Educational opportunity in Australia 2020

Who succeeds and who misses out

October 2020

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The Mitchell Institute for Education and Health Policy at Victoria University is one of the country's leading education and health policy think tanks and trusted thought leaders. Its mission is to improve evidence-based health and education policy, to increase access and opportunities in education and health for all Australians.

About the Centre for International Research on Education Systems

This report has been prepared by the Centre for International Research on Education Systems (CIRES) for the Mitchell Institute. CIRES, located at Victoria University, conducts strategic research that identifies how well education systems work, for whom, and how they can be improved to work well for all. The Centre undertakes large-scale survey and policy-related projects covering every state and territory in Australia and every sector of education and training. It also undertakes international comparative research examining the features and performance of education systems globally.

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Language statement

We recognise the diversity of Aboriginal and Torres Strait Islander people living across Australia. Where the data collection allowed, authors have reported results separately for Aboriginal and Torres Strait Islanders. However, in many cases this was not possible. In these cases, we have used the term Indigenous to include all people of Aboriginal and Torres Strait Islander descent.

Cover Photograph

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Executive summary

This report comes at a time when the Australian economy is reeling under the impact of the COVID-19 crisis. More than at any other time, young Australians need to be prepared to face an uncertain economic and social future. The uncertainty they face increases the importance for education and training in Australia to foster the development of a broad range of knowledge and skills. To meet the challenges of the future, Australians must grow up resilient, adaptable and well-informed.

Prior to the COVID crisis, Australian governments had already re-affirmed the importance of promoting a broad base of learning, and in doing so aimed high. The 2019 Alice Springs (Mparntwe) Education Declaration commits Australian governments to providing all young Australians with the opportunity to reach their full potential where they become successful lifelong learners, confident and creative individuals, and active and informed members of the community (Education Council, 2019). According to the goals set out in the Declaration, every learner in Australia, irrespective of where they live or who they are, will develop the knowledge, skills and attributes that will lead them to become personally successful, economically productive and actively engaged citizens.

How well are our systems delivering on the goals?

This study draws together information from a variety of sources on the opportunities being provided to young Australians for mastering the skills needed to be well prepared for the future. Its goal is to show where the strengths and weaknesses of the education system lay prior to the COVID-19 crisis, to point to areas where it will most need to be strengthened. It is a tool for educators, policymakers and communities, to monitor Australia's learning progress.

The information is reported as a set of key indicators which provide a framework for measuring how well Australia's education and training systems are achieving the national goals for education. The indicators cover the various stages of learning and development from early childhood through to early adulthood to assess how well our systems are doing. They allow us to measure in some way how many young Australians at each stage display the sorts of attributes that Australian education is intended to help shape so that community members can contribute successfully and meaningfully to social, economic and cultural life. The indicators also provide insights into those whom the systems are not supporting as inclusively. A test of the effectiveness and condition of education and training systems is how many people do not acquire the full range of desired skills and attributes and get left behind. It is important to know who they are and what it is that hindered their progress.

Exhibit 1 presents the key indicators used at each stage of learning and development in the current report, accompanied by our best estimate of the proportion of the population at each stage that is succeeding and the proportion that is not. The estimates are of the numbers of successful lifelong learners, creative and confident individuals and active and informed citizens produced by our kindergartens, schools, and tertiary institutions, as well as estimates of those who are struggling and not being well served. They draw on a range of data sources, demonstrating the diverse range of data captured about young Australians and their learning.

Exhibit 1 Framework of indicators for measuring how well Australia's education and training systems are achieving the national goals for education

	Successful lifelong learners		Creative and confident individuals		Active and informed citizens	
Entry to school	Developmentally on track on all key development domains	Developmentally on track in literacy and numeracy	Developmentally on track in social competence	Developmentally on track in emotional maturity	Developmentally on track in respecting others and social behaviour	
Succeeding	78.3% 253,693	84.5% 273,781	75.8% 245,593	77.1% 249,805	85.3% 276,373	
Missing out	21.7% 70,308	15.5% 50,220	24.2% 78,408	22.9% 74,196	14.7% 47,628	
Middle school years	Performs above the national minimum standard in both literacy and numeracy	Performs at or above the international benchmark standard in science	Exhibits behaviours indicative of creativity	Possesses a strong sense of self-efficacy or belief in self	Keeps informed about current events and has awareness of global issues	Views key civic engagement activities as important to being an active and good citizen of Australia
Succeeding	75.2% 219,593	69.0% 201,488	72.8% 212,585	67.5% 197,108	64.4% 188,056	63.3% 184,844
Missing out	24.8% 72,419	31.0% 90,524	27.2% 79,427	32.5% 94,904	35.6% 103,956	36.7% 107,168
Senior school years	Attains a Year 12 certificate or equivalent	Meets or exceeds international benchmark standard for age in maths, science and reading	Exhibits high level proficiency in creative problem solving	Possesses a strong sense of self-efficacy or belief in self	Keeps informed about current events and has awareness of global issues	Views key civic engagement activities as important to being an active and good citizen of Australia
Succeeding	81.6% 259,224	72.2% 229,362	65.0% 206,489	75.3% 239,210	73.8% 234,445	65.3% 207,442
Missing out	18.4% 58,452	27.8% 88,314	35.0% 111,187	24.7% 78,466	26.2% 83,231	34.7% 110,234
Early adulthood	Engaged fully in education, training or work	Gains post-school qualification	Adaptable to change and open to new ideas	Confident in self and the future	Keeps informed about the world	Active in the community
Succeeding	70.3% 268,030	73.1% 278,310	70.1% 266,888	71.9% 270,315	66.8% 254,324	61.9% 235,669
Missing out	29.7% 112,695	26.9% 102,415	29.9% 113,837	28.1% 110,410	33.2% 126,401	38.1% 145,056

The results show that our systems are working well for a number of young Australians and teaching the skills needed for contributing effectively to modern workplaces and communities. However, about one-fifth to one-third of young people are behind or missing out on most indicators, that is, not acquiring the lifelong learning skills and not mastering the knowledge and skills needed to become creative and confident individuals and active and informed citizens. It shows that Australia must do better not only to lift academic learning at all stages of the education system, but also to develop the broader skills that young Australians need.

These figures translate to large numbers of learners missing out at each stage, for example:

- 21.7 per cent of 5-year-olds, or 70,308 of the population nationally, are not developmentally ready on entry to school.

- In Year 7, in the middle years, 24.8 per cent of students, or 72,419 students nationally, do not have the desired literacy and numeracy skills expected at this point.

- Among senior year students, 27.8 per cent or 88,314 15-year-olds do not meet or exceed for their age the international benchmark standard in mathematics, reading and science.

- Among 24-year-olds, 28.1 per cent or 110,410 individuals nationally are not mastering the skills to become confident in self and the future, while 38.1 per cent or 145,056 are not actively engaged in the community.

More troubling than the actual numbers is the information on who is struggling and missing out. The results in this report reveal that young people from poorer families, those living in rural and remote parts of Australia, and Indigenous Australians are being left behind. On the measures of learning, for example, large gaps are evident from the early years to adulthood based on socioeconomic status (SES):

		High SES	Low SES
Early years	Developmentally on track on all development domains	85.3%	67.7%
	Developmentally on track in literacy and numeracy	90.9%	74.3%
Middle years	Performing above the national minimum standard in both literacy and numeracy	91.3%	50.6%
	Performing at or above the international benchmark in science	85.0%	43.0%
Senior years	Attains a Year 12 certificate or equivalent	91.8%	66.8%
	Meets or exceeds international benchmark standard for age in mathematics, science and reading	86.2%	48.6%
Young adults	Engaged fully in education, training or work	82.0%	50.8%
	Gains post-school qualification	86.3%	52.9%

The gaps exist across all domains, across all skill areas, and are even larger at later stages of school and into adulthood. The results are consistent with research that has demonstrated that social background is too often a key predictor of educational and future success; and that these gaps are unusually wide in Australia (e.g. OECD, 2018a). Moreover, the performance gaps by SES manifest in the earliest years of children's lives and are difficult to bridge in the

years that follow, such that children who start behind too often stay behind (Garcia & Weiss, 2017). Education systems should be making the difference, to get them back on track.

The results are at odds with our national goals for education. Not all Australian students are achieving their potential, and overall Australia is falling short on its ambitions to be world leading. An education system cannot be considered excellent without having equity, otherwise the concept of excellence is hollow. Leading systems are meant to deliver on both excellence and equity.

The Alice Springs Declaration states that as a nation we have a collective responsibility to ensure that steps are taken to deliver on the educational goals for all young Australians. It will require major work involving strategies such as reducing the effects of poverty and better supporting affected families and communities. It will also require improving early childhood education, making schools more learner friendly, and reducing the effects of social segregation which are comparatively large in Australia by world standards (OECD, 2018a). Any strategies to improve performance will need to be multi-faceted, begin at birth and address differences in need across all stages of education.

Key findings

This section presents key data from each stage of learning described in the report. The stages of learning are presented from adulthood to early childhood, to sharpen the focus on the end outcome of the education system: a young adult who is ready for life, work and further learning. The young adults entering today's workforce are the products of their years of schooling and early learning, and our efforts to improve the education system must be informed by the kinds of young Australians that we hope will emerge from the education system into adulthood in the future.

In early adulthood

Successful lifelong learners

- 29.7 per cent of 24-year-olds, or 112,695 of the 2019 population, were not engaged in full-time education, training or work. This shows that the education system has not delivered on the promise made by Australian governments to prepare all students for life, work and learning.
- The rates vary by background with males (74.0 per cent) more likely to be engaged full-time compared to females (66.5 per cent), high SES young people (82.0 per cent) more likely to be fully engaged in work or study than low SES young people (50.8 per cent), and young people in city areas (72.8 per cent) more likely to be fully engaged than those in outer regional areas (63.0 per cent).
- 73.1 per cent of Australians had gained a university degree or post-school qualification at Certificate Level III or higher by age 24 or were currently in study towards gaining a qualification.

Creative and confident individuals

- Seven in every ten (70.1 per cent) young Australians in their twenties can be described as creative individuals, based on measures of adaptability, optimism, curiosity and openness to new experiences; attributes consistent with what the national goals for education strive for.

- Creativity levels vary across the population, suggesting that the education and training systems may not be delivering equally in the teaching and development of creativity. SES has a relatively high impact on measures of creativity, as it does for measures of academic learning.

- Just over seven in every ten (71.9 per cent) young Australians in their twenties can be described as confident individuals, based on measures of having confidence in the future, confidence in doing your work or study, confidence in getting on with others, and confidence in your career prospects. These attributes are also consistent with the national goals for education.

Active and informed citizens

- About two-thirds (66.8 per cent) of young Australians in their twenties meet the overall measure of being an active and informed citizen. The measure is based on measures of interest in learning about the world, keeping informed through reading newspapers and books (including digitally), and regular exercise, consistent with attributes specified in the national goals for education.

- Just over six in every ten (61.9 per cent) young Australians in their twenties can be described as doing things which display being actively engaged in the community – a specific way of being an active citizen. This measure is based on measures of community activity, volunteer work, canvassing, campaigning, fundraising and teaching, coaching or helping others.

In the senior years

Successful lifelong learners

- The majority of young people attain a Year 12 or equivalent qualification by age 19 (81.6 per cent), meaning over 18 per cent or nearly 60,000 19-year-olds do not do so.

- Young people from low SES backgrounds, those from rural and remote areas and Indigenous young people are most likely not to complete Year 12.

- The percentage of 19-year-olds leaving school with Year 12 or equivalent attainment has increased in recent years, with evidence to suggest that growth has been in certificates not providing an ATAR.

- Based on results in PISA, 72.2 per cent of 15-year-olds in Australia are achieving above the minimum international standard expected of 15-year-olds in reading, mathematics and science.

- Year 10 students in Australia are behind in Information and Communication Technology (ICT) skills, with only just over half (54 per cent) meeting the desired standard.

Creative and confident individuals

- Australian students perform comparatively well in creative problem solving relative to students in other OECD countries, with 65 per cent performing at or above benchmark proficiency compared to 57 per cent of 15-year-olds across the OECD on average.
- The strong performance of Australian students overall masks differences by social background, location and Indigenous status.
- Nationally, three-quarters (75.3 per cent) of young Australians demonstrate a strong level of confidence in their capacities as individuals.

Active and informed citizens

- The level of engagement of young people with issues in the wider world is an important measure of how well school is preparing senior students for the globalised world. In total, 73.8 per cent of 15-year-olds rate as well-informed, with differences by social background and Indigenous status.
- Roughly two-thirds of students (65.3 per cent) place a high importance on engaging in key activities such as learning about Australia's history and learning about what is happening here and in other countries as part of being a good citizen of Australia.
- There are also differences by language background, with those from non-English speaking families placing a higher importance on citizenship activities.

In the middle years

Successful lifelong learners

- Nationally, 75.2 per cent of Year 7 students in 2018 were achieving above the national minimum standard for both reading and numeracy meaning that 24.8 per cent, or 72,419 Year 7 students, were assessed as not having the desired reading and numeracy skills for this stage of schooling.
- Approximately seven in ten Australian Year 8 students (69.0 per cent) were performing at or above the desired international benchmark standard in science according to their achievement on international standardised tests (TIMSS).
- About half (53 per cent) of Year 7 students were estimated to be at or above the proficient standard on national Information and Communication Technology (ICT) literacy assessments, which measure skills in using ICT to access, manage, evaluate information and communicate.

Creative and confident individuals

- Just over two-thirds of middle years students are confident individuals based on measures of self-efficacy or belief in self (67.5 per cent).
- Levels of confidence vary by social background with 62.5 per cent of low SES students rated as confident compared to 72.2 per cent of high SES students.
- Just on 72.8 per cent of Australian 10-11-year-olds exhibit the behaviours indicative of creativity such as an eagerness to learn new things and adaptability to change.

Active and informed citizens

- About two-thirds of Year 6 students (63.3 per cent) place a high importance on engaging in key activities such as learning about Australia's history and learning about what is happening here and in other countries as part of being a good citizen of Australia.
- There are also modest differences by SES background, with high SES students (66.6 per cent) the most likely to report these activities as important to good citizenship, and middle SES students (59.4 per cent) the least likely.
- Students from a language background other than English (70.1 per cent) more frequently view the activities as important in terms of being a good citizen than do students from an English-speaking background (61.6 per cent).

In the early years

Successful lifelong learners

- Based on national data, the majority of Australian children enrolling in school are developmentally ready for school – 78.3 per cent, or close to 254,000 children in 2018.
- Around one in five children – 21.7 per cent of the cohort, or close to 70,000 learners – are developmentally vulnerable in at least one development area.
- Girls are less likely than are boys to be developmentally vulnerable – 15.3 per cent of girls and 27.9 per cent of boys are vulnerable in at least one area.
- Children from low SES backgrounds are 2.2 times more likely to be developmentally vulnerable – 33.3 per cent versus 14.7 per cent.
- Indigenous learners are over twice as likely as are non-Indigenous children to be developmentally vulnerable – 41.3 per cent of Indigenous students versus 20.4 per cent of non-Indigenous children.
- Nationally, 84.5 per cent of children have developed important foundation skills in literacy and numeracy by the first year of school.
- The likelihood of possessing the basic skills in literacy and numeracy is lower for boys, children from low SES backgrounds, Indigenous students and for children from non-English-speaking families.

Creative and confident individuals

- Just over three in four Australian children have established foundations in the early years to become creative and confident individuals, with 75.8 per cent (246,000 children) showing adequate levels of social competence and 77.1 per cent (250,000 children) demonstrating appropriate emotional maturity.
- Levels of skills, though, vary considerably by gender, SES, Indigenous status and geographical location.

Active and informed citizens

- Early signs of potential development into future active and informed citizens are evident for 85.3 per cent of children (over 276,000 learners), still leaving close to 47,000 children vulnerable in prosocial and helping behaviours and/or the display of responsibility and respect.

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List of acronyms and abbreviations

ACT	Australian Capital Territory
ACARA	Australian Curriculum, Assessment and Reporting Authority
AEDC	Australian Early Development Census
ATAR	Australian Tertiary Admission Rank
CIRES	Centre for International Research on Education Systems
ICT	Information and Communication Technology
LBOTE	Language background other than English
LSAC	Longitudinal Study of Australian Children
LSAY	Longitudinal Surveys of Australian Youth
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
NAP	National Assessment Program
NAP-CC	National Assessment Program – Civics and Citizenship
NAP-ICT	National Assessment Program – Information and Communication Technology
NAPLAN	National Assessment Program – Literacy and Numeracy
NILF	Not in the labour force
NMS	National Minimum Standard (for NAPLAN)
NSW	New South Wales
NT	Northern Territory
OECD	Organisation for Economic Co-operation and Development
PIAAC	Programme for the International Assessment of Adult Competencies
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
QLD	Queensland
SA	South Australia
SEIFA	Socio-Economic Indexes for Areas
SES	socioeconomic status
STEM	science, technology, engineering and mathematics
TAS	Tasmania
TIMSS	Trends in International Mathematics and Science Study
VET	vocational education and training
VIC	Victoria
WA	Western Australia

1.Introduction

The national goals for education and training in Australia are unequivocal. As spelt out in the 2019 Alice Springs (Mparntwe) Education Declaration, they commit all Australian governments to pursuing the success and wellbeing of every learner, of every young Australian (Education Council, 2019). According to the goals, irrespective of the state and territory, every learner in Australia will develop the knowledge, skills and attributes needed to become personally successful, economically productive and actively engaged citizens. The goals have renewed urgency as Australia rebuilds and adapts in the wake of COVID-19.

Australia revitalised its vision for education in the 2019 Alice Springs Declaration, which re-iterated the goals specified in previous versions—the 2009 Melbourne Declaration, the 1999 Adelaide Declaration, and the original 1989 Hobart Declaration. The Declaration commits all systems in Australia to providing young people with the opportunity to reach their full potential, to become confident and creative individuals, successful lifelong learners, and active and informed members of the community (Education Council, 2019).

Critical is the first goal declaring that education and training in Australia will promote equity and excellence. As written, 'all Australian governments will work with the education community to….ensure that young Australians of all backgrounds are supported to achieve their full educational potential' (Education Council, 2019, p. 4). This, it needs to be stated, is no straightforward thing. Australia, like most countries around the world, has a diverse population, and population diversity is one of the great challenges that is faced in striving to achieve equity and excellence. It requires that no child or young person will have anything in the way to stop them from succeeding and this implies having excellent early childhood education and care, stimulating and inclusive learning in schools, engaging programs and caring environments, and clearly linked and effective pathways from school to further study and work. Some young people, however, face considerable difficulties associated with poverty and low socioeconomic status, living in remote or isolated locations, having a disability with high and additional needs, coming from a minority background, and having weaker English language skills than those for whom English is not a second language. For those at risk, the needs associated with disadvantage have to be addressed meaningfully and effectively to ensure all children can succeed in reaching their potential.

To what extent are our systems delivering on the goals?

The previous *Educational Opportunity in Australia 2015* report (Lamb, Jackson, Walstab & Huo, 2015) revealed a mixed picture for Australia. About six in ten or more of all children starting school get through early and middle childhood with the kinds of academic and social skills needed for later success. The same proportions complete school and are fully engaged in education or work by their mid-20s. For this large group of young Australians, education works well, and they succeed across all stages. However, some children begin school not developmentally ready and remain behind across all stages. Others begin on track but later fall behind. Roughly one-quarter of the population according to the 2015 estimates were struggling at key milestones. What is the picture in 2020?

The main aim of the current report is to see how well our education and training systems in Australia are meeting the national objectives as specified in the Alice Springs Declaration. Does Australia have world class systems that deliver high quality learning outcomes for all, whereby Australian learners develop the knowledge and skills that lead them to become successful, productive, creative and engaged citizens? This report draws on various sources of statistical information covering the key stages of education and learning from early adulthood back to early childhood to assess how well our systems are doing. As many of these data sources pre-date the Declaration, they offer a baseline to measure progress against the new Declaration into the future (Jackson & Endekov, 2019). Importantly, they present a broad range of measures, covering the breadth of outcomes that learners must achieve.

Key attributes

Figure 1-1 presents the sorts of key attributes we might expect to see young Australians develop at different stages of learning, based on the national goals for education and training. The attributes are grouped under the three headings related to the desired characteristics of learners, namely that all young Australians become (1) successful lifelong learners, (2) confident and creative individuals, and (3) active and informed members of the community. The attributes are separated by the main stages of learning: early adulthood, at the end of senior schooling, in the middle years, and at the point of entry to school.

When young Australians transition from learning to work in their mid-20s, there is much that we might expect them to be capable of, building on what they have learned throughout their schooling, and through making the most of opportunities in higher education and vocational education and training (VET). As successful lifelong learners they would be fully engaged in education, training or work, possess strong literacy and numeracy skills and be adept in the use of technology. They would also be forward looking, wanting to continue to grow in their career, and personally, through further education and training, and acquiring the skills to make informed decisions throughout their lives. As creative and confident individuals they would be resilient and possess the skills and strategies they need to tackle current and future challenges, and they would have a curiosity about the way things work and be optimistic about the future and able to adapt to change. As active and informed citizens, they would retain an interest in the world around them, keeping up-to-date with major global issues, remaining healthy through regular exercise and lifestyle choices, and being active in the community through helping others and getting involved in social and cultural activities.

At the beginning of the learning journey, if the national goals were being achieved, we might expect that at entry to school, having experienced high quality early childhood education and care programs, children would have emerging literacy, numeracy and communication skills including being able to talk and listen to adults and other children, to speak clearly, communicate needs, understand stories, and be able to identify letters, sounds and numbers. They should also have basic comprehension and thinking skills helping them to start to make meaning of the world around them. In addition to skills, there are also attributes linked to social and emotional development such as being able to get along with other children, managing their emotions, asserting themselves, and being able to play independently as well as with other children. Thriving young children also show creativity and confidence including an interest in new things, wanting to explore, and questioning how things work.

Figure 1-1   Key attributes expected of young Australians at different stages of learning and development based on the national goals for education and training

Successful Lifelong Learners	Confident and Creative Individuals	Active and Informed Citizens

As young adults

Education, training and employment Fully engaged Career focused Gained or gaining qualifications Getting the most from higher education, VET or adult learning **Skills** Strong in literacy and numeracy Adept with computing and technology	**Creative** Problem solver Conscientious Lifelong learner Flexible and adaptable to change **Confident** Socially aware Resilient Belief in capabilities (self-efficacy) Has growth mindset	**Being active and informed** Interested in the world Keeps abreast of current affairs Supports health and wellbeing through exercise and lifestyle Aware of global issues **Influencing the world** Active in community Gets involved (teaching or coaching others) Volunteers when needed Helps others

At the end of senior secondary school

Educational attainment Completed Year 12 Attained senior certificate Took rewarding course leading to good post-school outcomes Prepared well for further study and careers **Cognitive skills** Strong in STEM Strong literacy Skills in other key areas	**Creative** Problem solver Conscientious Lifelong learner Open to different experiences **Confident** Socially aware Resilient With developed self-efficacy	**Engaged in school life** Emotionally engaged in school Behaviourally engaged Cognitively engaged in learning **Socially and politically aware** Interested in the world Keeps informed Has skills for engagement Participates on community matters Wants to help others

In the middle years

Cognitive skills (achieves in) English Mathematics Humanities & Social sciences Science & Technology The Arts Languages	**Creative** Problem solver Conscientious Motivated to learn Open to different approaches **Confident** Socially aware Developing resilience Awareness of capabilities Aspiring	**Engaged in school life** Sense of belonging Active student and social life Emotional engagement in school Behavioural engagement Cognitive engagement in learning **Socially and politically aware** Interest in the world Civic awareness Civic participation

At entry to school

Language and cognitive skills Emerging literacy and numeracy Making meaning of the world around them Building comprehension Interest in words and numbers **Communication skills and general knowledge**	**Creativity** Readiness to explore new things Open to different ideas and ways of thinking Questioning the way things work Interested in learning **Growing independence** **Physical health and wellbeing**	**Social competence** Sense of responsibility and respect Exhibits prosocial and helping behaviour Willing to get along with others Interest in others Displays social skills and awareness

Educational opportunity in Australia 2020

Measuring progress against our national educational goals

Education is intended to deliver the full spectrum of skills and mindsets needed for successful lifelong learning. According to the national goals, education in Australia is not only there for academic learning, but also designed to promote creative and confident individuals who have a sense of self-worth, self-awareness and personal identity that enables them to manage their emotional, mental, cultural, spiritual and physical wellbeing. As well, education is designed to shape active and informed members of the community who have the facility to act with moral and ethical integrity and be actively engaged in the community as citizens.

For each stage of learning and development, this report identifies indicators that provide some insight into how well Australian systems are working to build confident and creative individuals as well as active and informed citizens who can contribute to their communities. The indicators allow us to measure in some way how many young Australians at each stage display the sorts of attributes that Australian education is designed to help shape and how well it is providing the opportunities for members of our community to acquire the things they need in order to contribute successfully and meaningfully to social, economic and cultural life. Doing this will also provide insight into those whom the systems may not be supporting as inclusively. A test of the effectiveness and condition of education and training systems is how many people do not fully acquire the desired skills and attributes and get left behind. It is important to know who they are and what it is that hindered their progress.

The range of attributes is wide, and the population data needed to measure them all just simply are not available. To make an assessment of how well our systems are achieving the national goals means drawing on a wide variety of data from different sources and recognising that a number of areas are not covered particularly well, and some not at all. This report, as a result, will use available Australian data drawn together from various types of survey and administrative data, from government and academic sources, to measure the key attributes for which data are available. For some attributes, this will mean using proxy measures or the best we have available at the present time. Figure 1-2 presents the key indicators used at each stage of learning and development, to capture the constructs above. The indicators represent the closest approximation that could be derived from current data to the attributes sought in the Alice Springs Declaration. While they may still be imperfect in their coverage of the Declaration, this report is the first to make a comprehensive attempt at measuring Australia's education system performance against our educational goals.

The aim of the report is not to try to provide an exhaustive list of indicators. Other sources contain reasonably extensive information on the operation, dimensions and some outputs of our education and training systems. For early childhood services and schools, the Productivity Commission provides an education chapter in its annual Report on Government Services (see, for example, Productivity Commission, 2019) as well as the Education Council's *National Report on Schooling in Australia* (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2020) and the Australian Bureau of Statistics' [ABS] *Schools, Australia* series (ABS, 2020a). For the VET sector, there are numerous publications on vocational education enrolments, participation and completion (see for example, NCVER, 2020), and for the higher education sector, there are various publications using higher education statistics (see, for example, Australian Government Department of Education and Training, 2014).

Figure 1-2 Key indicators used to measure attributes at different stages of learning and development based on the national goals for education

Successful Lifelong Learners	Confident and Creative Individuals	Active and Informed Citizens

As young adults

Key Milestone • Percentage of 24-year-olds engaged full-time in employment, education or training • Percentage of young people who have gained a post-school qualification by age 24 or are currently in study **Other indicators** • University participation and completion • VET participation and completion • Apprenticeship and traineeship participation and completion • Literacy skill levels of young adults	**Key Milestone** • Percentage of young adults displaying qualities indicative of creativity such as adaptability and openness to new ideas • Percentage of young adults displaying strong confidence in self and in the future **Other indicators** • Percentage of young adults in good general health	**Key Milestone** • Percentage of young adults keeping well informed about the world around them • Percentage of young people actively engaged in the community

At the end of senior secondary school

Key Milestone • Percentage of 19-year-olds who have attained a Year 12 or equivalent qualification • Percentage of students performing at or above the minimum international standard of proficiency in mathematics, science and reading **Other indicators** • Type of Year 12 or equivalent certificate attained by age 19 • Percentage proficient in ICT skills	**Key Milestone** • Percentage of students with strong levels of proficiency in creative problem-solving • Percentage of students displaying strong levels of confidence in self	**Key Milestone** • Percentage of students who keep informed about current events and have awareness of global issues • Percentage of students who view key civic engagement activities as important to being an active and good citizen of Australia

In the middle years

Key Milestone • Percentage of students achieving above the national minimum standard in both Reading and Numeracy • Percentage of students performing at or above the international desired benchmark in science **Other indicators** • Percentage of students who are proficient in ICT literacy	**Key Milestone** • Percentage of students exhibiting behaviours indicative of creativity such as adaptability and eagerness to learn new things • Percentage of students possessing strong sense of self-efficacy or belief in self	**Key Milestone** • Percentage of students who keep informed about current events and have awareness of global issues • Percentage of students who view key civic engagement activities as important to being an active and good citizen of Australia

At entry to school

Key Milestone • Percentage of children developmentally on track on all AEDC domains in first year at school • Percentage of children developmentally on track in literacy and numeracy in first year at school **Other indicators** • Percentage of children on track in language and cognitive skills • Percentage of children on track in communication skills and general knowledge	**Key Milestone** • Percentage of children developmentally on track in social competence • Percentage of children developmentally on track in emotional maturity	**Key Milestone** • Percentage of children developmentally on track in responsibility and respect and prosocial and helping behaviour

Educational opportunity in Australia 2020

The report is structured around the four key stages of learning and development addressed in the 2015 report. This time, intentionally, we begin with young Australians in their mid-20s, because they have been through all prior stages of learning on their way to adulthood. Looking at young adults, as the products of the various stages of learning offered in Australia, will provide a fairly clear indication as to how well our systems are working to deliver on the national goals for education. We need also look at each of the other stages to assess if young people demonstrate the sorts of attributes that all components of our education and training systems are trying to impart.

While this report focuses on breadth of learning, rather than change over time, each stage of learning includes at least one key milestone indicator that is broadly comparable with key indicators in the 2015 report (Lamb et al., 2015):

1. For the early years, the comparable milestone is the proportion of children who, at the point of entry to school, are developmentally ready as measured across five domains.
2. For the middle years, it is the proportion of Year 7 students who meet or exceed international proficiency standards in academic skills.
3. For the senior years, it is the proportion of young people who have completed school and attained a Year 12 certificate or equivalent.
4. For early adulthood, it is the percentage of 24-year-olds who are engaged in full-time employment, education or training.

This report goes beyond the four milestones, to consider a much broader range of measures, in order to give a fuller picture of how well our education systems are performing.

In the rest of this report, we provide estimates of the chances of young Australians succeeding or struggling during their education based on language background, socioeconomic status (SES), location and other characteristics. Equity, as well as excellence, is a key national goal for education. As stressed in the previous report, while many results may reveal patterns of inequality highlighting particular groups in the community, at no point is there any suggestion or is it implied that this is in some way intrinsic to who they are. As previously noted,

> *It is important to state that we do not view young Indigenous Australians, or young Australians living in households with low income, or those living in remote or isolated regions, or those of a particular language background or ethnicity or race as intrinsically disadvantaged because of who they are. Indigenous status is not a source of disadvantage, nor is it a 'risk factor', and nor are the communities in which Indigenous young people live. The same is true for young people living in rural or remote parts of Australia and for those living in families that have less wealth. Every young Australian is worthy of the greatest respect and should have equal opportunity to succeed. Being 'disadvantaged' is not a quality of people, it is a feature or an outcome of what happens to some young people by virtue of their experiences in some of our institutions. Some young Australians become disadvantaged through what they experience in their education and training journeys and the way they are treated, so it is our great challenge to change the mechanisms through which such disadvantage arises (Lamb et al., 2015, p. 3).*

2.Australians as young adults

Australia is experiencing social, economic and environmental challenges, driven by technological advancements, globalisation and the changing nature of work. These were already affecting the structure of the economy even before COVID-19 radically transformed the way Australians live and work. The skills needed in the modern labour force are shifting away from manual roles towards roles that require more interpersonal contact and higher levels of education and training (Foundation for Young Australians [FYA], 2018; OECD, 2018b). The uncertainty of the post-COVID world also demands problem-solving and resilience.

How a young person navigates the transition to early adulthood has enduring implications over the remainder of their life (Osgood, Foster & Courtney, 2010). For most young Australians, gaining a foothold in the labour market and transitioning to work and a future career is a key goal. Many undertake further study and training in the pursuit of that goal. In addition to making the most of formal education and training in early career development, the transition is also marked by other social and cultural roles and responsibilities, such as steps towards financial independence, housing, marriage and family formation.

In recent decades, the nature of the transition to early adulthood has changed somewhat, brought about by both economic and social forces (Ranasinghe, Chew, Knight & Siekmann, 2019). Economic factors include the changing nature of work, growth in part-time work, the decline in low skilled jobs, increasing housing costs, and localised economic downturns and instability. Such challenges existed prior to COVID-19 and in the future will be even sharper again, pointing to current and future workers finding the transition to full-time work more challenging with an even greater need to have the right skills. Changing economic circumstances can have flow-on social impacts, including pressure for young people to extend their educational participation, and delay entry into the labour market as well as family formation (Smith, Crosnoe & Chao, 2016). Those who have limited opportunities or miss out on further education during their transition into adulthood are at heightened risk of being marginalised and face the prospect of long-term disadvantage (Lamb & Huo, 2017).

Given the changing nature of work and the effects on transition and future lives, having high quality, dynamic education and training is vitally important. By the time young Australians are transitioning to adulthood, they should have developed the skills, dispositions and mindsets that will support them to successfully negotiate career development and establish themselves as economically productive and socially engaged contributors. It is the aim of Australian governments that the education and training systems, covering provision from pre-school through primary and secondary school to higher education and VET, ensure that all young people receive a high-quality education and a solid foundation for engaging in lifelong learning and work.

How well our systems are delivering on this should be most evident among young adults who have travelled through the various stages of learning and development and, whose skills reflect the quality of educational experiences and opportunities. By studying those in their twenties, who have gained the skills and mindsets that our education aims to build, we can get a good sense about how effectively Australia's education and training systems are

delivering on the national goals to produce successful lifelong learners, confident and creative individuals and active and informed members of the community.

Successful lifelong learners

Key indicator 1: Fully engaged in employment, education or training

Participation in employment, education or training is commonly used as an indicator of the wellbeing of individuals and society more broadly. Young people who are not fully engaged in employment or education (or a combination of both) and who become marginalised are at risk of poor economic, social and personal outcomes over their life course. These outcomes include increased unemployment, financial insecurity, cycles of low pay, long-term employment insecurity, and low levels of social and emotional wellbeing (Lamb et al., 2015; Lamb & Huo, 2017).

