

# Introduction

*Growing Up in Australia:* The Longitudinal Study of Australian Children (LSAC) is Australia's first nationally representative longitudinal study of child development. The purpose of the study is to provide data that enable a comprehensive understanding of development and life-course trajectories within Australia's current social, economic and cultural environment. The longitudinal nature of the study enables researchers to examine the dynamics of change through the life course as children develop, and to go beyond the static pictures provided by cross-sectional statistics. The study thereby gives policy-makers and researchers access to quality data about children's development in the contemporary Australian environment.

The study was initiated and is funded by the Australian Government Department of Social Services, and is conducted in partnership with the Australian Institute of Family Studies (AIFS) and the Australian Bureau of Statistics (ABS). A consortium of leading researchers and experts from universities and research agencies provide advice to the study.

This is the fifth volume in the LSAC Annual Statistical Report series, which uses data from the fifth wave of the study for the first time. The purpose of these reports is to provide a snapshot of some of the data from the study and to address policy-relevant questions about aspects of Australian children's lives and development. The report makes use of the longitudinal nature of LSAC data to describe the dynamics of change as children develop, and how their families and lives change as they grow older.

The first section of this introductory chapter provides a brief overview of LSAC, the second describes the analytical approaches used throughout the main chapters of the report, and the third section introduces the subpopulation groups that are used for comparisons in some chapters. The chapter ends with summary tables comprising a glossary of LSAC terms, statistical indicators, and the scales and measures commonly used throughout the report.

## 1.1 About the study

### Study design

The LSAC study has an accelerated cross-sequential design, with two cohorts of children of differing ages. One of the advantages of this type of design is that it provides data on later developmental pathways and outcomes before the younger cohort of the two matures. From Wave 3 there is data on children of the same age from both cohorts at different time points.

The B ("baby") cohort was aged 0–1 years at the beginning of the study (born between March 2003 and February 2004); and the K ("kindergarten") cohort was aged 4–5 years at the beginning of the study (born between March 1999 and February 2000).

The first wave of data collection took place in 2004, with subsequent main waves every two years. In 2005 (Wave 1.5), 2007 (Wave 2.5) and 2009 (Wave 3.5), parents were also asked to complete a between-waves mail survey. In 2011 (Wave 4.5), the between-wave data collection changed from a paper-based questionnaire to an Internet-based form for respondents to report changes in contact details to aid tracking. Table 1.1 (on page 2) summarises the ages and sample sizes for the two cohorts across the first five main waves of the study.

**Table 1.1: Age ranges and numbers of children, B and K cohorts, Waves 1–5**

	Wave 1 (2004)	Wave 2 (2006)	Wave 3 (2008)	Wave 4 (2010)	Wave 5 (2012)
<b>B cohort</b>	0–1 year 5,107	2–3 years 4,606	4–5 years 4,386	6–7 years 4,242	8–9 years 4,085
<b>K cohort</b>	4–5 years 4,983	6–7 years 4,464	8–9 years 4,331	10–11 years 4,169	12–13 years 3,956

Note: This table presents the numbers of children who responded at each wave.

As mentioned, this design means that from the third wave of the study, the children's ages overlap; that is, children were aged 4–5 years both in the first wave for the K cohort and in the third wave for the B cohort. In covering the first five waves of the study, this report includes data on children between the ages of 0 and 13 years.

## Respondents and collection methods

The use of multiple respondents in LSAC provides a rich picture of children's lives and development in various contexts. Across the first five waves of the study, data were collected from:

- parents of the study child:<sup>1</sup>
  - Parent 1 (P1)—defined as the parent who knows the most about the child (not necessarily a biological parent);<sup>2</sup>
  - Parent 2 (P2), if there is one—defined as another person in the household with a parental relationship to the child, or the partner of Parent 1 (not necessarily a biological parent); and
  - a parent living elsewhere (PLE), if there is one—a parent who lives apart from Parent 1 but who has contact with the child;
- the study child;
- carers/teachers (depending on the child's age); and
- interviewers.

