachers | | | | | |
|---|---|---|---|---|---|---|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **None** | 70 | 74 | 78 | 83 | 79 | 81 |
| **Some** | 27 | 26 | 21 | 17 | 21 | 19 |
| **All** | 3 | 1 | 1 | 0 | 1 | 0 |

**Table of data illustrated in Figure 4.3** Child-report of learning a language other than English (LOTE) by grade

| | Percentage (%) of Children | |
|---|---|---|
| | Learning a Language other than English | Not |
| **Year 1** | 17 | 83 |
| **Year 2** | 29 | 71 |
| **Year 3** | 36 | 64 |
| **Year 4** | 49 | 51 |
| **Year 5** | 58 | 42 |
| **Year 6** | 59 | 41 |

**Table of data illustrated in Figure 4.4** Child-reported learning of an Indigenous language by levels of remoteness

| | Percentage (%) of Children | |
|---|---|---|
| | Learning a Language other than English | Not |
| **Major Cities of Australia** | 5 | 33 |
| **Inner Regional Australia** | 27 | 27 |
| **Outer Regional Australia** | 9 | 18 |
| **Remote Australia** | 13 | 10 |
| **Very Remote Australia** | 46 | 12 |

**Table of data illustrated in Figure 4.5** Teacher report on the extent to which they teach Indigenous arts or practices in the classroom

| | Percentage (%) of Teachers | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Preschool | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Never** | 10 | 19 | 15 | 16 | 19 | 21 | 23 | 23 |
| **Occasionally /Often** | 86 | 79 | 83 | 83 | 78 | 79 | 77 | 74 |
| **Very Often** | 4 | 2 | 2 | 1 | 3 | 1 | 1 | 3 |

**Table of data illustrated in Figure 4.6** Teacher report on the extent to which they engage in Indigenous singing and/or storytelling in the classroom

| | Percentage (%) of Teachers | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Preschool | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Never** | 10 | 17 | 13 | 14 | 17 | 20 | 23 | 26 |
| **Occasionally /Often** | 85 | 81 | 84 | 85 | 81 | 80 | 76 | 72 |
| **Very Often** | 6 | 3 | 3 | 2 | 2 | 0 | 1 | 2 |

**Table of data illustrated in Figure 4.7** Mean scores of teachers' self-reported engagement with the local Indigenous community (scale from 0 to 7)

| | Mean Score of Community Engagement | | | | |
|---|---|---|---|---|---|
| | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Visited an Indigenous organisation in the community | 0.6 | 0.85 | 0.7 | 1.02 | 1.26 |
| Was invited to family or community gatherings | 0.89 | 0.93 | 0.97 | 1.92 | 1.8 |
| Participated in community events | 1.17 | 1.42 | 1.44 | 1.64 | 1.84 |
| Shared a meal socially | 1.85 | 2.36 | 2.16 | 2.52 | 2.43 |
| Had a conversation with Indigenous people outside of school | 2.57 | 3.34 | 3.23 | 3.29 | 3.45 |

**Table of data illustrated in Figure 4.8** Parent report of whether study child's school is good for Indigenous children

| | Percentage (%) of Parents | | | |
|---|---|---|---|---|
| | Year 3 | Year 4 | Year 5 | Year 6 |
| No | 10 | 5 | 6 | 9 |
| Sometimes | 20 | 20 | 21 | 20 |
| Yes | 71 | 74 | 73 | 71 |

**Table of data illustrated in Figure 4.9** Remoteness region for Deserts and Oases

| | Number of Students | |
|---|---|---|
| | Desert | Oasis |
| Major Cities of Australia | 70 | 10 |
| Inner Regional Australia | 23 | 37 |
| Outer Regional Australia | 29 | 13 |
| Remote Australia | 7 | 12 |
| Very Remote Australia | 4 | 34 |

# 7. Chapter 5 technical appendix

LSIC variables and analyses about family-school connections across primary school, introduced in Chapter 5, are described in this section of the Technical Appendix. ***Part 1*** provides an overview of variables used for quantitative descriptive analyses on parent-school involvement and teachers' practices for family engagement in children's learning. ***Part 2*** considers the analyses of qualitative data from open-ended questions completed by teachers about practices for family engagement and parent perspectives about their experiences of schooling. ***Part 3*** describes measures included in the hierarchical regression analyses modelling the contribution of parent involvement to children's academic achievement.

## 7.1 Quantitative variables: Descriptive analyses

### Parent report of involvement in school-based activities

Parents responded to interview questions about their participation in school-based activities, using data aligned to describe parent involvement through primary school from Prep to Year 5. Insufficient parent data were available for Year 6. Parents responded to a binary response option (0 = no; 1 = yes) on participation in six school-based activities. Parental participation rates for each type of activity at each year of primary school are reported as percentages and visually presented to illustrate variations in involvement across the school years.

**ACE54 (ace54_1 - ace54_6):** *During this (or the previous) school term, have you:*

- … visited (STUDY CHILD)'s class?
- … contacted the teacher about (STUDY CHILD)?
- … talked to parents of other children at (STUDY CHILD)'s school?
- … attended a school event that (STUDY CHILD) was in?
- … have you volunteered in (STUDY CHILD)'s class or helped with an excursion?
- … helped elsewhere in the school?

Differences in parental levels of school involvement over time were also examined on categorical variables for: (1) geographic location of family residence (remoteness area); (2) level of parental education; and (3) socio-economic circumstances (IRISEO), using the mean summed score for parent involvement over time (score range: 0 to 6). One-way analyses of variance (ANOVAs), as an omnibus test, were conducted to test for any overall significant differences across categories on each variable ($p \leq .05$). Significant differences between categories were then identified using post-hoc tests on two variables only (remoteness area and parent education).

### Teacher report of parent involvement in school-based activities

Teacher questionnaire data were also available on parent involvement in school-based activities. Five questions on the teacher-report scale aligned with similar item content, as reported by parents. These questions enabled comparison between parent and teacher responses. Sufficient data were available to report comparative perspectives on involvement, from Prep to Year 5. Teachers responded to binary response option (1 = selected; 0 = not selected). Teacher-reported participation rates for parents were reported as percentages and graphed in comparison to parent reports.

**DCC12 (dcc12_1 -dcc12_5):** *To the best of your knowledge, during this year has a parent of this child/STUDY CHILD done any of the following?*

- … visited the child's class.
- … spoken to you, visited or written to you.
- … attended a school/childcare event in which the child participated (e.g., sporting event, music performance or concert).
- ... volunteered in the child's class or helped with an excursion.
- … helped elsewhere in the school/centre such as in the library, computer room or tuckshop.

### Parent report of teachers' practices to involve parents

Parents responded to interview questions about teachers' practices that promote parent involvement in children's learning at home or school, with data from Prep to Year 6. Parents provided ratings about teachers' practices on a 4-point scale (1 = Very well; 2 = Well; 3 = Just OK; 4 = Not done at all). Item responses were summarised and reported in two categories to simplify interpretation (1 = very well or well; 0 = just okay or not done at all).

**ACE53 (ace53_1 - ace53_4):** *How well does (STUDY CHILD)'s teacher (or school):*

- … give you advice about how to help SC at home?
- … give you information on any community services to help SC?
- … understand needs of families from an Indigenous background?
- … make you aware of chances to be involved and take part in school?

### Teacher report on their practices to support parent involvement

Teachers responded to a list of practices commonly used to involve parents in classrooms and school activities. Sufficient data were available to report from Prep to Year 6 for six practices listed. Teachers were asked to identify practices that they had used / likely to use in the current school year to involve parents and keep them informed (1 = selected as used / likely to use; 0 = not selected). The percentage of teachers using the selected practices across each primary school year were reported.