By age 24, many young people are expected to have completed a post-school qualification and be on a path towards ongoing employment and financial independence. It is an important age at which to measure how well our education and training system has served young people and set them up for their careers and their wellbeing more broadly. Figure 2-1 presents estimates of the percentage of 24-year-old Australians engaged in full-time employment, education or training. The rates were derived from the ABS 2016 Census of Population and Housing, providing analysis at a national level and disaggregated by various background characteristics including gender, state and territory, remoteness or location, SES background, Indigenous status and language background.

Approximately 70.3 per cent of young Australians aged 24 years were engaged in full-time employment, education or training at the time of the most recent national census. This is a slight fall in the numbers reported in 2015 when the rate was estimated to be 73.5 per cent. The 2015 rate was derived using a different source, the ABS Labour Force Survey for 2014. There were changes after 2014 to the public availability of detailed survey data at a disaggregated level (individual age) using the Labour Force Survey. For that reason, the Census was used as the preferred source in the current report[1].

The rates in Figure 2-1 vary depending on background. Males (74.0 per cent) are more likely to be engaged full-time than females (66.5 per cent). This is partly because females are more likely to be engaged in domestic unpaid work, child-rearing or caring responsibilities, thus preventing them from being fully engaged in employment or education (Lamb et al., 2015).

[1] Results from the Labour Force Survey by individual age suggest an aggregate rate in 2018 of approximately 70.0 per cent, almost the same as the 2016 Census estimate.

Figure 2-1   Percentage of 24-year-olds engaged in full-time employment, education or training, by selected background characteristics: 2016 (%)

Category	Group	Value
	Australia	70.3
Gender	Males	74.0
	Females	66.5
State or Territory	NSW	72.1
	VIC	71.6
	QLD	67.9
	SA	66.3
	WA	65.3
	TAS	61.8
	NT	62.6
	ACT	81.3
Location	Major city	72.8
	Inner regional	62.0
	Outer Regional	63.0
	Remote	63.4
	Very remote	52.3
SES (Deciles)	Decile 1	50.8
	Decile 2	61.2
	Decile 3	65.5
	Decile 4	68.1
	Decile 5	70.9
	Decile 6	73.2
	Decile 7	74.7
	Decile 8	77.1
	Decile 9	79.1
	Decile 10	82.0
Indigenous status	Non-Indigenous	71.4
	Indigenous	41.9
	Aboriginal	42.1
	Torres Strait Islander	38.3
	Both	41.3
Language background	English	70.2
	LBOTE	72.0
	Northern European Languages	73.7
	Southern European Languages	73.4
	Eastern European Languages	73.2
	Southwest and Central Asian Languages	58.1
	Southern Asian Languages	72.4
	Southeast Asian Languages	70.5
	Eastern Asian Languages	79.1
	Other Languages	61.6

Source: ABS (2020b) Census of Population and Housing. Figures extracted using TableBuilder.

Educational opportunity in Australia 2020

State and territory differences in participation can reflect population differences, geography and remoteness, but possibly also policy differences related to opportunity. In 2016, 81.3 per cent of 24-year-olds in the ACT were engaged in full-time education, training or work, compared with 72.1 per cent in New South Wales, 71.6 per cent in Victoria, 67.9 per cent in Queensland, and 66.3 per cent in South Australia and Western Australia. Tasmania (61.8 per cent) and the Northern Territory (62.6 per cent) had the lowest levels of engagement, possibly reflecting effects of population, geography and economy.

The variations across locations and across states and territories may be partly due to differences in populations. Figure 2-1 shows that engagement in learning and earning varies substantially by social background. Only 50.8 per cent of 24-year-olds from the lowest SES decile of the population were engaged in full-time employment, education or training; the proportion rises with each SES decile, reaching 82.0 per cent for those in the highest decile. The gap between the highest and lowest SES decile is just over 31 percentage points, representing significant disparity of opportunity between the least and most advantaged.

There are differences by location type, with those residing in major cities (72.8 per cent) more likely to be fully engaged than their counterparts residing in very remote locations (52.3 per cent). There are also large differences by Indigenous status with the rate of engagement in full-time work and study at 41.9 per cent for Indigenous 24-year-olds compared to 71.4 per cent for non-Indigenous 24-year-olds.

Measuring engagement at a later age to adjust for longer period of transition

In the past, by the age of 24 many young people could be expected to secure full-time work and be well advanced in gaining financial independence. However, because of changes to the economy and the world of work, and longer periods of dependence on families associated with changing patterns of life for young people, the transition to full-time work is on average taking longer (FYA, 2018). Some argue that adolescence now lasts from 10 to 24 years of age (Sawyer et al., 2018), and others argue that 25 has become the new 18 (Stetka, 2017; Twenge & Park, 2019) with young people continuing their education for longer, and delaying marriage and parenthood. As well as spending more time in education and training in order to access the labour market, some young people are spending longer periods in part-time work as they attempt to establish their careers. Because of the changing context, using a later age to measure being fully engaged may be more meaningful in measuring how well our education and training systems are working to prepare young Australians for their future lives.

Figure 2-2 presents the percentage of persons aged 29 years engaged in full-time employment, education or training, by various background characteristics.

The key difference to emerge for this later age group is between males and females, with the gap in participation in education and work jumping from 7.4 percentage points at age 24, to 20.0 points at age 29. This reflects gender imbalances in time taken out of the workforce for child-rearing and family responsibilities. While these are positive decisions for many young women, the data clearly show the relative economic vulnerability that continues to affect young Australian women.

Besides gender, there are few differences in outcomes at age 24 and age 29. There remain large differences on the basis of socioeconomic status, with those in the highest SES decile

(81.3 per cent) much more likely to be fully engaged compared to those in the lowest decile (50.3 per cent). The gap remains huge, at 31 percentage points – only 0.2 points lower than at age 24. Other gaps also remain, with a slight narrowing of gaps based on geography and Indigenous status. This shows that allowing more time to elapse before measuring engagement in work and learning does not change the picture of social inequality. It also points to the importance of lifelong learning and providing opportunities for adults to make up for educational opportunities that they may have missed out on earlier in life.

Figure 2-2   Percentage of persons aged 29 years fully engaged in employment, education or training, by selected background characteristics: 2016 (%)

Category	Group	Value
	Australia	67.8
Gender	Males	78.0
	Females	58.0
State or Territory	NSW	68.8
	VIC	68.8
	QLD	66.5
	SA	63.1
	WA	66.7
	TAS	61.8
	NT	65.8
	ACT	78.1
Location	Major city	69.8
	Inner regional	65.0
	Outer Regional	62.1
	Remote	65.9
	Very remote	56
SES (Deciles)	Decile 1	50.3
	Decile 2	58.6
	Decile 3	62.4
	Decile 4	65.3
	Decile 5	67.5
	Decile 6	69.4
	Decile 7	71.5
	Decile 8	73.5
	Decile 9	77.3
	Decile 10	81.3
Indigenous status	Non-Indigenous	68.6
	Indigenous	41.6
	Aboriginal	41.1
	Torres Strait Islander	47.9
	Both	44.5
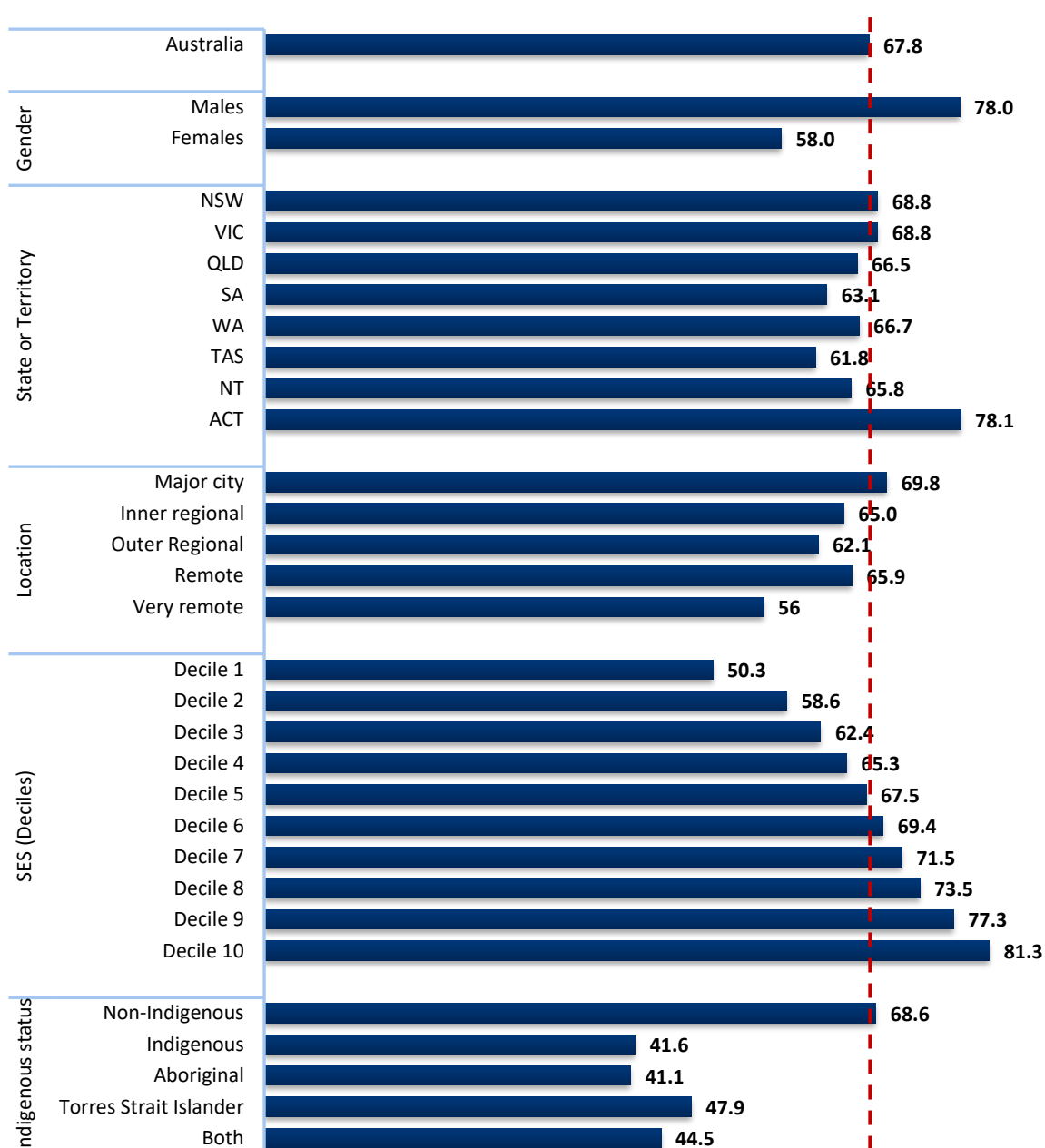
Source: ABS (2020b) Census of Population and Housing. Figures extracted using TableBuilder.

Main activities of young adults

Broad figures on engagement in employment or education and training can conceal important differences between work and study activities. For example, young people who are not in education or employment because they have children may be less disadvantaged than those who are unable to find work. To explore some of the differences, Table 2-1 shows the main activities of those engaged in full-time work or study (or both), and those not fully engaged (part-time work only, part-time study only, unemployed and looking for work, child caring while not in the labour force, and other activities while not in the labour force). The top panel shows the percentages of 24-year-olds in each group, and the bottom panel shows how many young Australians are represented by each percentage. Key findings include:

- Nearly half of all 24-year-olds are in full-time work (47.6 per cent) or work and study (2.5 per cent). A further 20.2 per cent are studying full-time for a qualification. Men are far more likely to be in full-time work than women – 52.3 per cent as against 42.8 per cent. This means that seven in ten (70.3 per cent) of 24-year-olds were engaged in full-time work, education or training, and fully utilising their work and learning potential.

- A large minority of young people in education and work were more vulnerable. About 12.9 per cent of 24-year-olds were working part-time and still negotiating the transition to full-time work. A small number – 1.8 per cent or 6,472 in 2019 – were engaged in part-time study. A higher proportion of women than men were not engaged in full-time work or study (33.4 per cent of women against 25.9 per cent of men), reflected in the higher rates of female part-time workers (14.8 per cent against 11.1 per cent for men).

- Just on 10 per cent were not in the labour force, most likely to be young women (12.5 per cent against 7.6 per cent for men). For just under half of this group (4.5 per cent of all 24-year-olds), non-participation in the labour force could be explained by child-rearing responsibilities; which was the primary activity for 7.2 per cent of women aged 24, and 1.8 per cent of men. Five per cent of 24-year-olds, equalling 19,036 in 2019, were unemployed and seeking work. Unemployment is higher amongst males.

This amounts to 112,695 24-year-olds (29.7 per cent of all 24-year-olds) struggling to establish themselves in full-time employment or education. Differences also exist for specific cohorts:

- One in two 24-year-olds from the lowest SES backgrounds (49.1 per cent) were not engaged in full-time work or study. They were unemployed (9.4 per cent), not in the labour force (22.9 per cent) or in part-time work (14.5 per cent). In comparison, only 18.0 per cent of the wealthiest young adults were not fully engaged in study or work, with very few unemployed (2.9 per cent) or not in the labour force (3.7 per cent).

- For the Indigenous population, 58.1 per cent were not engaged in full-time employment or education, with 11.1 per cent unemployed and 33.9 per cent not in the labour force. While not examined in this report, prior research has found that Indigenous Australians (especially young women) are more likely to be involved in care work, including care for children, or caring for a family member with an illness or disability (Yap & Biddle, 2012).

Table 2-1 Education and labour force status, by selected background characteristics: 24-year-olds, Australia, 2016 (%)

		Engaged full-time in work and/or education and training				Not engaged full-time in work or education and training						
		FT Work	FT Education	Work & Education	Sub-Total	PT Work Only	PT Education Only	Unemployed	Not in labour force — Child caring	Other	Sub-Total	Total
		Percentage of 24-year-olds										
National	Australia	47.6	20.2	2.5	70.3	12.9	1.8	5.0	4.5	5.5	29.7	100.0
Gender	Males	52.3	19.7	2.0	74.1	11.1	1.3	6.0	1.8	5.8	25.9	100.0
	Females	42.8	20.7	3.1	66.6	14.8	2.1	4.0	7.2	5.3	33.4	100.0
State or Territory	NSW	48.3	20.9	3.0	72.1	11.8	1.8	4.4	3.5	6.4	27.9	100.0
	VIC	44.5	24.6	2.6	71.7	13.0	1.8	4.6	3.0	5.9	28.3	100.0
	QLD	49.9	15.8	2.2	68.0	13.7	1.6	5.9	4.7	6.1	32.0	100.0
	SA	44.1	19.8	2.4	66.3	15.6	1.6	5.9	4.2	6.3	33.7	100.0
	WA	50.0	16.4	2.4	68.7	13.4	1.6	5.7	4.6	6.0	31.3	100.0
	TAS	45.3	14.4	2.1	61.8	16.9	1.6	6.2	6.0	7.4	38.2	100.0
	NT	53.1	8.4	1.1	62.6	9.5	0.9	6.0	11.2	9.7	37.4	100.0
	ACT	51.9	26.8	2.6	81.3	9.7	1.6	2.6	1.6	3.3	18.7	100.0
Location	Major city	46.4	23.7	2.7	72.8	12.3	1.7	4.6	3.0	5.5	27.2	100.0
	Inner regional	50.1	9.6	2.3	62.0	16.1	1.7	5.9	6.2	8.1	38.0	100.0
	Outer Regional	54.6	6.7	1.7	63.0	14.4	1.4	6.3	7.0	7.9	37.0	100.0
	Remote	59.4	2.7	1.3	63.4	13.1	0.5	5.3	10.7	6.9	36.6	100.0
	Very remote	49.2	2.4	0.7	52.3	8.8	0.7	9.2	17.4	11.6	47.7	100.0
SES (Deciles)	(Low) 1	37.6	11.4	1.9	50.9	14.5	2.3	9.4	10.6	12.3	49.1	100.0
	2	45.6	13.5	2.1	61.2	14.9	1.9	6.9	6.8	8.2	38.8	100.0
	3	48.4	14.8	2.3	65.5	14.6	2.0	5.8	5.5	6.7	34.5	100.0
	4	48.9	16.8	2.5	68.1	14.4	1.7	5.4	4.6	5.9	31.9	100.0
	5	49.1	19.2	2.6	70.9	13.5	1.7	4.8	3.6	5.4	29.1	100.0
	6	48.9	21.8	2.5	73.3	13.2	1.6	4.2	2.8	5.0	26.7	100.0
	7	47.9	24.2	2.6	74.7	12.7	1.6	4.0	2.4	4.6	25.3	100.0
	8	47.9	26.3	2.9	77.2	11.9	1.5	3.8	1.7	4.0	22.8	100.0
	9	49.5	26.4	3.1	79.1	11.2	1.5	3.4	1.1	3.7	20.9	100.0
	(High)10	54.4	24.2	3.3	82.0	10.0	1.4	2.9	0.7	3.0	18.0	100.0
Indigenous status	Non-indigenous	48.1	20.7	2.6	71.4	13.0	1.7	4.8	3.5	5.7	28.6	100.0
	Indigenous	33.2	7.4	1.3	41.9	11.6	1.6	11.1	14.0	19.9	58.1	100.0
Language background	English	55.0	12.7	2.5	70.2	13.9	1.5	5.1	4.1	5.2	29.8	100.0
	Other	29.3	40.5	2.8	72.7	10.8	2.4	4.5	3.0	6.6	27.3	100.0
		Number of 24-year-olds in 2019										
National	Australia	181225	76906	9899	268030	49114	6472	19036	17133	20940	112695	380725
Gender	Males	102275	38524	3911	144906	21707	2542	11733	3520	11342	50649	195555
	Females	79253	38330	5740	123323	27405	3889	7407	13332	9814	61847	185170
State or Territory	NSW	58394	25268	3627	87167	14266	2176	5320	4231	7737	33731	120898
	VIC	44676	24697	2610	71983	13051	1807	4618	3012	5923	28412	100395
	QLD	37971	12023	1674	51744	10425	1218	4490	3576	4642	24350	76094
	SA	11220	5038	611	16868	3969	407	1501	1069	1603	8574	25442
	WA	19614	6433	941	26950	5257	628	2236	1804	2354	12278	39228
	TAS	3082	980	143	4205	1150	109	422	408	503	2599	6804
	NT	2362	374	49	2784	423	40	267	498	431	1664	4448
	ACT	3849	1987	193	6029	719	119	193	119	245	1387	7416
Location	Major city	135994	69462	7913	213370	36050	4983	13482	8793	16120	79720	293090
	Inner regional	26884	5151	1234	33269	8639	912	3166	3327	4346	20391	53660
	Outer Regional	14296	1754	445	16495	3770	367	1650	1833	2068	9688	26183
	Remote	2585	118	57	2759	570	22	231	466	300	1593	4352
	Very remote	1692	83	24	1799	303	24	316	599	399	1641	3440
SES (Deciles)	(Low) 1	13895	4213	702	18811	5359	850	3474	3917	4546	18145	36956
	2	17043	5045	785	22873	5569	710	2579	2541	3065	14501	37374
	3	17919	5479	852	24250	5405	740	2147	2036	2481	12773	37023
	4	18333	6298	937	25531	5399	637	2024	1725	2212	11959	37490
	5	18332	7169	971	26471	5040	635	1792	1344	2016	10865	37336
	6	19326	8616	988	28969	5217	632	1660	1107	1976	10552	39521
	7	18355	9273	996	28624	4867	613	1533	920	1763	9695	38319
	8	19139	10509	1159	30847	4755	599	1518	679	1598	9110	39957
	9	19617	10462	1229	31347	4439	594	1347	436	1466	8283	39630
	(High)10	20193	8983	1225	30438	3712	520	1076	260	1114	6681	37119
Indigenous status	Non-Indigenous	121936	27179	4775	153889	42604	5876	40768	51419	73088	213389	367278
	Indigenous	6468	2784	350	9601	1748	229	645	471	766	3846	13447
Language background	English	151933	35083	6906	193921	38397	4144	14088	11326	14365	82320	276241
	Other	30614	42316	2926	75960	11284	2508	4702	3135	6896	28524	104484

Source: ABS (2020b) Census of Population and Housing; ABS (2019a) 3101.0, Australian Demographic Statistics.

Not engaged in any employment, education or training

There are other ways to identify which Australian young people have translated their education into success in lifelong learning and work. All indicators involve normative judgements about what success entails, which may differ according to the aspirations and values of individuals and communities. The key indicator that has been used in this chapter—fully engaged in employment, education and training—represents the outcome considered to be most likely to equip individuals for success in contemporary Australian society.

It is also possible to measure the inverse outcome: those who are not engaged in any form of learning or work. The consequences for young people disengaged completely from employment, education or training can be serious for the individual as well as society more broadly. Participation in education or training and employment is important for developing individual capability and building a socially cohesive society. For young people who are disengaged, Lamb and Huo (2017) estimate that many will struggle in the long term (more than half their adult life) to find work or go back into education. The cost to government and the broader community of a person who does not engage in any work or education over most of their adult life is almost $40,000 annually per person or just over $1.5 million over their lifetime (Lamb & Huo, 2017).

Figure 2-3 presents the percentages of those disengaged based on the rates from the 2016 Census of Population and Housing reported in Table 2-1. The results show that a substantial number of 24-year-old Australians are not participating in the labour force, education or training. An estimated 15.0 per cent (57,109) are not engaged in any work, study or training.

Like other indicators of lifelong learning, the rates vary substantially by social background. Those from low SES backgrounds are far more likely to be disengaged than are those from high SES origins. For those in the lowest decile of SES, about one in three (32.3 per cent) are not participating in any work, study or training at age 24, compared to about one in 15 (6.6 per cent) of those from the highest decile. This demonstrates the vicious cycle of poverty—those who have the lowest incomes also have the least opportunity to improve their standing.

The gap between Indigenous and non-Indigenous Australians is also striking on this measure. Close to half (45.0 per cent) of Indigenous 24-year-olds are not recorded as being engaged in any work, education or training. This is a higher proportion than those who are fully engaged (see the key indicator above), reinforcing the urgent need to restack the odds for Indigenous Australians, to improve their chances of success in work and lifelong learning.

Figure 2-3   Percentage of 24-year-olds not engaged in any employment, education or training, by selected background characteristics: 2016 (%)

Source: ABS (2020b) Census of Population and Housing, 2016, derived using TableBuilder.

Educational opportunity in Australia 2020
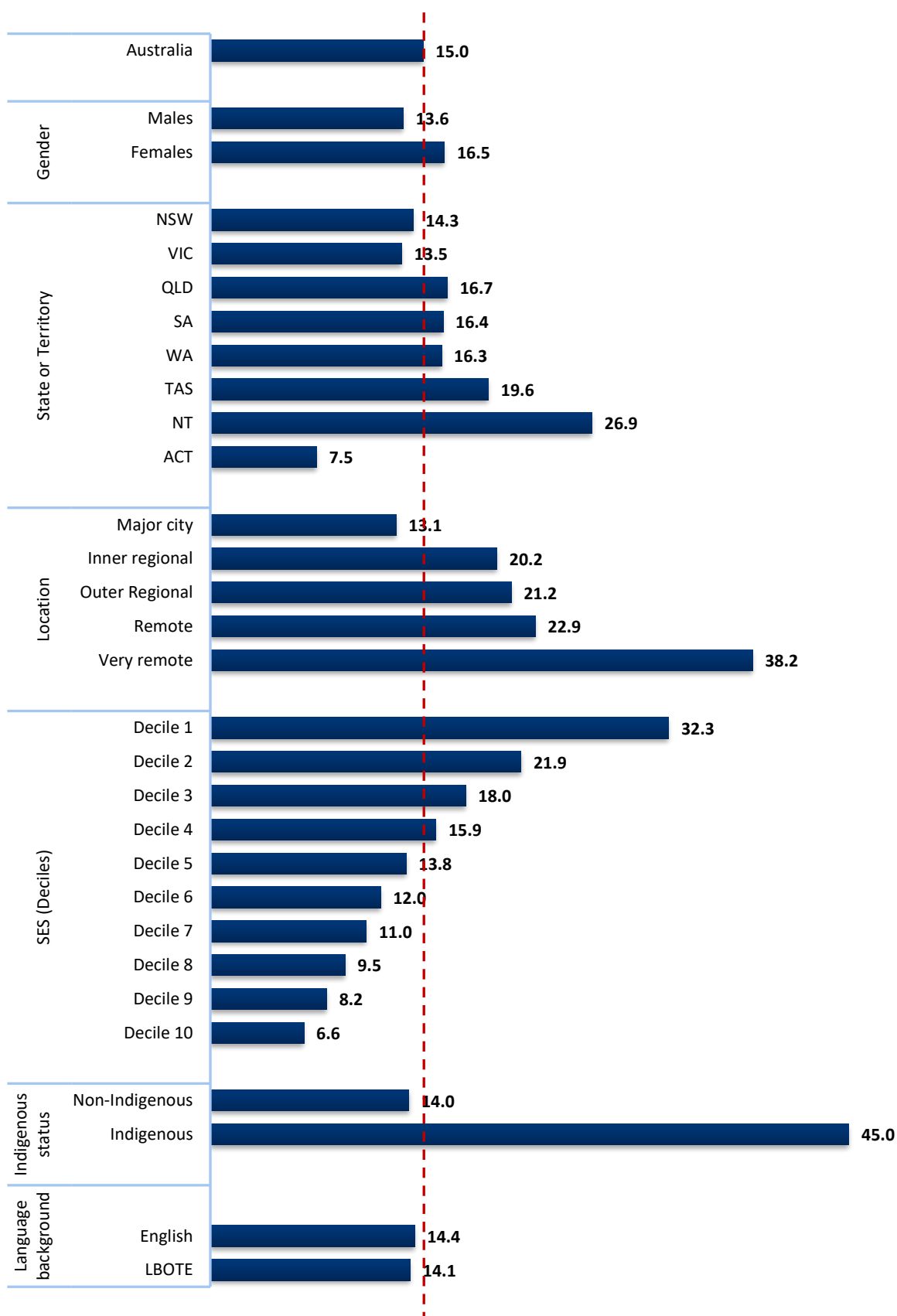
Key indicator 2: Gaining a post-school qualification

A key indicator of continued learning for young Australians beyond school is the attainment of qualifications at university, through apprenticeship training, or through other forms of VET. In modern Australia, those with higher educational attainment usually have better chances of employment, higher incomes, better general health, and reduced reliance on government welfare and social support programs (Lamb & Huo, 2017). The second key indicator of successful lifelong learning for young Australians, therefore, is the attainment of post-school qualifications.

Table 2-2 reports the percentage of Australians who gained a post-school qualification at Certificate Level III or higher by age 24 or were currently in study towards gaining a qualification. Lower level qualifications—while important—are not included, because the focus is on learners who have achieved a level of attainment beyond that of school.

Table 2-2   Percentage of Australians who gained a post-school qualification at Certificate Level III or higher by age 24, or were studying towards a qualification: 2016 (%)

		Gained a post-school qualification by age 24 or currently in study	Type of qualification gained or type of current study				No post-school qualification and not currently in study
			University degree	VET Certificate III/IV or Diploma	Currently attending University	Currently attending VET Institute	
Australia	Nationally	73.1	33.1	29.2	8.4	2.4	26.9
Gender	Males	70.7	27.1	32.2	8.8	2.6	29.3
	Females	75.6	39.2	26.3	7.9	2.2	24.4
State or Territory	NSW	74.5	36.0	27.0	9.2	2.4	25.5
	VIC	77.6	38.1	28.2	8.8	2.4	22.4
	QLD	68.5	26.7	32.7	6.8	2.3	31.5
	SA	69.8	28.2	29.8	9.1	2.7	30.2
	WA	70.3	28.1	32.6	7.2	2.4	29.7
	TAS	63.7	20.4	33.3	7.3	2.6	36.3
	NT	54.6	19.0	30.0	4.3	1.3	45.4
	ACT	80.0	45.6	20.8	10.6	2.9	20.0
Location	Major city	76.2	37.7	26.7	9.5	2.4	23.8
	Inner regional	64.5	17.7	39.1	5.1	2.7	35.5
	Outer Regional	61.0	16.9	38.3	3.6	2.2	39.0
	Remote	56.0	16.3	39.1	0.3	0.3	44.0
	Very remote	42.8	12.4	28.8	0.8	0.8	57.2
SES (Deciles)	Low	52.9	13.5	31.7	4.4	3.2	47.1
	2	62.5	19.5	34.5	5.6	2.8	37.5
	3	66.3	22.0	35.2	6.5	2.6	33.7
	4	69.2	25.4	34.7	6.7	2.5	30.8
	5	72.4	29.2	32.6	7.9	2.7	27.6
	6	74.8	32.7	30.8	8.9	2.3	25.2
	7	78.0	37.5	28.7	9.5	2.2	22.0
	8	80.9	42.9	25.5	10.4	2.1	19.1
	9	83.4	47.7	22.4	11.2	2.1	16.6
	High	86.3	55.8	17.8	11.1	1.6	13.7
Indigenous Status	Non-Indigenous	74.1	34.0	29.2	8.5	2.4	25.9
	Indigenous	43.6	6.6	30.8	3.6	2.7	56.4
Language Background	English	70.3	27.6	33.9	6.6	2.3	29.7
	Other	73.2	33.2	29.2	8.4	2.4	26.8

Source: ABS (2020b) Census of Population and Housing. Figures extracted using TableBuilder.

Educational opportunity in Australia 2020

The key milestone estimate is that 73.1 per cent of young adults had completed a post-school qualification by age 24 or were currently in study towards gaining one:

- 33.1 per cent of 24-year-olds had gained a university degree,
- 29.2 per cent had a higher VET certificate or diploma,
- 8.4 per cent were currently studying at a university, and
- 2.4 per cent were studying at a VET Institute.

The rates vary across different groups. Females are more likely to gain a qualification than males (75.6 per cent compared to 70.7 per cent for males). Further, females are more likely to gain university qualifications (39.2 per cent against 27.1 per cent for males), and less likely to attain VET qualifications (26.3 per cent against 32.2 per cent for males).

Social gaps are also prominent. Those from lower SES backgrounds attain post-school qualifications at a much lower rate than those from higher SES backgrounds. The pattern is linear. As SES increases, so do attainment rates. The gap between the rates for the top and for the bottom deciles is 33.4 percentage points. SES is also associated with the type of qualification. University degrees are the main qualification of higher SES 24-year-olds (55.8 per cent of those in the top SES decile have completed a university degree) and VET qualifications the main qualification type for low SES 24-year-olds.

Rates vary by location. They are higher in the ACT, Victoria and New South Wales, and lower in Tasmania and the Northern Territory. They are also higher in cities and lower in regional and remote communities.

The rate for Indigenous 24-year-olds is about 30 points below that for the non-Indigenous population. As shown in the following, the size of the gap varies across different types of qualification.

Higher Education

Figure 2-4 presents the percentages of 24-year-old Australians who have gained higher education degree qualifications or who are currently enrolled in a degree course. Just on 41.5 per cent of those aged 24 years had achieved this. The rates are much higher for females (47.1 per cent) than for males (35.9 per cent).

The rates across geographic locations and SES backgrounds reveal some marked differences. About two-thirds (66.9 per cent) of young people from the most advantaged SES background (highest decile) at age 24 have attained higher education qualifications or are enrolled, in contrast to only 17.9 per cent of those from the most disadvantaged backgrounds (lowest decile). There is a sharp linear increase associated with SES background.

Those living in major city areas are more than twice as likely to have gained a degree or to be studying at age 24 as are those living in regional or remote communities (47.2 per cent for major cities and 20.5 per cent for outer regional and 16.6 per cent for remote communities).

State and territory differences are also apparent, with 46.9 per cent of Victorian 24-year-olds holding higher education qualifications or currently studying, compared to 35.3 per cent in Western Australia and 27.7 per cent in Tasmania.

Figure 2-4   Percentage of 24-year-olds who have attained a university degree or are currently enrolled in one, by selected background characteristics: 2016 (%)

Category	Subgroup	Value
	Nationally	41.5
Gender	Males	35.9
Gender	Females	47.1
State or Territory	NSW	45.2
State or Territory	VIC	46.9
State or Territory	QLD	33.5
State or Territory	SA	37.3
State or Territory	WA	35.3
State or Territory	TAS	27.7
State or Territory	NT	23.3
State or Territory	ACT	56.2
Location	Major city	47.2
Location	Inner regional	22.8
Location	Outer Regional	20.5
Location	Remote	16.6
Location	Very remote	13.2
SES (Deciles)	Low	17.9
SES (Deciles)	2	25.1
SES (Deciles)	3	28.5
SES (Deciles)	4	32.1
SES (Deciles)	5	37.1
SES (Deciles)	6	41.6
SES (Deciles)	7	47
SES (Deciles)	8	53.3
SES (Deciles)	9	58.9
SES (Deciles)	High	66.9
Indigenous	Non-Indigenous	42.5
Indigenous	Indigenous	10.2
Language	English	34.2
Language	Other	41.6

Source: ABS (2020b) Census of Population and Housing, 2016, derived using TableBuilder.

The rate for Indigenous 24-year-olds is 10.2 per cent, more than four times less than that for the non-Indigenous population. Growth in Indigenous higher education participation is nevertheless much faster than for non-Indigenous students, with the number of Indigenous university students more than doubling from 2008 to 2020 (Universities Australia, 2020).

Young Australians from language backgrounds other than English gain university qualifications or are studying towards them at a higher rate than for those from English speaking backgrounds – 41.6 per cent compared to 34.2 per cent.

Vocational Education and Training

Many young Australians undertake further education through participation in VET. Using data from the Census of Population and Housing, Figure 2-5 presents the rates of attainment of VET qualifications and current study at or above Certificate III level for 24-year-olds. It shows that 31.6 per cent of 24-year-olds had attained or were studying towards VET qualifications.