In the first four waves of the study, the primary respondent was the child's Parent 1. In the majority of cases, this was the child's biological mother, but in a small number of families this was someone else who knew the most about the child. Since Wave 2, the K cohort children have answered age-appropriate interview questions, and from Wave 4 they have also answered a series of self-complete questions. The B cohort children answered a short set of interview questions in Wave 4 for the first time. As children grow older, they are progressively becoming the primary respondents of the study.

A variety of data collection methods are used in the study, including:

- conducting face-to-face interviews:
  - recorded on paper; and
  - using computer-assisted interviews (CAI);
- filling in self-complete questionnaires:
  - during interviews (paper forms, computer-assisted self-interviews (CASI), and audio computer-assisted self-interviews (ACASI);
  - on leave-behind paper forms;
  - on mailout paper forms; and
  - on Internet-based forms;
- physically measuring the child, including height, weight, girth, body fat and blood pressure;
- directly assessing the child's vocabulary and cognition;
- completing time use diaries;
- conducting computer-assisted telephone interviews (CATI); and
- linking to administrative or outcome data (e.g., Medicare, NAPLAN).

<sup>1</sup> The terms "Parent 1" and "Parent 2" are used for consistency and are not intended to suggest that one parent's relationship with their child is more important than the other parent's relationship.

<sup>2</sup> For separated families in which both parents provided care for the child, the interviewer in Wave 1 worked with the family to identify who the child's Parent 1 was for the purposes of data collection. Where possible, the same parent has been kept as P1 in subsequent waves (see section 1.2 "Key points to be noted" for details).

The interviews and questionnaires include validated scales appropriate to the children's ages (see section 1.4 on page 9 for a list of the scales used in this report).

## Sampling and survey design

The sampling unit for LSAC is the study child. The sampling frame for the study was the Medicare Australia (formerly Health Insurance Commission) enrolments database, which is the most comprehensive database of Australia's population, particularly of young children. In 2004, approximately 18,800 children (aged 0–1 or 4–5 years) were sampled from this database, using a two-stage clustered design. In the first stage, 311 postcodes were randomly selected (very remote postcodes were excluded due to the high cost of collecting data from these areas). In the second stage, children were randomly selected within each postcode, with the two cohorts being sampled from the same postcodes. A process of stratification was used to ensure that the numbers of children selected were roughly proportionate to the total numbers of children within each state/territory, and within the capital city statistical districts and the rest of each state. The method of postcode selection took into account the number of children in the postcode; hence, all the potential participants in the study Australia-wide had an approximately equal chance of selection (about one in 25).<sup>3</sup>

## Response rates

The 18,800 families selected were then invited to participate in the study. Of these, 54% of families agreed to take part in the study (57% of B cohort families and 50% of K cohort families). About 35% of families declined to participate (33% of B cohort families and 38% of K cohort families), and 11% of families could not be contacted (e.g., because the address was out-of-date, or only a post office box address was provided; 10% of B cohort families and 12% of K cohort families).

This resulted in a nationally representative sample of 5,107 0–1 year olds and 4,983 4–5 year olds who were Australian citizens or permanent residents. Table 1.2 presents the response rates for each of the five main waves.

Table 1.2: Response rates, main waves, B and K cohorts, Waves 1–5					
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
<b>B cohort</b>					
Number of responses	5,107	4,606	4,386	4,242	4,077 <sup>b</sup>
Response rates of Wave 1 (%)	100.0	90.2	85.9	83.0	80.0
Response rates of available sample (%) <sup>a</sup>	–	91.2	88.2	86.0	83.5
<b>K cohort</b>					
Number of responses	4,983	4,464	4,332 <sup>c</sup>	4,164 <sup>c</sup>	3,952 <sup>c</sup>
Response rates of Wave 1 (%)	100.0	89.6	86.9	83.6	79.4
Response rates of available sample (%) <sup>a</sup>	–	90.9	89.7	87.2	83.5
<b>Total</b>					
Number of responses	10,090	9,070	8,718	8,406	8,029
Response rates of Wave 1 (%)	100.0	89.9	86.4	83.3	79.7
Response rates of available sample (%) <sup>a</sup>	–	91.1	89.0	86.6	83.5