**DPC26 (dpc26_1 -dpc26_6):** *In your program, which of the following practices have you used (or will you use) this year to involve parents and family?*

- ... Parental orientation activities early in the year (e.g., meeting with parents, written information sent to family).
- ... Parent participation in your program (e.g., as a volunteer or on a roster).
- ... Formal parent/teacher meetings about children's progress.
- ... Parent education programs or information sessions.
- ... Social activities for parents that promote contact or support.
- ... Regular newsletters about your program and events.

### Teacher report of outreach activities in the local community

Teachers responded to questions about outreach activities in their local community with Indigenous students and their families. Responses to these questions were indicated on a frequency scale (0 to 7 times) for occurrence of these activities occurred in the last six months. Higher scores represented higher frequencies of community engagement by teachers. The number of times indicated for any specific activity listed were summed and averaged across teacher reports for each primary school year, for which there were sufficient data on any items and are reported from Year 2 to Year 6. Three higher frequency outreach activities are reported for these analyses.

**DBG21 (dbg21_1, dbg21_4, dbg21_5):** *Please indicate the number of times (including 0 times) in the last 6 months:*

- ... I have had a conversation with Indigenous community members outside of school in the community where I teach.
- ... I have met with the parent or caregiver of an Indigenous student I teach.
- ... I have visited the home of an Indigenous student I teach.

### Parental level of trust in schools

In parent interviews, parents were asked about the degree to which they believed their local school could be trusted. Sufficient data were available to represent this parent data from Prep to Year 6. Parents responded on a 5-point rating scale (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree). Item responses were collapsed into two categories: satisfactory levels of parental trust in the local school and unsatisfactory levels of trust (1 = strongly agree and agree; 0= neither agree or disagree; disagree and strongly disagree).

***AHM25_5:*** *How strongly do you agree or disagree with the following?*

- Your local school can be trusted.

## 7.2 Qualitative variables: Content analyses

Specific teacher and parent data with open-ended responses provided opportunities for qualitative analysis. Across the LSIC Primary School Report, these open-ended responses enabled the voices of teachers and parents to be heard, providing their perspectives on their experiences, in this chapter and other chapters. Participants' qualitative responses were usually short comments, ranging in length from 1 word to more extended responses of approximately 100 words. Duplicate responses were evident in teacher questionnaire data, where teacher's responses had been entered against multiple children in their classroom. Duplicate responses were manually removed.

### Teacher qualitative data

- **fdpc29_t:** *How do you build relationships with your children's families?*
- **fdpc30_t:** *How do you help parents support their child's learning at home?*

Teacher data were analysed with the qualitative analysis software *(NVivo)*, through an inductive thematic approach (Braun & Clarke, 2006). Processes for these analyses involved initial reading of data to gain an understanding of the breadth of topics, followed by coding of individual responses inductively in NVivo. Review of these codes to consider similarities and differences enables groupings into major data themes. Other members of the research team reviewed themes and refined thematic descriptions, as necessary. For all teacher data across this LSIC report, common themes along with illustrative quotes are presented that are indicative of breadth of responses.

### Parent qualitative data

- **face66_t:** *What was school for you like as an Indigenous person?*
- **face67_t:** *How does your child's school experience differ to yours?*

Parent qualitative data were analysed inductively to identify categories in the data themes, using a constant comparative method (Charmaz, 2003), by continuous comparison of perspectives and reported experiences of parental respondents, to illustrate potentially important differences between parental school experiences, as Indigenous students, and in comparison, to their children's current school experiences. Exclusive categories were developed and reviewed several times.

Enumeration of responses, with percentages of responses by category, provided evidence on the differences and commonalities in respondents' experiences.

## 7.3 Hierarchical regression analyses: Impact of parent involvement on children's academic achievement

In these quantitative analyses, two predictive models were developed, using hierarchical regression, to evaluate associations of parental involvement, across Year 3 and Years 4 of school on academic achievement at Year 5. Outcomes variables in the regression models were NAPLAN assessments for reading (**y5read**) and numeracy (**y5num**).

Four blocks of predictor variables, as identified in the table below, were entered successively, into each regression model, to evaluate contributions of each block of variables to significant increases ($p \leq .05$) in variance explained. Blocks of predictor variables were: socio-demographic variables, child's skills (school readiness), school-related variables, and parent-related variables. Only school-related factors (number of Indigenous students enrolled at the school; parent evaluation of teachers' practices to engage parents) did not significantly contribute to increased variance in the models tested. Children's school readiness skills and one parented-related variable (parent involvement in school-based activities) made significant contributions, overall, to the variance explained in outcomes by each model.

**Block 1: Socio-demographic factors**

- IRISEO (level of relative Indigenous Socio-Economic Outcomes). We use IRISEO data from children's early school years (average of Prep to Year 2 for each child) [**air10**]
- Gender (**Xgender**)
- Parent education (highest level of education of Parent 1, across Prep to Year 2, recoded to 4 categories) [**P2pared**]
- ASGC remoteness area (2006), drawn from LSIC Wave 1 and Wave 2 data [**ara**]

**Block 2: Child skills**

- *Who am I?* as a direct assessment of school readiness skills, assessed preschool to year 1. Mean score on *Who Am I* [**pre1wa**i]

**Block 3: School-related factors**

- Indigenous enrolments in the school (percent) [**y3_indstpct**]
- Parent evaluation of teachers' practices to support family involvement. Mean score across Years 3 & 4 [**midace**]

**Block 4: Parent-related factors**

- Parent involvement in school activities. Mean score across Years 3 & 4 [**midparinvolv**]
- Parent future educational aspirations for their child. Mean score across Year 3 & Year 4 [**ace61**]

## 7.4 Chapter 5 Tables and Figures

**Table of data illustrated in Figure 5.1** Parent-reported participation in school-based activities across primary school

| | Percentage (%) of Parents who Reported "Yes" | | | | | |
|---|---|---|---|---|---|---|
| | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| **Visited Classroom** | 84 | 81 | 78 | 73 | 72 | 70 |
| **Contacted teacher** | 66 | 68 | 67 | 68 | 70 | 68 |
| **Talked to other parents** | 74 | 75 | 70 | 72 | 71 | 70 |
| **Attended school event** | 71 | 79 | 78 | 73 | 76 | 78 |
| **Volunteered in class** | 26 | 23 | 20 | 20 | 20 | 16 |
| **Helped elsewhere in school** | 19 | 20 | 20 | 21 | 21 | 19 |

**Table of data illustrated in Figure 5.2** Alignment between five items of parent-reported involvement in school-based activities and equivalent items reported by teachers

| | Average Frequency (% Yes) of Parent Engagement Behaviours | | | | | |
|---|---|---|---|---|---|---|
| | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| **Parent Report** | 54 | 54 | 52 | 52 | 52 | 50 |
| **Teacher Report** | 46 | 44 | 38 | 38 | 38 | 34 |

**Table of data illustrated in Figure 5.3** Parent evaluation of teachers' practices to promote parent involvement

| | Percentage (%) of Parents Reported Done Well/ Very Well | | | | | |
|---|---|---|---|---|---|---|
| | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| **Teacher makes you aware of chances to be involved in school** | 69 | 71 | 70 | 71 | 71 | 68 |
| **Teacher gives advice how to help child at home** | 60 | 60 | 61 | 56 | 58 | 58 |
| **Teacher understands needs of families from an Indigenous background** | 57 | 60 | 61 | 64 | 64 | 63 |
| **Teacher gives information about community services** | 41 | 42 | 40 | 36 | 40 | 41 |