Figure 2-5   Percentage of 24-year-olds who have attained a VET Certificate at AQF Level III or higher or are currently enrolled in one, by selected background characteristics: 2016 (%)
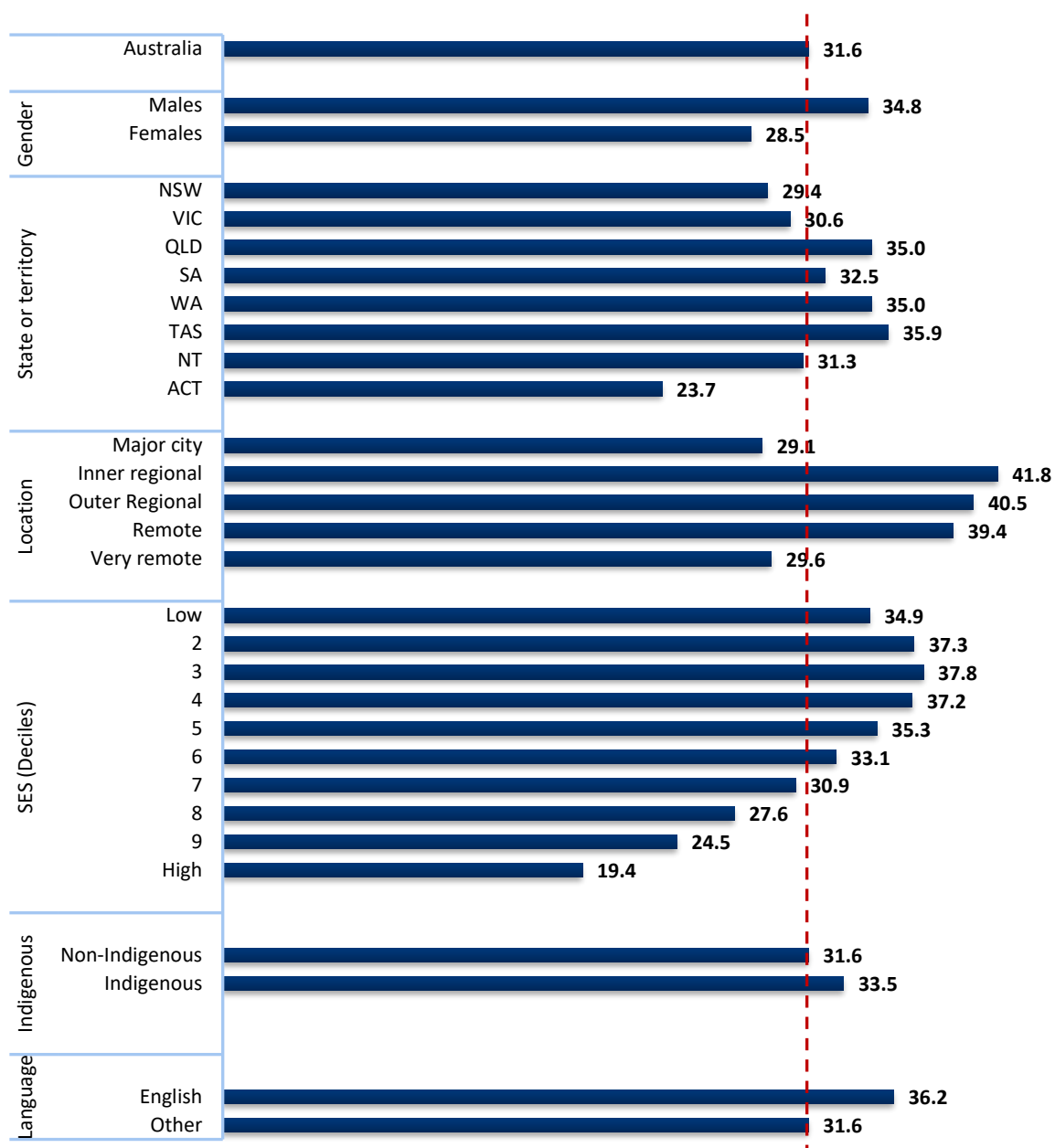
Category	Group	%
	Australia	31.6
Gender	Males	34.8
	Females	28.5
State or territory	NSW	29.4
	VIC	30.6
	QLD	35.0
	SA	32.5
	WA	35.0
	TAS	35.9
	NT	31.3
	ACT	23.7
Location	Major city	29.1
	Inner regional	41.8
	Outer Regional	40.5
	Remote	39.4
	Very remote	29.6
SES (Deciles)	Low	34.9
	2	37.3
	3	37.8
	4	37.2
	5	35.3
	6	33.1
	7	30.9
	8	27.6
	9	24.5
	High	19.4
Indigenous	Non-Indigenous	31.6
	Indigenous	33.5
Language	English	36.2
	Other	31.6

Source: ABS (2020b) Census of Population and Housing, 2016, derived using TableBuilder.

The rates are higher for males (34.8 per cent) than for females (28.5 per cent).

The attainment of VET qualifications in the transition from school is higher for disadvantaged young people (lower SES) and for those living in regional and remote areas. This may account for some of the variations across states and territories. Young people in the ACT are least likely to make use of VET qualifications (23.7 per cent) and those in Tasmania are the most likely to (35.9 per cent). But rates are also strong in Queensland (35.0 per cent), Western Australia (35.0 per cent) and South Australia (32.5 per cent).

Apprenticeships and traineeships

Apprenticeships and traineeships, combining paid employment with on-the-job and institution-based training, have been historically a particularly important means for young people to acquire career-based skills and to transition into employment. Estimates of how many young people make use of this form of education and training are not possible to derive using the Census of Population and Housing in the same way as for other forms of qualifications. However, it is possible to use the 2009 cohort of the Longitudinal Surveys of Australian Youth (LSAY) to examine who makes use of apprenticeships and traineeships in the transition from school. Table 2-3 presents the estimates by a number of background characteristics.

Using data from LSAY, it is estimated that around 22.9 per cent of all young people commence an apprenticeship or traineeship between the age of 15 and 23. According to the results from this data source, 17.0 per cent of young people had completed an apprenticeship or traineeship by age 23 or were still in their study or training at that age.

Apprenticeships and traineeships are particularly important to early school leavers wanting to obtain Year 12 equivalent education. About 58.7 per cent of early leavers commenced an apprenticeship/traineeship by their mid-20s. However, only 32.6 per cent of all early school leavers completed or were still in training by age 23. Among Year 12 completers, 18.8 per cent took up an apprenticeship or traineeship and 15.3 per cent completed or were still in study and training at age 23.

There are marked differences by gender. Nearly one in three of the male LSAY cohort members (32.1 per cent) commenced an apprenticeship or traineeship by their mid-twenties, compared to 14.2 per cent of the females.

Apprenticeships and traineeships are an important pathway for students with lower levels of academic success at school as well as for students from low SES backgrounds. Of young people in the lowest quintile of mathematics achievement at age 15, 38.6 per cent participated in an apprenticeship or traineeship, and 25.4 had completed it or were still in training at age 23. By contrast, for high mathematics achievers (top quintile) 8.2 per cent participated and 6.3 per cent completed or were still in training at age 23. The patterns are similar for SES, with those from lower SES backgrounds much more likely to pursue apprenticeships and traineeships. High SES students are less likely to enter an apprenticeship or traineeship, but they are more likely to complete when they do.

Location also affects participation and completion. The take up of apprenticeships is higher in provincial and remote areas.

Table 2-3   Percentage of 23-year-olds who have participated in and completed an apprenticeship or traineeship, by selected background characteristics: 2017 (%)

		Participated (%)	Completed or still doing (%)
National	Australia	22.9	17.0
Gender	Male	32.1	23.9
	Female	14.2	10.7
SES (quintiles)	Low	29.7	21.9
	Lower middle	27.9	19.4
	Middle	25.2	19.7
	Upper middle	19.4	16.1
	High	10.2	9.2
State or Territory	NSW	22.9	15.0
	VIC	18.0	14.1
	QLD	27.6	21.7
	SA	26.5	22.3
	WA	19.4	14.5
	TAS	36.5	28.6
	NT	30.0	26.7
	ACT	13.6	10.6
Location	Metropolitan	19.7	13.7
	Provincial	31.0	25.6
	Remote	48.1	40.1
Mathematics achievement (quintiles) at age 15	Low	38.6	25.4
	Lower middle	36.9	27.3
	Middle	22.2	18.3
	Upper middle	13.4	10.8
	High	8.2	6.3
Y12 attainment	Completed Year 12	18.8	15.3
	Early leaver	58.7	32.6

Source: LSAY 2009 (information based on longitudinal data covering period from age 15 to 23 and weighted based on the cohort at age 23).

Skills of young adults

The indicators in this section so far have focused on the activities in which young people engage—work and further learning—as measures of their educational opportunity. Another important aspect of educational opportunity, based on the national goals for education, relates to the skills that young people acquire. While activities capture what young people are doing, skills relate to how well they can do them. The opportunities for acquiring important skills to the levels required for effective participation in work, study and community can have a major impact on life chances, prosperity and social inclusion. Without the right skills, people face ongoing marginalisation and difficulty participating fully in the various activities that many communities offer (OECD, 2013b).

It is possible to examine the literacy, numeracy and problem-solving skills of young adults using the Programme for the International Assessment of Adult Competencies (PIAAC) survey, which is undertaken in 24 countries and measures whether individuals possess the skills required to more actively and fully participate in community life (OECD, 2019a). Problem-solving in technology-rich environments measures skills that relate in part to the use of digital information and communication technologies at work and in everyday life.

In the survey, skills are assessed at different levels. For literacy and numeracy, proficiency scores are grouped into five skill levels with Level 1 being the lowest level. For problem-solving there are three levels also, with Level 1 being the lowest.

For some commentators, performance at a Level 3 standard is considered the 'minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy' (Noonan & Wade, 2013). If this standard is applied, then across the Australian population aged 20 to 24 years, 60 per cent are at or above the minimum standards in literacy. This means a significant number do not possess the skills that are considered essential to work effectively in a modern economy, with an estimated 40 per cent of young people falling below the desired standard. For numeracy, the proportion below the minimum standard is greater, with over 53 per cent not possessing the desired skill level.

Figure 2-6 presents the percentages of 20-24-year-old Australians at different skill levels in literacy, numeracy and problem-solving in technology rich environments. Based on the survey results and applying 2019 population estimates, approximately 40 per cent or 703,231 Australians aged 20 to 24 years have literacy skills at Levels 1 or 2; more than twice the number at Level 4/5 (17.4 per cent or 305,282). For numeracy, approximately 937,308 (53.3 per cent) of 20-24-year-olds are at Level 1 or 2; more than four times the number at Level 4/5 (230,872 or 13.1 per cent). For problem-solving using digital technology, almost half the young people (44.5 per cent or 782,778) are assessed as being at Level 1 or below. This calls attention to the intergenerational nature of educational disadvantage, and the need for education systems to actively break these cycles.

The levels of skills vary by background. Figure 2-7 presents the percentages of 20-24-year-old Australians at the lowest skill level (Level 1) in literacy, numeracy and problem-solving, by parental education background. There are large numbers of 20-24-year-olds whose parents did not complete Year 12 and who score at lower levels of proficiency on the three scales. The rate in literacy is thirteen times that for young adults whose parents had a university degree. For numeracy a third (33.6 per cent) of those whose parents had not completed Year 12 were at the lowest proficiency level, compared to about one-tenth for those who had post-school VET qualifications (10.6 per cent) or a university degree (11.6 per cent). Weak ICT-relevant problem-solving skills also vary substantially by background.

Figure 2-6   Skill levels of 20-24-year-olds in literacy, numeracy and problem-solving in technology-rich environments: 2011-12, (%)
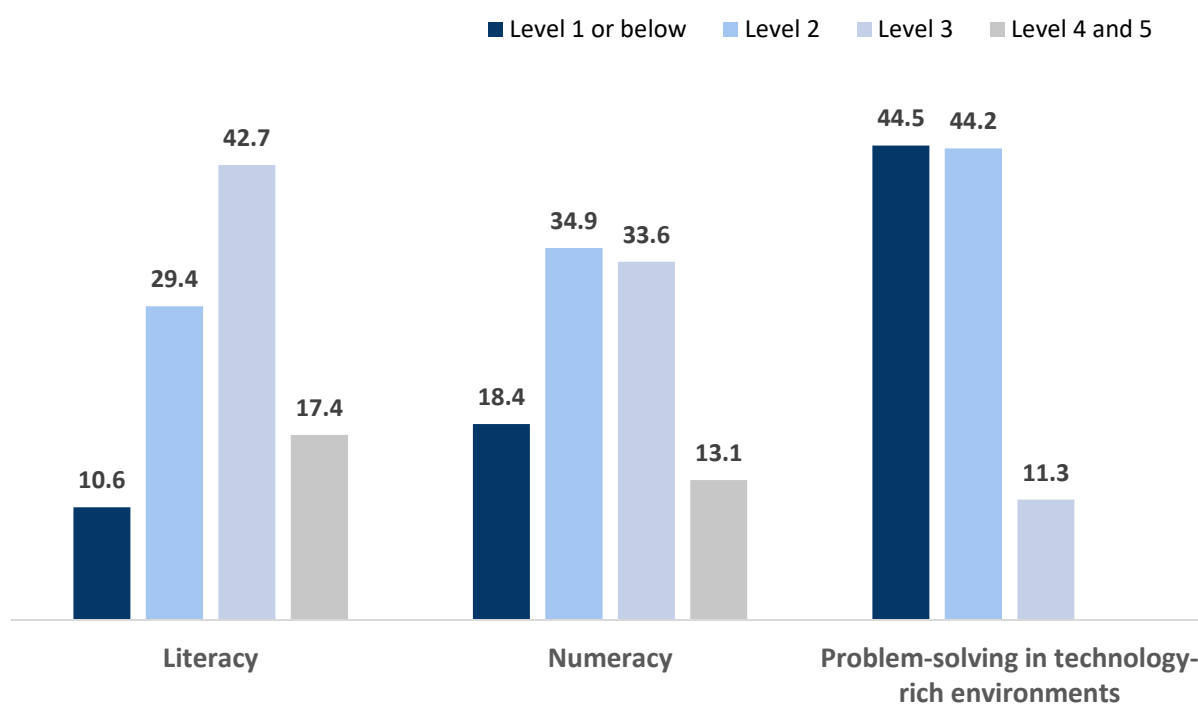
Source: ABS (2013) Programme for the International Assessment of Adult Competencies, Australia, 2011-2012

Figure 2-7   Percentage of 20-24-year-olds at the lowest skill level in literacy, numeracy and problem-solving in technology-rich environments, by parental education background: 2011-12 (%)
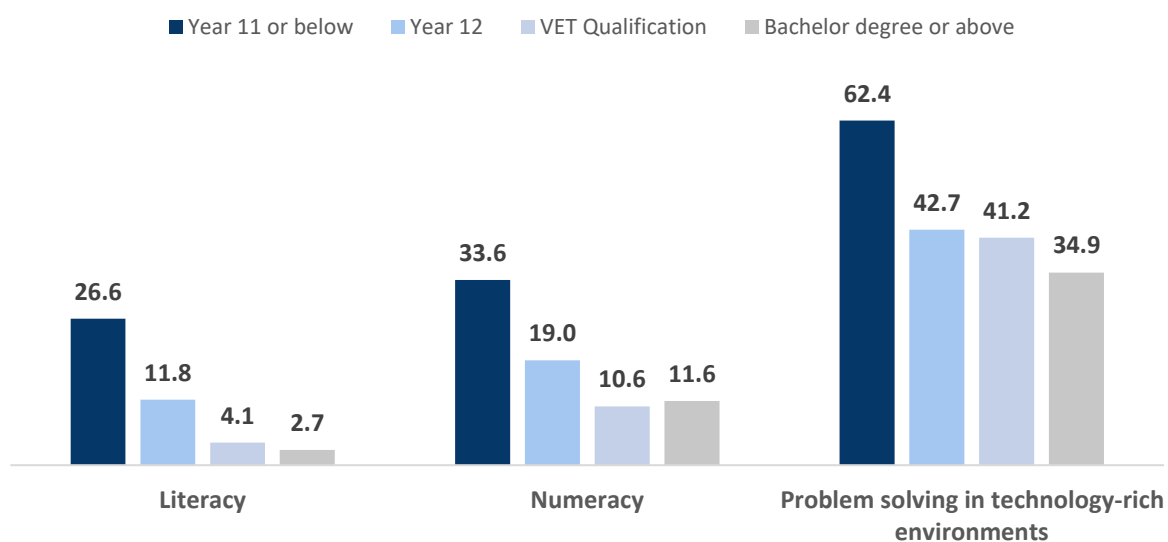
Source: ABS (2013) Programme for the International Assessment of Adult Competencies, Australia, 2011-2012

Educational opportunity in Australia 2020

PIACC also enables learning to be compared internationally. Figure 2-8 compares the literacy skills of young Australians with those of young adults in other countries. Comparing the literacy skill levels with other leading jurisdictions, Australia is similar to Canada, Germany and New Zealand, but below Finland (80 per cent at or above minimum standard), Japan (79 per cent) and South Korea (74 per cent). The OECD notes that countries with larger proportions of adults with lower skill levels risk losing competitiveness as the world economy becomes more dependent on skills. In all countries, individuals with lower proficiency in literacy are more likely than those with better literacy skills to report poor health, to believe that they have little impact on political processes, and not to participate in associative or volunteer activities. In most countries, they are also less likely to trust others (OECD, 2013b).

Figure 2-8   Literacy skill levels of 20-24-year-olds, by country: 2011-12 (%)
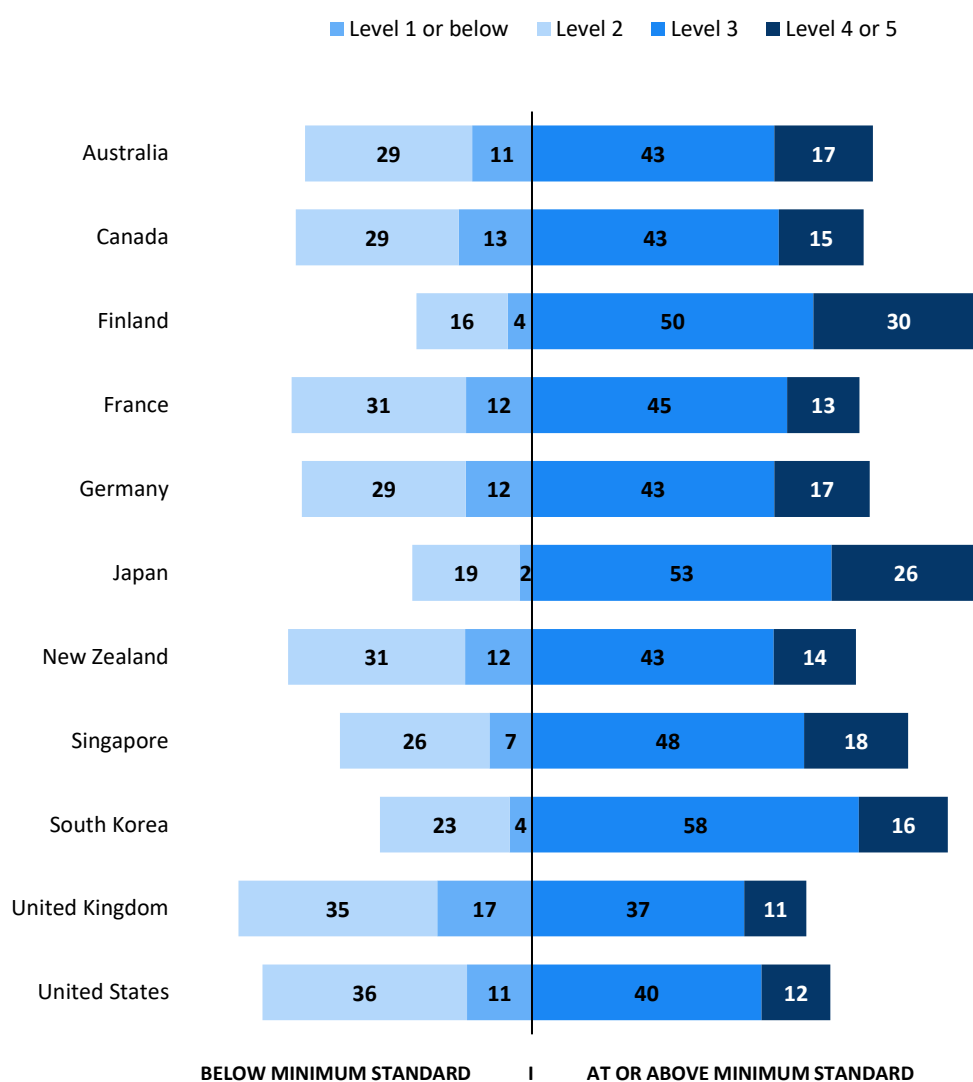
Level 1 or below · Level 2 · Level 3 · Level 4 or 5

Country	Level 1 or below	Level 2	Level 3	Level 4 or 5
Australia	29	11	43	17
Canada	29	13	43	15
Finland	16	4	50	30
France	31	12	45	13
Germany	29	12	43	17
Japan	19	2	53	26
New Zealand	31	12	43	14
Singapore	26	7	48	18
South Korea	23	4	58	16
United Kingdom	35	17	37	11
United States	36	11	40	12

BELOW MINIMUM STANDARD   I   AT OR ABOVE MINIMUM STANDARD

Source: ABS (2013) Programme for the International Assessment of Adult Competencies, Australia, 2011-2012

Confident and creative individuals

The national goals for education in the Alice Springs Declaration include a focus on developing creative and confident individuals who demonstrate the following characteristics:

1. personal values and attributes such as honesty, empathy, loyalty, responsibility and respect for others
2. resilience and the skills and strategies to tackle current and future challenges
3. ability to recognise, adapt to, and manage change
4. having a sense of optimism about life and the future
5. showing initiative, using creative abilities and being enterprising
6. having the imagination, knowledge, skills, understanding and values to establish and maintain healthy, satisfying lives (Education Council, 2019).

The goal is based on the view that children and young people who have a creative mind and a positive sense of self, and who can understand and manage their own health and emotions, are in a better position to reach their full potential in the future, and better able to respond to choices and challenges as they emerge. Sense of confidence supports learning because it makes learners more resilient and better able to overcome challenges, as well as better placed to be adaptable and flexible when needed. Being creative supports trying out new ideas, and new ways of thinking and problem solving. Creativity encourages expression, and a preparedness to experiment and create something from ideas and experiences. Being creative and confident is a mindset that embraces critical thinking, flexibility and innovation. The attributes are viewed as important across varying disciplines and across all areas of life.

Recognising the importance of these qualities is one thing. Measuring the levels of them in the population is another. Very few assessments measure confidence and creativity among adult Australians. Surveys such as PIAAC (see above) have measures of literacy and numeracy and various other skills, but little on creativity or confidence (OECD, 2013b). The General Social Survey, run by the Australian Bureau of Statistics (ABS, 2015), is designed in part to monitor opportunities to participate fully in society. However, it does not contain measures of creativity or confidence in the ways described in the national education goals. One survey that does have some measures on creativity and confidence is LSAY. The base survey and testing (tied to PISA) contain measures of creative problem solving and confidence in self and future. However, the measures for creative problem solving and some for confidence about the future are asked in the base year when the commencing cohorts are 15 years of age. There are some later measures based on self-reporting that capture some elements of creativity and confidence when young people are in their twenties. As a longitudinal study the surveys do suffer from attrition, which tends to be skewed, losing more disadvantaged young people (e.g. low SES, students with lower academic achievement, rural and remote students) disproportionately, but the survey does provide the opportunity to derive estimates and to measure them for different groups.

Elements of creativity measured when the survey cohort members are in their twenties are reflected in qualities capturing:

- how adaptable respondents are to changes in plans (being adaptable to career plan change)
- how optimistic respondents are when thinking about their careers (feeling inspired about possibilities and eager to pursue their dreams)
- levels of curiosity about the world, the way the world works and curiosity about new ideas (interest in learning new things, interest in thinking about why the world is in the state it is, interest in finding out why something happens the way it does, interest in finding out more about things that you do not understand, interest in finding out more about a new idea, interest in finding out how something works), and
- open to new experiences (likes artistic things, has an active imagination).

Elements of confidence as individuals measured when the survey cohort members are in their twenties are reflected in qualities capturing:

- confidence in the future
- confidence in what you do at study, at home or in a job
- confidence in getting on with others
- confidence in career prospects.

Key indicator 3: Adaptability to change and open to new ideas

Key indicator 4: Confident in self and in the future

Table 2-4 presents results on each of the qualities for creativity and confidence. The results are the percentages of young people who reported agreeing or strongly agreeing (or an average equivalent on a quality using multiple items) that they possess the quality. In addition, there is an overall score of creativity and an overall score of confidence. This is based on the respondent recording positive results on at least two qualities for each attribute (creativity, confidence).

Using the overall measure of creativity, which is based on measures of adaptability, optimism, curiosity and openness to new experiences, about seven in every ten (70.1 per cent) young Australians in their twenties can be described as creative individuals, exhibiting the attributes consistent with what the national goals for education strive for. About 74.1 per cent report being adaptable to change, while 69.6 per cent score positively on a scale measuring being open to new experiences, and 67.4 per cent describe themselves as being curious – interested in learning new things and finding out more about things they do not understand. Just on 61.4 per cent are optimistic and keen in pursuing their careers.

As an important contributor to young people's creativity, education and training systems have a critical role to play in addressing current inequity in the development of creativity. Variation across the population is most evident in looking at those struggling in their twenties to establish full-time employment and study. Only 59.9 per cent of those not fully engaged in work, study or training at age 24 were also rated as creative individuals in the terms of the national goals of education. By comparison, 73.7 per cent of those fully engaged exhibited creativity as an attribute. There are also differences based on social background and the numeracy skill levels of young people when they were 15. Young adults from high SES backgrounds (72.3 per cent) had higher levels of creativity than those from low SES

backgrounds (63.2 per cent). The gaps exist also between those who had high levels of math skills (72.4 per cent) compared to those with low level skills (57.2 per cent).

Table 2-4 **Percentage of young adults displaying qualities of creativity and confidence, by selected background characteristics: 23-year-olds, 2017 (%)**

		Creativity					Confidence in self				
		Can adapt to change	Optimistic about the future	Curious about the world	Open to new experiences	Overall	The future	What you do in work and study	Getting on with others	Career prospects	Overall
Australia	Nationally	74.1	61.4	67.4	69.6	70.1	78.7	70.9	81.9	71.4	71.9
Gender	Males	77.1	61.1	72.7	66.1	72.7	81.1	71.8	84.0	73.4	74.6
	Females	71.4	61.7	62.5	72.2	67.7	76.5	70.0	79.9	69.5	69.3
Full-time work or study at age 24	Fully engaged	77.6	64.6	68.2	65.0	73.7	82.9	75.0	84.8	76.5	76.5
	Not fully	64.8	52.8	65.3	70.9	59.9	66.9	59.7	73.8	57.1	58.8
State or territory	NSW	73.3	62.9	67.1	69.2	69.4	77.0	72.5	81.7	71.9	71.6
	VIC	73.4	60.5	65.9	70.0	70.5	77.7	68.3	79.5	70.1	69.3
	QLD	76.3	62.4	69.4	70.3	71.5	81.8	72.4	84.0	74.0	75.3
	SA	74.8	60.5	66.3	69.2	68.3	83.0	73.1	80.7	70.6	75.9
	WA	71.8	58.1	67.4	70.6	68.9	77.4	68.2	82.9	69.8	69.9
	TAS	73.3	62.2	64.2	73.3	71.6	78.3	68.7	84.3	66.3	68.3
	NT	79.3	62.1	64.3	64.2	73.3	72.4	73.3	83.9	66.7	71.4
	ACT	78.1	59.4	71.0	67.0	72.5	77.3	63.1	84.8	69.7	70.8
SES (Quintile)	Low	67.9	53.4	67.1	63.9	63.2	76.7	65.4	80.3	68.1	67.7
	Second	75.7	60.3	75.8	69.8	71.4	80.3	70.0	79.3	70.0	71.8
	Third	75.4	65.0	74.7	68.5	70.4	80.5	71.2	82.1	72.5	72.9
	Fourth	76.1	64.2	77.0	70.7	72.5	77.6	73.5	82.1	73.0	73.3
	High	74.7	65.2	76.7	71.4	72.3	80.5	75.3	89.5	76.0	76.6
Math skills (Quintile)	Low	59.4	61.6	60.7	67.5	57.2	71.8	67.5	75.6	68.1	64.8
	Second	75.2	62.6	76.8	70.7	72.4	83.0	73.6	83.0	72.1	73.6
	Third	74.9	63.0	74.5	66.5	70.2	75.9	68.9	79.7	66.2	68.0
	Fourth	77.5	61.6	79.2	71.3	74.6	79.5	72.6	85.4	74.5	74.6
	High	75.5	58.5	76.8	69.8	72.4	81.3	71.0	84.0	74.8	76.3
Language background	English	74.4	60.9	66.8	69.8	70.4	78.7	70.5	82.0	71.2	71.5
	Other	70.9	66.4	73.0	67.4	67.7	78.8	73.8	80.6	73.1	75.4

Source: Derived from LSAY Y2009.

For the overall measure of being a confident individual, which is based on measures of having confidence in the future, confidence in doing your work or study, confidence in getting on with others, and confidence in your career prospects, just over seven in every ten (71.9 per cent) young Australians in their twenties can be described as confident individuals, exhibiting the attributes consistent with what the national goals for education strive for. A higher percentage of young adults – 78.7 per cent – are confident about their futures, and slightly more confident about getting on with others (81.9 per cent). Roughly seven in ten are confident in what they are required to do in work or study and in their future careers (70.9 and 71.4 per cent, respectively).

Being a confident individual is an attribute that varies across the population, suggesting as with creativity that the education and training systems are not promoting development in an equitable way. It may not be surprising that the largest gaps are between those struggling in their twenties to establish full-time employment and study (58.8 per cent) and those who are fully engaged in work and study (76.5 per cent). Among young adults who have become more marginalised, many do not possess confidence in themselves or the future. Failing to establish a foothold in work and study undermines confidence.

While women (69.3 per cent) are less confident than men (74.6 per cent), larger gaps exist between young adults from high SES (76.6 per cent) and low SES (67.7 per cent) backgrounds, and between those who at age 15 possessed high level math skills (76.3 per cent) and those who had weak skills – in the lowest quintile (64.8 per cent).

General health: self-assessed health status

One of the specified attributes of a creative and confident individual, according to the national education goals specified in the Alice Springs Declaration, is having 'the imagination, knowledge, skills, understanding and values to establish and maintain healthy, satisfying lives' (Education Council, 2019, p. 5). One aspect is general health. Self-assessed health status reflects a person's perception of his or her own health at a given point in time and is commonly used as a general wellbeing measure. Respondents in the 2009 LSAY cohort were asked in 2018 when they were aged 24 to rate their general health from excellent to poor. Figure 2-9 presents the percentage of those who rated their general health as excellent, very good or good. The rates are provided for different groups in the population.

In 2018, approximately 86.2 per cent of Australians aged 24 years considered themselves to be in excellent, very good or good health, while 13.8 per cent reported being in fair or poor health.

Men (88.5 per cent) generally rated themselves as having better health than women (84.0 per cent), while those in full-time work or study (87.8 per cent) rated themselves as in better health than those who were not fully engaged in work or study (81.3 per cent).

Mental health: psychological distress

Mental health is fundamental to the wellbeing of individuals, their families and the population as a whole. One indication of the mental health and wellbeing of a population is provided by measuring levels of psychological distress using the Kessler Psychological Distress Scale (K10). The scale was developed to yield a global measure of psychosocial distress, based on questions about people's level of nervousness, agitation, psychological fatigue and depression in the past four weeks (ABS, 2012). Items on the scale were asked of members in the LSAY 2009 cohort when they were 22 years of age. The results for those who recorded moderately high to high levels of psychological distress (sense of hopelessness, and feeling nervous, restless, sad, worthless and depressed) are presented in Figure 2-10.

Figure 2-9   Percentage of 24-year-olds in good general health: 2018 (%)

		%
	Australia	86.2
Gender	Males	88.5
	Females	84.0
In full-time work or study at age 24	Fully engaged	87.8
	Not fully engaged	81.3
State or Territroy	NSW	86.7
	VIC	86.5
	QLD	85.0
	SA	88.0
	WA	86.2
	TAS	85.0
	NT	82.1
	ACT	80.6
SES (quintiles)	Low	82.4
	Lower middle	86.9
	Middle	87.9
	Upper middle	84.7
	High	88.8
Math skills (quintiles)	Low	85.1
	Lower middle	86.2
	Middle	86.4
	Upper middle	87.8
	High	85.0
Language background	English	86.3
	Other	84.7

Source: Derived from LSAY Y2009 in 2018 when sample was 24 years of age.

Figure 2-10 shows that amongst those aged 22 years the proportion experiencing moderately high to very high levels of distress is approximately 15.0 per cent. Men (10.0 per cent) were much less likely to be experiencing mental distress compared to women (19.4 per cent). In terms of levels of engagement in work and study at age 24, those in full-time work or study (12.4 per cent) rated themselves as being far less stressed than those who were not fully engaged in work or study (22.3 per cent reported moderate to high levels of being psychologically distressed). These data were collected some years prior to the COVID-19 crisis and show that many young Australians were already struggling with mental health issues. In the wake of COVID-19, significant effort will be needed to build young people's resilience and mental health in education systems and communities and keep them in work and learning.

Figure 2-10 Percentage of 22-year-olds with moderately high to high levels of psychological distress: 2016 (%)

Category	Group	Value
	Australia	15.0
Gender	Males	10.0
	Females	19.4
In full-time work or study at age 24	Fully engaged	12.4
	Not fully engaged	22.3
State or Territroy	NSW	14.6
	VIC	15.1
	QLD	15.0
	SA	16.9
	WA	13.1
	TAS	15.6
	NT	14.8
	ACT	21.3
SES (quintiles)	Low	15.9
	Lower middle	14.2
	Middle	15.6
	Upper middle	14.6
	High	13.6
Math skills (quintiles)	Low	15.5
	Lower middle	14.2
	Middle	16.1
	Upper middle	15.2
	High	14.3
Language background	English	14.7
	Other	17.6

Source: Derived from LSAY Y2009 in 2016 when the sample was 22 years of age.

The data in this section shows that in early adulthood, the majority of young Australians can be said to be confident and creative individuals, ranging from approximately six in ten to a little more than seven in ten, depending on the population group. Variations between states and territories are relatively small, with a slightly higher proportion of creative young adults in the Northern Territory and Queensland and South Australia being home to the highest proportion of confident young adults. Men are more likely to report being confident, creative and in good health. Differences in creativity and confidence based on student socioeconomic status are evident and are the greatest of any group, although they are less pronounced than in relation to employment and educational attainment. The results in this section suggest there is more work to be done to equitably support the development of creativity and confidence among young adult Australians.