Notes: This table refers to the numbers of parents who responded at each wave. Percentages are based on weighted data. <sup>a</sup> The available sample excludes those families who opted out of the study between waves. <sup>b</sup> B cohort: different numbers of parents and their children responded at Wave 5 (There were eight cases where a child interview was completed and the main interview with the parents was not). <sup>c</sup> K cohort: different numbers of parents and their children responded at Wave 3 (in one case a parent interview was completed but the interview with the study child was not), Wave 4 (in five cases a child interview was completed but the main interview with the parents was not) and Wave 5 (in four cases a child interview was completed but the main interview with the parents was not).

<sup>3</sup> See Soloff, Lawrence, and Johnstone (2005) for more information about the study design.

## 1.2 Analyses presented in this report

This report includes data from the first five main waves of the study, though given the breadth and depth of topics included in the study, individual chapters in this report do not necessarily use data from all five waves and/or both cohorts. Analyses for the two cohorts (B and K) are presented separately throughout the report.

Each chapter addresses a series of policy-relevant questions using descriptive statistical analyses. In answering these questions, chapters generally take one or more of the following approaches:

- *comparisons between subpopulation groups* (summarised in section 1.3) on the various aspects of children's environments and development; and
- examinations of *trends across waves* as children grow older.

### Weighting and survey analysis

Sample weights (for the study children) have been produced for the study dataset in order to reduce the effect of bias in sample selection and participant non-response (Cusack & Defina, 2014; Daraganova & Siphthorp, 2011; Misson & Siphthorp, 2007; Siphthorp & Misson, 2009; Soloff et al., 2005; Soloff, Lawrence, Misson, & Johnstone, 2006). When these weights are used in the analysis, greater weight is given to population groups that are under-represented in the sample, and less weight to groups that are over-represented in the sample. Weighting therefore ensures that the study sample more accurately represents the sampled population.

These sample weights have been used in analyses presented throughout this report. Cross-sectional or longitudinal weights have been used when examining data from more than one wave. Analyses have also been conducted using Stata® *svy* (survey) commands, which take into account the clusters and strata used in the study design when producing measures of the reliability of estimates.

### Key points to be noted

Parent 1 is defined as the child's primary caregiver, or the parent who knows the child best. The majority of Parent 1 respondents were mothers (i.e., at all waves, more than 95% of Parent 1 respondents have been women and the majority of Parent 2 respondents have been men).

Parent 1 for each study child was defined by the family at Wave 1. At subsequent waves, the preference, where possible, has been to retain the same person as Parent 1 to maintain the longitudinal consistency of the data. However, if Parent 1 no longer resides with the child or is temporarily away, Parent 2 of the previous wave becomes Parent 1. If both Parent 1 and Parent 2 do not reside with the child or are temporarily away, then a new Parent 1 (the best person to ask about the child's health, development and care) is assigned. Thus, Parent 1 and Parent 2 are sometimes not the same person in each wave, with different parents or guardians potentially occupying different roles at each wave.

Unless specifically noted, all references to the child's "household" or "family" are to those of Parent 1, and do not include any other household or family the child may have with a parent living elsewhere. Similarly, unless specified in the chapter, any reference to "parents" is to Parent 1 and Parent 2, rather than to parents living elsewhere. In some chapters, data are reported for mothers and fathers rather than for Parent 1 and Parent 2.

Some chapters compare responses to particular questions across waves. In some cases, these questions were collected using different methods in different waves (e.g., by interview in one wave and by self-complete questionnaire in another).