**Table of data illustrated in Figure 5.4** Teacher report of practices to involve families

| | Percentage (%) of Teachers Who Said "Yes" | | | | | | |
|---|---|---|---|---|---|---|---|
| | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Orientation activities** | 94 | 94 | 88 | 91 | 86 | 85 | 86 |
| **Parent/teacher meetings** | 90 | 91 | 92 | 92 | 92 | 91 | 92 |
| **Newsletters** | 80 | 76 | 67 | 66 | 65 | 74 | 72 |
| **Social activities for parents** | 71 | 61 | 60 | 58 | 60 | 62 | 60 |
| **Parent participation in program** | 68 | 70 | 57 | 50 | 37 | 29 | 26 |
| **Parent education programs** | 62 | 47 | 43 | 40 | 37 | 40 | 40 |

**Table of data illustrated in Figure 5.6** Teacher report on frequency of community outreach activities

| | Average Number of Times in Last 6 Months | | | | |
|---|---|---|---|---|---|
| | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Met with parents of Indigenous students** | 4.8 | 4.7 | 4.6 | 4.4 | 4.4 |
| **General conversation with parents of Indigenous students** | 3.2 | 3.0 | 3.2 | 3.4 | 3.3 |
| **Visited home of Indigenous student** | 0.5 | 0.9 | 0.9 | 0.9 | 1.0 |

**Table of data illustrated in Figure 5.7** Parent reported level of trust in their local school

| | Percentage (%) of Parents | | | | | | |
|---|---|---|---|---|---|---|---|
| | Prep | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Satisfactory** | 78 | 84 | 84 | 86 | 85 | 79 | 81 |
| **Unsatisfactory** | 22 | 16 | 16 | 14 | 15 | 22 | 19 |

**Table 5.1** Parent reflection on school experiences as an Indigenous person

| Categories | Illustrative responses | Features of category |
|---|---|---|
| **Positive experiences**<br>**37%** | • *Great experiences, a lot of fun getting involved with NAIDOC day and Indigenous activities. Involved with [Indigenous] dance group.*<br>• *Good, because it was a high percentage of [Indigenous] children in the school and I felt comfortable going to school.*<br>• *We were proud to be [Indigenous] when we went to school* | Responses were positive in their tone and different levels of enthusiasm were evident. Common descriptive terms used included 'good' and 'proud':<br>• Pride in being Indigenous.<br>• Activities focused on culture.<br>• Presence of other Indigenous students. |
| **Neutral reactions**<br>**26%** | • *It was alright in [place] but we were the odd ones out.*<br>• *It was good. A little bit of racism here and there but it was OK.*<br>• *Ok, no problems, big [Indigenous] community* | Responses had less enthusiasm than in first category, without expression of strong feelings.<br>Common descriptive terms included: 'okay', 'alright', 'no problems'. |
| **Negative experiences**<br>**16%** | • *I was the only [Indigenous] person at the school and I didn't like it.*<br>• *Hard. Racism. We were the only [Indigenous] kids in our school.*<br>• *I didn't talk about it; everybody used to look down on me.* | Reponses conveyed unhappiness with school experiences.<br>Racism was commonly mentioned and the sense of isolation in being the only Indigenous student. |
| **Mixed experiences**<br>**10%** | • *I was pretty lucky. …. I felt I wasn't treated any differently, but I would witness my brother and sister getting bullied.*<br>• *It was alright but we did put up with racism at the time and handled it in our own way.*<br>• *I always was proud to be black, but we didn't learn any [Indigenous] history.* | Mixed emotions were expressed, with both positive and negative experiences identified in responses. |

**Table 5.2** Parent reflections on how child's school experiences differ compared to parent

| Categories | Illustrative responses | Features of category |
|---|---|---|
| **Positive changes in school policies and practice**<br>**34%** | • *… they're learning about [Indigenous] heritage now, and they do this in all classes whether the children are Indigenous or not.*<br>• *… they have an [Indigenous] person working with the children one day per week, telling them dreamtime stories and about [Indigenous] culture.*<br>• *… they acknowledge [Indigenous] culture, they do welcome to country at school and fly the [Indigenous] flag at school.* | School level positive changes, including increased recognition of Indigenous heritage and culture in school programs; greater supports for Indigenous students; presence of Indigenous teachers and teaching assistants. |
| **Positive changes in social environments and greater social acceptance**<br>**26%** | • *[Indigenous children] are more accepted now*<br>• *People like having Indigenous friends now; the culture of the school is friendly*<br>• *She is at a very good school and if there were any racial issues the school acts appropriately.* | Schools have become more multicultural, and attention given to minimising racism; more Indigenous children at school with greater acceptance. |
| **Similar experiences to parent, although positive and negative elements**<br>**22%** | • *They spend their day indoors but have more advanced lessons.*<br>• *The same, no problems.*<br>• *… The people that I grew up with children … they are growing up with my children.* | Similar experiences to parents. Parent may be still living in same community. Racism noted but indicated that it may be different or hidden. |
| **Negative changes in school and social environments**<br>**12%** | • *When you look at the school today there are very few male teachers and most of the teachers are white*<br>• *No stability with teaching staff*<br>• *Racism is done under the radar* | Focused on school practices and teaching environments; continued evidence for racism. |

**Table 5.3** Parental involvement and children's academic achievement for NAPLAN Reading and Numeracy at Year 5

| **Variables included in the analyses (N= 552)** | **NAPLAN Reading Year 5** | **NAPLAN Numeracy Year 5** |
|---|---|---|
| **Variance accounted ($R^2$)** | 10% | 10% |
| | **β** | **β** |
| **Socio-demographic factors** | | |
| Family socio-economic status | 0.06 | 0.08 |
| Gender (female) | 0.07 | 0.04 |
| Parent education | - 0.03 | 0.01 |
| Remoteness | - 0.07 | - 0.03 |
| **Child skills** | | |
| School readiness: *Who Am I?* (Preschool – Year 1) | **0.14*** ** | **0.13*** ** |
| **School-related factors** | | |
| Indigenous enrolments | -0.07 | -0.01 |
| Parent evaluation of teachers' involvement (Years 3 & 4) | 0.04 | 0.05 |
| **Parent-related factors** | | |
| Parent involvement in school activities (Years 3 & 4) | **0.12**** | **0.10*** |
| Parent educational expectations | 0.06 | 0.07 |

**Note:** β coefficients rounded to 2 decimal places: * $p$ = .05; ** $p$ = .01; *** $p \leq .001$

# 8. Chapter 6 technical appendix

## 8.1 Measures used in Latent Profile Analysis

The measures included in the latent profile analysis exploring school engagement profiles across time are documented in Table 6.1 of the full report.

Variables that were used to then explore differences across the resulting engagement groups are documented here.

| Variable | Explanation |
|---|---|
| **Attentional and Emotional self-regulation skills** | Measured by parent-report on temperament items related to task persistence (apa4_b, apa4_e, apa4_h, apa4_l) and emotional reactivity (apa4_c, apa4_f, apa4_i, apa4_k) which have been used extensively in prior LSAC and LSIC (Little et al., 2012; Williams et al., 2017), with scores averaged across Preschool and Year 1. |
| **School readiness** | Who Am I direct assessment of school readiness skills, assessed preschool to Year 1. Mean score on *Who Am I* (cwito2). |
| **Social emotional wellbeing** | Total problems on the parent report Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001). Williamson et al. (2014) have previously determined the construct validity and reliability of the SDQ subscales for Aboriginal children within The Study of Environment on Aboriginal Resilience and Child Health. |
| **Peer problems** | SDQ subscale |
| **Prosocial scales** | SDQ subscale |
| **Health** | Single item on which parents report on the global health of Study Child (ahc1). *In general, would you say (STUDY CHILD)'s health is excellent, very good, good, fair or poor?* Responses were recoded with 5= excellent and 1= poor. |
| **School Climate:** | Using a scale ranging from 1= *no, never* to 6 = *Yes, always*, this report assigned children a composite (averaged across the five items: csc46_1 to csc46_5) score with higher scores denoting a more positively experienced school climate. Biddle et al. (2019), using K cohort data in Wave 9, confirmed a one-factor solution with high factor loadings (ranging from 0.78 to 0.85) and strong internal consistency (Cronbach's alpha = 0.87). |
| **Cultural identity** | Students' responses (which could range from 1= *No, never* to 6 = *Yes, always*) were averaged across the four items (csc41_1 to csc41_4) to create a composite score (per year/grade level), with higher scores denoting a stronger sense of cultural safety in the classroom. |
| **Teacher style** | This includes items related to whether teachers make class a fun place to be, are fair, and listen and understand children. For this report, we used a rating scale of 1 = No, never to 6 = Yes always and created a composite score by averaging student responses across the five items (csc24a, csc28a, csc25a, csc26a, csc53). The total composite score ranged from 1 to 6, with higher scores indicating a more positively received teaching style. In their technical report, Biddle et al. (2019) confirmed a one-factor solution (using Wave 9 data), acceptable internal consistency for both cohorts (Cronbach's alpha = 0.73 [B cohort] and 0.79 [K cohort]) and consistently high factor loadings (all >0.70). |