This section also highlights a connection between successful learner attributes and creativity and confidence. Australians aged 24 years old who were fully engaged in work or study and those with strong mathematical skills were substantially more likely than their peers to see themselves as creative and confident. This illustrates the mutually supportive nature of the goals in the Alice Springs Declaration, highlighting that policies aimed at one outcome area may benefit other outcomes articulated in our national aspirations.

Active and informed citizens

The concept of being an active citizen is based on a sense that individuals will contribute to their communities by stepping forward to participate, provide leadership and assist in facilitating solutions to challenges when needed. According to the national goals set out in the Alice Springs Declaration, Australia's education systems will shape individuals who are active and informed members of the community, including those who:

- act with moral and ethical integrity
- have empathy for the circumstances of others and work for the common good, in particular sustaining and improving natural and social environments
- appreciate and respect Australia's rich social, cultural, religious and linguistic diversity and embrace opportunities to communicate and share knowledge and experiences
- have an understanding of Australia's system of government, its histories, religions and culture
- are committed to national values of democracy, equity and justice, and participate in Australia's civic life by connecting with their community and contributing to local and national conversations (Education Council, 2019, pp 5-6).

The goal is based on the view that being an active community member is a combination of knowledge, attitude, skills and actions that aim to contribute to building and maintaining a better world, locally and globally. Active citizenship supports cooperation that values diversity, includes the whole community and is based on the acceptance of universal human rights and the rule of law. At its core, active citizenship values the public good above narrow private or personal interests. Its focus is on individuals being more involved in their neighbourhoods, their social groups and the global community to change the world for the better. While acquiring and developing the relevant knowledge and skills can happen in places other than classrooms, education and training play a very important role.

There are several surveys and indicators used to measure aspects of active citizenship. The General Social Survey (ABS, 2015), for example, is designed in part to monitor opportunities to participate fully in society and contains items on volunteering, though little on activities indicating effort to remain informed. The Census of Population and Housing run by the ABS collects some information on volunteering and unpaid work that marks contributions to community life and being active. The Census, though, does not collect measures on remaining informed or activities indicating the desire to do so. Some elements of active citizenship and remaining active and informed are captured in the Australian Social Cohesion Survey (Scanlon Foundation, 2019). The survey targets Australian adults and collects information linked to social cohesion as well as views on issues such as immigration and population issues affecting Australia. The survey, though, is adult population wide, and not specific to young adults.

One survey that includes Australians in their twenties and has some measures relating to active citizenship, as well as creativity and confidence, is LSAY. At different times, survey respondents are asked about their frequency of engaging in activities to remain informed and able to contribute to the world, such as reading newspapers, reading books, having an interest in learning more and taking regular exercise[2]. There are also measures of ways in which individuals want to influence the world through community activity and helping others. Elements of remaining active and informed measured when the LSAY cohort members are in their twenties are reflected in the frequency of engaging in:

- reading newspapers, including digitally (reading regularly to keep informed about events)
- reading books (reading regularly)
- regular exercise (do regular exercise to keep fit and active)
- active interest in knowing about the world (interest in thinking about why the world is in the state it is in, interest in finding out why something happened the way it did).

Elements of being active in the community and wanting to influence the world are reflected in qualities capturing:

- community activity (frequency of community-based activity)
- voluntary work (frequency of doing voluntary work)
- canvassing, campaigning or fundraising as a volunteer (last 12 months)
- being a member of a board or committee (last 12 months)
- providing information, or helping to educate or influence public opinion (last 12 months)
- helping organise activities or events for an organisation (last 12 months)
- teaching or coaching others on an unpaid basis (last 12 months)
- collecting, serving, or delivering food or other goods as a volunteer (last 12 months)
- providing support to others such as voluntary health care or support, including counselling and friendly visiting (in last 12 months).

Key indicator 5: Keeps informed about the world

Key indicator 6: Active in the community

Table 2-5 presents results on each of these qualities for remaining active and informed and being active in the community (wanting to influence the world). Some of the measures are based on frequency (e.g. reading newspapers, reading books, exercise, voluntary work), some are based on doing the activity over the last 12 months (e.g. teaching or coaching others on an unpaid basis) and some are based on levels of interest (e.g. thinking about why the world is in the state it is in). The results are the percentages of young people who engaged in the activities in the last 12 months (such as being a board member) or engaged on a regular basis

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[2] While on the surface it may seem odd to link citizenship with exercise (or a desire to exercise regularly), it is part and parcel of remaining active in a community, as recognised in the National Youth Settlement Framework for Australia which provides a detailed description of a number of key indicators for active citizenship including exercise (Centre for Multicultural Youth, 2016).

(such as reading newspapers to keep informed) or reported being somewhat or very interested in learning or knowing about things (such as interest in finding out why something happened the way it did). In addition, there is an overall score for remaining active and informed and an overall score for being engaged in the community. The overall scores are based on the respondent recording positive results on at least two qualities for each attribute.

For the overall measure of being an active and informed citizen, which is based on measures of interest in learning about the world, keeping informed through reading newspapers and books, and regular exercise, about two-thirds (66.8 per cent) of young Australians in their twenties exhibit these attributes consistent with the national goals for education. About 71.7 per cent report regularly reading newspapers to keep informed about current events, while 65.6 per cent do so reading books. Just on 67.4 per cent describe themselves as having an interest in why the world is the way it is, and in learning about new things. About 78.9 per cent do regular exercise to keep fit, healthy and active.

Levels of being active and informed vary across the population. The largest gaps are associated with social background and math skills at age 15. Young adults from high SES backgrounds (76.0 per cent) are much more likely to do the things needed to remain active and informed than are those from low SES backgrounds (56.0 per cent). The gaps exist also between those who have high levels of math skills (75.6 per cent) compared to those with low level skills (58.3 per cent).

In terms of being engaged in the community – of being an active citizen – which is based on measures of community activity, volunteer work, canvassing, campaigning, fundraising and teaching, coaching or helping others, just over six in every ten (61.9 per cent) young Australians in their twenties can be described as doing things which display being actively engaged in the community, the sorts of things in line with what the national goals for education depict.

Being actively engaged varies across groups in the population. Young people from high SES backgrounds (73.0 per cent) are far more actively engaged in community life than are those from low SES backgrounds (49.8 per cent). Engagement also varies by academic skills acquired in school. Those who were in the highest quintile of math achievers at age 15 (70.4 per cent) were far more likely to engage actively and want to assist and support others than those in the lowest quintile of achievers (55.4 per cent). It suggests that the capacity for engagement is highest among those who are successful in education and training.

One further interesting difference is that based on language background. Young people from language backgrounds other than English (75.1 per cent) are far more likely to be actively engaged in the community than are those from English-speaking backgrounds (60.3 per cent).

Table 2-5   Percentage of young adults (23-year-olds) rated across different elements as being active and informed and being active in the community, by selected background characteristics: 2017 (%)

		Remaining active and informed					Influencing the world (Being engaged in the community)									
		Reads newspapers	Reads books	Regular Exercise	Interest in the world	Overall	Community activity	Volunteer work	Canvassing	Committee member	Public opinion	Organised activities	Teaches or coaches others	Distributes food or goods	Provide support	Overall
Australia	Nationally	71.7	65.6	78.9	67.4	**66.8**	35.2	38.8	15.1	12.3	9.0	25.5	17.7	7.7	8.2	**61.9**
Gender	Males	77.0	60.0	82.6	66.1	**67.9**	34.8	38.6	13.1	13.5	8.2	24.4	18.5	5.5	7.5	**61.4**
	Females	66.8	70.8	75.5	68.7	**65.8**	35.5	39.0	17.1	11.2	9.7	26.4	17.0	9.8	8.9	**62.3**
Full-time work or study at 24	Fully engaged	74.4	63.9	79.3	67.4	**66.4**	35.1	37.8	15.3	12.9	9.0	26.0	18.1	7.6	8.3	**62.0**
	Not fully	64.7	69.8	77.9	67.6	**68.0**	35.3	41.6	14.6	10.9	8.8	24.0	16.7	8.0	8.0	**61.4**
State or Territory	NSW	72.8	65.7	78.9	67.6	**66.8**	37.5	39.9	18.1	13.2	9.0	27.8	20.6	7.6	7.6	**66.5**
	VIC	71.4	66.2	81.2	67.5	**67.0**	32.0	37.9	13.6	13.9	10.0	26.4	19.0	7.0	9.8	**58.0**
	QLD	70.0	66.2	79.2	66.8	**67.2**	30.0	36.4	13.5	10.4	8.2	20.1	13.5	5.7	7.9	**57.5**
	SA	71.8	58.5	76.0	66.4	**64.0**	42.2	40.8	13.6	10.8	8.4	29.4	15.0	15.7	7.3	**62.4**
	WA	71.0	66.7	74.8	65.8	**65.5**	39.6	42.8	13.9	11.9	9.0	24.1	16.5	7.5	8.7	**64.6**
	TAS	76.2	64.3	81.0	72.6	**71.4**	32.1	35.3	14.1	8.3	7.1	24.7	15.5	6.0	5.9	**57.1**
	NT	70.0	66.7	77.4	76.7	**66.7**	33.3	26.7	13.3	9.7	9.7	20.0	16.7	6.7	6.5	**58.1**
	ACT	75.8	74.2	78.8	72.7	**74.2**	40.9	39.4	15.4	13.8	9.1	26.2	18.5	6.2	9.1	**66.7**
SES (quintile)	Low	67.4	59.3	71.2	58.1	**56.0**	27.1	30.2	11.7	7.7	7.9	24.0	13.7	8.0	7.7	**49.8**
	Second	62.3	66.1	74.2	69.3	**63.0**	31.9	35.7	11.7	11.3	8.6	18.5	15.3	6.9	9.9	**54.6**
	Third	72.7	63.0	78.7	64.0	**64.0**	38.2	43.0	19.0	15.8	9.2	31.4	21.1	5.6	8.0	**68.2**
	Fourth	76.8	68.6	83.3	71.3	**73.6**	38.7	37.9	13.2	11.2	8.8	24.7	18.2	7.2	6.7	**63.0**
	High	75.6	72.7	86.1	75.6	**76.0**	40.8	46.5	19.7	15.8	10.5	28.5	20.8	10.3	9.7	**73.0**
Math skills (quintile)	Low	67.3	55.0	79.8	52.6	**58.3**	31.5	37.5	12.9	12.0	5.8	23.1	12.7	7.0	7.9	**55.4**
	Second	69.6	59.5	76.6	65.3	**62.7**	26.4	34.2	16.5	11.7	9.1	28.0	17.6	10.2	10.9	**58.3**
	Third	72.2	63.4	80.0	68.8	**65.7**	31.0	35.1	14.3	8.5	7.6	21.9	15.3	6.3	7.6	**59.1**
	Fourth	69.4	71.5	78.0	72.3	**69.2**	41.2	40.9	16.3	12.4	10.9	24.3	18.6	7.4	8.3	**63.9**
	High	78.5	75.2	80.4	74.5	**75.6**	44.0	45.5	15.2	16.5	10.7	29.2	22.8	7.4	6.5	**70.4**
Language background	English	71.6	65.2	78.5	67.3	**66.4**	33.4	37.3	13.8	10.9	8.5	23.4	17.4	6.6	7.6	**60.3**
	Other	72.7	68.7	82.4	68.3	**70.2**	50.1	51.6	26.2	24.9	12.7	43.0	20.5	16.8	13.0	**75.1**

Source: Derived from LSAY Y2009.

This section highlights there is space to improve levels of active and informed citizenship among young adult Australians. Of the three outcome areas explored in this chapter, a smaller proportion of Australians in their twenties report being active and informed citizens compared to the proportion that report being creative, confident or fully engaged in employment or education. Consistent with the other outcomes explored earlier in this report, there is a clear social gradient in relation to activities related to good citizenship, with young adults from poorer backgrounds less likely than their more affluent peers to keep informed and engage in community activities. Another substantial difference can be seen in relation to young adults from non-English backgrounds who are substantially more likely than those from English speaking backgrounds to report undertaking activities related to active and informed citizenship. The section has also highlighted a connection between outcome areas, with young adults that have strong mathematical skills more likely to report being active in their communities and staying abreast of current affairs.

Summary

Across all areas explored, the evidence suggests that between six and seven in ten Australians in their early 20s are meeting the goals set out in the Alice Springs Declaration. However, on closer inspection of the data there is significant inequity, with patterns about who is missing out in 2020 similar to those identified in the 2015 Educational Opportunities report. Young adults from poorer backgrounds are less likely than their more affluent peers to successfully transition from school to further study or the workforce, less likely to be confident and creative and less likely to be active and informed citizens. In addition, young adults from regional and remote communities and Indigenous young people are also less likely than their peers to have gained a post-school qualification and to have found a secure foothold in the labour market.

Additionally, the report's focus on a broader set of outcomes uncovers new issues that were not explored in the previous report. Results show that young people who are successful learners, for example those with strong achievement in mathematics and those who are fully engaged in work and education, are more likely to report high levels of creativity and confidence. This illustrates the interconnected nature of the outcome areas, and suggests policy efforts in to address one outcome area may improve other important outcomes.

The broader focus also highlights new and important insights in relation to gender. The report shows that while women are more likely than men to gain a university degree, they are less likely to report high levels of confidence and creativity. In addition, they are more likely to report health challenges, particularly relating to mental health, reporting psychological distress at almost twice the rate of young men. While these broader outcomes are shaped by a wide range of factors, education systems have an important role to play in addressing disparities in health and the development of creativity and confidence.

Overall, the data in this section have shown that many people from all backgrounds are able to succeed in their adult years. However, it also highlights that significant work remains if our education systems are to achieve the goals set out in the Alice Springs Declaration and support excellent outcomes for all Australians, regardless of their background or where they grow up. This includes effort to improve access to post-school educational opportunities as

well as experiences during school and in early childhood that will be explored in subsequent chapters.

3. In the senior years of school

According to the national goals for education, the senior years of school should prepare all students with the skills and experiences necessary both to complete secondary school and successfully transition into further education, training and employment (Education Council, 2019). To do this, the senior years need to provide appropriate opportunities, programs, pathways and credentials that link effectively to post-school opportunities. The completion of secondary school marks a major milestone in the lives of young Australians. Completing school is associated with a range of future opportunities, from accessing further education, training and employment to establishing careers and becoming independent.

The economic and social benefits of success in the senior years have been well documented, both here and internationally, with school completers more likely to transition to further education or full-time work and to receive greater earnings and economic security over the long-term (Schuller et al., 2004; Forbes, Barker & Turner, 2010; Deloitte Access Economics, 2012; Lamb et al., 2015; Lamb & Huo, 2017). But there are also other benefits. Education plays a key role in providing individuals with the knowledge, skills and competencies needed to participate effectively in community life. Communities rely on all of their members to adhere to laws, care for themselves, and consider the greater good. Young people who finish school successfully acquire the skills for lifelong learning, as well as important mindsets such as resilience and creativity. This means they are in a better position to engage more fully, contribute more actively and help support others. Senior schooling, therefore, is an important phase for promoting educational productivity and social and economic wellbeing.

Successful lifelong learners

Key indicator 1: Attaining Year 12 or equivalent

Year 12 attainment is a key marker of the quality of opportunity available to young people on leaving school in Australia. Those with a Year 12 qualification or equivalent have a greater likelihood of continuing with further study, particularly in higher education, as well as entering into the workforce (ABS, 2011). For the community and economy, Year 12 attainment contributes to the development of a skilled workforce and, in turn, to ongoing economic development and improved living conditions. The main indicator of school attainment used in Australia is completing a Year 12 or equivalent senior secondary certificate or equivalent vocational qualification at AQF Level III or higher. Various data sources can be used to measure attainment including administrative data held by different state and territory curriculum, assessment and certification statutory bodies, as well as annual survey data collected by the ABS on education and work activity, such as the Survey of Education and Work (ABS, 2019b). However, each source presents its own challenges for accurately measuring attainment.

Data from the 2016 ABS Census of Population and Housing is used here to derive and present rates of Year 12 or equivalent completion. The Census, as a population-wide survey, is comprehensive and offers the opportunity to apply measures to a single age group (such as 19-year-olds) as well as measure attainment for different population groups. It does not necessarily provide a precise way of measuring Year 12 qualification attainment, per se,

because the question asked is about the year-level rather than qualification attained, but it does include Year 12 equivalents such as completion of a Certificate at AQF Level III or higher.

Figure 3-1 presents the national rate for 19-year-olds, an age by which most young people in Australia have finished or left school. Figure 3-1 also presents the rates for different population groups. The rates show that, overall, 81.6 per cent of 19-year-olds according to the national census conducted in 2016 had completed Year 12 or equivalent. This is a marked rise over the previous estimate of 74.0 per cent reported in 2015 (based on the 2011 Census), with the largest increases seen among population groups who have the lowest attainment rates. However, while the gaps between population groups have decreased, significant inequality across different groups of young Australians remains (Lamb et al., 2015).

Girls continue to complete school at higher rates than boys, with 85.0 per cent of girls having attained Year 12 or equivalent compared to 78.4 per cent of boys. Structural changes in the youth labour market over several decades have seen the available full-time employment opportunities for teenage girls significantly decline, while the professionalisation of careers which attract high numbers of women have meant that these jobs require the completion of Year 12 or equivalent, and in many cases further qualifications.

Figure 3-1 reveals differences in Year 12 attainment across Australian states and territories. There is a gap of over 30 percentage points between the ACT (90.6 per cent) and the Northern Territory (58.8 per cent). While most states have attainment rates between 80 and 84 per cent, in Tasmania the level of Year 12 attainment is at 71.2 per cent. Differences across states and territories are influenced by both policy and non-policy factors. The organisational features of each school system, including senior certificate graduation requirements, resource allocation and assessment requirements impact on the capacity of schools to retain students until the end of Year 12 (Vickers & Lamb, 2002; Ryan & Watson, 2006). School policies and completion rates are also affected by the composition, characteristics and distribution of state and territory populations from which school cohorts are drawn.

There is significant variation in the attainment rates of young people from different social backgrounds. To look at SES, the 19-year-old population was divided into deciles based on SES area measures, using the ABS SEIFA Index of Relative Socio-economic Advantage and Disadvantage (ABS, 2018). Those from the most affluent communities (top SES decile) are highly likely to complete Year 12 (91.8 per cent), whereas those from the least affluent (lowest SES decile) are much less likely to do so (66.8 per cent). Rates of attainment increase in a linear fashion: Year 12 attainment increases with each rise in SES. This suggests that we have some way to go to achieve the longstanding goal of ensuring 'that socioeconomic disadvantage ceases to be a significant determinant of educational outcomes' (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008, p. 7).

There are also strong associations between location and Year 12 attainment. The likelihood of a 19-year-old completing Year 12 falls with the remoteness of their community. Just over 85 per cent of 19-year-olds living in Australia's major cities have completed Year 12, compared to around 72 per cent in inner and outer regional areas, 65 per cent in remote Australia and fewer than one in two (48.4 per cent) living in very remote parts of the country. Rural and regional students face barriers to completing Year 12 due to their location. For example, population dispersion and declining populations mean there are fewer and smaller schools,

which are less able to deliver the broad range of programs available in city schools, particularly in the senior years.

Figure 3-1   Percentage of 19-year-olds who have completed a Year 12 or equivalent qualification, by selected background characteristics: 2016 (%)
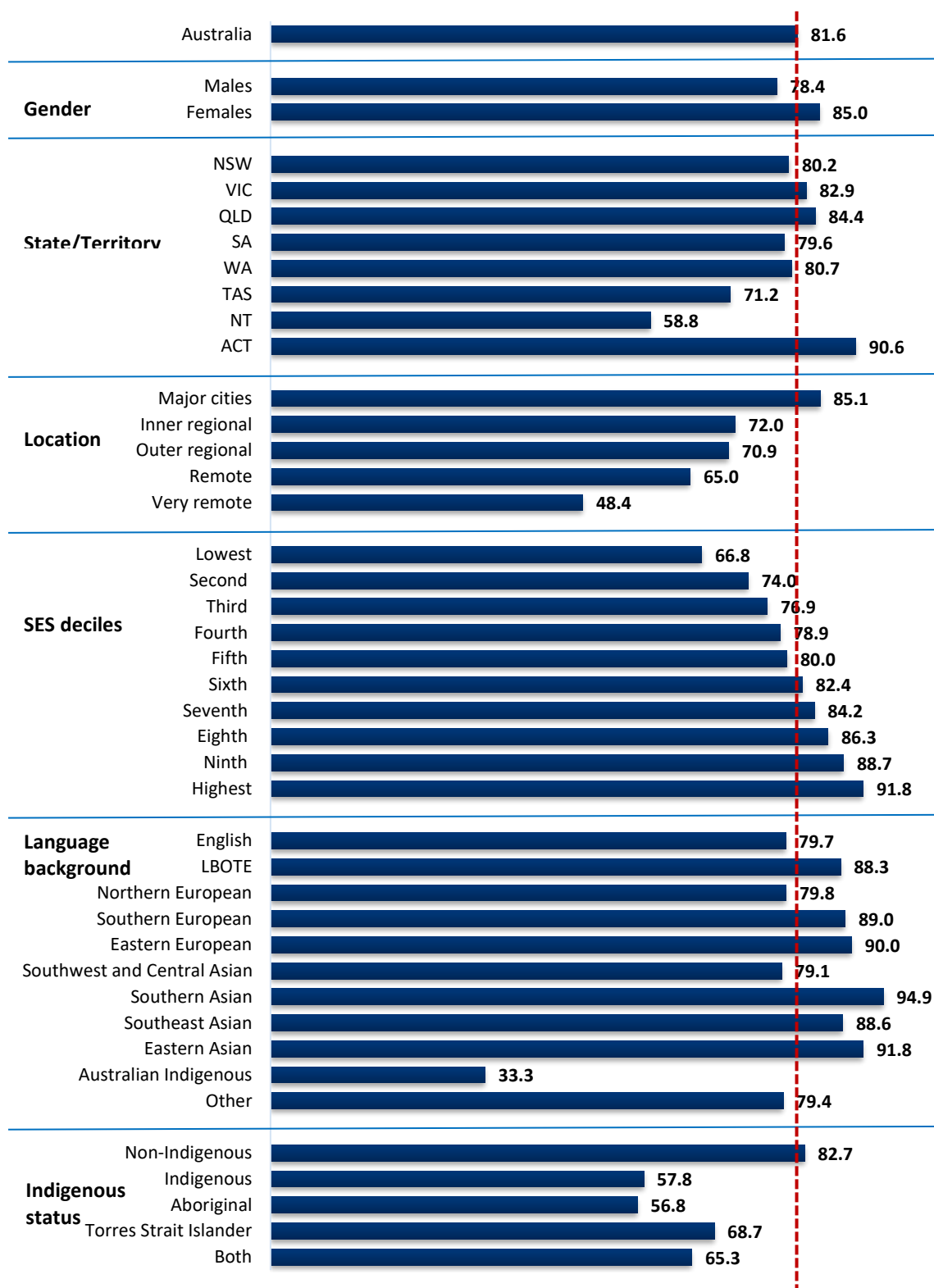
Source: ABS (2020b) Census of Population and Housing. Figures extracted using TableBuilder.

Educational opportunity in Australia 2020

A lack of access to further education and training opportunities, lower levels of adult educational attainment in the community, and the types of jobs available locally can contribute to lower student aspirations and impact school completion for those in remote locations (Halsey, 2018).

Indigenous young people are much less likely to attain Year 12 than their non-Indigenous peers – 57.8 per cent of Indigenous 19-year-olds attain Year 12 or equivalent compared to 82.7 per cent of non-Indigenous 19-year-olds. Within Indigenous populations, completion rates are higher amongst Torres Strait Islanders with 68.7 per cent completing Year 12. The results show that there is some way for schools to go if education is to build on local Indigenous cultural knowledge and experience as a foundation for student learning and expectations as expressed in the Melbourne Declaration (MCEETYA, 2008; p.7).

Young people from non-English speaking backgrounds are generally more likely to attain Year 12 or equivalent, with 88.3 per cent completing compared to 79.7 per cent of 19-year-olds from English-speaking backgrounds. The overall strong performance of these students hides differences between language groups. Rates of Year 12 or equivalent attainment are highest amongst young people speaking Southern Asian and Eastern Asian languages at home.

Differences in the quality of school completion

The school completion rate has risen in recent years, but are all students being well prepared for what comes next? School completion, while important, speaks little to the quality of education received.

A higher proportion of young Australians are leaving school having completed a senior secondary certificate, increasing 7.6 percentage points from 2011 to 2016. Moreover, the growth has been stronger among those who had most ground to make up. This includes those from low SES backgrounds, Indigenous young people, and students from Tasmania and the Northern Territory. However, the evidence suggests that the growth in Year 12 or equivalent attainment over the period from 2011 to 2016 has been due more to alternatives that may not deliver the same future outcomes. 'Year 12 or equivalent' as presented in the milestone measure includes varying options and forms of study. Some students complete subjects where assessments contribute to an Australian Tertiary Admission Rank (ATAR) which is used for competitive entry to university, while others undertake applied or vocational subjects that are directed to work or employment-based training rather than higher education, and some complete study that does not provide an ATAR or vocational qualification (for example, unscored options). Amongst the mix of options there are many different areas of study with different standards of proficiency even while contributing to attainment of the same senior secondary certificates.

One of the study options is to undertake subjects in the senior years which contribute to the award, but where students choose not to receive any scores or grades for their subjects, and do not receive an ATAR. Data from senior secondary authorities reveal growth in non-scored Year 12 attainment in recent years. For example, Table 3-1 shows the proportions of the eligible population in 2012 and 2018 receiving a senior secondary certificate and the proportions of the eligible population receiving an ATAR, for both Tasmania and South Australia. In both states, the rate of senior secondary certificate attainment amongst the

eligible population has increased over time, while the proportion of the cohort receiving an ATAR has remained stable.

Table 3-1   Percentage of school leavers receiving a senior secondary certificate and ATAR: Tasmania and South Australia, 2012 and 2018 compared (%)

	Tasmania		South Australia	
	2012	2018	2012	2018
Attained senior secondary certificate	46.5	58.5	76.5	82.4
Received an ATAR	32.7	33.2	65.6	65.6

Sources: Office of Tasmanian Assessment, Standards & Certification, *State level Tasmanian Certificate Education attainment data* 2016; SACE Board of South Australia, *SACE Data, 2012, 2018.*

This is also reflected in national data presented in Figure 3-2, which compares Year 12 certificate rates and university applicants from 2010 to 2017. The chart shows that while the Year 12 certification (or attainment) rate has increased from 64 to 76 per cent over this period, the proportion of Year 12 students applying for university (who will have received an ATAR) has remained constant.

Figure 3-2   Year 12 certification rates and university applicants as a proportion of full-time Year 12 students, Australia, 2010-2017 (%)
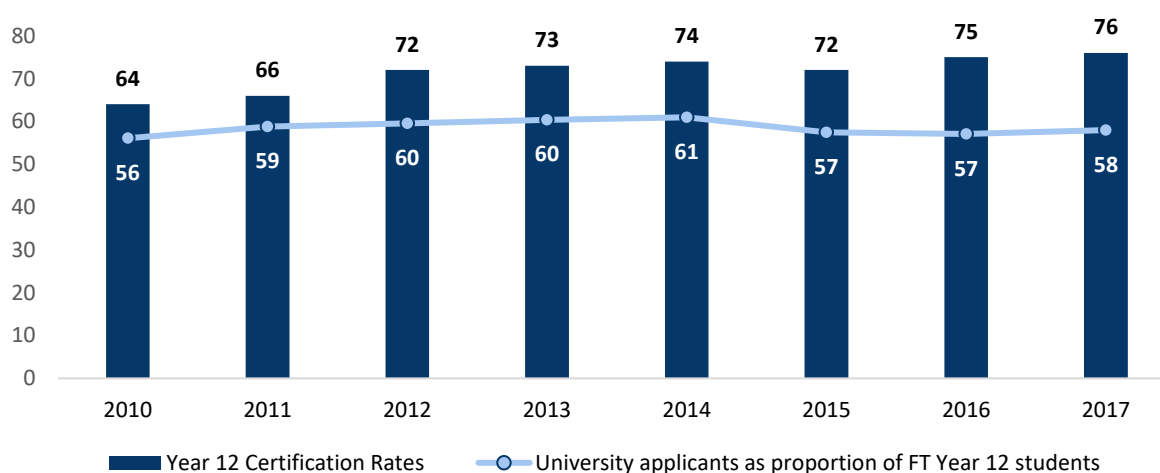
Notes: 1. Certification rates are estimated by calculating the number of students who meet the requirements of a Senior Secondary Certificate or equivalent expressed as a percentage of the potential Year 12 population. 2. The potential Year 12 population is an estimate of a single year age group which could have attended Year 12 that year, calculated as the estimated resident population (ERP) aged 15 to 19 divided by five.
Source: National Report on Schooling in Australia Data Portal; Australian Government, Department of Education, University Applications and Offers Time Series various years.

While it is important that more young people are completing Year 12 and that systems are providing alternatives to the traditional ATAR-based curriculum in the senior years, it is also the case that Year 12 completers are not all being equally well prepared to pursue opportunities post-school, whether aiming for university, vocational training or employment. While the award may be the same (Victoria is the only jurisdiction with an alternative applied senior secondary certificate), there is a difference in the opportunities provided to Year 12

completers, which varies according to the type of certificate undertaken and is unevenly distributed across the population.

Some of the variation is shown in Table 3-2, which reports the proportions of 19-year-olds attaining Year 12 school certificates and those attaining equivalent certificates, as well as those receiving an ATAR and the mean ATAR score.

Table 3-2   Differences in quality of Year 12 or equivalent completion at age 19 (%)

		Year 12 attainment rate	Year 12 certificate or equivalent[1]		ATAR attainment[2]	
		Year 12 or equivalent	School certificate	Equivalent	Gained an ATAR	Mean score
National	Australia	81.6	74.2	7.4	62.6	76
Gender	Males	78.4	71.7	6.7	56.9	75
	Females	85.0	76.8	8.2	72.1	77
State/ Territory	NSW	80.2	74.9	5.4	65.1	75
	VIC	82.9	76.6	6.3	71.4	72
	QLD	84.4	72.7	11.7	54.2	77
	SA	79.6	71.5	8.0	64.1	81
	WA	80.7	72.6	8.2	54.1	79
	TAS	71.2	64.3	6.8	49.4	81
	NT	58.8	51.1	7.7	47.0	75
	ACT	90.6	84.7	5.9	68.5	81
Location	Metropolitan	85.1	77.2	7.9	67.8	77
	Provincial	72.0	63.2	8.8	49.6	74
	Remote	70.9	58.5	12.4	31.9	74
SES*	Lowest	68.2	59.8	8.4	43.9	67
	Second	76.7	67.8	8.9	54.9	71
	Third	81.9	73.8	8.1	60.3	74
	Fourth	86.6	79.4	7.2	71.7	78
	Highest	91.3	86.2	5.1	81.8	82
Language background	English	79.7	71.4	8.3	60.5	75
	Other	88.3	83.9	4.4	75.9	81

* SES is based on the Index of Economic, Social and Cultural Status (ESCS) developed by the OECD for use in PISA. It is derived from parental education, parental occupation, family wealth, and educational and cultural resources in the home. Estimates were derived using weights for the LSAY sample to address attrition bias between the base survey cohort and estimation wave.

Sources: 1= Source: ABS (2020b) Census of Population and Housing; 2=LSAY 2009 cohort.

Nearly all 19-year-olds who attain Year 12 do so by completing a Year 12 secondary school certificate rather than a vocational equivalent, with 74.2 per cent of 19-year-olds obtaining a senior secondary certificate overall. For 7.4 per cent of the cohort, a Certificate III or above was attained. This varies by state and territory. Queensland has the highest percentage of 19-year-olds with vocational Year 12 equivalents at 11.7 per cent. Young people in remote parts of Australia are more likely to gain a Year 12 equivalent than those in provincial and metropolitan centres (12.4 per cent compared to 8.8 per cent and 7.9 per cent respectively).

Using data from LSAY, Table 3-2 shows that an estimated 62.6 per cent of 19-year-old Australians gained an ATAR score. Social patterns exist in ATAR attainment in terms of both whether students obtain an ATAR, and the ranking score. Gaining an ATAR, and thus promoting chances of entering university, ranges from 43.9 per cent of those from the most socioeconomically disadvantaged background to 81.8 per cent of students from the most advantaged families. The Alice Springs Declaration, and previous declarations, highlights the importance of school completion in promoting a more secure economic future for young Australians. ATAR in the way it is currently used as a gatekeeper to university means that it can, based on the social gradient linked to ATAR attainment, work to limit post-school educational opportunities and choices for young people from poorer backgrounds.

Differences in the proportions of 19-year-olds obtaining an ATAR also emerge according to location. While 67.8 per cent of those living in metropolitan areas had obtained an ATAR, this falls to 49.6 per cent of those in provincial areas, and 31.9 per cent of students in the remote parts of the country. Where you live, therefore, makes a difference in terms of the likelihood of obtaining an ATAR.

Gender is also a discriminator in terms of ATAR attainment. Just over 72 per cent of females have received an ATAR compared to about 57 per cent of males. There is a small difference in mean ATAR scores favouring females.

There are also differences in terms of language background. Students who mainly speak a language other than English at home are more likely to get an ATAR than those speaking mainly English at home (75.9 per cent and 60.5 per cent respectively).

Who is not completing Year 12?

Not all young people attain a Year 12 or equivalent qualification by age 19. A key question remains around the magnitude of the number of young people missing out. The years between 2011 and 2016 saw an increase in the proportion of 19-year-olds having completed senior secondary school or equivalent qualifications, and growth has been greater for males, for young people in lower SES communities (but not the lowest), amongst Indigenous young people, and jurisdictions that were lagging behind, such as Tasmania and the Northern Territory. However, these groups are still the most likely of all 19-year-olds not to have completed Year 12 or an equivalent qualification. The lack of a senior secondary school qualification makes future participation in full-time work, employment-based training or higher education far less likely. The Alice Springs Declaration outlines improvements required to ensure a school system of excellence and equity in Australia. These include providing a range of senior secondary pathways to maximise the school completion rates and the transition of young people to higher education and vocational training following school. Specifically, this means addressing the gaps in educational outcomes for Indigenous students and young people from low SES backgrounds.

As it stands, 18.4 per cent of the cohort, or 58,486 19-year-olds, do not meet the key milestone nationally. This can be seen in Table 3-3 which reports the rates applied to the 2018 population of 19-year-olds. Table 3-3 also shows that the groups singled out in the Alice Springs Declaration as requiring greater efforts – Indigenous young people and those from low-SES backgrounds – remain most at risk. There is also a gender difference, with males more

likely to miss out than females. Males account for 35,383 or 60.5 per cent of those without a Year 12 or equivalent qualification.