## 1.3 Subpopulation groups

This section introduces the subpopulation groups that are used in some of the chapters in this report. Most of these subpopulation groups were introduced in detail in the LSAC *Annual Statistical Report 2010* (AIFS, 2011), and are summarised in Table 1.3 (child characteristics; on page 5), Table 1.4 (parent and family characteristics; on page 7), and Table 1.5 (school characteristics; on page 8). As described above, the percentages shown in these three tables are based on weighted data.

## Child characteristics

The child characteristics at the first five waves are summarised in Table 1.3.

Subpopulation categories	B cohort					K cohort				
	Wave 1 (0–1 years) (%)	Wave 2 (2–3 years) (%)	Wave 3 (4–5 years) (%)	Wave 4 (6–7 years) (%)	Wave 5 (8–9 years) (%)	Wave 1 (4–5 years) (%)	Wave 2 (6–7 years) (%)	Wave 3 (8–9 years) (%)	Wave 4 (10–11 years) (%)	Wave 5 (12–13 years) (%)
<b>Child gender <sup>a</sup></b>										
Boys	51.2	51.1	51.1	51.1	51.2	51.2	51.3	51.3	51.2	51.8
Girls	48.8	48.9	48.9	48.9	48.8	48.8	48.7	48.7	48.8	48.2
No. of observations	5,107	4,606	4,386	4,242	4,085	4,983	4,464	4,332	4,169	3,956
<b>Main language spoken at home by child <sup>a</sup></b>										
English	87.2	87.9	87.0	86.8	89.2	86.0	85.2	86.1	85.9	88.7
Not English	12.8	12.1	13.0	13.2	10.8	14.0	14.8	13.9	14.1	11.3
No. of observations	5,104	4,603	4,384	4,239	4,084	4,983	4,464	4,331	4,164	3,956
<b>Child has disability or medical condition <sup>b</sup></b>										
Yes	–	5.9	8.6	5.4	4.1	–	11.1	7.7	6.2	4.7
No	–	94.1	91.4	94.6	95.9	–	88.9	92.3	93.8	95.3
No. of observations	–	4,606	4,386	4,242	4,047	–	4,464	4,331	4,164	3,913
<b>Child weight status <sup>c</sup></b>										
Underweight	–	5.3	6.5	5.4	5.1	5.2	5.1	5.5	5.9	6.7
Normal weight	–	71.3	69.7	73.8	71.1	74.2	75.2	69.5	65.6	65.7
Overweight or obese	–	23.4	23.8	20.8	23.9	20.6	19.7	25.0	28.5	27.5
No. of observations	–	4,522	4,324	4,181	3,998	4,934	4,423	4,289	4,018	3,803
<b>Child Indigenous status <sup>a</sup></b>										
Indigenous	4.9	5.1	4.9	5.2	4.4	3.9	3.7	3.7	3.8	2.9
Non-Indigenous	95.1	94.9	95.1	94.8	95.6	96.1	96.3	96.3	96.2	97.1
No. of observations	5,107	4,606	4,386	4,242	4,085	4,981	4,462	4,329	4,167	3,956

Notes: Percentages are based on weighted data. <sup>a</sup> Recorded at Wave 1. <sup>b</sup> Questions about whether the study child had a disability or medical condition were asked differently in Wave 1, so these data are not included here. <sup>c</sup> Weight status is based on body mass index. It was not calculated at Wave 1 for the B cohort.

### Child gender

Parent 1 reported the child's gender at Wave 1.

### Main language spoken at home by child

At Wave 1, Parent 1 respondents were asked whether they mainly spoke English or a language other than English at home. Languages were classified according to the Australian Standard Classification of Languages (ABS, 2005), and these were summarised into English or non-English languages.

### Child has disability or medical condition

At each of Waves 2 to 5, Parent 1 respondents were asked whether each household member had a medical condition or disability that had lasted six months or more, while being shown a prompt card with a list of conditions such as sight problems; hearing problems; blackouts, fits or loss of consciousness; difficulty learning or understanding things; and difficulty gripping things.