| | |
|---|---|
| **Teacher-student conflict** | From Pianta Student Teacher Relationships Scale which is a teacher report measure of conflict experienced with child. This score is a composite of seven items (dcc33_2, dcc33_8, dcc3310 to dcc3314) each rated on a five-point scale from "*definitely does not apply*" to "*definitely applies*" (Student Teacher Relationship Scale; Pianta, 1992) as per Biddle et al. (2019). An average/composite score (ranging from 1 to 5) was computed (per grade level) for each child with higher scores denoting higher levels of conflict within the student-teacher relationship. Biddle et al. (2019) found that, across Wave 6 to Wave 9, the conflict scale demonstrated high internal consistency (all Cronbach's alphas >0.81) and consistently moderate to high factor loadings (all >0.67). |
| **Parent involvement in school** | See Section 5 of this technical report |
| **School active outreach to families** | See Section 5 of this technical report. |
| **Parent report of discrimination** | See Section 3 of this technical report. |
| **Child's experience of racist-based bullying** | See Section 3 of this technical report. |
| **NAPLAN (National Assessment Program for Literacy and Numeracy)** | These NAPLAN scores are linked with LSIC data and we used Year 5 scaled scores for reading (y5read) and numeracy (y5num) in Chapter 6 of the report. |

## 8.2 Latent profile analysis to identify school engagement groups over time

These analyses take a person-centred analytic approach. First we used latent profile analysis (LPA) in MPlus Version 8.2 to establish profiles of school engagement as described above. LPA is a semi-parametric group-based approach that allows for estimation of qualitatively different groups when membership cannot be observed *a priori* (Ferguson et al., 2020). It was a particularly useful method in these circumstances where we wanted to understand school engagement across time, but did not have access to one single and consistent longitudinal measure that would allow for inspection of growth or other curves over time. In LPA, multiple constructs and different approaches of measuring each can be included over time.

Selection of the optimal number of profiles was based on two measures of relative model fit (compared to the same model with one less profile): the Bayesian Information Criterion (BIC) and the Lo-Mendell-Rubin (LMR) test. In addition, we examined the classification probabilities of children into profiles and, in particular, considered solutions with respect to the smallest profile classification given that profile solutions in which very small numbers of children are likely classified are unlikely to be replicated in other samples or in real-world contexts (Ferguson et al., 2020).

Based on the table shown below, we selected the three-profile solution as the most appropriate as when the BIC was graphed as a line graph, a distinct 'elbow' was shown at the three profile solution, mis classification was relatively low, and the smallest profile grouping was 15% of our sample. The three profile solution is presented across Chapter 6.

| Number of profiles fitted | BIC | Smallest profile % | Highest mis classification (%) | LMR |
|---|---|---|---|---|
| 1 | 46697 | | | |
| 2 | 44595 | 47 | 9.5 | .00 |
| 3 | 44226 | 15 | 8.2 | .00 |
| 4 | 43963 | 6 | 7.8 | .00 |
| 5 | 43882 | 5 | 13.3 | .75 |
| 6 | 43797 | 3.5 | 13 | .45 |

## 8.3 Analyses conducted to identify factors that related profile membership

As a second step, we exported class membership probabilities to the Statistical Package for Social Sciences program Version 27 (SPSS) where composition of the profiles was examined with reference to sociodemographic variables and associations between engagement profile membership and other variables as documented across Chapter 6. Chi-square tests of independence examined the association between categorical/dichotomous variables, adopting a statistical significance threshold of $p<.05$. Most typically, one-way analysis of variance (ANOVA) tests with Bonferroni post-hoc analyses (adopting a statistical threshold of $p<.017$) were used to compare the three engagement groups on continuous variables. Separate hierarchical linear regression models examined the association between continuous predictors and engagement variables, using $p<.05$.

## 8.4 Chapter 6 Tables and Figures

**Table 6.1** Measures used to create longitudinal profiles of student engagement in LSIC

| Engagement dimension | General definition | LSIC measures used | Example items |
|---|---|---|---|
| **Emotional** | Students' social and emotional attachment to school. Students' levels of interest, feelings of belonging, connectedness, identification and relatedness to their peers, teachers and the school overall. | Parent report (single item) on how much child likes teacher (4-point scale ranging from 'not at all' to 'a lot').<br><br>Teacher report on closeness to the child – composite of 8 items each rated on a 5-point scale from 'definitely does not apply' to 'definitely applies' (Student Teacher Relationship Scale; Pianta, 1992) as per Biddle et al., 2019. | I share an affectionate, warm relationship with child |
| **Behavioural** | Student conduct. Behavioural engagement is indicated by prosocial conduct, such as spending time on homework or participating in extracurricular activities. Behavioural disengagement is frequently in focus with indicators such as absenteeism, suspensions, disruptive classroom behaviour. | Parent report on how well child is managing school - composite of 5 items each rated on a 5-point scale from 'not very well at all' to 'extremely well'.<br><br>Number of times school has contacted parents about child's behaviour (parent report) – totalled during period and reversed so that score represented lower contacts about behaviour and thus greater positive behavioural engagement. | How well do you think [child's name] is managing in school with:<br>a) school work;<br>b) making friends;<br>c) being good;<br>d) feeling strong;<br>e) knowing where to be and when. |
| **Cognitive** | Students' investments in academic tasks, their dispositions towards schoolwork, or persistence in the face of academic difficulty. | Approaches to learning (composite of teacher report on 6 items, each rated on a 4-point scale from 'never' to 'often')<br><br>Child report on academic self-concept – one scale for each of maths and reading. Composite of 3 items, each rated on a 6-point scale from 'never' to 'always'. | Keeps belongings organised; works independently; persists in completing tasks.<br><br>I am good at reading; I learn fast in reading.<br><br>I like maths; I learn fast in maths. |