Indigenous young people make up 10 per cent of all 19-year-olds not meeting the milestone, or 5,846 individuals without a Year 12 or equivalent qualification. Young adults from our poorest communities make up a disproportionate number of this group. Table 3-3 reveals that 17.4 per cent of 19-year-olds who have not completed school are from communities in the lowest decile of socioeconomic status accounting for 10,159 individuals.

Table 3-3   Percentage of young Australians without Year 12 or equivalent at age 19, by selected background characteristics: 2016 (%)

	Percentage missing out (2016)			Number missing out (2018)		
	Males	**Females**	**All**	**Males**	**Females**	**All**
Australia	21.6	15.0	18.4	35,383	23,103	58,486
State/Territory						
NSW	23.2	16.1	19.8	12,197	7,828	20,028
VIC	20.6	13.5	17.1	8,782	5,443	14,228
QLD	18.0	13.2	15.6	5,835	4,081	9,920
SA	24.5	16.3	20.4	2,770	1,729	4,493
WA	22.4	16.1	19.3	3,678	2,493	6,185
TAS	32.9	25.1	28.8	1,117	775	1,872
NT	43.6	38.6	41.2	675	520	1,196
ACT	10.9	7.9	9.4	328	235	563
Location*						
Major Cities	17.6	12.2	14.9	21,364	14,185	36,044
Inner Regional	32.8	23.0	28.0	8,706	5,639	14,878
Outer Regional	34.0	23.5	29.1	4,022	2,385	5,827
Remote	37.6	30.2	35.0	578	363	746
Very remote	54.1	47.6	51.6	712	531	991
SES decile (Low to High)*						
Lowest	36.6	29.7	33.2	5,798	4,359	10,159
Second	29.6	22.4	26.0	4,551	3,256	7,805
Third	26.8	19.2	23.1	4,360	2,904	7,263
Fourth	24.5	17.5	21.1	3,888	2,558	6,433
Fifth	23.6	16.2	20.0	3,659	2,343	6,010
Sixth	21.3	13.7	17.6	3,319	2,010	5,339
Seventh	19.3	12.1	15.8	3,149	1,851	4,997
Eighth	16.8	10.4	13.7	2,750	1,579	4,324
Ninth	14.0	8.5	11.3	2,248	1,288	3,532
Highest	10.0	6.2	8.2	1,661	955	2,623
Language background*						
English	23.9	16.5	20.3	30,251	19,455	49,754
LBOTE	13.7	9.9	11.7	5,131	3,648	8,732
Northern European	23.8	16.4	20.2	30,265	19,427	49,705
Southern European	14.0	8.6	11.0	399	252	638
Eastern European	13.2	7.2	10.0	226	116	334
Southwest and Central Asian	25.1	16.4	20.9	1,340	783	2,116
Southern Asian	5.5	4.7	5.1	296	178	470
Southeast Asian	12.9	10.0	11.4	824	669	1,499
Eastern Asian	9.6	6.9	8.2	1,171	897	2,086
Australian Indigenous	68.2	65.0	66.7	411	372	780
Other	22.1	19.4	20.6	450	410	858
Indigenous status*						
Non-Indigenous	20.5	13.9	17.3	32,145	20,487	52,639
Indigenous	45.8	38.8	42.2	3,238	2,616	5,846

Source: Proportion of learners from ABS (2020b) 2016 Census of Population and Housing. Population figures derived from ABS (2019a) Australian Demographic Statistics, June 2018, Table 59.

Why do gaps in school completion matter?

With nearly one in five, or 18.4 per cent of 19-year-olds not attaining a Year 12 or equivalent qualification, questions remain regarding longer term implications for the non-completers. Are there differences in the labour market outcomes over the longer term for those who attain Year 12 or equivalent by age 19 and those who do not? One way of examining this is to draw on the Australian Census Longitudinal Dataset (ACLD) which links a sample of records from the ABS Census from 2006 to 2011 and 2016. The data have been used here to track labour market outcomes over the decade from 2006 to 2016.

According to census estimates, in 2006, 27.2 per cent of 19-year-olds had not attained a Year 12 or equivalent qualification. Figure 3-3 shows the labour market status in 2016 of the tracked cohort of 19-year-olds from the 2006 Census, by Year 12 or equivalent attainment status in 2006.

Figure 3-3   Percentage of 29-year-olds with different labour force statuses by Year 12 or equivalent attainment status at age 19: 2016 (%)
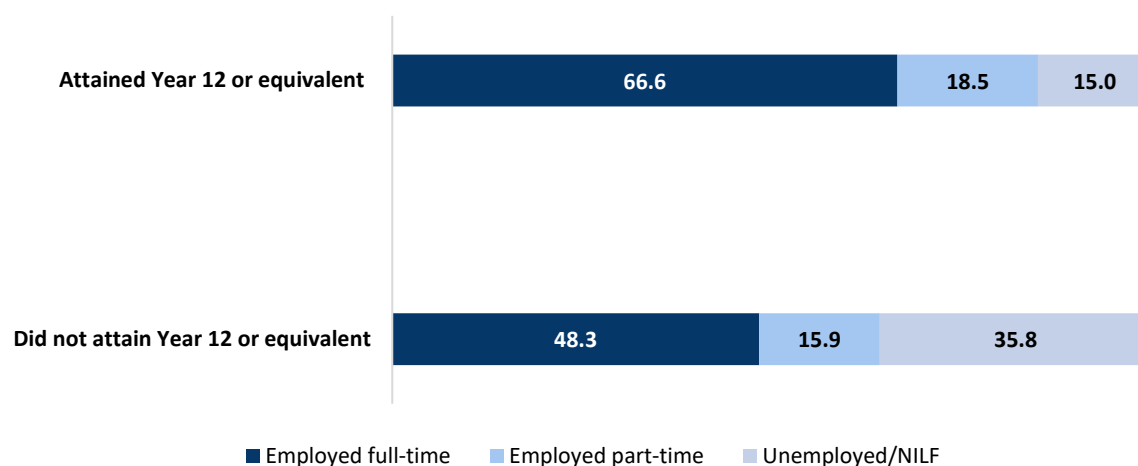
Source: ABS (2019c) Cat 2080.0 - Microdata: Australian Census Longitudinal Dataset, ACLD.

Figure 3-3 reveals that attaining Year 12 or equivalent by age 19 is strongly associated with being in full-time employment at age 29. Around two-thirds of Year 12 completers at age 19 were working full-time at age 29, compared to just under half (48.3 per cent) of those who had not attained a Year 12 or equivalent qualification. For the group who have not attained a Year 12 or equivalent qualification by this time, over a third (35.8 per cent) are either unemployed and looking for work or not in the labour force (NILF).

Key indicator 2: Skills in reading, mathematics and science

Senior school programs build on knowledge and skills gained incrementally through school. Levels of achievement in key learning areas over the course of school are strong predictors of school completion (Lamb et al., 2015). The Alice Springs Declaration notes the importance of literacy and numeracy as 'the foundation for learning' (Education Council, 2019, p. 5). It also notes that science, technology, engineering and mathematics make up the STEM learning areas which 'are a key national focus for school education in Australia and are critical to equip students to engage productively in a world of rapidly changing technology' (Education

Council, 2019, p.10). Young people with strong literacy, mathematics, scientific and technology skills are better able to contribute to a knowledge economy, will be better prepared for further education and training, and more able to contribute to society more broadly. This section examines Australian student skills in mathematics, reading and science in secondary school.

Table 3-4 shows the national mean scores for achievements in mathematics, science and reading, as recorded in PISA for the 14,273 students who took part in 2018 at age 15. Also reported are estimates of proportions of Australian students who were below the international benchmark of proficiency (skill levels expected of 15-year-olds) for each of the skill domains. Table 3-4 also provides the proportions of Australian 15-year-olds who are in the top two bands of performance in each domain, and as such are among the world's top-performing students. In addition, the OECD mean score is provided in Table 3-4 to help place the average skill level of Australian students in an international context.

International comparisons of student achievement can be used as benchmarks to track how effectively Australian schools are working to develop skills across the foundational areas and help policymakers monitor school and system quality. The results show that Australian 15-year-olds are performing better on average in mathematics, reading and science than students across participating OECD countries as a whole, with mean scores two points above in mathematics, 16 points above in reading and 14 points above in science. PISA scores are scaled to fit approximately normal distributions, with means somewhere around 500 score points and standard deviations around 100 score points (OECD, 2019c). A two-point gap is fairly small, while a 6- or 7- point gap is statistically significant. The mean score results for Australia in Reading and Science are statistically significantly higher than the average score for all OECD countries, but not for Mathematics.

For Australia, the higher than average results in Reading, Science and Maths conceal large variations by gender, state and territory, region, social background, language background and Indigenous status.[3]

There are gender gaps in achievement across the different skill areas. Girls outperform boys in reading, with a mean score 32 points above the mean score for boys (equivalent to almost one year of learning). Australian boys are achieving at the OECD average, well behind the level for girls. Nearly one-quarter or 24 per cent of boys are reading at levels below the baseline standard, compared to only 15 per cent of girls. Conversely, 15 per cent of girls are in the top-performing group for reading across OECD countries, compared to 11 per cent of boys. In mathematics, the results are reversed. Average scores for boys are six points higher than for

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[3] One way to interpret score point differences is to equate the gaps to an amount of learning. According to Thompson et al (2018), on average, 33 score points on the reading literacy scale, 28 points on the mathematics literacy scale, and 27 points on the scientific literacy scale relate to one year of learning based on the average score point differences between students in different year-levels.

girls, and higher proportions of boys are in the highest performing group (12 per cent compared to 9 per cent for girls). Results in science reveal only small differences between the two genders. While boys have higher mean scores than girls by two points, girls are slightly less likely to be performing below the minimum expected standard (18 per cent of girls compared to 20 per cent of boys). Boys, however, are slightly more likely to be in the top-performing group: 11 per cent compared to 9 per cent of girls.

Table 3-4   Achievement in mathematics, science and reading at age 15, by selected background characteristics, 2018

	Mathematics			Reading			Science		
	Mean Score	Below standard (%)	Top Performer (%)	Mean score	Below standard (%)	Top Performer (%)	Mean Score	Below standard (%)	Top Performer (%)
Australia	491	22	10	503	20	13	503	19	10
OECD average	489	24	11	487	23	9	489	22	7
Gender									
Males	494	22	12	487	24	11	504	20	11
Females	488	23	9	519	15	15	502	18	9
State/Territory									
NSW	489	24	11	493	22	11	496	21	9
VIC	496	21	11	511	17	14	507	18	10
QLD	490	23	10	503	20	14	505	18	9
SA	482	24	7	496	20	11	496	19	8
WA	500	20	12	512	17	14	515	16	12
TAS	465	32	6	479	28	10	481	25	6
NT	465	33	8	481	30	12	481	28	8
ACT	515	15	15	535	13	21	533	11	15
Location									
Metropolitan	497	21	12	508	18	14	508	18	10
Provincial	476	27	7	487	24	10	491	22	7
Remote	440	45	5	449	38	8	457	38	5
SES decile									
Lowest	436	44	3	442	38	4	445	38	3
Second	458	33	4	468	28	6	470	28	4
Third	469	29	6	481	25	8	483	23	6
Fourth	478	25	5	488	21	8	489	21	6
Fifth	486	23	8	498	20	12	498	20	8
Sixth	498	18	11	510	17	13	512	16	11
Seventh	506	17	12	520	14	14	519	14	11
Eighth	518	15	17	534	12	20	529	13	14
Ninth	532	10	20	550	9	23	546	9	17
Highest	539	10	23	555	9	26	552	9	20
Language background									
English	492	22	10	507	18	14	506	18	10
LBOTE	486	28	14	483	27	13	485	27	9
Indigenous status									
Non-Indigenous	495	21	11	507	19	14	507	18	10
Indigenous	426	48	3	431	43	4	432	44	3

Source: Derived from OECD PISA 2018.

Note on PISA scores: 'PISA scores are scaled to fit approximately normal distributions, with means around 500 score points and standard deviations around 100 score points. In statistical terms, a one-point difference on the PISA scale therefore corresponds to an effect size (Cohen's d) of 0.01; and a 10-point difference to an effect size of 0.10' (OECD, 2019c, p.43). According to Thompson et al (2018), for Australia, differences of 33 score points on the reading literacy scale, 28 points on the mathematics literacy scale, and 27 points on the scientific literacy scale relate to one year of learning.

Results vary across states and territories. Students in some states and territories, such as the ACT and Western Australia have the highest mean scores, the highest proportions of top-performing students and lowest proportions not meeting the minimum threshold standards. Other states and territories, such and Tasmania and the Northern Territory, perform below the OECD average across all measures and areas of study. However, comparing results between states and territories needs to be undertaken with caution. In the first instance, differences in age-grade structures across jurisdictions mean that as 15-year-olds, Australian students can be enrolled in different year levels. In Tasmania, for example, 33.8 per cent of students sitting the test are enrolled in Year 9, compared to only 1.2 per cent of students sitting the test in Western Australia, which has higher proportions of students sitting the test at Year 10 and 11. Students sitting the test may therefore not be at the same progression point through school. Moreover, differences in the demographic characteristics of populations contribute to differences in levels of performance.

Differences in performance linked to location, for example, are large. Student performance is much stronger for students living in metropolitan areas, with mean scores above the OECD average in mathematics, reading and science. Metropolitan students are most likely to be in the group of top-performers across the domains of learning and least likely to have skills below the expected standard for 15-year-olds. Students in provincial areas perform at around the OECD mean in reading and science but are below the OECD mean in mathematics (with mean scores of 487, 491 and 476 in reading, science and mathematics respectively). Students living and attending school in remote Australia have much poorer levels of performance. Average scores in science for remote students are 51 points below their metropolitan counterparts, increasing to 57 points below for mathematics and 59 points below for reading. These results are reflected in the proportion of students in remote Australia not meeting the baseline levels of performance, with 45 per cent of remote students below the minimum standard in mathematics, and 38 per cent of remote students below the standard in both reading and science.

Gaps in achievement according to social backgrounds of students are also marked. Levels of performance increase in line with socioeconomic status across reading, mathematics and science. Students in the lowest decile of SES are on average 53 points behind the OECD mean scores in mathematics, and 103 points below the mean score of students from the most advantaged decile of SES. These large gaps in levels of achievement between the lowest and highest SES students are consistent with results across the other learning domains of reading (113 points) and science (107 points). The social patterns are reflected in the proportions of students who are below the minimum expected standard. In mathematics, for example, 44 per cent of students from the lowest SES decile do not meet the basic standard, while 33 per cent from the second lowest SES decile do not. According to the OECD, students who do not reach the basic level of proficiency (Level 2) 'have not acquired the skills and knowledge to allow them to adequately participate in the 21st century workforce and contribute as productive citizens' (Thomson et al., 2019, p. 15). The proportion of lowest SES students not meeting the threshold for mathematics (44 per cent) is double that for Australian students overall (22 per cent).

Conversely, students from high SES backgrounds are much less likely to be below the standard and much more likely to be in the top-performers worldwide. In reading, for example, 26 per cent of students from the highest decile of social status were in the top-performing group,

compared to 13 per cent across the general Australian student population and 9 per cent across the OECD.

Indigenous students in Australia perform at levels well below their non-Indigenous peers. The difference between mean scores for Indigenous and non-Indigenous students is 69 points in mathematics, 75 points in science and 76 points in reading. The proportion of Indigenous students not meeting the baseline level in each of the domains is also high: 48 per cent in mathematics, 44 per cent in science and 43 per cent in reading.

Combined indicator of skills

The national goals point to the importance of skills for young people across all three areas – reading, mathematics and science. A key measure of how well Australia is delivering on this is to identify the percentage of students who are performing above internationally identified minimum standards in all three skill sets. Figure 3-4 presents the estimates for Australia based on PISA 2018.

The results show that 72.2 per cent of 15-year-olds in Australia are achieving above the minimum international standard expected of 15-year-olds in reading, mathematics and science. The rate is slightly higher for females than for males and varies across states and territories. There are higher numbers of students in the ACT (82.6 per cent) meeting the standard than there are in New South Wales (69.9 per cent), Tasmania (62.7 per cent) and the Northern Territory (59.5 per cent).

Some of the state and territory differences may be due to population dispersion and differences in demography. Remoteness and populations in regional areas are more relevant to some states and territories than others. The proportions of the population above the minimum expected standard are much higher in metropolitan centres of Australia (74.3 per cent) than in provincial centres (67.8 per cent) or remote areas (49.0 per cent).

Some variation may also be due to differences in the size of Indigenous populations and the composition of populations in SES terms. An estimated 73.6 per cent of non-Indigenous 15-year-olds are above the minimum standard in reading, mathematics and science compared to 43.5 per cent of Indigenous 15-year-olds.

The percentages of 15-year-olds performing at or above the minimum standard of expected achievement in mathematics, reading and science vary considerably by SES. Less than half of those in the lowest SES decile (48.6 per cent) are performing at or above the expected standard compared to 86.2 per cent of those in the highest decile. The rates of achievement rise as SES rises. Most students from higher SES backgrounds are doing well in acquiring the desired skills in the critical learning areas of mathematics, science and reading, but many low SES students are not. This points to social gaps that may have lasting implications for post-school opportunities and successful lifelong learning.

Figure 3-4   Percentage of 15-year-olds performing at or above the minimum international standard of proficiency in mathematics, science and reading: 2018 (%)

Category	Group	Value
	Australia	72.2
Gender	Males	70.6
Gender	Females	73.9
State or Territory	NSW	69.9
State or Territory	VIC	74.5
State or Territory	QLD	72.0
State or Territory	SA	73.4
State or Territory	WA	76.7
State or Territory	TAS	62.7
State or Territory	NT	59.5
State or Territory	ACT	82.6
Location	Metropolitan	74.3
Location	Provincial	67.8
Location	Remote	49.0
SES (Decile)	Lowest	48.6
SES (Decile)	Second	60.4
SES (Decile)	Third	64.3
SES (Decile)	Fourth	69.0
SES (Decile)	Fifth	71.8
SES (Decile)	Sixth	77.3
SES (Decile)	Seventh	78.8
SES (Decile)	Eighth	82.6
SES (Decile)	Ninth	86.0
SES (Decile)	Highest	86.2
Language	English	73.3
Language	Other	69.0
Indigenous	Non-indigenous	73.6
Indigenous	Indigenous	43.5

Source: Derived from PISA 2018.

Proficiency in Information Communications Technologies (ICT)

Like proficiency in literacy and numeracy, competence in ICT is acknowledged as an 'essential foundation for learning' (Education Council, 2019, p. 5). Ensuring that students have a thorough understanding and knowledge of ICT and well-developed technology skills is essential in today's society and workplaces. ACARA reports on levels of student achievement in ICT literacy through testing students in Year 6 and Year 10 across a representative sample of Australian schools. The results for Year 10 across different groups of students are summarised in Table 3-5.

According to ACARA, one of the purposes of the NAP sample assessment in ICT literacy is to monitor and report on student attainment and the key performance measure, as specified in the *Measurement Framework for Schooling in Australia,* is the proportion of students achieving at or above the proficient standard for Year 10 (ACARA, 2018b). The proficiency standard for Year 10 is set by ACARA at a point that represents a 'challenging but reasonable' expectation of student achievement at that year level (ACARA, 2018b, p. 24). The proficient standard for Year 10 is 529 scale points.[4] Based on the score point gap between the mean score for Year 6 and the mean score for Year 10, approximately 28 points reflects a year of learning. This rough guide can be used to compare differences across categories of students.

The results from 2017 reported in Table 3-5 suggest that Year 10 students in Australia need to improve in ICT skills, achieving a mean score of 523 which is below the proficient standard score set at 529. Only 54 per cent of Year 10 students overall meet the standard of proficiency that ACARA defines as 'challenging but reasonable' (those with a minimum score of 529 points).

Gender differences see females performing more strongly than males.

Regional differences exist across Australia: 31 per cent of remote students are at or above the national proficiency standard compared to 48 per cent of regional students and 57 per cent of metropolitan students.

Gaps in ICT skills by student social background are also evident. The proportion of students meeting the standard vary by parental education and by parental occupation. For example, 69 per cent of children of professionals and senior managers meet the benchmark compared to 43 per cent of children whose parents are unskilled labourers or unskilled office, sales and service staff. Only 29 per cent of children whose parents are not in paid work meet the standard. Similarly, higher levels of education of parents are linked to higher ICT literacy scores of children.

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[4] At a minimum, students at this level of proficiency are able to 'generate well-targeted searches for electronic information sources and select relevant information from within sources to meet a specific purpose. They create information products with simple linear structures and use software commands to edit and reformat information products in ways that demonstrate some consideration of audience and communicative purpose. They recognise situations in which ICT misuse may occur and explain how specific protocols can prevent this' (ACARA, 2018b, p. 23).

Table 3-5   Level of ICT literacy in Year 10, by selected background characteristics, 2017

	Mean Score	Percentage attaining standard
Australia	523	54
Gender		
Males	514	51
Females	533	58
State/Territory		
NSW	531	57
VIC	530	55
QLD	505	47
SA	524	56
WA	539	62
TAS	480	39
NT	447	27
ACT	530	54
Location		
Metropolitan	531	57
Regional	507	48
Remote	464	31
Highest parental occupation		
Senior managers and professionals	561	69
Other managers and associate professionals	540	61
Tradespeople and skilled office, sales and service staff	507	46
Unskilled labourers and office, sales and service staff	496	43
Not in paid work in last 12 months	458	29
Highest parental education		
Bachelor's degree or above	562	70
Advanced diploma/Diploma	520	52
Certificates I–IV (including trade certificates)	499	44
Year 12 or equivalent	515	47
Year 11 or equivalent	498	42
Year 10 or equivalent	443	22
Year 9 or equivalent or below	430	26
Language background		
English	526	55
LBOTE	516	51
Indigenous status		
Non-Indigenous	526	55
Indigenous	424	24

Source: NAP-ICT Literacy 2017.

Confident and creative individuals

The national goals for education have a wider focus than academic skills and knowledge. They also include the role of schools in building creative and confident individuals. Here we report on the creativity and confidence of Australian students using measures of creative problem solving along with levels of confidence among young Australians in the senior years of school.

Key indicator 3: Creativity in problem solving

Problem solving involves elements of creativity. Mayer (1990, p. 284, p. 284) defines problem solving as 'the cognitive processing directed at transforming a given situation into a goal situation when no obvious method of solution is available'. The OECD defines it as 'an individual's capacity to engage in cognitive processing to understand and resolve problem situations where a method of solution is not immediately obvious. It includes the willingness to engage with such situations in order to achieve one's potential as a constructive and reflective citizen' (OECD, 2010, p. 12). The ability for young people to find solutions to problems is a critical skill in modern workplaces and society more broadly.

As part of PISA in 2012, the OECD assessed the problem-solving skills of 15-year-olds in participating countries, including Australia, to determine the extent to which students work to solve problems where there are not immediate or evident solutions (OECD, 2014). The PISA 2012 problem-solving assessment framework contained four processes: exploring and understanding, representing and formulating, planning and executing, and monitoring and reflecting. The processes served as the conceptual basis for assessing student proficiency in problem solving. Items were developed to reflect the concepts in the framework. Assessment was scaled to reflect levels of proficiency from low (Level 1 – limited skills and unable to set goals) to high (Level 6 – can approach diverse problem scenarios and develop complex solutions). The national goals for education seek for Australian students to be able to use their creative abilities and be enterprising (Education Council, 2019). Given this, it might be expected for students to at least be able to be reasonably competent problem solvers able to plan, monitor progress and try different options in arriving at solutions. At a minimum this would require the sorts of proficiency described at Level 3:

> 'At Level 3, students can handle information presented in several different formats. They can explore a problem scenario and infer simple relationships among its components. They can control simple digital devices but have trouble with more complex devices. Problem-solvers at Level 3 can fully deal with one condition, for example, by generating several solutions and checking to see whether these satisfy the condition. When there are multiple conditions or inter-related features, they can hold one variable constant to see the effect of change on the other variables. They can devise and execute tests to confirm or refute a given hypothesis. They understand the need to plan ahead and monitor progress and are able to try a different option if necessary' (OECD, 2014, p. 57).

The proportion of Australian students graded at proficiency Level 3 or higher in problem solving is presented in Figure 3-5. Students not meeting this threshold, that is, performing at or below Level 2, have lower level problem-solving skills and display less developed complexity in their problem-solving skills. Higher scores indicate students have more developed and sophisticated problem-solving and collaborative skills (OECD, 2014, p.74).

Figure 3-5   Percentage of students with strong levels of creative problem-solving skills at age 15, by selected background characteristics: 2012 (%)
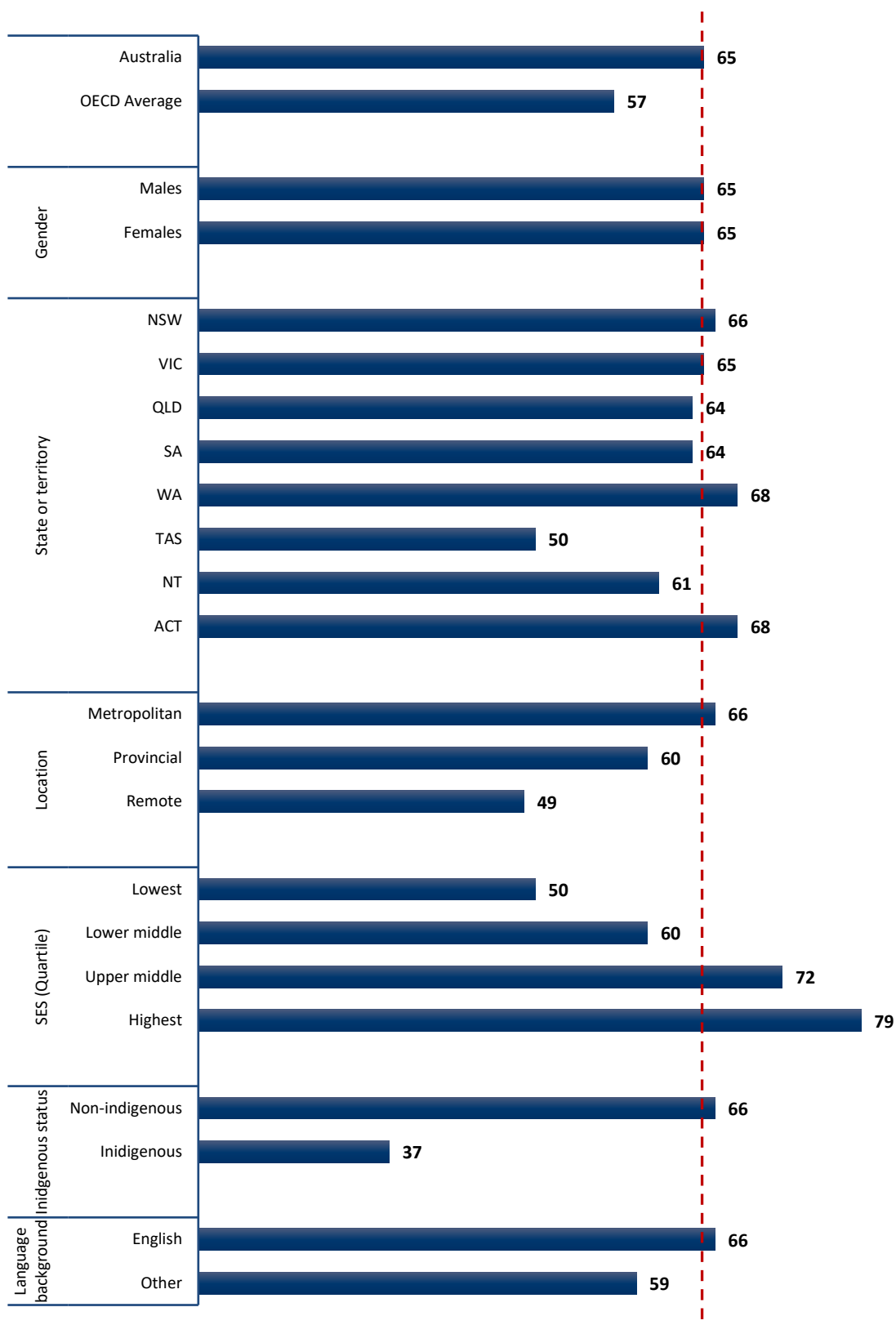
Source: De Bortoli & Macaskil (2014). Proficiency is measured by the proportion of 15-year-olds at proficiency Level 3 and above.

Educational opportunity in Australia 2020

One thing to note from Figure 3-5 is that Australian students perform comparatively well in creative problem solving relative to students in other OECD countries, with 65 per cent performing at or above Level 3 proficiency compared to 57 per cent of 15-year-olds across the OECD on average. About two-thirds of Australian 15-year-olds display strong creative problem-solving skills, and this applies to males and females in the same proportion.

The strong showing of Australian students comparatively, however, masks differences between Australian students from different backgrounds. There are large differences in skill-levels of students from low and high SES backgrounds. The proportion of students at or above the benchmark increases with SES from 50 per cent of students from low SES backgrounds to 79 per cent of students from high SES backgrounds.

Performance is on average also lower for students speaking a language other than English at home (59 per cent meeting the threshold compared to 66 per cent for English speakers). There are also large differences between results for Indigenous and non-Indigenous students with 37 per cent of Indigenous students displaying strong creative problem-solving skills compared to 66 per cent of non-Indigenous students.

Location is also associated with the proportions of students with strong problem-solving skills. Just on two-thirds of 15-year-olds in metropolitan centres of Australia display the skills at the desired proficiency level compared to 60 per cent in provincial centres and 49 per cent of students in remote areas.

Key indicator 4: Confident individuals

The national goals for education emphasise the importance of schooling in providing young Australians with the skills to 'face the challenges of this era with confidence' (MCEETYA 2008, p. 4). This includes students having the ability to take responsibility for their own actions, building a sense of personal identity and self-worth, and embracing opportunities as they arise. Here we draw on the findings of the 2018 PISA survey to measure levels of confidence amongst 15-year-old Australians. Individual confidence is represented by the proportion of students agreeing or strongly agreeing with the following five items classically linked to measuring self-efficacy or levels of confidence in self:

1. 'I usually manage one way or another',
2. 'I feel proud that I have accomplished things',
3. 'I feel that I can handle many things at a time',
4. 'My belief in myself gets me through hard times', and
5. 'When I'm in a difficult situation, I can usually find my way out of it'.

Figure 3-6 presents an overall rating of confidence in self based on agreement or strong agreement on four or more of the items. It is an indicator of the proportions of confident 15-year-old Australians.

The results for the individual items that make up the indicator are presented in Table 3-6. The results are the percentage of students for each item who agree or strongly agree with the statement. The results are presented at a national level and by gender, state and territory, SES, maths skills and language background.

Figure 3-6   Percentage of 15-year-olds displaying high levels of confidence in self, by selected background characteristics: 2018 (%)
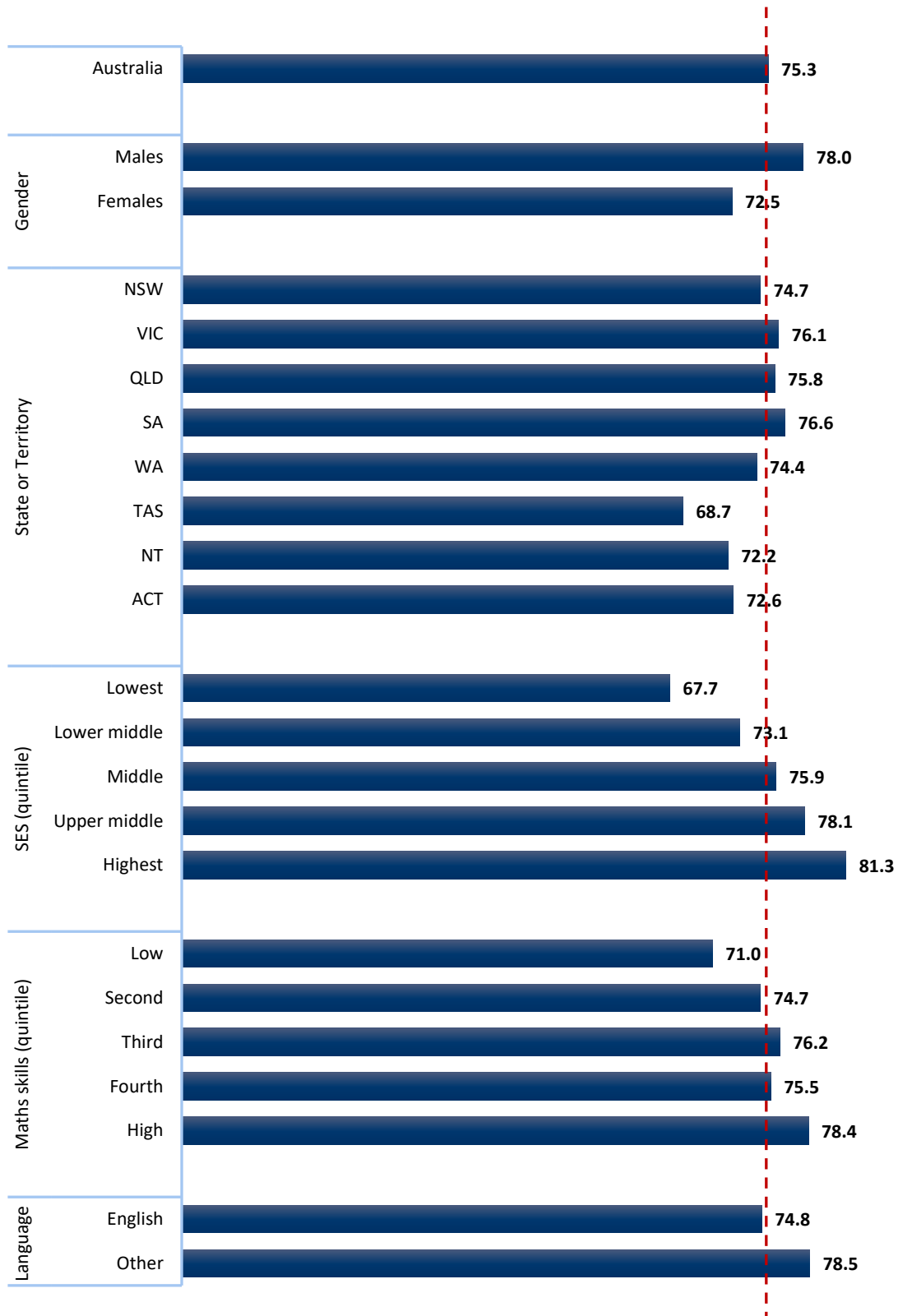
Source: Derived from OECD PISA 2018.