### Child weight status

At each wave (except Wave 1 for the B cohort), interviewers measured the children's weight and height to calculate their body mass index (BMI). The children were then classified as (a) normal weight; (b) overweight or obese (Cole, Bellizzi, Flegal, & Dietz, 2000); or (c) underweight (Cole,

Flegal, Nicholls, & Jackson, 2007). Children in the B cohort at Wave 1 were not measured because of the technical difficulties of measuring infants' height and weight.<sup>4</sup>

## Child Indigenous status

Parent 1 respondents identified at Wave 1 whether the study child was of Aboriginal and/or Torres Strait Islander background. These results were summarised into a measure of whether the child was Indigenous or non-Indigenous.

## Parent and family characteristics

The parent and family/household characteristics at the first five waves are summarised in Table 1.4 (on page 7).

### Family type

Two-parent families are defined as those in which the child lives with two parents in Parent 1's household. This includes children living with biological and/or non-biological parents, children living with same-sex couple parents, and children living in other two-parent family types (e.g., with their mother and their grandmother).<sup>5</sup>

Lone-mother households are those in which the child lives in a household with a female Parent 1 only (who is not necessarily the child's biological mother). Where the parents have separated and the child spends time with both parents, the family type is defined according to Parent 1's household, as identified by the study family. There are very few lone-father households (less than 1% for each cohort), so these have been excluded from analyses comparing different family types.

### Family socio-economic position

The measure of family socio-economic position (SEP), developed by Blakemore, Strazdins, and Gibbings (2009), uses information about combined annual family income, educational attainment of parents, and parents' occupational status to summarise the social and economic resources available to families. The standardised SEP scores have been divided into quartiles and summarised into the lowest 25%, the middle 50% and the highest 25%.

### Number of siblings in the household

At each wave, Parent 1 provides details about all household members, including the study child's siblings. Siblings include biological, adopted, foster, step- and half-siblings. Children may also have siblings who do not live in their household, but these siblings are not included here.

### Main language spoken at home by Parent 1

The language spoken by Parent 1 is classified using the same approach described above for the study child.

### Parent 1's country of birth

Parent 1 is grouped into those born in Australia or New Zealand and those born overseas, based on their country of birth, provided at Wave 1.

### Parents' education level

At each wave, Parent 1 respondents are asked about the highest qualification held by each of the parents. This information is used to categorise parents into those who have a university degree (or higher) and those who do not. Comparisons are made for Parent 1 respondents only, and for both

<sup>4</sup> However, the study child's birth weight and length were recorded.

<sup>5</sup> In the B cohort at Wave 1, 0.08% of children lived with same-sex couple parents and 0.11% of children lived with Parent 1 and Parent 2 who are not in a partnered relationship (e.g., with their mother and their grandmother, aunt/uncle or unrelated adult). In the K cohort at Wave 1, 0.04% of children lived with same-sex parents and 0.11% of children lived with Parent 1 and Parent 2 who are not in a partnered relationship (e.g., lived with their mother and their grandmother, aunt/uncle or unrelated adult).