**Table of data illustrated in Figure 6.2** Three profiles of student primary school engagement and their standardised scores on the items used to indicate engagement

| | | Standardised Scores on Engagement Indicator | | |
|---|---|---|---|---|
| | | Low self-concept / weakly engaged (15%) | High self-concept / weakly engaged (35%) | Strongly engaged (50%) |
| Emotional Engagement | Likes teacher (P - 2) | -0.24 | 0.25 | 0.25 |
| | Likes teacher (Y3 - 4) | -0.35 | -0.14 | 0.22 |
| | Likes teacher (Y5 - 6) | -0.27 | -0.2 | 0.23 |
| | Close to teacher (P - 2) | -0.18 | -0.35 | 0.3 |
| | Close to teacher (Y3 - 4) | -0.11 | -0.36 | 0.3 |
| | Close to teacher (Y5 - 6) | -0.17 | -0.26 | 0.23 |
| Behavioural Engagement | % with no school behaviour contacts (P - 2) | 0.7 | 0.53 | 0.94 |
| | % with no school behaviour contacts (Y3 - 4) | 0.71 | 0.48 | 0.95 |
| | % with no school behaviour contacts (Y5 - 6) | 0.67 | 0.4 | 0.9 |
| | Managing school (Y3 - 4) | -0.45 | -0.45 | 0.53 |
| | Managing school (Y5 - 6) | -0.49 | -0.37 | 0.42 |
| Cognitive Engagement | Approaches to learning (P - 2) | -0.53 | -0.77 | 0.7 |
| | Approaches to learning (Y3 - 4) | -0.44 | -0.81 | 0.76 |
| | Approaches to learning (Y5 - 6) | -0.43 | -0.82 | 0.69 |
| | Maths self-concept (Y3 - 4) | -1.63 | 0.47 | 0.25 |
| | Maths self-concept (Y5 - 6) | -0.99 | 0.22 | 0.19 |
| | Reading self-concept (Y3 - 4) | -0.77 | -0.06 | 0.32 |
| | Reading self-concept (Y5 - 6) | -0.52 | -0.1 | 0.24 |

**Table of data illustrated in Figure 6.3** Year 3 and Year 5 NAPLAN reading and numeracy results for each of the three school engagement groups

| | | NAPLAN Score | | |
|---|---|---|---|---|
| | | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| Reading | Year 3 | 325 | 306 | 363 |
| | Year 5 | 410 | 397 | 444 |
| Numeracy | Year 3 | 311 | 306 | 345 |
| | Year 5 | 405 | 410 | 436 |

**Table of data illustrated in Figure 6.4** Parent-reported total social-emotional-behavioural problems across engagement groups and primary school

| | SDQ Total Problems Score (Parent-Report) | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| **Early primary** | 12.7 | 13.4 | 10.2 |
| **Mid primary** | 12.6 | 13.6 | 9 |
| **Senior primary** | 12.7 | 12.9 | 8.3 |

**Table of data illustrated in Figure 6.5** Portion of children in each of the engagement groups and in the full LSIC sample who are in the range indicating clinically significant concern

| | Percentage (%) of Children | |
|---|---|---|
| | Children with typical social-emotional development | Children in the range for clinical levels of social-emotional problems |
| **Low self-concept / weakly engaged** | 59 | 41 |
| **High self-concept / weakly engaged** | 54 | 46 |
| **Strongly engaged** | 78 | 22 |
| **Total LSIC sample** | 67 | 33 |

**Table of data illustrated in Figure 6.6** Parent-reported peer problems on the SDQ for each engagement group across the primary years

| | Parent-Reported Score for Peer Problems | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| **Prep** | 2.26 | 2.36 | 1.73 |
| **Year 1** | 2.24 | 2.35 | 1.79 |
| **Year 2** | 2.50 | 2.62 | 1.74 |
| **Year 3** | 2.52 | 2.56 | 1.76 |
| **Year 4** | 2.49 | 2.73 | 1.73 |
| **Year 5** | 2.77 | 2.82 | 1.76 |
| **Year 6** | 2.45 | 2.66 | 1.82 |

**Table of data illustrated in Figure 6.7** Parent-reported prosocial skills on the SDQ for each engagement group across the primary years

| | Parent-Reported Prosocial Skills | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| Prep | 8.33 | 8.15 | 8.74 |
| Year 1 | 8.09 | 8.31 | 8.93 |
| Year 2 | 8.16 | 8.29 | 9.06 |
| Year 3 | 8.16 | 8.27 | 8.93 |
| Year 4 | 8.13 | 7.92 | 8.95 |
| Year 5 | 7.79 | 7.90 | 8.69 |
| Year 6 | 7.81 | 7.71 | 8.76 |

**Table of data illustrated in Figure 6.8** Child report of school climate across the engagement groups and Years 4, 5, and 6

| | Child Report of School Climate | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| Year 4 | 5.25 | 5.54 | 5.69 |
| Year 5 | 5.14 | 5.46 | 5.60 |
| Year 6 | 5.19 | 5.34 | 5.56 |

**Table of data illustrated in Figure 6.9** Child-reported scores on their experiences of safety in their own cultural identity within their classrooms across the engagement

| | Child-Reported Score on Their Cultural Identity Within Class | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| Year 4 | 4.73 | 5.31 | 5.34 |
| Year 5 | 4.98 | 5.08 | 5.31 |
| Year 6 | 5.12 | 5.15 | 5.36 |

**Table of data illustrated in Figure 6.10** Child-reported scores on their teachers' style across the engagement groups

| | Child-Reported Score of Teacher Style | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| Year 4 | 5.16 | 5.34 | 5.63 |
| Year 5 | 5.18 | 5.29 | 5.67 |
| Year 6 | 5.19 | 5.24 | 5.64 |

**Table of data illustrated in Figure 6.11** Levels of teacher-reported student-teacher conflict across primary school for the student engagement groups

| | Teacher Report of Levels of Teacher-Student Conflict | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| **Prep** | 1.57 | 1.85 | 1.18 |
| **Year 1** | 1.64 | 1.93 | 1.15 |
| **Year 2** | 1.87 | 2.17 | 1.22 |
| **Year 3** | 1.73 | 2.16 | 1.19 |
| **Year 4** | 1.85 | 2.24 | 1.26 |
| **Year 5** | 1.76 | 2.25 | 1.22 |
| **Year 6** | 1.79 | 2.34 | 1.31 |

**Table of data illustrated in Figure 6.12** Average parent-reported involvement in school-based activities across the engagement groups

| | Average Parent-reported Total Involvement in School-based Activities | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| **Prep** | 3.45 | 3.29 | 3.50 |
| **Year 1** | 3.37 | 3.24 | 3.69 |
| **Year 2** | 3.21 | 3.21 | 3.47 |
| **Year 3** | 2.93 | 3.07 | 3.53 |
| **Year 4** | 2.99 | 3.15 | 3.48 |
| **Year 5** | 3.20 | 3.05 | 3.33 |

**Table of data illustrated in Figure 6.13** Average parent-reported scores for the extent to which teachers engage in active outreach to families, across the student engagement groups

| | Parent-reported Score for Teachers' Level of Active Outreach to Families | | |
|---|---|---|---|
| | Low self-concept / weakly engaged | High self-concept / weakly engaged | Strongly engaged |
| **Prep** | 2.50 | 2.48 | 2.71 |
| **Year 1** | 2.68 | 2.57 | 2.69 |
| **Year 2** | 2.46 | 2.68 | 2.66 |
| **Year 3** | 2.61 | 2.60 | 2.76 |
| **Year 4** | 2.58 | 2.61 | 2.83 |
| **Year 5** | 2.53 | 2.61 | 2.77 |
| **Year 6** | 2.55 | 2.62 | 2.70 |

**Table of data illustrated in Figure 6.14** Portion of parents reporting any discrimination experiences at their child's school, across student engagement groups and the whole LSIC sample

| | Percentage (%) of Parents Reporting Any Discrimination | |
|---|---|---|
| | No report of parent discrimination at school | Parent has experienced discrimination at school |
| **Low self-concept / weakly engaged** | 68 | 32 |
| **High self-concept / weakly engaged** | 78 | 22 |
| **Strongly engaged** | 81 | 19 |
| **Total LSIC sample** | 78 | 22 |

**Table of data illustrated in Figure 6.15** Proportion of parents reporting racist-based bullying experienced by their child at school, across student engagement groups and the full LSIC sample

| | Percentage (%) of Parents Reporting Racist-based Bullying of Child | |
|---|---|---|
| | No report of racist-based bullying | Report of racist-based bullying |
| **Low self-concept / weakly engaged** | 76 | 24 |
| **High self-concept / weakly engaged** | 70 | 30 |
| **Strongly engaged** | 78 | 22 |
| **Total LSIC sample** | 75 | 25 |