Table 3-6   Percentage of 15-year-olds displaying qualities of confidence in self, by selected background characteristics: 2018 (%)

		Confidence item				
		Can usually manage	Proud of accomplish-ments	Can handle many things	Strong self-belief	Can find way out of difficult situations
Gender	Australia	93.3	91.9	72.6	66.9	85.8
	Males	93.0	90.5	74.3	71.5	87.9
	Females	93.6	93.3	70.8	62.0	83.6
State or Territory	NSW	92.3	91.1	72.4	66.4	85.4
	VIC	94.5	92.3	73.3	67.1	86.2
	QLD	92.8	91.8	74.0	67.6	86.3
	SA	94.3	92.4	72.3	69.4	86.4
	WA	93.4	93.4	70.2	66.5	85.4
	TAS	91.1	89.3	67.7	62.7	81.8
	NT	89.2	89.0	67.5	60.2	86.1
	ACT	94.6	91.3	70.3	62.6	86.2
SES (Quintile)	Low	90.7	87.8	66.2	65.2	79.2
	Second	92.0	91.1	69.7	66.0	84.3
	Third	93.7	92.2	72.7	66.3	85.7
	Fourth	94.1	93.0	75.4	68.4	88.3
	High	96.0	95.6	78.7	68.2	91.6
Math skills (Quintile)	Low	86.8	87.3	69.7	71.3	79.3
	Second	92.8	91.8	71.9	70.1	83.4
	Third	93.6	93.1	72.0	67.1	86.0
	Fourth	95.9	92.9	73.5	62.2	87.5
	High	96.7	93.9	75.4	64.0	92.3
Language background	English	93.4	92.0	72.0	65.8	85.9
	Other	92.4	91.3	76.2	74.1	85.4

Source: Derived from OECD PISA 2018.

Overall, three-quarters of young Australians demonstrate a strong level of confidence (75.3 per cent). Nearly all 15-year-olds feel that they usually manage and are proud of their accomplishments (93.3 per cent and 91.9 per cent respectively). Most believe they can find their way out of a difficult situation (85.8 per cent). Less than three-quarters report being able to handle many things at once (72.6 per cent) and around two-thirds express strong self-belief (66.9 per cent).

Males are more confident than females (78.0 per cent and 72.5 per cent respectively overall) with the greatest difference emerging in response to levels of self-belief (71.5 per cent males and 62.0 per cent females).

As mentioned, in general the results follow patterns reported on other measures. Figure 3-6 shows variations in the results across states and territories reflecting in part demographic differences in populations. Also, there are differences across social groups: 67.7 per cent of

students from the lowest SES quintile display strong levels of confidence compared to 81.3 per cent of students from the highest SES quintile.

One item of difference in Table 3-6 is the high level of students with low achievement in mathematics who report a high level of self-belief (71.3 per cent compared to 64.0 per cent of high achievers). While responses to other individual items largely follow the patterns in other sections of this chapter, on this particular item low achievers are more likely than high achievers to report that, 'My belief in myself gets me through hard times'.

The results suggest that there is more work to be done to support young Australians in the senior years of school to be creative and confident individuals, in line with our national goals. Australia performs well internationally in relation to creative problem solving and around three quarters of Australian 15-year-olds report high levels of confidence. However, there remains significant inequity across the population, particularly for socioeconomically disadvantaged students, Indigenous students and those located in remote communities. Addressing the differences identified above and developing greater confidence and creativity amongst adolescents is critical, as these attributes help enable young people to make the most of their time at school and take advantage of opportunities later in life.

Active and informed citizens

Key indicator 5: Being active citizens

Within the broad vision of the Alice Springs Declaration, the goals of education are to provide young Australians not only with knowledge, skills and understanding but the values needed to succeed. As such, the document articulates as part of the second educational goal that young Australians should become active and informed citizens. The NAP-Citizenship and Civics (NAP-CC) test, undertaken at Year 6 and Year 10, was developed in response to this goal and is mapped to the school curriculum.

The results from the NAP-CC provide some insight as to whether young people, as they move into the senior years of schooling, are developing the capacity to become active members of the community. Students are asked about their perceptions of civic responsibility and the relative importance of different behaviours for being a good citizen in Australia. Table 3-7 shows the percentage of Year 10 students rating as 'important' or 'very important' certain qualities for good citizenship: learning about Australia's history, learning about political issues, learning about what happens in other countries, participating in activities that benefit the local community and voting in elections. An overall measure shows the proportion of students who viewed all five items as 'very important' or 'important'.

Voting in elections is seen most universally by Year 10 students as critical to being a good citizen in Australia, with 83.8 per cent of students rating this important or very important behaviour. This may reflect the nature of our democracy with a compulsory voting system. Learning about Australia's history is seen by 78.8 per cent of Year 10 students as important or very important, followed by learning about other countries (77.5 per cent) and participating in the local community (77.5 per cent) and learning about political issues (76.0

per cent). Just under two-thirds of Year 10 students found all five of these activities to be part of what defines being a good citizen in Australia (65.3 per cent).

Table 3-7   Percentage of Year 10 students rating as important or very important qualities for being a good citizen in Australia, by selected background characteristics: 2016 (%)

	Belief in civic responsibility items					
	Learn about Australian history	Learn about political issues	Learn about other countries	Participate in local community	Vote in elections	Overall
Australia	78.8	76.0	77.5	77.5	83.8	65.3
Gender						
Males	76.3	71.5	72.5	72.7	82.0	59.9
Females	81.5	80.5	82.8	82.6	85.9	71.1
State/Territory						
NSW	78.1	77.4	79.6	78.1	85.7	65.5
VIC	80.4	77.1	78.3	75.4	84.9	65.1
QLD	77.4	74.2	74.0	78.9	78.5	62.6
SA	79.8	74.9	78.5	77.7	85.6	70.3
WA	78.7	74.8	75.1	78.6	85.9	67.1
TAS	77.5	72.1	77.5	74.9	82.5	63.5
NT	83.0	68.8	78.7	76.5	81.7	61.5
ACT	82.0	79.0	81.0	75.8	84.1	70.6
Location						
Metropolitan	79.5	77.4	79.6	77.3	85.6	67.4
Provincial	76.6	71.5	71.3	78.2	78.4	58.8
Remote	78.3	77.3	71.5	80.2	80.0	62.6
Highest parental occupation						
Senior managers and professionals	80.3	78.9	83.0	79.7	86.5	71.4
Other managers, paraprofessionals	79.7	77.5	78.7	76.6	85.2	65.8
Tradespeople and skilled office, sales and service staff	78.4	73.6	74.6	77.4	80.4	62.0
Unskilled labourers and office, sales and service staff	77.4	74.1	71.5	76.5	85.3	60.2
Not in paid work in last 12 months	78.2	74.7	77.6	75.8	77.3	62.5
Highest parental education						
Bachelor's degree or above	82.1	82.1	84.4	80.5	88.4	74.1
Advanced diploma/Diploma	81.4	77.0	77.2	77.4	84.5	66.8
Certificates I–IV (including trade)	75.2	69.9	69.8	73.4	78.7	56.5
Year 12 or equivalent	76.3	73.8	78.2	77.2	80.1	61.2
Year 11 or equivalent	77.7	66.4	73.3	70.1	79.1	52.3
Year 10 or equivalent or below	74.3	73.9	73.2	78.0	81.4	60.0
Language background						
English	78.5	73.9	75.4	75.9	82.3	62.9
Other	80.1	83.4	85.8	83.1	89.5	73.8
Indigenous status						
Non-Indigenous	78.4	75.7	77.8	77.4	84.1	65.4
Indigenous	88.4	77.4	74.0	73.7	71.5	61.7

Source: NAP Civics and Citizenship (ACARA 2016).

Note: The overall figure represents the proportion of students with a mean score of 'very important' or 'important' across all five items.

Overall, females are more likely than males to view all five activities as representative of good citizenship (71.1 per cent and 59.9 respectively). Gender gaps vary across the different items: they are smaller for voting in elections and learning about Australian history (with 4 to 5 percentage point difference) and larger for learning about political issues, learning about other countries and participating in activities that benefit the local community (around a 10 percentage point difference).

There are variations in the views of the relative contributing factors to good citizenship according to where students live. Metropolitan students are most likely to nominate all five items as important or very important to being a good citizen (67.4 per cent overall). This compares to 58.8 per cent of students in provincial areas. Year 10 students in remote Australia are more likely than provincial students to endorse all items, but less likely than their peers living in the city to do so (62.6 per cent overall). A country-city divide emerges with regard to the importance of learning about other countries (79.6 per cent metropolitan students, 71.3 per cent provincial students, 71.5 per cent remote students) but there is a relatively united view regarding the importance of learning Australian history (79.5 per cent metropolitan students, 76.6 per cent provincial students, 78.3 per cent remote students).

Differences emerge amongst students from different social backgrounds. For example, over seven in ten students with parents in senior managerial or professional occupations believe all items are important, compared to six in ten students whose parents who are unskilled labourers and unskilled office, sales and service staff. There is least consensus from Year 10 students from different family backgrounds regarding the relative importance of learning about other countries.

Students with a language background other than English (LBOTE) are more likely than their English language background peers to rate all five items as important or very important aspects of citizenship (overall 73.8 per cent for LBOTE students compared to 62.9 per cent for English language background students). This pattern carries over to each of the behaviours, with LBOTE students more likely than students from an English-speaking background to nominate each item as an important or very important part of being an Australian citizen. The differences are lessened with respect to learning Australian history and increased regarding learning about other countries.

There are some interesting differences in the comparison of views of Indigenous and non-Indigenous Year 10 students. Indigenous students strongly endorse the study of Australian history as an important part of citizenship, with 88.4 per cent rating this as important or very important, compared to 78.4 per cent of non-Indigenous students. Indigenous students are also more likely to note the importance of learning about political issues, although the differences with their non-Indigenous counterparts here are smaller. Overall, 61.7 per cent of Indigenous students rated all items compared to 65.4 per cent of non-Indigenous students.

Key indicator 6: Being informed citizens

The level of engagement of young people with issues in the wider world is an important measure of how well school is preparing senior students for the globalised world. Figure 3-7 presents an assessment of how well informed Australian 15-year-olds feel they are with regards to global issues; this was collected as part of PISA in 2018. The measure of informed

citizens is derived from the proportion of students responding 'I know something about this and could explain the general issue' or 'I am familiar with this and I would be able to explain this well' regarding four or more of the following topics: climate change and global warming; global health (e.g. epidemics); migration (movement of people); international conflicts; hunger or malnutrition in different parts of the world; causes of poverty; and equality between men and women in different parts of the world.

Overall, 73.8 per cent of 15-year-olds meet the benchmark of an informed citizen, with very little variation in the rates for males and females. There are differences however across the states and territories, with high levels of engagement amongst 15-year-olds in NSW (79.6 per cent) and the ACT (77.6 per cent) and reduced engagement in Victoria (69.5 per cent) and Tasmania (69.6 per cent).

The differences between the lowest and highest achievers in mathematics are particularly evident. Only 55.9 percent of 15-year-olds from the lowest quintile of achievement meet the standard compared to 83.9 per cent of the highest performing group. These differences in levels of engagement in global issues across achievement quintiles are mirrored by differences across student family background. As shown in Figure 3-7, 85 per cent of 15-year-olds from the most affluent households in Australia can be classified as informed citizens compared to 61 per cent of those from the most disadvantaged households. This is a sizeable gap.

The senior years of school are a critical period for the development of students' belief in civic responsibility and their interest and knowledge in the world. This section has shown that overall about two thirds of students place a high importance in key citizenship activities, with the largest differences based on gender, social background, location and language background. Indigenous students were slightly less likely than their peers to rate all five activities outlined above as important; however, they were more likely than non-Indigenous young people to place importance on learning about political issues and Australian history. While many of the patterns evident in this chapter are also observed in the early adult years, differences between genders appear to shift between these two life stages. Compared to females, the data above shows that males place significantly less importance on citizenship activities in the senior years of school but a greater proportion report remaining active and informed as adults.

Figure 3-7   Percentage of 15-year-olds informed about global issues, by selected background characteristics: 2018 (%)

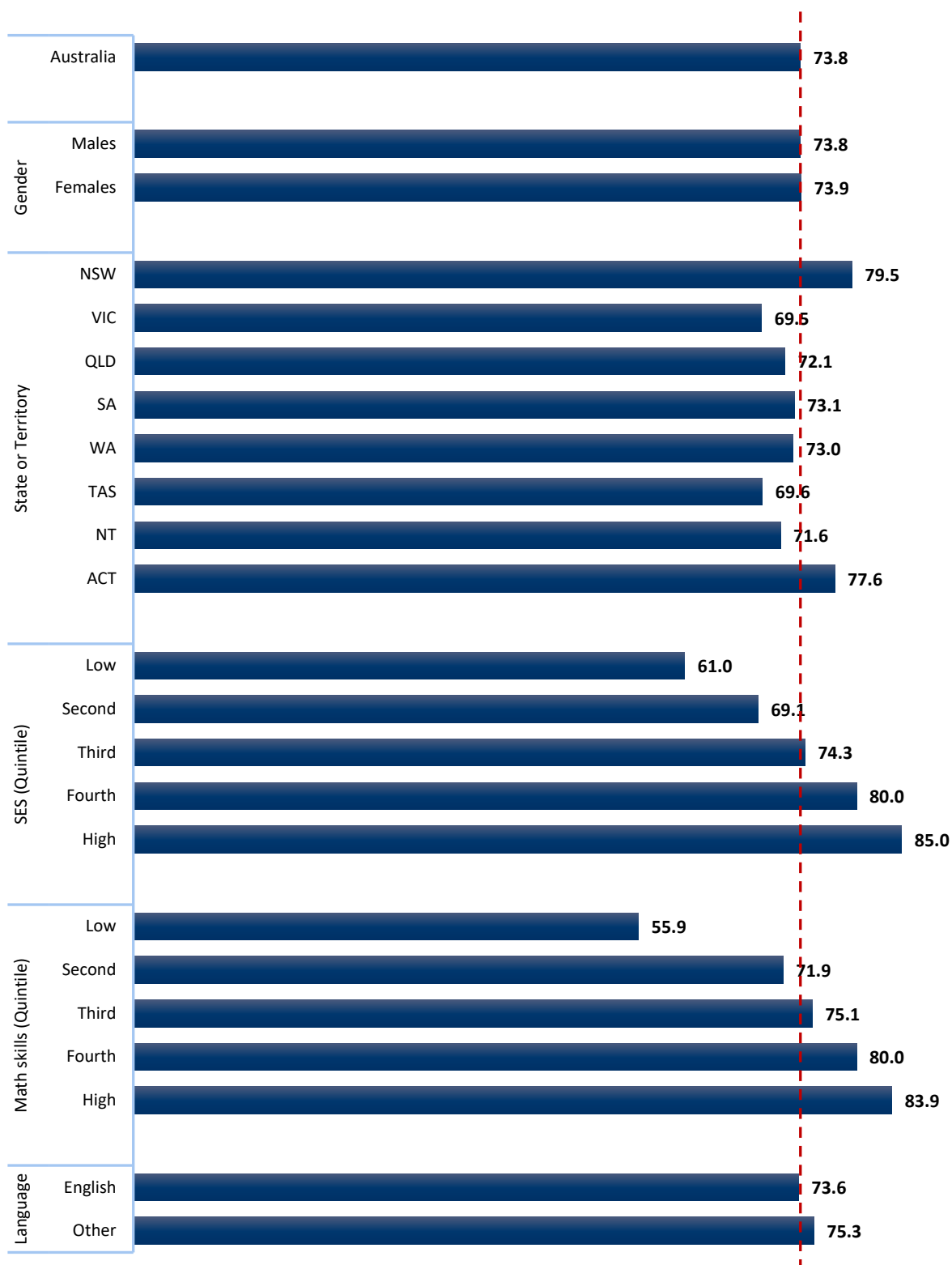Source: Derived from OECD PISA 2018.

Note: The measure of informed citizens is derived from the proportion of students responding 'I know something about this and could explain the general issue' or 'I am familiar with this and I would be able to explain this well' on four or more of the following: Climate change and global warming; Global health (e.g. epidemics); Migration (movement of people); International conflicts; Hunger or malnutrition in different parts of the world; Causes of poverty; and Equality between men and women in different parts of the world.

Educational opportunity in Australia 2020

Summary

While this section shows that there is much to celebrate in how the education system is supporting learners in the senior years, it has also pointed to areas where our systems are falling short of the goals in the Alice Springs Declaration. There has been progress in some areas, such as Year 12 attainment, particularly among groups of students who have the lowest rates of attainment. However, despite significant efforts in the past decade, little progress has been made in reducing gaps in formal achievement and the new outcomes explored in this report—creativity, confidence and citizenship—also show substantial differences associated with student location and social, economic and cultural background.

Young people from low-SES backgrounds, Indigenous young people and those from regional and remote areas are less likely than their peers to gain an ATAR. As noted earlier in this section, ATAR is a key arbiter of university entrance and there is a clear association between gaining a Year 12 or equivalent qualification and improved employment outcomes as an adult. The disparities identified in this section are therefore not surprisingly reflected in the differences observed in the adult years, as students that don't complete school are less well equipped for the transition to further education and employment.

Young people's outcomes are influenced by a range of factors, including their personal qualities, experiences and the environments in which they grow. While many of the factors that influence student outcomes occur beyond the school gate, the services that schools provide and the strategies they implement play a critical role in leveling the playing field for students who face greater barriers to learning and challenges outside of school. For example, a supportive and welcoming school environment, access to library resources, computers and quiet spaces and effective teaching strategies can work to ameliorate differences in home learning environments and parents' ability to help with schoolwork (Lamb et al., 2020; Sammons et al., 2013; Frempong et al, 2012). However, schools serving disadvantaged communities and in remote areas often face greater teacher shortages, have fewer learning resources and sometimes are not able to offer the same breadth of learning opportunities as schools in more affluent areas or in major cities (Cobbald, 2020; Perry, 2018). Students can therefore face a double disadvantage, with greater barriers to learning associated with their home environment and poorer access to the opportunities and support they need at school.

4. In the middle years

The middle years, sometimes described as the 'make it or break it' years, are a transformative time for young people, yet can come with major challenges. The middle years signal the major transition point from primary school to secondary school. How well students navigate the transition to secondary school has important implications for their ongoing social, emotional and academic development, and patterns of underachievement and disengagement can become entrenched.

Young people can be vulnerable during this period. Secondary education can be less personal, and schools generally larger, therefore individual students who are not coping can get lost in the crowd. The national goals for education acknowledge the middle years as the period when young people are at the greatest risk of disengagement (MCEETYA, 2008). It is at this time that students must adjust to changes in the routines of schooling as many move to a new school with new classmates and new teachers. Teaching and learning in secondary schools are less likely to be designed in a holistic way; instead, it is more common to find a busy student timetable where the needs of the curriculum become more of an organising priority. Secondary school also comes with more self-directed learning where students have more homework. Adapting to the secondary school environment is coupled with an increasing cognitive demand built into the Australian curriculum framework. Many subjects become more abstract and challenging, which is explicit preparation for what is to come in the upper secondary years. The transition from childhood into adolescence involves starting to think more deeply about the future and how school pathways interconnect with personal ambitions.

Students in the middle years are simultaneously negotiating the developmental, social and emotional changes associated with becoming adolescents (Australian Institute of Family Studies, 2016; The Centre for Adolescent Health, 2018). Adolescence is an important time in the development of emotional awareness, when relationships with peers become increasingly formative for young people and their sense of self. Children in the middle years start to begin to understand their ability to shape the environment and make choices, which is particularly important for their relationships within school, where young people spend the majority of time at this stage.

Using national and international measures, we explore the following key questions:

- Across the middle years, how well are young Australian students being equipped for their future lives?

  - Are they building the necessary skills and attributes?
  - Are they developing as creative and confident individuals?
  - Are they displaying the sorts of qualities needed to be active and informed members of the community?

- To what extent are the essential skills and attributes being shared by all, in a way consistent with the national goal of equity and excellence?

Successful lifelong learners

By the middle years, students are expected to have already built up foundational skills that will prepare them to be able to make most of school and go on to develop broad and deep knowledge across a range of curriculum areas. In this section we will look at measures of skills in reading and numeracy, science and ICT.

Estimating the proportion of students at this stage of learning whose key foundation skills meet expected standards is complicated by the availability of several possible sources of data. The sources include Australian national standardised tests, international tests, and various measures of student progress used in each state and territory. Standards or benchmarks for student achievement in specific measures are set differently, based on different views on what students should know and be able to do. The various forms of assessment also serve different purposes. Some are designed to take a system-wide perspective to serve international comparisons while others are designed as a formative assessment to assist teaching and learning within schools.

Key indicator 1: Reading and numeracy skills

The national goals for education call for students to have the essential skills in literacy and numeracy as the foundation for learning (Education Council, 2019). Clearly, being able to read well and deal with numbers are essential skills in the modern world. There are measures of these skills nationally achieved through the National Assessment Program – Literacy and Numeracy (NAPLAN) which sets National Minimum Standards (NMS) for students at Years 3, 5, 7 and 9, in literacy (reading, spelling, grammar and punctuation, writing) and numeracy.

The benchmark used for this report uses the assessment at Year 7 for reading and numeracy and is based on the numbers of students above the national minimum standard. The minimum standard tends to apply to those towards the bottom end of the achievement spectrum and identify those who fail to meet even the most basic standards in literacy and numeracy for their year-level. The national goals aim higher than this, so for this assessment the benchmark has been set at being above the minimum standard. It requires students to be above the minimum standard in both reading and numeracy. So, while some students might be above the standard for one but not the other, the national goals for education are for students to be proficient in both literacy and numeracy.

Figure 4-1 presents an estimate of the proportion of students in Year 7 achieving above the national minimum standard in both reading and numeracy. The results are also provided by student background and location. As well as the percentages meeting the standard, it is worth considering the numbers that do not meet the standard. The numbers of students not meeting the standard, by background and location, are presented in Table 4-1.

The rates show that, overall, 75.2 per cent of Year 7 students in 2018 were achieving above the national minimum standard for both reading and numeracy. This means that 24.8 per cent of students, or 74,249 Year 7 students nationally, were not assessed as having the desired reading and numeracy skills for this stage of schooling.

Figure 4-1   Percentage of Year 7 students achieving above the national minimum standard in both Reading and Numeracy, by student characteristics, 2018 (%)

Category		Percentage
	Australia	75.2
Gender	Males	73.2
	Females	77.3
State or territory	NSW	75.1
	VIC	78.6
	QLD	73.6
	SA	73.4
	WA	74.4
	TAS	70.6
	NT	51.0
	ACT	80.6
Location	Major city	78.5
	Inner regional	69.9
	Outer regional	64.6
	Remote/very remote	45.0
SES (quintile)	Lowest	50.6
	Lower middle	66.1
	Middle	73.5
	Upper middle	83.8
	Highest	91.3
Indigenous status	Non-indigenous	77.1
	Indigenous	39.8
Language background	English	75.6
	Other	74.9

Source: ACARA NAPLAN My School data.

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Table 4-1 **Percentage of students at or below the national minimum standard in Reading and Numeracy at Year 7, by student characteristics: percentage and estimated number of students, 2018 (%)**

		Percentage	Number
National	Australia	24.8	74,249
Gender	Males	26.8	40,963
	Females	22.7	33,286
State/territory	NSW	24.9	22,904
	VIC	21.4	15,755
	QLD	26.4	17,393
	SA	25.6	8,321
	WA	26.6	5,335
	TAS	29.4	1,902
	NT	49.0	1,599
	ACT	19.4	1,064
Location	Major city	21.5	46,277
	Inner regional	30.1	16,641
	Outer regional	35.4	8,650
	Remote/very remote	55.0	2,681
SES quintile	Lowest	49.4	27,230
	Lower middle	33.9	18,686
	Middle	26.5	14,607
	Upper middle	16.2	8,930
	Highest	8.7	4,796
Indigenous status	Non-Indigenous	22.9	65,168
	Indigenous	60.2	9,081
Language background	English	24.4	55,674
	Other language	25.1	18,575

Source: Population from ABS (2020a) *Schools Australia 2018*.

More girls than boys were achieving the standard – 77.3 per cent of girls, compared to 73.2 per cent of boys.

Figure 4-1 reveals differences between Australian states and territories. There is a gap of nearly 30 percentage points between the ACT (80.6 per cent) and the Northern Territory (51.0 per cent). While most states have rates between 73 and 79 per cent, in Tasmania the percentage of Year 7 students performing above the national minimum standard was 70.6 per cent. Differences across states and territories are influenced by differences in populations and levels of remoteness.

There are strong associations between location and Year 7 reading and numeracy skills. Just over 78 per cent of Year 7 students living in Australia's major cities were above the national minimum standard in both skills, compared to around 69.9 per cent in regional areas, 64.4 per cent in outer regional areas and less than one in two (45.0 per cent) living in remote or very remote parts of the country.

Results in Figure 4-1 show wide gaps across members of different population groups achieving above the national minimum standard in both reading and numeracy skills at Year 7. The differences between Indigenous and non-Indigenous students, and between students by SES are the most marked. Non-Indigenous students (77.1 per cent) were more likely than their Indigenous peers (39.8 per cent) to be performing at the desired standard in reading and numeracy.

Patterns of achievement by SES show a wide gap between students based on their family background. The vast majority (91.3 per cent) of students from high SES families (highest quintile) achieved the desired standard while just over one in two (50.6 per cent) of students from low SES families (lowest quintile) achieve at the desired standard in literacy and numeracy.

Widening gaps in skills across stages of learning and development

Studies overseas and within Australia show that learning gaps tend to widen as students progress through the school years and into adolescence and young adulthood (Goss, Sonnemann, Chisholm, & Nelson, 2016; OECD, 2018a).

The OECD has linked a single cohort of students who undertook the Trends in International Mathematics and Science Study (TIMSS), to their PISA achievement and finally to the Survey of Adult Skills (PIAAC). Their research finds that 'disparities in performance related to socioeconomic status develop early—even among pupils as young as 10—and widen throughout students' lives' (OECD, 2018a, p.14). This finding is replicated using Australian-specific research data by Goss et al. (2016).

In Figure 4-2, which uses data from the LSAC survey, we are able to match the individual children in the K cohort (4-5-year-olds) and their NAPLAN results in reading and numeracy at Year 3 and again in Year 9. The results show that, the proportion of students above the national minimum standard in both reading and numeracy skills drops between Year 3 and Year 9 from 79.0 per cent to 71.8 per cent. The gaps that are apparent in Year 3 between boys and girls persist through to Year 9. For example, the approximate six-percentage point gap in Year 3 between males (76.0 per cent) and females (82.2 per cent) continues through to Year 9, where 69.0 per cent of males meet the benchmark compared to 74.8 per cent of females.

Achievement gaps between students of different SES backgrounds (as measured by their family socioeconomic position) are apparent at Year 3 in the numbers above the minimum national standard in reading and numeracy. Just over nine in ten (91.7 per cent) high SES students are performing at the desired standard in both reading and numeracy, compared to 69.3 per cent of low SES students (lowest quartile). The gap in students being at the desired standard in Year 9 widens (the social gaps grow) from 22.4 percentage points in Year 3 between high and low SES students to over 30 points in Year 9. In Year 9, 88.5 per cent of high SES students achieve above the national minimum standard, in comparison to only 56.6 per cent of low SES students.

Figure 4-2   Percentage of students above the national minimum standard in both reading and numeracy, by year-level, gender and SES: 2014 (%)

Nationally

Year 3	79.0
Year 9	71.8

Gender

	Female	Male
Year 3	82.2	76.0
Year 9	74.8	69.0

SES

	Lowest	Lower middle	Upper middle	Highest
Year 3	69.3	75.0	84.5	91.7
Year 9	56.6	73.0	77.2	88.5
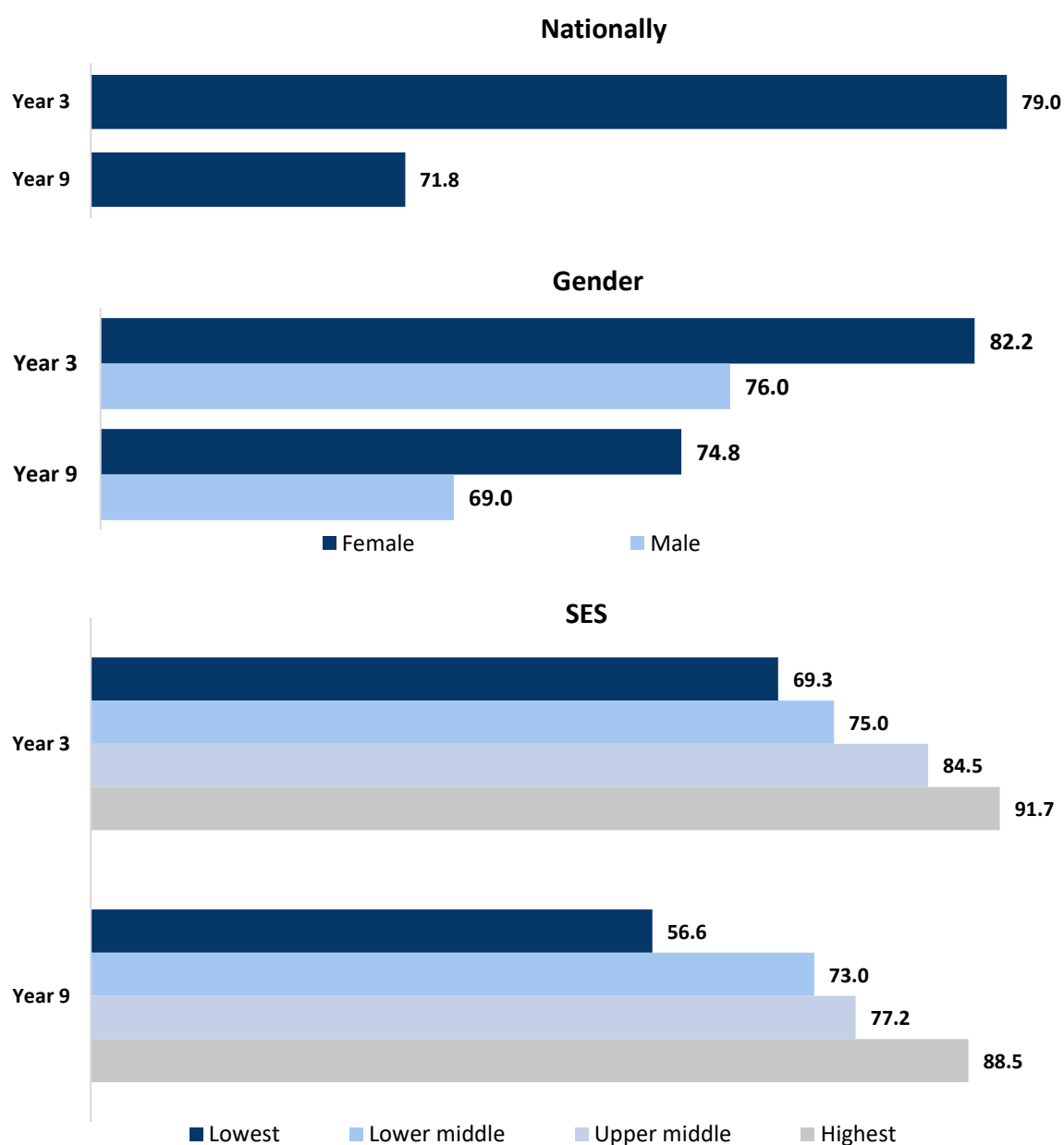
Source: LSAC survey (K cohort Wave 1 through to Wave 7). The majority of the K cohort was in Year 3 in 2008 and Year 9 in 2014.