**Table 1.4: Parent and family characteristics, B and K cohorts, Waves 1–5**

Subpopulation categories	B cohort					K cohort				
	Wave 1 (0–1 years) (%)	Wave 2 (2–3 years) (%)	Wave 3 (4–5 years) (%)	Wave 4 (6–7 years) (%)	Wave 5 (8–9 years) (%)	Wave 1 (4–5 years) (%)	Wave 2 (6–7 years) (%)	Wave 3 (8–9 years) (%)	Wave 4 (10–11 years) (%)	Wave 5 (12–13 years) (%)
<b>Family type</b>										
Two-parent family	89.5	87.0	86.0	84.7	84.6	85.6	83.9	84.0	82.5	83.4
Lone-mother family	10.5	13.0	14.0	15.3	15.4	14.4	16.1	16.0	17.5	16.6
No. of observations	5,104	4,593	4,375	4,221	4,050	4,946	4,426	4,288	4,113	3,885
<b>Family socio-economic position <sup>a</sup></b>										
Lowest 25%	28.6	31.2	31.5	32.9	–	28.6	30.3	31.5	32.1	–
Middle 50%	48.9	47.9	47.8	46.7	–	50.0	48.8	48.8	48.4	–
Highest 25%	22.5	20.9	20.7	20.4	–	21.4	20.9	19.7	19.6	–
No. of observations	5,092	4,602	4,382	4,215	–	4,965	4,458	4,327	4,124	–
<b>Number of siblings in the household</b>										
None	39.1	19.9	11.4	9.5	9.0	11.5	9.6	8.6	8.6	9.5
One	36.4	47.3	46.3	43.6	42.5	47.5	43.9	42.5	42.5	43.4
Two or more	24.5	32.8	42.3	46.9	48.5	41.0	46.5	48.9	48.9	47.1
No. of observations	5,107	4,606	4,386	4,242	4,077	4,983	4,464	4,331	4,164	3,951
<b>Main language spoken at home by Parent 1</b>										
English	83.1	83.7	83.1	82.8	85.6	82.5	81.6	82.7	82.6	84.8
Not English	16.9	16.3	16.9	17.2	14.4	17.5	18.4	17.3	17.4	15.2
No. of observations	5,107	4,606	4,386	4,238	4,077	4,983	4,464	4,328	4,146	3,952
<b>Parent 1's country of birth</b>										
Overseas	20.0	22.7	23.2	23.4	22.0	23.3	24.2	23.5	23.5	22.5
Australia/NZ	80.0	77.3	76.8	76.6	78.0	76.7	75.8	76.5	76.5	77.5
No. of observations	5,107	4,606	4,386	4,242	4,077	4,982	4,463	4,327	4,159	3,952
<b>Parent 1's education level</b>										
University degree or higher	29.1	28.3	29.6	30.0	33.4	24.1	24.4	25.1	25.8	28.7
Less than university degree	70.9	71.7	70.4	70.0	66.6	75.9	75.6	74.9	74.2	71.3
No. of observations	5,107	4,606	4,386	4,242	4,085	4,983	4,464	4,331	4,164	3,956
<b>Both parents' education level</b>										
At least one parent has a university degree (or higher)	37.5	36.9	38.4	38.9	42.4	33.9	34.3	35.0	35.3	38.8
Neither parent has a university degree	62.5	63.1	61.6	61.1	57.6	66.1	65.7	65.0	64.7	61.2
No. of observations	5,104	4,604	4,385	4,240	4,075	4,979	4,463	4,329	4,163	3,948
<b>Family region of residence</b>										
Metropolitan	66.5	62.6	64.9	63.6	62.8	63.7	65.9	62.9	62.4	62.0
Non-metropolitan	33.5	37.4	35.1	36.4	37.2	36.3	34.1	37.1	37.6	38.0
No. of observations	5,107	4,606	4,378	4,231	4,079	4,983	4,464	4,324	4,163	3,952
<b>Neighbourhood disadvantage</b>										
Disadvantaged	27.5	31.1	30.8	30.3	28.7	28.2	31.0	30.8	30.2	30.5
Non-disadvantaged	72.5	68.9	69.2	69.7	71.3	71.8	69.0	69.2	69.8	69.5
No. of observations	5,107	4,606	4,386	4,240	4,077	4,983	4,464	4,331	4,168	3,951

Notes: Percentages are based on weighted data. <sup>a</sup> Family socio-economic position is not currently available at Wave 5. It will be developed in the future, based on the most recent revision of the ABS occupation codes.



parents together (families in which at least one parent has a university degree, versus families in which neither parent has a university degree).

### Family region of residence

Families' postcodes are used to link to ABS Census data, which identify whether they live in a metropolitan area (capital city statistical divisions) or non-metropolitan area (the rest of the state outside the capital city statistical divisions).