**Table 6.2** Results of an integrative regression model predicting senior primary school engagement levels

| | Emotional engagement: Teacher-student closeness (Year 5-6) | Behavioural engagement: Parent report of child managing school (Years 5-6) | Cognitive engagement: Teacher report of children's approaches to learning (Years 5-6) |
|---|---|---|---|
| **Variance accounted for by model** | 5% | 19% | 39% |
| | | *β* | |
| **Socio-demographic factors** | | | |
| Socio-economic status (IRISEO) | **.10*** | -.04 | .07 |
| Gender (female) | .08 | .02 | **.21*** |
| Parent education | .04 | -.05 | .04 |
| Financial stress | -.05 | -.04 | -.07 |
| Life events | .02 | -.01 | .03 |
| **Children's early skills (Preparatory to Year 1)** | | | |
| Attentional regulation | -.05 | **.08*** | -.01 |
| Emotional regulation | .02 | .03 | .02 |
| School readiness | .02 | .02 | **.17*** |
| **School and classroom experiences (Years 3 and 4)** | | | |
| Student-teacher conflict | -.06 | -.17* | **-.34*** |
| Reading self-concept | .03 | **.10*** | **.10*** |
| Prosocial skills | .03 | **.16*** | **.06*** |
| Peer problems | .02 | **-.17*** | **-.09*** |
| Teacher outreach to parents | .06 | .06 | **.07*** |

**Note:** β coefficients rounded to 2 decimal places; * $p < .05$

**Table 6.3** Children's reflections when asked 'what would you like to change about school?'

| | |
|---|---|
| **Homework** | "No homework" |
| **Staff** | "More permanent teachers"<br>"Change the teachers"<br>"How teachers treat the children"<br>"I would like the teachers to stop slaking" |
| **Play areas** | "Better playgrounds and more spaces to play"<br>"Better basketball courts"<br>"Better handball courts"<br>"That they could make the playgrounds bigger" |
| **Bullying** | "Stop the bullying"<br>"When children are being bullied, have a helper with you to give support"<br>"Bullying tolerance" |

**Table of data illustrated in Figure 6.17** Average semester 1 student attendance rate as a percentage, from MySchool data for LSIC children when they were in Year 3 (*n* = 729), by remoteness area

| | Average Semester 1 Attendance Rate at the School Level (%) |
|---|---|
| **Major Cities** | 92 |
| **Inner Regional** | 92 |
| **Outer Regional** | 90 |
| **Remote** | 86 |
| **Very Remote** | 77 |

**Table of data illustrated in Figure 6.18** Percentage of parents who report that children not going to school is a problem in their community, by area

| | Percentage (%) of Parents Reporting That School Attendance is a Problem in Their Community | | | |
|---|---|---|---|---|
| | **Very big problem** | **Big problem** | **Small problem** | **Not a problem** |
| **Major Cities** | 2 | 8 | 23 | 67 |
| **Inner Regional** | 5 | 14 | 28 | 53 |
| **Outer Regional** | 4 | 13 | 31 | 52 |
| **Remote** | 6 | 20 | 31 | 43 |
| **Very Remote** | 13 | 18 | 32 | 38 |

# 9. Chapter 7 technical appendix

## 9.1 Process of grouping LSIC children showing stronger or weaker progress in literacy and numeracy across the primary school years

*Step 1: Measuring literacy and numeracy attainment in the early primary school years*

To maximise the number of LSIC children from whom we could obtain information about their early years literacy and numeracy attainment, we drew on data available from two different measures of literacy and one measure of numeracy. These were gathered in the birth (B) and kindergarten (K) cohorts during the first three years of primary school.

For **literacy**, these were scores from the:

1. Teacher ratings of reading and writing skills on the *Academic Rating Scales* (ARS; data from Prep, Year 1, and/or Year 2); and
2. Scores from the *Progressive Achievement Tests in Reading* (PAT-R; data from Year 1 and/or Year 2)

For **numeracy**, these were scores from the:

1. Teacher ratings of mathematics skills on the *Academic Rating Scales* (data from Prep, Year 1, and/or Year 2).

The following table summarises the number of children with data available on each measure during the early years:

| | **Literacy** | | **Numeracy** |
|---|---|---|---|
| | ARS – Reading and Writing | PAT – Reading | ARS – Mathematics |
| Preparatory: | 297 | | 290 |
| Year 1: | 519 | 630 | 515 |
| Year 2: | 512 | 1,104 | 511 |
| *Total number of children with data from at least one early years measure* | ***1,353*** | | ***932*** |

To combine the information available from these different measures (which were collected on different measurement scales), we first converted children's performance on each measure to a common metric.

We did this using the "proportion of maximum scaling (POMS)" method (Little, 2013), which transforms each scale to a metric from 0 (minimal possible) to 1 (maximum possible), as follows:

$$POMS = [(observed\ score - minimum\ score)/(maximum\ score - minimum\ score)]$$

Children's scores on each measure were now scaled between 0 and 1, while retaining the relative order of children's performances within the cohort. Children scoring 1 had the highest literacy and numeracy attainment scores, and children scoring 0 had the lowest attainment scores.

We then averaged together the POMS scores from the early years literacy measures, and the POMS scores from the early years numeracy measures, to derive a *mean* POMS score for each child that reflected their literacy and numeracy attainment during the early years (between Prep and Year 2).

Finally, in order to consider that children's progress during primary school starts from different levels of early years achievement, we divided the LSIC cohort according to their level of proficiency on these early primary years measures of literacy and numeracy. We divided the cohort into three groups, namely:

i. children who demonstrated the greatest proficiency in literacy and numeracy in the early years of school relative to LSIC peers (children with literacy and numeracy attainment scores in the upper third of the cohort)
ii. children who demonstrated average proficiency relative to LSIC peers (children with attainment scores in the middle third of the cohort), and
iii. children who had attained the least proficiency relative to LSIC peers (attainment scores in the lowest third of the cohort).

*Step 2: Measuring literacy and numeracy attainment in the later primary school years*

To maximise the number of LSIC children from whom we could obtain usable information about their later years literacy and numeracy attainment, we again drew on two different measures of literacy and of numeracy attainment. These were gathered in the birth (B) and kindergarten (K) cohorts during the later years (Years 5 and 6) of primary school.

For **literacy**, these were scores from the:

1. *Progressive Achievement Tests in Reading* (PAT-R; data from Year 5 and/or Year 6)
2. The reading domain of the *National Assessment Program – Literacy and Numeracy* (NAPLAN; data from Year 5)

For **numeracy**, these were scores from the:

1. *Progressive Achievement Tests in Mathematics* (PAT-M; data from Year 5 and/or Year 6)
2. The numeracy domain of the *National Assessment Program – Literacy and Numeracy* (NAPLAN; data from Year 5)

To combine the information across the different measures, we again converted the scores from each of these measures to POMS scores, and then averaged those together to obtain a measure of later years literacy and numeracy attainment.

The following table summarises the number of children with data available on each measure during the later primary years (Year 5 and Year 6):

| | **Literacy** | | **Numeracy** | |
|---|---|---|---|---|
| | PAT - Reading | NAPLAN - Reading | PAT - Mathematics | NAPLAN - mathematics |
| Year 5: | 597 | 1,146 | 550 | 1,118 |
| Year 6: | 472 | | 648 | |
| *Total number of children with data from at least one later years measure* | ***1,335*** | | ***1,364*** | |

*Step 3: Measuring the amount of change in literacy and numeracy attainment scores between early and later primary school years*

We next quantified the amount of ***change*** in POMS scores for literacy and numeracy between the early and later years by subtracting the score for the former from the latter:

*(Later years attainment POMS score) - (Early years attainment POMS score).*

*Step 4: Distinguishing between stronger and weaker progress (growth in attainment) on literacy and numeracy among LSIC children, while taking account of children's different levels of attainment in the early years of primary school*

In this stage of processing, we distinguished patterns of *stronger progress* (more pronounced growth) during the primary school years from *weaker progress* (less pronounced growth) for children in the LSIC cohort. To do this, we focussed on the children who had scored in the middle and the lower thirds of the cohort during the early primary years.