* The standardised family socioeconomic positions (SEP) scores were divided into quartiles, the lowest 25 per cent for the low SES group, the second and third 25 percent for low to medium and medium to high respectively, and the highest 25 per cent for the high SES group.
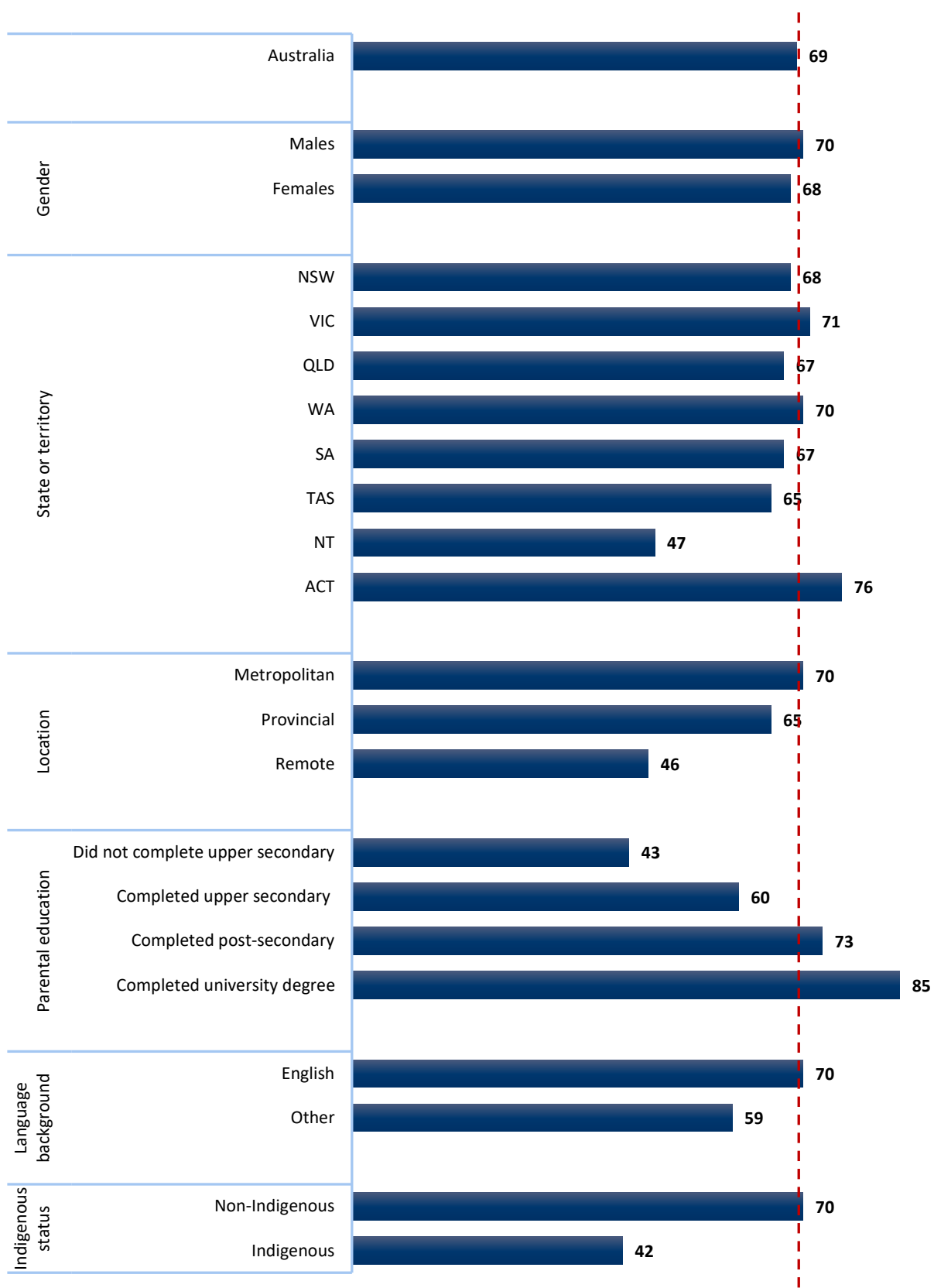
Key indicator 2: Skills in science

Another key skill for students in the middle years is in science, an important component of STEM (science, technology, engineering and mathematics). STEM is viewed increasingly as important for all young people in order to help individuals have the skills to succeed and adapt in a world where technology is advancing and essential to the innovation necessary to sustain economies. Innovation and scientific literacy depend on a solid knowledge base in the STEM areas. Science encourages students to develop relationships with the natural world. The science curriculum areas also give students opportunity to explore, investigate and think critically about scientific evidence, which is particularly significant in today's climate. Student engagement and achievement in science during the middle years is important, as it increases their likelihood of undertaking a science subject during the upper secondary years. Not only this, taking part in science during secondary school is often a prerequisite for studying science at tertiary level, which opens up the possibility for students to enter a range of esteemed professional workforce opportunities. STEM learning domains are identified in the Alice Springs Declaration as key learning areas that our nation needs to specifically focus on.

An assessment of skills in science is available through Year 8 student participation in the Trends in Mathematics and Science Study (TIMSS). TIMSS is a large-scale assessment designed to inform educational policy and practice by providing an international perspective on teaching and learning in mathematics and science. TIMSS is designed as a curriculum-based assessment, which differs from PISA that measures generic skills not explicitly taught within each jurisdiction's curriculum framework. The TIMSS Year 8 science instrument assesses multiple domains including biology, chemistry, physics and earth science. The assessment also captures key cognitive skills in the following domains: knowing, applying and reasoning (Thomson et al., 2016, p.113). Internationally, it was decided that performance should be measured at four levels (advanced, high, intermediate and low). A relevant standard in terms of the national education goals is for Australian students at a minimum to be performing at intermediate, high or advanced levels for Year 8 students (see Thomson et al., 2016). That is consistent with the goals for Australian Year 8 students to be performing at an internationally appropriate standard for the year-level.

Figure 4-3 reports the results for Australia. It shows that over two-thirds of Australian Year 8 students (69 per cent) achieve at or above the desired international standard in science. Students in the ACT achieve at a higher level than all other state and territories, with estimates that three quarters of their Year 8 students achieve at or above the science standard. There are differences by location, with students from metropolitan areas more likely than students from provincial or remote areas to achieve the science benchmark.

One of the most substantial differences is based on parent education, a measure of SES. Just on 85 per cent of Year 8 students who come from a family where a parent has attained a university degree meet or exceed the benchmark in science. This compares to less than half of students (43 per cent) where both parents did not complete upper secondary education. The rates of performance of students increase as parental education increases.

Figure 4-3   Percentage of Australian Year 8 students performing at or above the international desired benchmark standard in science: 2015 (%)

Category	Group	Value
	Australia	69
Gender	Males	70
	Females	68
State or territory	NSW	68
	VIC	71
	QLD	67
	WA	70
	SA	67
	TAS	65
	NT	47
	ACT	76
Location	Metropolitan	70
	Provincial	65
	Remote	46
Parental education	Did not complete upper secondary	43
	Completed upper secondary	60
	Completed post-secondary	73
	Completed university degree	85
Language background	English	70
	Other	59
Indigenous status	Non-Indigenous	70
	Indigenous	42

Source: Thomson et al., 2016.

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Year 8 students from an English-speaking home are more likely to meet or exceed the science benchmark (70 per cent) than students who speak another language at home (60 per cent). There is also a 28 percentage-point gap between Year 8 Indigenous students and Year 8 non-Indigenous students.

Table 4-2 presents Australian student performance on both science and mathematics in the Year 8 TIMSS assessments of 2015. The results are presented by various student characteristics and geographic location. Mean scores are presented (500 is set as the international mean score with a standard deviation of 100 points) along with the percentages of students performing at a low standard and those performing at a high standard. High performing is the percentage of students performing at levels rated as high and advanced in international benchmarks. Low performing is the percentage of students assessed as performing at a low standard internationally (below intermediate, high and advanced).

Table 4-2   Australian Year 8 student performance in mathematics and science, 2015

	Mathematics			Science		
	Mean score	Low performing (%)	High performing (%)	Mean score	Low performing (%)	High performing (%)
Australia	505	36	30	512	31	34
Gender						
Males	506	35	31	515	30	35
Females	504	36	31	510	31	32
State or territory						
NSW	503	37	31	511	32	35
VIC	516	30	33	518	29	35
QLD	498	38	26	507	33	30
SA	498	39	28	507	33	31
WA	508	36	33	518	30	38
TAS	493	40	27	503	35	31
NT	452	60	10	463	53	13
ACT	516	30	35	528	25	41
Location						
Metropolitan	510	34	34	516	30	36
Provincial	494	40	24	504	35	29
Remote	457	58	11	468	54	15
Parental education						
Did not complete upper secondary	454	60	14	458	57	15
Completed upper secondary	488	42	23	494	40	23
Completed post-secondary	505	34	28	515	27	33
Completed university degree	542	18	48	551	15	52
Language background						
English	505	35	30	514	30	33
Other	518	36	41	498	40	34
Indigenous status						
Non-Indigenous	508	34	31	515	30	35
Indigenous	438	68	8	453	58	11

Source: Thomson et al., 2016.

Students across the states and territories of Australia perform fairly similarly, while male students achieve slightly better average mean scores than female students in both mathematics and science. Australian students who speak another language at home achieve higher mean scores than English-speaking students on the mathematics assessment. There are distinctions between student mean scores on both assessments according to where they live, including whether they attend a school in a metropolitan, provincial or remote area. The OECD discusses the 'urban advantage' which is apparent in other countries, as well as Australia (OECD, 2013c). In part to address this achievement divide, the Federal Government recently commissioned a review to inform policy development to be able to improve student outcomes in regional, rural and remote schools (Halsey, 2018).

TIMSS data show that Year 8 Australian students in metropolitan schools on average achieve significantly higher mathematics and science scores than students in provincial and remote schools. A similar advantage is also associated with the level of parental education. Students who are from a family home where their parents did not complete upper secondary were twice as likely to fall below international standards in mathematics and science, in comparison to students where at least one parent had a university degree. Less than 10 per cent of Year 8 Indigenous students in mathematics are classified as high performing and 11 per cent are high performing in science, a clear indication that Australia's reforms to reduce the gap between Indigenous and non-Indigenous students still have a long way to go.

Science and mathematics skills compared internationally

If the national goals were being achieved, we might expect Australian students to be doing well on international comparisons. TIMSS provides an opportunity to assess how students are performing in mathematics and science relative to students in other countries.

Figure 4-4 shows the proportions of Year 8 students from various nations who are low performing (low level standard, i.e. below intermediate, high and advanced) and those who are at the advanced level in mathematics and science in 2015. The countries are sorted in order of their overall mean score on each respective assessment. In both science and mathematics, Year 8 students from Singapore and Korea are the most advanced. Australian Year 8 students achieve at comparable levels to students in Sweden.

The United States and Canada share with Australia similar political and administrative arrangements for schooling, where states and territories are responsible in the most part for school education, with some federal support. Both the United States and Canada achieve higher mean scores overall for science and mathematics. Both countries also have fewer students proportionately who are low achievers.

Year 8 students from England on average do better on both assessments, with a higher percentage of students identified as advanced in both mathematics and science. New Zealand has a higher proportion of students than Australia who are assessed as low achievers on both assessments, but at the same time has a higher percentage of Year 8 students performing at an advanced level in science.

Figure 4-4   Percentage of low performing and advanced Year 8 students in science and mathematics: comparison of selected countries using TIMSS: 2015 (%)

Science
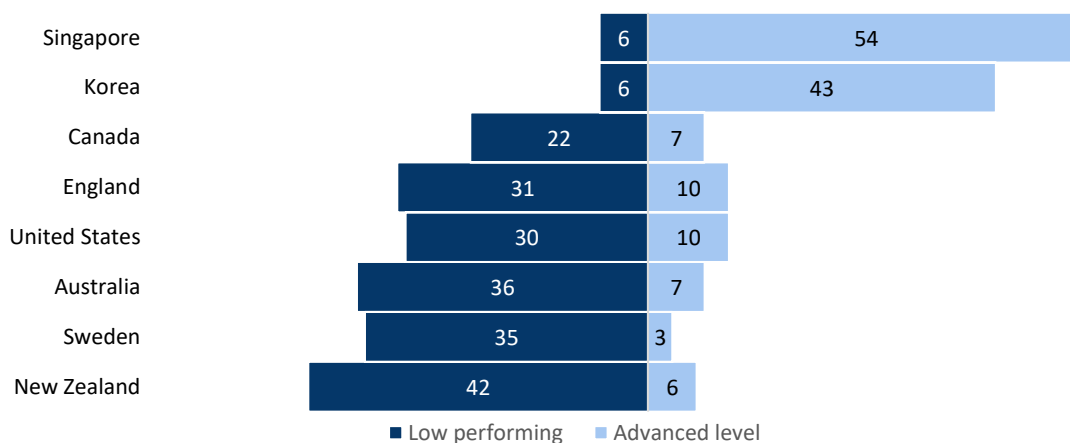
Country	Low performing	Advanced level
Singapore	10	42
Korea	15	19
England	23	14
United States	25	12
Canada	22	7
Sweden	27	10
New Zealand	33	10
Australia	31	7

Mathematics

Country	Low performing	Advanced level
Singapore	6	54
Korea	6	43
Canada	22	7
England	31	10
United States	30	10
Australia	36	7
Sweden	35	3
New Zealand	42	6

■ Low performing ■ Advanced level
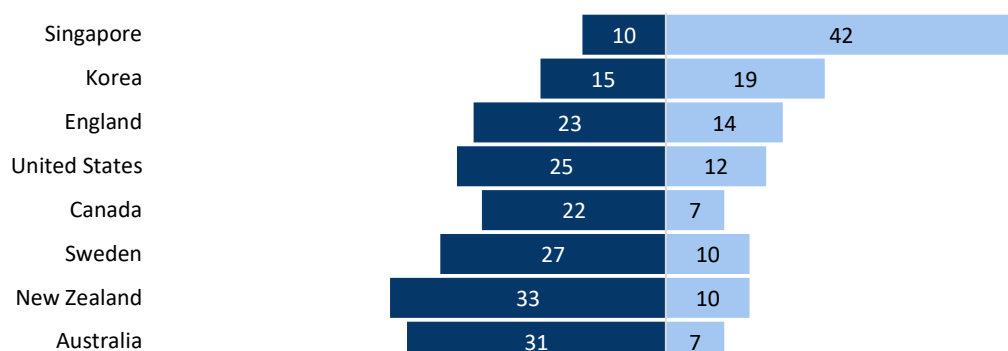
Source: Thomson et al., 2016.

Skills in ICT

The use of ICT is another essential skill for all Australian children. This is recognised in two ways within the Australian National Curriculum, which identifies ICT as a general capability that should be integrated across all classes and subjects from Prep/Foundation through to Year 10, while learning content is also specified in the digital technologies learning area. Many Australian schools are digitally enabled, where typically students participate in classes which are structured to incorporate a range of digital technologies. International studies, such as the International Computer and Information Literacy Study (ICILS), shows that Australia has the highest percentage of students using computers at school at least once per week among participating countries (De Bortoli, Buckley, Underwood, & O'Grady, 2014).

Alongside the snapshot provided by the ICILS study, the National Assessment Program (NAP) also provides a perspective on the development of ICT skills across Australia. NAP assessments are also conducted on civics and citizenship and scientific literacy. Instead of an annual assessment, they are conducted on a three-year cyclical basis and they also only contain a representative sample of students. In 2017, NAP ICT consisted of a nationally representative sample with 5,439 Year 6 students (ACARA, 2018b). Here we use the ICT

literacy assessment data to track how students in the middle years are able to 'use ICT appropriately to access, manage and evaluate information, develop new understandings, and communicate with others in order to participate effectively in society' (ACARA, 2018b).

The proportion of students in Year 6 who are at or above the proficient standard on ICT Literacy in the 2017 assessment is provided in Table 4-3. The proficient standard represents a 'challenging but reasonable' expectation about what students should achieve in that year of schooling. The 2017 data find that 53 per cent of Year 6 students reached or exceeded the proficient standard (ACARA, 2018b).

Table 4-3   Year 6 Students at or above proficient standard on NAP – ICT Literacy: 2017 (%)

		%
National	Australia	53
Gender	Males	51
	Females	56
State/Territory	NSW	51
	VIC	62
	QLD	47
	SA	53
	WA	54
	TAS	49
	NT	35
	ACT	65
Location	Metropolitan	58
	Regional	43
	Remote	35
Parental occupation	Senior managers and professionals	68
	Other managers and associate professionals	61
	Tradespeople, and skilled office, sales and service staff	48
	Unskilled labourers and office, sales and service staff	38
	Not in paid work in last 12 months	33
Parental education	Bachelor's degree or above	68
	Advance diploma/Diploma	55
	Certificates I-IV (including trade certificates)	44
	Year 12 or equivalent	46
	Year 11 or equivalent	36
	Year 10 or equivalent	23
	Year 9 or equivalent or below	22
Indigenous status	Non-Indigenous	55
	Indigenous	24
Language background	English	52
	LBOTE	58

Source: ACARA 2018b. Proficient standard for Year 6 students at and above Level 3.

There is an expectation that all young people who are 'digital natives' are able to use ICT with skill and finesse. Table 4-3 presents a more nuanced picture. Female students on average achieve stronger scores on ICT literacy than male students, which is an interesting result given that occupations in the technology sector tend to be heavily male dominated. Students who speak another language at home achieve a higher average score on ICT literacy than English-speakers.

Differences in achievement are quite large depending on parental education and occupation background. Students who come from socioeconomically disadvantaged families, measured by parent education or occupation, are far less likely to reach the proficient benchmark in ICT literacy than are students from more advantaged families.

Confident and creative individuals

National measures of successful students in the middle years are largely based on standardised tests measuring cognitive skills such as literacy and numeracy, which reflect the ability to 'perform higher mental processes of reasoning, remembering, understanding, and problem solving' (Bernstein et al., 2007).

Research suggests that test scores are predictive of only a modest percentage of the variation that occurs in later life success. For example, one assessment conducted in the United States suggests that test scores of American adolescents explain only 17 per cent of the variation in adult earnings (Kautz, Heckman, Diris, Ter Weel, & Borghans, 2014). Educators and researchers suggest that certain types of non-academic skills are also important factors in predicting student success (Zimmerman, 1990; Lamb, Maire & Doecke, 2017). The problems concerning so-called non-cognitive, social and emotional, or 'soft', skills are partly one of definition, yet there is also a 'paucity of high-quality measures' able to assess and evaluate such non-traditional skills (Pellegrino & Hilton, 2012).

Non-cognitive skills may be broadly defined as mindsets or 'patterns of thought, feelings, and behaviour' (Borghans, Duckworth, Heckman, & Ter Weel, 2008). They include skills most strongly associated with student academic performance such as academic behaviours (e.g. going to class and participating), academic perseverance (e.g. grit and self-discipline), academic mindsets (e.g. feeling a sense of belonging within an academic community and believing that ability and competence can grow with effort), learning strategies (e.g. metacognitive strategies and goal-setting) and social skills (e.g. interpersonal skills and cooperation) (Farrington et al., 2012).

Although constructs of this nature tend to be treated separately from cognitive outcomes, they are intertwined. Various frameworks around key skills and capabilities required for the 21st century suggest that certain non-cognitive skills and dispositions shape student learning and can lead to future success (Lamb et al., 2015). While the causal relationship between some non-cognitive skills is currently quite uncertain, evidence is building that systems should focus on them. PISA reflects this trend, with its adoption of new measures and assessment of broader or generic skills such as collaborative problem solving that are discussed in the senior years chapter of the current report. Many education systems are reorienting themselves towards considering a broader set of student outcomes, rather than just literacy and numeracy. This shift reflects a wider understanding of the roles and responsibilities of school systems as defined in documents such as the Alice Springs Declaration.

In this section on the middle years we have chosen to group various non-cognitive skills to align with the Alice Springs Declaration that aspires to nurture creative and confident students within schools. All the measures are derived from LSAC. Information related to the measures was collected for both the B cohort (the 0-1 infant cohort) and K cohort (the pre-school cohort at age 4-5 years). The K cohort is useful to track trends over time, while the B

cohort provides the most contemporary data collection for middle-years students. In this section, we look initially at student levels of confidence in themselves. Then we turn to measures of creativity, which are combined into a second indicator.

Key indicator 3: Confident individuals

In LSAC, students were asked a set of items related to self-efficacy which are from a well-known scale (Marsh, 1990) that measures general self-concept through a student questionnaire. The scale is used and adapted widely, with results indicating that the general self-concept of students is closely linked to academic self-concept and confidence (Marsh, 1990). The items used to measure confidence are listed in Table 4-4 with the percentage of students who respond that the statement is true or mostly true. The statements in general are based on students being proud of who they are, of what they achieve, their perception that they are as good as others, and that they hold a positive view of themselves as individuals.

A measure of confidence can be derived using the mean of the listed items, with students assessed as being confident where the score is equivalent to the items being rated by students as true or mostly true. Figure 4-5 presents the results by various background characteristics.

Just over two-thirds of Australian students aged 10-11 years are confident individuals (67.5 per cent). Girls are more likely to be confident than boys (69.8 per cent compared with 65.8 per cent). There are minor differences by state or territory, though apart from the Northern Territory most are close to the national average.

There are differences by social background. Close to three quarters of middle years students from high SES families (72.2 per cent) record high levels of confidence. The rate drops to just over three in five (62.5 per cent) for students from homes in the lowest SES quartile.

There are marginal differences between other population groups based on Indigenous status and language background.

Table 4-4   Percentage of 10-11-year-old students who respond mostly true or true to individual items indicative of confidence: 2014 (%)

Item description	%
Overall, I have a lot to be proud of	81.0
I can do things as well as most other people	75.4
Other people think I am a good person	78.5
A lot of things about me are good	81.5
I am as good as most other people	75.8
When I do something, I do it well	73.1
Total (mean of true or mostly true)	67.5

Source: LSAC survey (B cohort in wave 6).

Figure 4-5   Percentage of 10-11-year-old students with high levels of confidence in self, by student characteristics: 2014 (%)
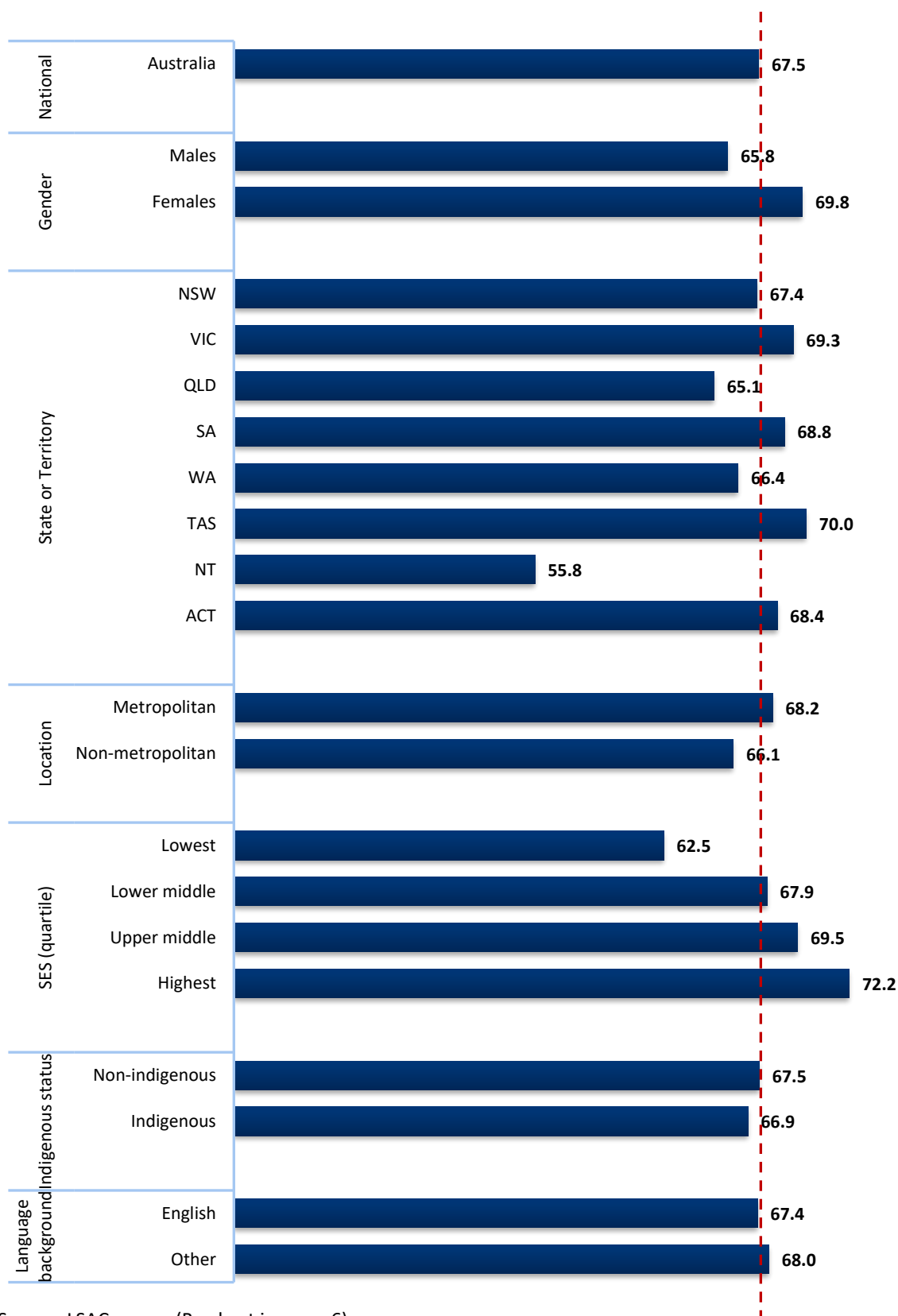
Source: LSAC survey (B cohort in wave 6).

Note: Results need to be interpreted with some caution due to low sample numbers in the Northern Territory and for Indigenous students, particularly those from remote areas.

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Key indicator 4: Creative individuals

There have been developments in measures of creativity, including in PISA, with OECD planning to use a direct measure of creative thinking in the 2021 assessment (OECD, 2019b). Victoria has also recently adopted a reform target associated with improving student ability to engage in critical and creative thinking that is currently being tracked through specifically developed direct-assessment. The developments in Victoria, however, are not system-wide or nation-wide.

While currently there is a lack of available measures of creativity, there are items available through LSAC which capture student approaches to learning and attributes associated with the concept of an enquiring or curious mind, necessary qualities to want to know and explore the world. The qualities are based on items from the teacher questionnaire as an assessment of each child. The items capture students' eagerness to learn new things and work independently, their ability to adapt to new things, their persistence in completing tasks, and their ability to organise their belongings (Zampetakis, Bouranta, & Moustakis, 2010, found that organisation is positively associated with creativity). The items together indicate students who may be more likely to extend themselves in their learning and think creatively.

Table 4-5 presents a list of behaviours displaying the dispositions needed for creativity, including the proportion of 10-11-year-old students who were rated by teachers as exhibiting the behaviours often or very often.

Table 4-5   Percentage of 10-11 year old students exhibiting various creative behaviours often or very often: 2014 (%)

Item description	%
Keeps belongings organised	77.0
Shows eagerness to learn new things	81.2
Works independently	82.3
Easily adapts to changes in routine	86.4
Persists in completing tasks	77.6
Pays attention well	75.7
Total (mean recording often or very often)	72.8

Source: LSAC survey (B cohort in wave 6).

Figure 4-6 shows the proportion of students who display all of the behaviours essential to being creative and charts differences by student characteristics. The rates suggest that 72.8 per cent of Australian 10-11-year-olds exhibit the characteristics indicative of creativity.

Over four in five (83.6 per cent) female students demonstrate creative learner qualities, while this proportion drops to just over three in five (62.4 per cent) male students.

Figure 4-6 Percentage of 10-11-year-old students with high levels of creativity, by student characteristics: 2014 (%)
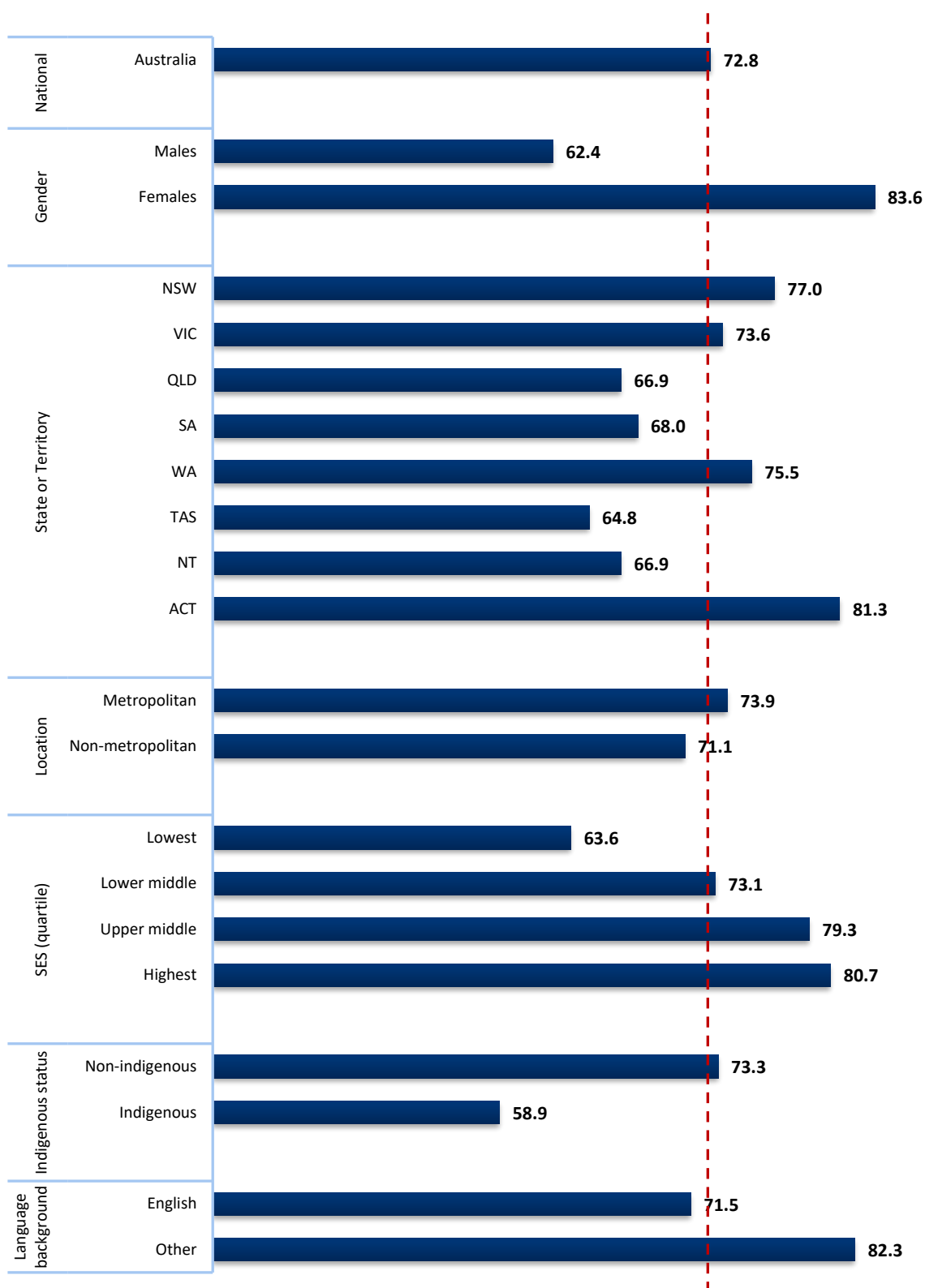
National	Australia	72.8
Gender	Males	62.4
	Females	83.6
State or Territory	NSW	77.0
	VIC	73.6
	QLD	66.9
	SA	68.0
	WA	75.5
	TAS	64.8
	NT	66.9
	ACT	81.3
Location	Metropolitan	73.9
	Non-metropolitan	71.1
SES (quartile)	Lowest	63.6
	Lower middle	73.1
	Upper middle	79.3
	Highest	80.7
Indigenous status	Non-indigenous	73.3
	Indigenous	58.9
Language background	English	71.5
	Other	82.3

Source: LSAC survey (B cohort in wave 6).
Note: Results need to be interpreted with some caution due to low sample numbers in the Northern Territory and for Indigenous students, particularly those from remote areas.

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There are differences between the states and territories; however, caution is advised in interpretation of results in some categories because of small numbers of survey members. Sizeable differences are apparent by SES with high SES students (80.7 per cent) exhibiting the behaviours more frequently than students from low SES backgrounds (63.6 per cent). Students from a non-English speaking home are more likely to demonstrate creative learner qualities than students from an English-speaking home. Over eight in ten (82.3 per cent) of non-English speaking students display creative qualities, according to their teachers, compared with just over seven in ten students from English-speaking backgrounds (71.5 per cent). There is also a significant gap in the levels of creativity between Indigenous and non-Indigenous students.

Evidence is building about the importance of non-cognitive skills to achievement in academic disciplines. The Alice Springs Declaration reflects this, with our national goals for education aiming to develop confident and creative learners. This section has highlighted that around two thirds of 10-11-year-olds report being confident and a little more than seven in ten report being creative, suggesting many students are not developing attributes that are critical to their ability to take advantage of learning opportunities throughout their lives. It has also shown large differences associated with student socioeconomic background; a pattern evident in the later life stages that were explored in previous chapters. In order to meet our national aspirations and equip learners with the skills and capabilities they'll need to succeed, overall levels and the unequal distribution of creativity and confidence must be improved.

Active and informed citizens

The aspirations of the Alice Springs Declaration are to develop the capacities of every young person in order for each young Australian to be 'an active and informed citizen'. Foundational skills, including cognitive and non-cognitive skills discussed in the previous sections, are important, yet these alone are not sufficient to prepare children for life after school. Young people need to be prepared for their evolving role as citizens in a changing world that requires an open and culturally-oriented approach, a moral orientation emphasising human rights, and a focus on social justice and active political participation (Schulz et al., 2018).

It is important to recognise that young people's knowledge, competencies, dispositions and self-beliefs are influenced by a number of activities and experiences that take place within the contexts of home, school, classrooms and the wider community. Schools are vital in shaping citizens and their engagement in society. The 2016 International Civic and Citizenship Education Study (ICCS) (Schulz et al., 2018) suggests that establishing basic democratic structures within schools and providing students with early opportunities for active civic participation have the potential to promote civic knowledge and a disposition toward future civic engagement. While the recent ICCS study gathered data from Year 8 students in 24 countries, Australia did not participate.

The emphasis on active and informed citizens being a key strategic ambition of Australian education extends back to the Hobart Declaration on Schooling in 1989. Since then, much development has occurred in promoting this important aspect of education, including the shaping and writing of the Australian Curriculum: civics and citizenship and the validation of its achievement standards that took place between July 2011 and December 2013. Prior to the development of the national curriculum on civics and citizenship, as part of the National

Assessment Program (NAP), a civics and citizenship (NAP–CC) assessment framework was introduced.

Since 2009, the NAP–CC program has collected data every three years related to three broad outcomes for Australian students in Year 6 and Year 10, which are:

- knowledge and understanding of civics and citizenship
- attitudes towards civic and citizenship issues
- engagement in civic and citizenship activities.

In this chapter, two measures are applied for middle years students related to (1) being an informed citizen and the activities for doing this, and (2) being an active community member. Both measures are constructed from the NAP-CC student survey for the Year 6 sample.

Key indicator 5: Being an informed citizen

A series of items in the NAP-CC survey capture how students inform themselves about political or social issues outside of school, including the sources of media they access and whether they talk with family and peers. Studies show that student discussion with family and engagement with media are positively correlated with strong outcomes of civics and citizenship education (ACARA, 2016).

Table 4-6 presents the proportion of Year 6 students who take active steps to keep informed about social, political and economic issues at least once a week, or more than three times per week. Year 6 students use a range of activities to gather information. In 2016, the least popular high-use method is to post or share a comment about a political or social issue on the internet (10.7 per cent), which may change with subsequent student NAP-CC surveys due to technological change. At this point in time, the most frequent method used by Year 6 students to gather information about civics and citizenship related issues is by watching television news (76.2 per cent), followed by listening to news on the radio (59.1 per cent) and using the internet to get news (49.4 per cent). Significant proportions of students also report that they regularly talk about political or social issues with their families (29.2 per cent) and friends (23.8 per cent). This analysis reveals that close to two-thirds (64.4 per cent) of Year 6 students can be perceived as active and informed citizens.