### Neighbourhood disadvantage

Neighbourhood disadvantage was measured using the Socio-Economic Indexes for Areas (SEIFA)—Disadvantage. Those families living in areas in the lowest 25% SEIFA index of disadvantage are considered to be living in an area of socio-economic disadvantage.

### School characteristics

For school-aged children (B cohort Waves 4–5, and K cohort Waves 2–5), Parent 1 provided details about the type of school the child attended: government, Catholic, or independent/private schools. Percentages of children at the different school types at each wave are summarised in Table 1.5.

**Table 1.5: Children attending different school types, B cohort Waves 4–5 and K cohort Waves 2–5**

School type <sup>a</sup>	B cohort		K cohort			
	Wave 4 (6–7 years) (%)	Wave 5 (8–9 years) (%)	Wave 2 (6–7 years) (%)	Wave 3 (8–9 years) (%)	Wave 4 (10–11 years) (%)	Wave 5 (12–13 years) (%)
Government	67.9	65.6	68.8	68.3	66.7	55.8
Catholic	20.8	21.8	20.9	20.5	20.6	23.6
Independent/private	11.3	12.6	10.3	11.2	12.8	20.6
<b>Totals</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
No. of observations (schools)	4,225	4,061	4,447	4,307	4,142	3,917

Notes: Percentages are based on weighted data. A small proportion of children are being home-schooled. <sup>a</sup> Questions about children's school type were only asked for children of school age; that is, the B cohort in Waves 4–5 and the K cohort in Waves 2–5.



## 1.4 Summary tables

### Glossary of LSAC terms

Term	Description
B cohort	The younger group (“baby” cohort) of study children, aged: <ul style="list-style-type: none"> <li>0–1 years in Wave 1 (2004);</li> <li>2–3 years in Wave 2 (2006);</li> <li>4–5 years in Wave 3 (2008);</li> <li>6–7 years in Wave 4 (2010); and</li> <li>8–9 years in Wave 5 (2012).</li> </ul>
K cohort	The older group (“kindergarten” cohort) of study children, aged: <ul style="list-style-type: none"> <li>4–5 years in Wave 1 (2004);</li> <li>6–7 years in Wave 2 (2006);</li> <li>8–9 years in Wave 3 (2008);</li> <li>10–11 years in Wave 4 (2010); and</li> <li>12–13 years in Wave 5 (2012).</li> </ul>
LSAC	<i>Growing Up in Australia</i> : The Longitudinal Study of Australian Children. A nationally representative longitudinal birth cohort study that commenced in 2004. Data are being collected from study children and their parents, carers and teachers, and through linkage with other national datasets.
Parent 1	The child’s Parent 1 (P1) is defined as the child’s primary caregiver, or the parent who knows the child best, as determined by the family, usually at Wave 1. In the majority of cases, this is the child’s biological mother, but is sometimes the father or another guardian.
Parent 2	The child’s Parent 2 (P2) lives in the same household as Parent 1 and is usually the partner of Parent 1. In most cases, this is the child’s biological father, but can be the mother, another partner of Parent 1, or another guardian.
Parent living elsewhere (PLE)/non-resident parent	The child’s parent who lives in a different household to Parent 1.
Study child (or child)	The sampling unit for LSAC is the study child, so “child” refers to the child selected for inclusion in the study. Data collected and reported relate to this child.
Wave	Periods of data collection: <ul style="list-style-type: none"> <li>Wave 1 in 2004 (B cohort were 0–1 years, K cohort were 4–5 years);</li> <li>Wave 2 in 2006 (B cohort were 2–3 years, K cohort were 6–7 years);</li> <li>Wave 3 in 2008 (B cohort were 4–5 years, K cohort were 8–9 years);</li> <li>Wave 4 in 2010 (B cohort were 6–7 years, K cohort were 10–11 years); and</li> <li>Wave 5 in 2012 (B cohort were 8–9 years, K cohort were 12–13 years).</li> </ul>