We differentiated between children who, between early and later years, showed the largest change scores in their literacy and numeracy progress across the primary school years (stronger progress) relative to LSIC peers from children with small change scores (weaker progress). Specifically:

- The attainment of children who scored in the lowest third of the LSIC cohort on literacy and numeracy during the early primary years were differentiated into:
    a. **Stronger progress** from a relatively low level of attainment in the early years: children with change scores ≥.35 for numeracy and ≥.25 for literacy
    b. **Weaker progress** from a relatively low level of attainment in the early years: children with change scores of <.35 for numeracy and <.25 for literacy
- The attainment of children who scored in the middle third of the LSIC cohort on literacy and numeracy during the early primary years were differentiated into:
    a. **Stronger progress** from a middle level of attainment in the early years: children with change scores ≥.10 for literacy and for numeracy
    b. **Weaker progress** from a middle level of attainment in the early years: children with change scores of between <.10 for literacy and for numeracy

The following table summarises the number (and percentage) of children within these four groups, for literacy and for numeracy:

| | **Literacy** | | **Numeracy** | |
|---|---|---|---|---|
| | No. | (%) | No. | (%) |
| Stronger progress (from low) | 203 | (17.5) | 120 | (14.4) |
| Weaker progress (from low) | 156 | (13.5) | 124 | (14.9) |
| Stronger progress (from middle) | 171 | (14.8) | 133 | (16.0) |
| Weaker progress (from middle) | 208 | (18.0) | 164 | (19.7) |

*Step 5: Deriving the stronger and weaker progress groups on literacy and numeracy*

In order to compare children with stronger versus weaker progress across the primary school years, we combined the data from the two stronger progress groups, and the data from the two weaker progress groups. In this way, we could examine factors that were related to the strength of academic progress (stronger vs. weaker), while taking into account that children progressed from different levels of attainment in the early years.

The following table summarises the number (and percentage) of children within these two groups, for literacy and for numeracy:

| | **Literacy** | | **Numeracy** | |
|---|---|---|---|---|
| | Number of children | (%) | Number of children | (%) |
| Stronger progress: | 374 | (50.6) | 253 | (46.8) |
| Weaker progress: | 364 | (49.3) | 288 | (53.2) |
| *Total number of children with progress data* | ***738*** | | ***541*** | |

## 9.2 Description of variables used to identify factors that related to stronger progress on literacy and numeracy during primary school

### Sociodemographic and community factors

- **Socioeconomic background** of the students was measured as decile scores on the *Indigenous Relative Socioeconomic Outcomes* (*IRISEO:* air10) index, averaged across Preparatory, Year 1, and Year 2.
- **Number of significant life events** experienced by children during the middle years of primary school (averaged across Year 3 and Year 4: midlifev) were reported by the parent.
- **Community prevalence of early childhood developmental vulnerability**, as measured by the *2009 Australian Early Development Census* (badc_vul1 and badc_vul2).
- **Remoteness** was indexed by the *Australian Statistical Geography Standard 2016* indicator at Waves 1 and 2 of LSIC (ara).
- **Financial stress in the past year** was measured mid primary school, averaged across Year 3 and Year 4 (midfin).

### Teacher and school factors

- **Close student-teacher relationships** and **Conflict in the student-teacher relationship** were based on information reported by teachers in the middle years of primary school (averaged across Year 3 and 4 measurements) on the *Student–Teacher Relationship* scale (Biddle et al., 2019; Pianta, 1992). See Technical Appendix Section 6 and Table 6.1 of the full report for more details.
- **Positive teacher style** was measured from reports by children on items related to whether teachers make class a fun place to be, are fair, and listen to and understand children (Biddle et al., 2019). See Technical Appendix Section 6 for more details.
- **School is supportive of Indigenous children** was measured by parent-response to an item *"Do you think the school looks after Aboriginal and Torres Strait Islander children well?"* (ace89) asked at the Year 4 assessment.

- **Bullied or mistreated for being Indigenous** was measured from parent report on multiple items (see Technical Appendix Section 4) indicating that their child *experienced bullying or had been treated unfairly due to being Indigenous*, based on any experience reported across Preschool to Year 4.
- **Engagement between the school and parents** was measured from multiple teacher-reported items (see Technical Appendix Section 5), as an averaged score across all year levels between Preparatory and Year 5.
- **School socio-educational advantage** was indicated by the school-level Index of Community Socio-Educational Advantage [ICSEA] score.

### Student wellbeing

- **Student wellbeing** was measured as:
  (a) **fewer overall difficulties in behaviour, emotional and social functioning**, as reported by their parent on 20 items from the Strengths and Difficulties Questionnaire (SDQ Total Difficulties score: Goodman, 2001), averaged across Years 3 and 4;
  (b) **fewer behavioural difficulties***,* measured as an average of Years 3 and 4 scores, using the sum of 10 items from the parent-reported SDQ Conduct Problems and Hyperactivity/Inattention subscales (these reflected fewer behaviours such as fighting with other children, stealing from home, school or elsewhere, and fidgeting, being restless, or distracted);
  (c) **fewer social-emotional difficulties***,* measured as an average of Years 3 and 4 scores, using the sum of 10 items from the parent-reported SDQ Emotional Symptoms and Peer-Relationship Problems subscales (these reflected fewer experiences such as feeling nervous, worried, or sad, and more experiences of having a good friend, or being liked by others);
  (d) **greater prosocial behaviours**, measured as an average of the Years 3 and 4 parent-reported SDQ Prosocial Behaviour subscale scores (which includes behaviours such as being helpful and kind to others, and sharing).
- **Attentional** and **Emotional self-regulation skills** were measured by parent-report on temperament items related to task persistence and emotional reactivity which have been used extensively in prior LSAC and LSIC (Little et al., 2012; Williams et al., 2017), with scores averaged across Preschool and Year 1.

### Learning-related factors

- **School readiness** was measured using the *Who am I?* measure, computed as an average of Preschool and Year 1 scores. See Technical Appendix Section 6 for more details.
- **Approaches to learning** was measured by teacher report on six items (each rated on a 4-point scale from "*never"* to "*often*") related to children's organisation and persistence in the classroom, computed as the average of measures from Years 3 and 4.
- **Reading** and **Mathematics self-concepts** were measured in Year 4 using a subset of items from the Marsh Self-Description Questionnaire, with a composite score for both reading and mathematics each comprising three items with a 6-point rating scale from "*never*" to "*always*".

## 9.3 Analyses conducted to identify factors that related to stronger versus weaker progress on literacy and numeracy during primary school

The relationships that we report in Chapter 7 between stronger progress in literacy and/or in numeracy and the range of factors (described in section 7.2, above) were each examined in separate analyses. We used chi-square analyses (for categorical / dichotomous variables) and t-tests (for continuous variables) to identify factors that were related to the stronger (vs. weaker) progress group, and all analyses were tested at a statistical threshold of $p<.05$, uncorrected for the multiple tests being conducted. Several of the factors we examined are likely to be related to each other, and some may be related to factors that have not been measured. Future research might analyse the factors at the same time using multivariable analyses, to determine which factors are associated with literacy and/or numeracy progress after considering the contribution made by other factors.