### Statistical indicators in tables and graphs

Indicator	Notes
†	Relative standard error (RSE)
***	Significance level $p < .001$
**	Significance level $p < .01$
*	Significance level $p < .05$
n. s.	Not statistically significant
I	Confidence interval

## Key scales used in the report

Scale	Range	Notes
Achievement Goal Questionnaire (AGQ)	1–7	Elliot and Church (1997) used this scale to investigate achievement goals in students. This scale contains four subscales: (1) performance approach goal; (2) performance avoidance goal; (3) mastery approach goal; and (4) mastery avoidance goal. Each subscale contains three items on a seven-point response scale, from not at all true of me (scored 1) to very true of me (scored 7). Average scores of each subscale were calculated, with higher scores indicating greater level of corresponding learning attitudes.
Matrix Reasoning Test	1–19	The Matrix Reasoning Test is part of the Wechsler Intelligence Scale for Children, 4th edition (WISC-IV), and measures non-verbal intelligence. A higher score represents a better outcome.
National Assessment Program—Literacy and Numeracy (NAPLAN)	0–1,000	The NAPLAN is designed to assess all Australian students in Years 3, 5, 7 and 9 in reading, writing, language conventions (spelling, grammar and punctuation) and numeracy, using a national test that has been conducted annually since 2008, on the same days each year. The NAPLAN assessment process is performed using a national common reporting format by the test administration authorities. The reporting scales are constructed so that given scale scores can be compared across school year levels and over time.
Quality of School Life Questionnaire	6–24	The general satisfaction items from the Quality of School Life Questionnaire (Williams & Batten, 1981) were used to assess children's motivation in learning. The subscale comprises six items, with response option ranging from 1 ("strongly disagree") to 4 ("strongly agree"). The score on the intrinsic motivation scale is the mean of the underlying items, with a higher score indicating a greater level of motivation.
Peabody Picture Vocabulary Test (PPVT)	Age-specific	The PPVT measures receptive vocabulary (Dunn & Dunn, 1997). Scores are created via Rasch modelling. A higher score represents a better outcome.
Strengths and Difficulties Questionnaire (SDQ)	0–40 (for problems) 0–10 (for pro-sociality)	The SDQ assesses peer problems, conduct problems, hyperactivity, emotional problems and prosocial behaviours for children aged 3–16 years. Higher scores on the subscale for hyperactivity/inattention, emotional symptoms, peer relationship problems and conduct problems reflect more problematic behaviour. Lower scores on the prosocial behaviour subscale reflect more problematic behaviour.
Short Temperament Scale for Children (STSC)	12–72	The shortened, 12-item version of the STSC measures child temperament (Prior, Sanson, Smart, & Oberklaid, 2000). Four items assess each of the three temperament dimensions of persistence (child's capacity to see tasks through to completion), reactivity (how intense and volatile the child is), and introversion (reaction to new people and situations). For each item, parents rate their child on a six-point Likert scale (from 1 = almost never, to 6 = almost always). High reactivity scores indicate that children are more intense and less flexible.
Self-Report Early Delinquency Instrument (SRED)	0–85	The short form of Moffitt and Silva's (1988) self-report of delinquency scale measures adolescents' involvement in antisocial behaviour during the previous 12 months. For each of the 17 items, children rate themselves on a five-point Likert scale (from 0 = not at all, to 5 = five or more times). High scores indicate that children are involved in more negative social behaviours.
School Readiness Score (Who Am I?)	25–100	The School Readiness Score (de Lemos & Doig, 1999) is based on an interviewer-administered test of children's ability to perform pre-literacy/pre-numeracy tasks such as reading, copying and writing letters, words, shapes and numbers. A higher score indicates a better outcome. In LSAC, Who Am I? data were collected at Wave 3 for the B cohort and Wave 1 for the K cohort.

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