## 9.4 Chapter 7 Tables

**Table 7.1.** Number (and percentage) of children in the stronger and weaker progress groups

| | **Literacy** | | **Numeracy** | |
|---|---|---|---|---|
| | Number of children | (%) | Number of children | (%) |
| **Stronger progress:** | 374 | (50.6) | 253 | (46.8) |
| **Weaker progress:** | 364 | (49.3) | 288 | (53.2) |
| ***Total number of children with measures of academic progress*** | ***738*** | | ***541*** | |

**Table 7.2.** Number of children showing similar or different patterns of progress on literacy and numeracy

| | | **Literacy** | |
|---|---|---|---|
| | | Stronger progress | Weaker Progress |
| **Numeracy** | Stronger progress | 137 | *97* |
| | Weaker progress | *96* | 94 |

**Table 7.3.** Factors related to stronger progress in literacy and/or in numeracy during primary school

| Factors related to stronger progress: | in Literacy | in Numeracy |
|---|---|---|
| **Socio-demographic and community factors** | | |
| Greater socio-economic advantage | ✓ | ✓ |
| Fewer significant life events | ✓ | ✓ |
| Lower community prevalence of early childhood developmental vulnerability | ✓ | |
| **Teacher and school factors** | | |
| Lower teacher-student conflict | ✓ | ✓ |
| More positive teacher style | ✓ | ✓ |
| Higher school-parent engagement | | ✓ |
| School supportive of Indigenous children | | ✓ |
| Fewer experiences of bullying or unfair treatment due to being Indigenous | | ✓ |
| Greater school socio-educational advantage | ✓ | ✓ |
| **Student wellbeing** | | |
| Fewer overall difficulties with behaviour, emotion, and social functioning | ✓ | ✓ |
| Fewer difficulties with behaviour | ✓ | |
| Fewer social-emotional difficulties | | ✓ |
| Greater early emotional self-regulation skills | | ✓ |
| **Learning-related factors** | | |
| Stronger approaches to learning | ✓ | ✓ |
| Greater reading self-concept | ✓ | |

**Table 7.4** Sociodemographic and community factors related to stronger progress in literacy and/or numeracy during primary school

| Sociodemographic and community factors | *Literacy* | | *Numeracy* | |
|---|---|---|---|---|
| | ***Stronger Progress*** | ***Weaker Progress*** | ***Stronger Progress*** | ***Weaker Progress*** |
| | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** |
| **IRSEO decile** (range 1-10, larger scores indicate greater advantage) | 5.9 (2.2) | 4.9 (2.4)* | 5.9 (2.2) | 5.2 (2.2)* |
| **Number of life events** (range 0-13) | 3.6 (2.2) | 4.0 (2.3)* | 3.3 (2.0) | 3.9 (2.1)* |
| **Community prevalence of early childhood developmental vulnerability** (%) | 35.1 (16.5) | 38.6 (18.1)* | 34.7 (16.2) | 35.9 (17.1) |
| **Remoteness (%)** | | | | |
| Major cities | 25.1 | 21.7 | 27.2 | 23.7 |
| Inner regional | 27.0 | 25.1 | 28.6 | 28.9 |
| Outer regional | 12.9 | 12.3 | 13.6 | 11.9 |
| Remote | 16.5 | 13.6 | 15.0 | 12.3 |
| Very remote | 18.5 | 27.3 | 15.7 | 23.3 |
| **Financial stress in past year** (range 0-7, higher scores indicate greater stress) | 0.9 (1.1) | 0.9 (1.2) | 0.7 (1.0) | 0.8 (1.1) |

*Note: * indicates significant difference between stronger and weaker progress groups*

**Table 7.5** Teacher and school factors related to stronger progress in literacy and/or in numeracy during primary school

| Teacher and school factors | *Literacy* | | *Numeracy* | |
|---|---|---|---|---|
| | ***Stronger Progress*** | ***Weaker Progress*** | ***Stronger Progress*** | ***Weaker Progress*** |
| | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** |
| **Close teacher-student relationship** (range 1-5; higher scores indicate a closer relationship) | 4.0 (0.6) | 4.0 (0.7) | 4.1 (0.6) | 4.0 (0.6) |
| **Conflict in teacher-student relationship** (range 1-5; higher scores indicate greater conflict) | 1.6 (0.8) | 1.8 (0.9)* | 1.6 (0.8) | 1.8 (0.9)* |
| **Positive teacher style** (range 2-6; higher scores indicate more positive style) | 5.6 (0.5) | 5.2 (0.9)* | 5.5 (0.7) | 5.3 (1.0)* |
| **School is supportive of Indigenous children (%)** | 75.3 | 73.6 | 82.0 | 71.2* |
| **Bullied or mistreated for being Indigenous (%)** | 18.7 | 19.0 | 21.7 | 14.2* |
| **School-parent engagement** (range 1-4; higher scores indicate greater engagement) | 2.3 (1.5) | 2.1 (1.5) | 2.6 (1.6) | 2.1 (1.4)* |
| **School socio-educational advantage** (range 515-1180; higher scores index greater advantage) | 898 (118) | 847 (135)* | 897 (118) | 862 (116)* |

*Note: * indicates significant difference between stronger and weaker progress groups*

**Table 7.6** Student wellbeing related to stronger progress in literacy and/or in numeracy during primary school

| Student wellbeing | *Literacy* | | *Numeracy* | |
|---|---|---|---|---|
| | ***Stronger Progress*** | ***Weaker Progress*** | ***Stronger Progress*** | ***Weaker Progress*** |
| | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** |
| **Overall difficulties in behavioural, emotional, and social functioning** (range 0-32; lower scores indicate fewer difficulties) | 11.4 (6.0) | 12.5 (6.3)* | 10.9 (5.6) | 12.0 (6.8)* |
| **Behavioural difficulties** (range 0-10; lower scores indicate fewer difficulties) | 3.3 (2.0) | 3.7 (2.0)* | 3.1 (1.8) | 3.4 (2.1) |
| **Social-emotional difficulties** (range 0-8.5; lower scores indicate fewer difficulties) | 2.4 (1.6) | 2.5 (1.7) | 2.3 (1.5) | 2.6 (1.8)* |
| **Prosocial behaviour** (range 0-10; higher scores indicate more prosocial behaviour) | 8.6 (1.6) | 8.5 (1.8) | 8.7 (1.5) | 8.5 (1.7) |
| **Emotional self-regulation skills** (range 1-6; higher scores indicate greater self-regulation) | 3.6 (1.2) | 3.5 (1.3) | 3.8 (1.2) | 3.5 (1.2)* |
| **Attentional self-regulation skills** (range 1-6; higher scores indicate greater self-regulation) | 3.9 (1.2) | 3.9 (1.2) | 3.9 (1.2) | 3.7 (1.2) |
| **School readiness** (range 0-43; higher scores indicate greater readiness) | 25.9 (7.0) | 25.2 (6.7) | 25.9 (6.7) | 25.6 (6.0) |

*Note: * indicates significant difference between stronger and weaker progress groups*

**Table 7.7** Learning-related factors related to stronger progress in literacy and/or in numeracy during primary school

| Learning-related factors | *Literacy* | | *Numeracy* | |
|---|---|---|---|---|
| | ***Stronger Progress*** | ***Weaker Progress*** | ***Stronger Progress*** | ***Weaker Progress*** |
| | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** | **Mean (SD)** |
| **Approaches to learning** (range 0-4.7; higher scores indicate stronger approach to learning) | 2.9 (0.7) | 2.7 (0.7)* | 2.9 (0.7) | 2.7 (0.7)* |
| **Reading self-concept** (range 1-6; higher scores indicate stronger self-concept) | 4.9 (1.0) | 4.6 (1.3)* | | |
| **Mathematics self-concept** (range 1-6; higher scores indicate stronger self-concept) | | | 4.6 (1.3) | 4.6 (1.5) |

*Note: * indicates significant difference between stronger and weaker progress groups*

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