Table 4-6   Percentage of Year 6 students engaging in various activities to keep informed about current events and social, political and economic issues: 2016 (%)

Type of activity	Percentage doing the activity
Using the internet to get news of current events	49.4
Watch the news on television	76.2
Listen to news on the radio	59.1
Read about current events in the newspaper	22.6
Post or share a comment or image about a political or social issue on the internet	10.7
Talk about political or social issues with your family	29.2
Talk about political or social issues with your friends	23.8

Source: Derived from NAP-CC individual record data provided by ACARA 2016.

Figure 4-7   Percentage of Year 6 students keeping themselves informed about current events, by student characteristics: 2016 (%)
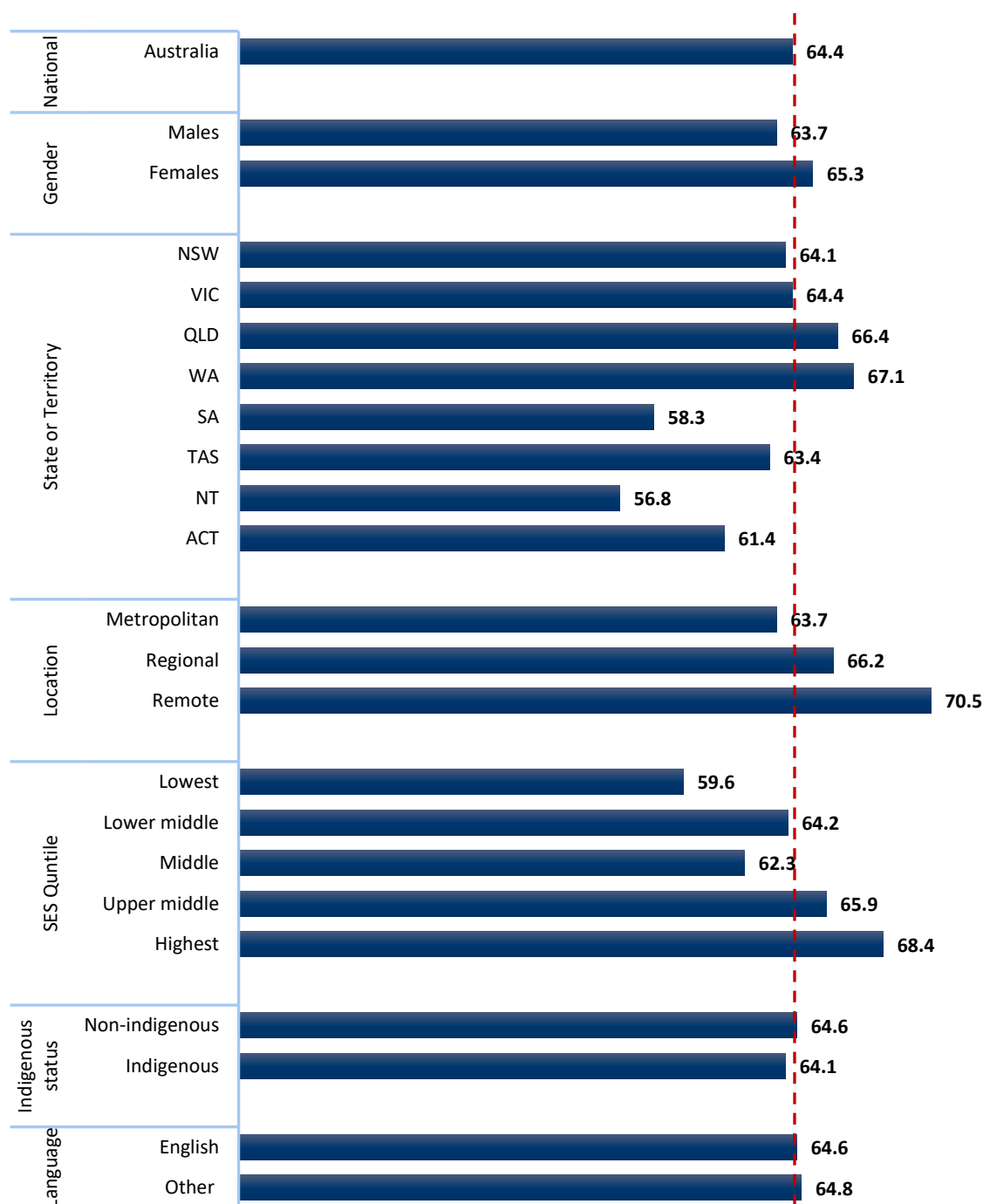
Source: Derived from NAP-CC individual record data provided by ACARA 2016.

Note: Estimates are of Year 6 students who take active steps to be informed about social, political and economic issues by engaging on a regular basis (at least once a month) in activities such as watching the news, reading about current events in newspapers, talking with family members about issues, and using the internet to get news (the activities listed in Table 4-6).

Note: Some results need to be interpreted with caution due to high standard errors linked to small cell sizes, particularly for remote students (SE = 8.4), Indigenous students (SE = 7.0) and students from the ACT (5.9).

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Figure 4-7 reports the percentage of Year 6 students who take active steps to be informed about social, political and economic issues by engaging on a regular basis (at least once a month) in activities such as watching the news, reading about current events in newspapers, talking with family members about issues, and using the internet to get news. The rates are presented by various student and family characteristics.

The analysis shows that students are more active and informed about civics and citizenship in remote and regional areas than in metropolitan areas, though the results are only marginally higher for students in regional areas over metropolitan areas. Most of the differences are not statistically significant largely because there are high standard errors for certain categories due to small sample numbers. The likelihood for Year 6 students to demonstrate practices that align with active and informed citizenship is less associated with their home and family background than other measures.

Key indicator 6: Being an active community member

A key aim of civics and citizenship education is to equip students with the knowledge and capabilities to become actively engaged in various aspects of community throughout their lives. One important aspect is the extent to which students perceive different characteristics or behaviours as part of 'good' citizenship. The NAP–CC student survey collected data from Year 6 students about engagement in civics and citizenship-related activities and which activities they see as particularly important. While school-age children or young people are subject to certain limitations regarding the extent that they can engage in civic and citizenship-related activities, it is possible to explore their attitudes and expectations regarding future engagement.

Table 4-7 includes several activities which students report as being quite important or very important to being a good citizen in Australia. The results show that in Year 6, most students view many of the citizenship-related activities as either very or quite important. The activities that are rated as most important to students are:

- learning about Australia's history (85 per cent).
- voting in elections (85 per cent)

The citizenship activity generally viewed as least important by Year 6 students is discussing politics (55 per cent).

Table 4-7   Percentage of Year 6 students who rate various civic activities as quite important or very important: 2016 (%)

Description	Percentage
Learning about Australia's history	85
Learning about political issues through media (newspaper, radio, TV & the internet)	74
Learning about what happens in other countries	77
Discussing politics	55
Voting in elections	85

Source: Derived from NAP-CC individual record data provided by ACARA 2016.

A measure of the potential for being an active community member is the extent to which students view engaging in the listed activities as important to being a good citizen of Australia. One way of deriving the measure is to take the mean responses of all of the items and identify scores that indicate students viewed, on average, the items as being either quite important or very important to being a good citizen. Figure 4-8 presents the results of the indicator at a national level and then by various student characteristics.

About two-thirds of Year 6 students (63.3 per cent) place a high importance on engaging in key activities such as learning about Australia's history and learning about what is happening here and in other countries as part of being a good citizen of Australia.

Girls (66.3 per cent) place a slightly higher importance on doing this than do boys (60.4 per cent). There are differences between the states and territories, with levels higher in Western Australia (67.6 per cent) than in Victoria (59.9 per cent), Queensland (62.7 per cent) or South Australia (61.6 per cent).

There are also modest differences by SES background, with the highest levels among high SES students (66.6 per cent) and the weakest levels among middle SES students (59.4 per cent). More Indigenous students demonstrate a positive view on the importance of the activities to being a good citizen (66 per cent) than non-Indigenous students (63.4 per cent), but the estimates for indigenous students are based on small numbers. Students from a language background other than English (70.1 per cent) are more likely than students from an English-speaking background (61.6 per cent) to view the activities as important to being a good citizen.

Nurturing an active and informed citizenry is critical to social cohesion, strong communities and the health of Australia's democracy. While students' experiences at home and in the community play a significant role in shaping the students' beliefs and attitudes towards civic engagement, schools also play a crucial part, exposing students to opportunities to engage in the community and teaching them about current affairs and the world around them. This section has shown that a little less than two thirds of Australian Year 6 students report being active and informed citizens, the lowest rate of any outcome explored in this chapter. It has highlighted differences based on the socioeconomic background of students, although the gap between the most and least advantaged students is substantially smaller during the middle years than later in life. The results point to where Australia must improve in order to meet our national goal of supporting all young people to be active and informed citizens.

Figure 4-8 **Percentage of students rating key citizenship activities as important to being an active and good citizen of Australia, by student characteristics: 2016 (%)**
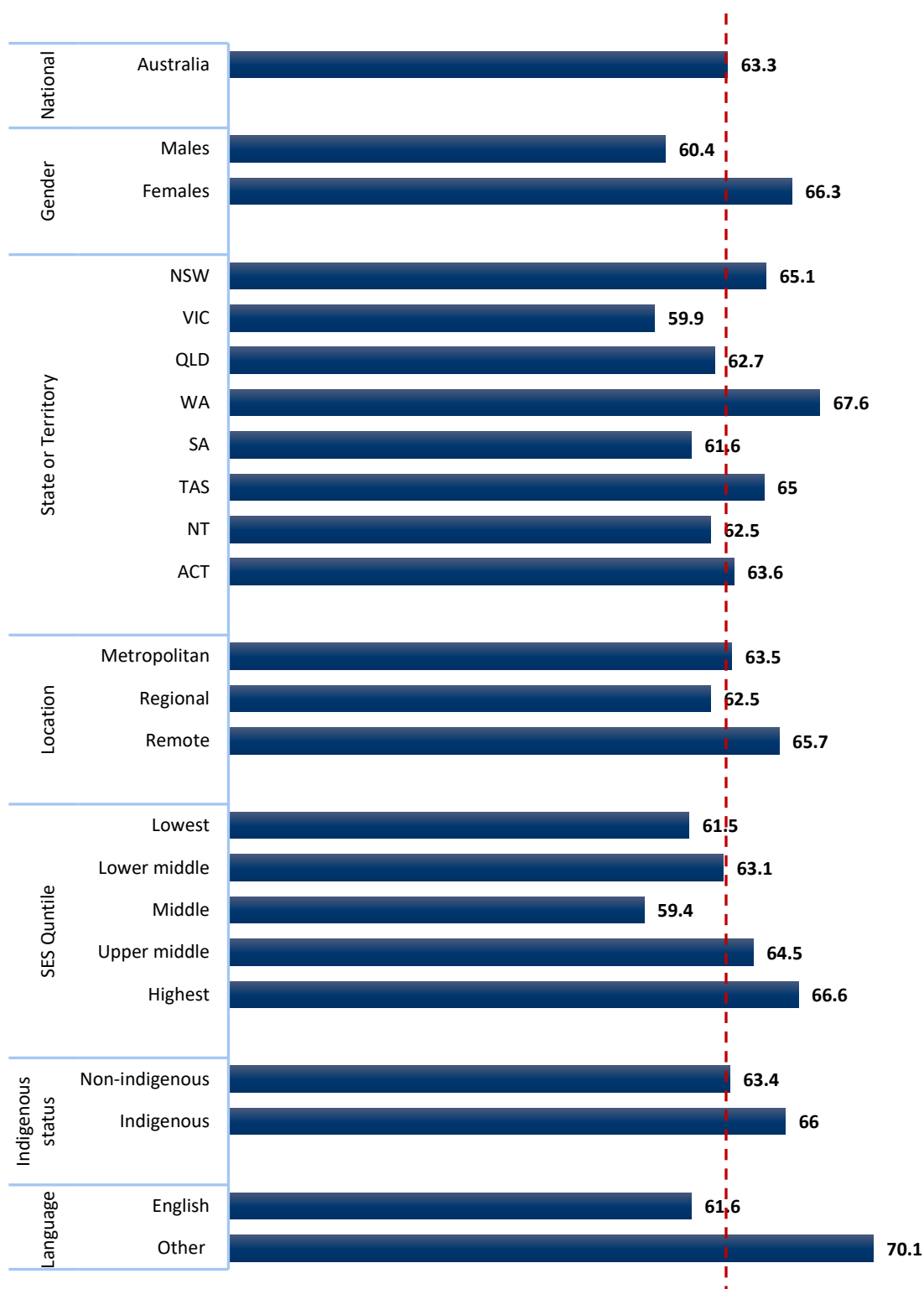
Source: Derived from NAP-CC individual record data provided by ACARA 2016.

Note: Some results need to be interpreted with caution due to high standard errors linked to small cell sizes, particularly for remote students (SE = 13.8), Indigenous students (SE = 6.8) and students from the ACT (7.4).

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Summary

The middle years of school mark a critical juncture in young people's social development and learning journeys. It can be an exciting time of significant change and discovery, when new friendships and identities are formed. However, it is also a period of heightened risk of disengagement from school when gaps in academic achievement can widen and become entrenched. Evidence shows that students that have lower achievement in the middle years often struggle to catch up academically, with differences in achievement generally widening as students grow older.

With this in mind, this section has shown that large proportions of students are not reaching expected academic benchmarks across all disciplines in the middle years. Approximately a quarter of students in the middle years do not have the reading and numeracy skills they need, which increases to around 30 per cent in science, and nearly 50 per cent in ICT Literacy. Just under a third of young people in Year 6 lack the confidence and creativity to make the most of their learning opportunities. Moreover, there is significant variation across the population, particularly in relation to young people's socioeconomic background.

This chapter illustrates that there is substantial scope to improve how students' strengths and skills are nurtured during school, if we are to meet our national goals. Outcomes in the middle years show that the education system is mired in inequality, particularly in relation to academic achievement. In addition, the analysis shows that gaps in achievement tend to grow as students get older. This suggests that Australia's education systems would be well served by improving educational opportunities and experiences from early in young people's learning journeys, to reduce and potentially avoid gaps that are apparent by the middle years. However, patterns across life stages also suggest that groups of young people who may be less likely to meet academic benchmarks at school can still succeed and enjoy happy, productive and fulfilling lives. For example, despite students from a LBOTE being less likely to meet achievement benchmarks in the middle years, they are more likely than English-language backgrounds students to finish school, get a tertiary education and be fully engaged in work or study at age 24. While differences in achievement can be difficult to overcome, students can catch-up and thrive if given the right opportunities and support.

5. Entering school—the early years

The early years form a critical period of development for children that lays the foundation for subsequent learning at school and preparation for adult life. Development in the early years sets the foundation for lifelong learning, behaviour, health, creativity and confidence. The experiences children have in early childhood shape capacity to learn, getting along with others and being able to respond to daily stresses and challenges. It is a time in children's lives when families and early education and care centres contribute to shaping both the dispositions and skills of children essential for future lives. Social scientists, including economists, have reported on the social, personal and economic benefits that derive from laying good foundations in the early years (Elango, García, Heckman, & Hojman, 2016; Heckman, 2011, 2013; PwC Australia, 2019).

Recent efforts to improve early childhood education and care have included strengthening implementation of the National Quality Framework for Early Childhood Education and Care, increased funding for universal access to pre-school in the year before school, and expansion of pre-school programs to three-year-olds in some states. The current chapter presents information on the early years to assess how well early childhood education and care in Australia is working to prepare children to become successful learners, confident and creative individuals and active and informed citizens. It does this by addressing three specific questions about early learning in Australia:

1. How well are Australian children in the early years developing the cognitive and communication skills needed to become *successful learners* at school and beyond?

2. How well are Australian children developing, by the time they enter school, foundational social and emotional skills to become *confident and creative individuals*?

3. How well are Australian children developing the foundational or early ethical, social and cultural capabilities required for shaping future participation as *active and informed citizens*?

The data used to address the three questions are drawn largely from the Australian Early Development Census (AEDC). The AEDC is a national triennial data collection process in which teachers are asked to describe the developmental level of each child in their first year at school. Using an instrument adapted from the original Early Development Instrument (Janus & Offord, 2007), children's development is reported across five domains (Commonwealth of Australia, 2015):

1. *physical health and wellbeing*, focused on children's 'ability to cope with the school day' using indicators such as the appropriateness of their clothing, timeliness at school, hunger or tiredness, alongside their motor skills and energy levels

2. *social competence*, examining children's ability to play and learn with others and 'get along' with peers, their ability to follow rules and routines, their self-control, and their respectfulness toward others and property

3. *emotional maturity*, looking at children's obedience, attentiveness, concentration, emotional control, openness to sharing activities with peers, ability to ignore distractions and control of their temper

4. *language and cognitive skills*, such as children's ability to read and write words and sentences, to link sounds and letters, their interest in books, their counting skills, memorisation skills, and ability to manipulate numbers, and

5. *communication skills and general knowledge*, referring to children's oral and written command of English, their ability to understand and be understood, their articulation, their storytelling abilities, and their 'general knowledge of the world'.

The five AEDC domains can be used to investigate early learner development of the foundational skills and dispositions needed to become successful learners, confident and creative individuals, and active and informed citizens.

The AEDC is the most comprehensive assessment of children's development across a range of domains at the point of entry to school. Over 96 per cent of eligible Australian children (more than 308,000) were assessed in the 2018 data collection round. As age of entry to school varies across states, the reported AEDC results control for age differences.
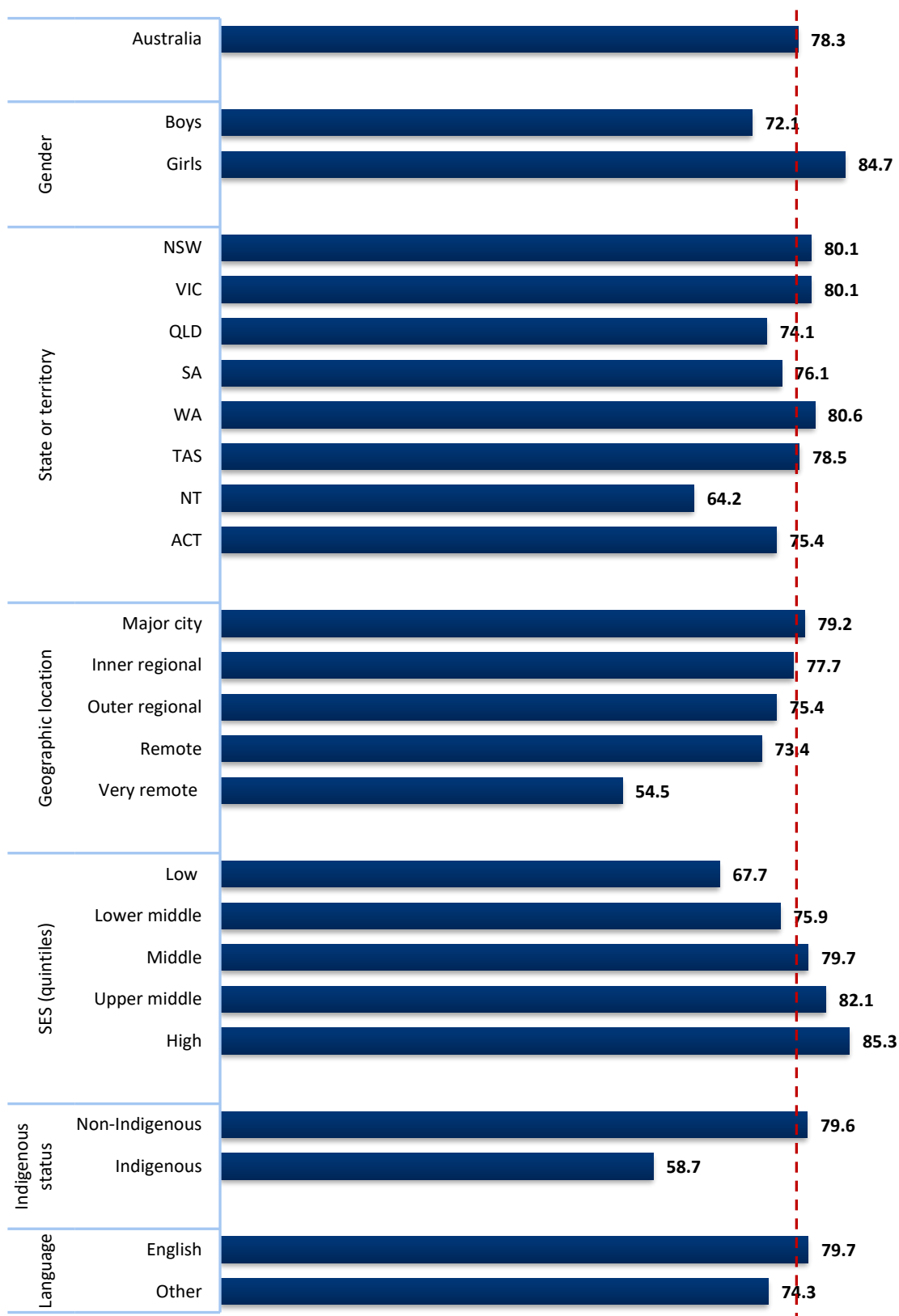
Successful lifelong learners

Key indicator 1: Developmentally ready for school across all domains

A key developmental milestone for the early years is the proportion of children in their first year at school who are developmentally ready as assessed on the five AEDC developmental domains. 'Developmentally ready' is taken to be assessed as not vulnerable on any of the AEDC domains. The proportions nationally for 2018 are presented in Figure 5-1. The results are presented by selected background characteristics including gender, Indigenous status, English language background, level of urban development of their community, socioeconomic status and state or territory.

On average, in Australia, 78.3 per cent of children are assessed as developmentally ready in the first year of school. However, not all students are ready. The rates reveal that:

1. girls are more developmentally ready for school than are boys (12.6 percentage point gap)
2. children in high SES areas of Australia are much more developmentally ready for school than are children in low SES areas – 85.3 per cent of students from high-SES areas (highest quintile) are meeting the milestone compared to 67.7 per cent of students in low-SES areas (lowest quintile)
3. children in city and regional areas are more often developmentally ready than are students in very remote communities
4. non-Indigenous students are more likely to have developed expected skills than Indigenous students (20.9-point gap), and
5. learners from English-speaking language backgrounds are more likely to be developmentally ready than those for whom English is not their first language (5.4-point gap).

Figure 5-1   Percentage of children assessed as developmentally ready (not vulnerable) on all AEDC domains in the first year at school: 2018 (%)

Australia	78.3
Gender	
Boys	72.1
Girls	84.7
State or territory	
NSW	80.1
VIC	80.1
QLD	74.1
SA	76.1
WA	80.6
TAS	78.5
NT	64.2
ACT	75.4
Geographic location	
Major city	79.2
Inner regional	77.7
Outer regional	75.4
Remote	73.4
Very remote	54.5
SES (quintiles)	
Low	67.7
Lower middle	75.9
Middle	79.7
Upper middle	82.1
High	85.3
Indigenous status	
Non-Indigenous	79.6
Indigenous	58.7
Language	
English	79.7
Other	74.3

Source: Derived using data from AEDC.

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There are also state and territory differences: among the larger states, the share of students who are developmentally ready is higher in Western Australia (80.6 per cent), Victoria (80.1 per cent) and New South Wales (80.1 per cent) than in Queensland (74.1 per cent). Among the smaller states and territories, the numbers developmentally ready for school are lower in the Northern Territory (64.2 per cent) than in Tasmania (78.5 per cent), South Australia (76.1 per cent) and the Australian Capital Territory (75.4 per cent). The gaps may well be due to differences in the characteristics of populations, such as numbers of Indigenous children, and to differences in distributions of populations across city and rural and remote areas.

Taken together, the results suggest that significant inequalities exist in the developmental readiness for school of Australian children.

The latest AEDC data collection round (2018) marked the fourth cohort of young Australians participating in the AEDC. Changes over time in the proportion of children meeting the developmental milestone are reported in Table 5-1. The table compares the results from 2018 and the first AEDC assessment in 2009.

Table 5-1 **Percentage point change between 2009 and 2018 in proportions of children assessed as developmentally ready across the five AEDC domains (% points)**

		Change between 2009 and 2018
	Australia	1.9
Gender	Boys	2.3
	Girls	1.5
State and territory	NSW	1.4
	VIC	0.4
	QLD	3.7
	SA	-1.1
	WA	5.3
	TAS	0.3
	NT	2.9
	ACT	-2.4
Geographic location	Major city	1.7
	Inner regional	1.3
	Outer regional	2.2
	Remote	2.9
	Very remote	1.6
Socioeconomic status (quintile based on area)	Lowest	-0.3
	Lower middle	1.4
	Middle	3.2
	Upper middle	2.6
	Highest	1.5
Indigenous status	Non-Indigenous	2.0
	Indigenous	6.1
Language	English	1.4
	LBOTE	6.5

Source: Derived using data from AEDC.

Australia-wide, there was an overall increase between 2009 and 2018 in the proportion of children assessed as developmentally ready for school: up by 1.9 points. The increase has affected some groups more than others. Between 2009 and 2018, the largest improvements have been registered for Indigenous learners (6.1 points) and LBOTE students (6.5 points). To a more limited extent, there was also a larger change for boys than girls, with boys' rate of developmental readiness improving by 0.8 percentage points more than the corresponding improvement in the rate for girls.
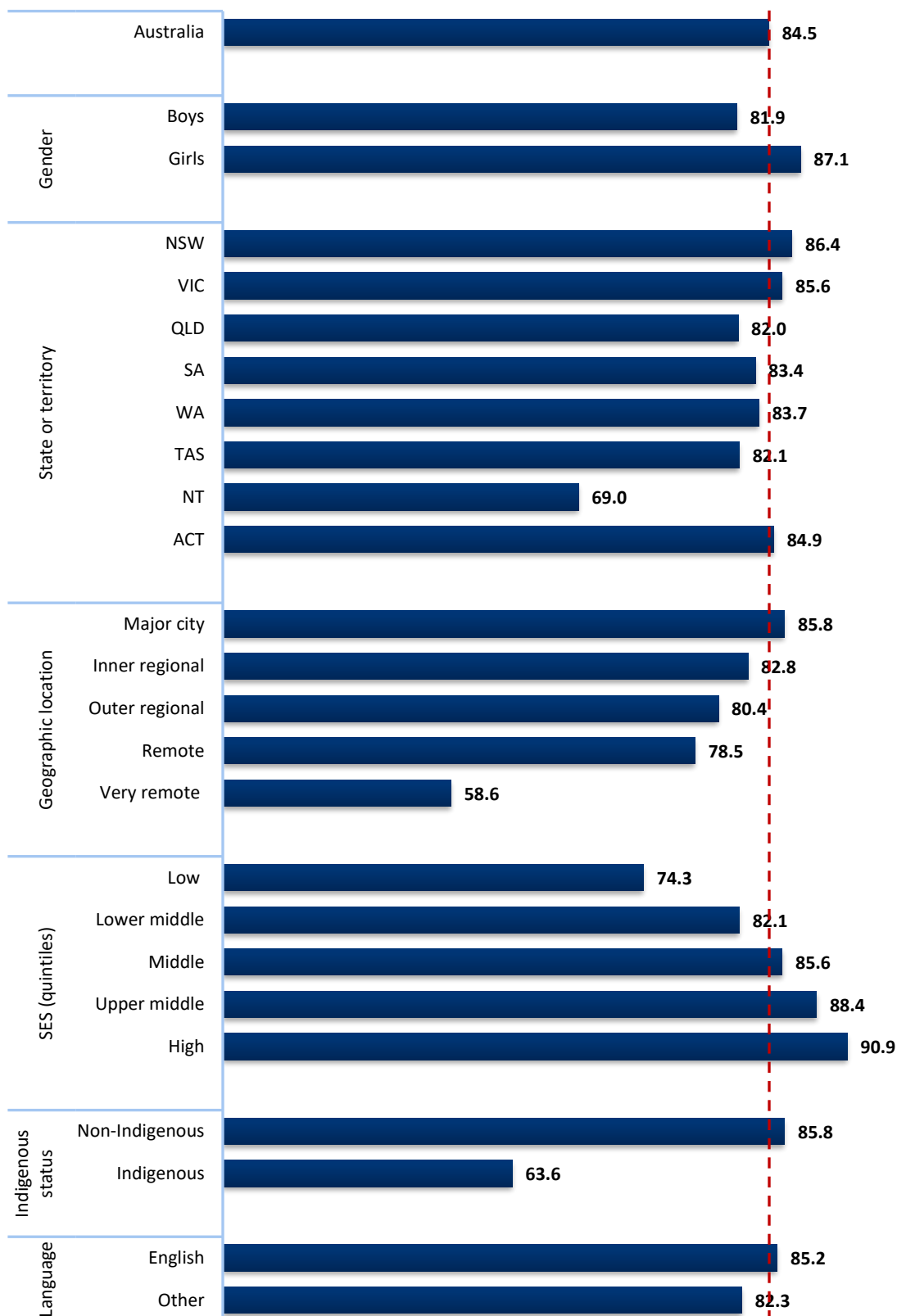
Key indicator 2: Skills in basic literacy and numeracy

Literacy and numeracy skills are critical foundational skills for children's engagement in the various areas of the curriculum in school. Learning science, exploring ways of knowing in the humanities, learning foreign languages and acquiring technological literacy all depend on students' mastery of literacy and numeracy, in addition to literacy and numeracy's direct relevance for English and mathematics learning. This is acknowledged in the Alice Springs Declaration, where ensuring that all students 'develop strong literacy and numeracy skills in their earliest years of schooling' is considered a necessary condition for excellence and equity in education (Education Council, 2019, p. 2). These skills are also essential for young Australians' ability to become successful lifelong learners beyond school. Given the prominent roles literacy and numeracy play in learning, the second 'successful learner' indicator focuses on these two sets of skills.

In the language and cognitive skills domain of the AEDC, there are four sub-scales which are literacy and numeracy indicators. Basic literacy, basic numeracy, an interest in literacy and numeracy, and advanced literacy are the four aspects used to define the language and cognitive skills domain in the early years. Based on the four sub-scales, it is possible to create an indicator directly measuring early literacy and numeracy skills, important to the national goals for education. The indicator identifies all students who are developmentally on track (i.e. not vulnerable) based on assessments on all four literacy and numeracy items. Children assessed as being on track are considered to possess the foundational skills to make the most of learning in the years to come. Figure 5-2 reports the proportion of children who are developmentally on track in both literacy and numeracy at entry to school, by background characteristics.

Nationally, 84.5 per cent of children have developed important foundation skills in literacy and numeracy by the first year of school. The likelihood of possessing these skills, however, is unequally distributed across groups of Australian children. Girls are more likely to be developmentally ready in literacy and numeracy than are boys – 87.1 per cent of girls compared to 81.9 per cent of boys. Children in families with a language background other than English are less likely to be ready than their English-background counterparts. However, the gaps are small in comparison to the gaps based on Indigenous status: 63.6 per cent of Indigenous children are developmentally on track compared to 85.8 per cent of non-Indigenous children.

Figure 5-2   Percentage of children developmentally on track (not vulnerable) in literacy and numeracy in their first year at school: 2018 (%)

Category	Group	Value
	Australia	84.5
Gender	Boys	81.9
	Girls	87.1
State or territory	NSW	86.4
	VIC	85.6
	QLD	82.0
	SA	83.4
	WA	83.7
	TAS	82.1
	NT	69.0
	ACT	84.9
Geographic location	Major city	85.8
	Inner regional	82.8
	Outer regional	80.4
	Remote	78.5
	Very remote	58.6
SES (quintiles)	Low	74.3
	Lower middle	82.1
	Middle	85.6
	Upper middle	88.4
	High	90.9
Indigenous status	Non-Indigenous	85.8
	Indigenous	63.6
Language	English	85.2
	Other	82.3

Source: Derived using data from AEDC.

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The gap in the proportion of children possessing basic literacy and numeracy skills supporting readiness for school is also large between high-SES and low-SES communities, amounting to 16.6 percentage points (between highest and lowest). Here, too, it is the most disadvantaged communities where children are most often not ready: the gap between the lowest-SES quintile and the second SES quintile is 7.8 percentage points, while the gap between the fourth SES quintile and the highest SES quintile is just 2.5 points. Gaps are also observed between major cities and very remote communities: in the former, 85.8 per cent of children are developmentally ready in literacy and numeracy, while the rate is 58.6 per cent in very remote Australia.

### *Cognitive, language and communication skills and general knowledge*

While literacy and numeracy were selected as key measures in this report because of their strong association with later learning outcomes, the AEDC also measures other attributes that are relevant to children becoming successful lifelong learners. A strong foundation in language, cognitive and communication skills and general knowledge is essential for students to make the most of learning opportunities at school. The national education goals expect students to build on this foundation to develop their 'ability to learn' and build 'essential skills in literacy and numeracy' (Education Council, 2019, p. 7). Two of the five AEDC domains have a direct connection with the ability to become a successful learner: the 'language and cognitive skills' and 'communication skills and general knowledge' domains.

Children who are developmentally ready in language and cognitive skills generally display an interest in reading and writing; they can read and write simple words or sentences, and count and recognise numbers and shapes. By contrast, those who struggle in this domain struggle to read and write simple words, do not have an interest in trying, and find it challenging to connect sounds to letters; they also have trouble with counting to 20 and identifying and comparing numbers. In the communication skills and general knowledge domain, the most developmentally mature children can tell stories and communicate easily with adults and other children. Those who experience difficulties, on the other hand, struggle to articulate, have a limited command of English, find it difficult to understand others and be understood, and have poor general knowledge (Department of Education and Training, 2019).

Figure 5-3 displays results using a combined measure of the percentage of children who are assessed as being developmentally on track on both the language and cognitive skills domain and the communication skills and general knowledge domain. The measure is derived based on the numbers of children who were assessed as developmentally on track in language and cognitive skills and also on track in communication skills and general knowledge. It is set against not only those assessed as vulnerable but also those assessed as at risk. This is done because for this particular indicator, at-risk students are markedly behind those assessed as on track, which is different to that recorded for emotional maturity, social competence and physical health and wellbeing. As a result, the indictor is different to that used in Figure 5-1 which treated both at-risk students and on track students as developmentally ready.

At a national level, the results show that 71.6 per cent of Australian children in 2018 were assessed as having the requisite foundational skills needed to become successful learners in the first year of school. Girls are more likely than boys to be ready to seize learning opportunities in primary school (9.7-point gap).

Figure 5-3   Percentage of children in the first year at school developmentally on track on both the language and cognitive skills domain and the communication skills and general knowledge domain: 2018 (%)
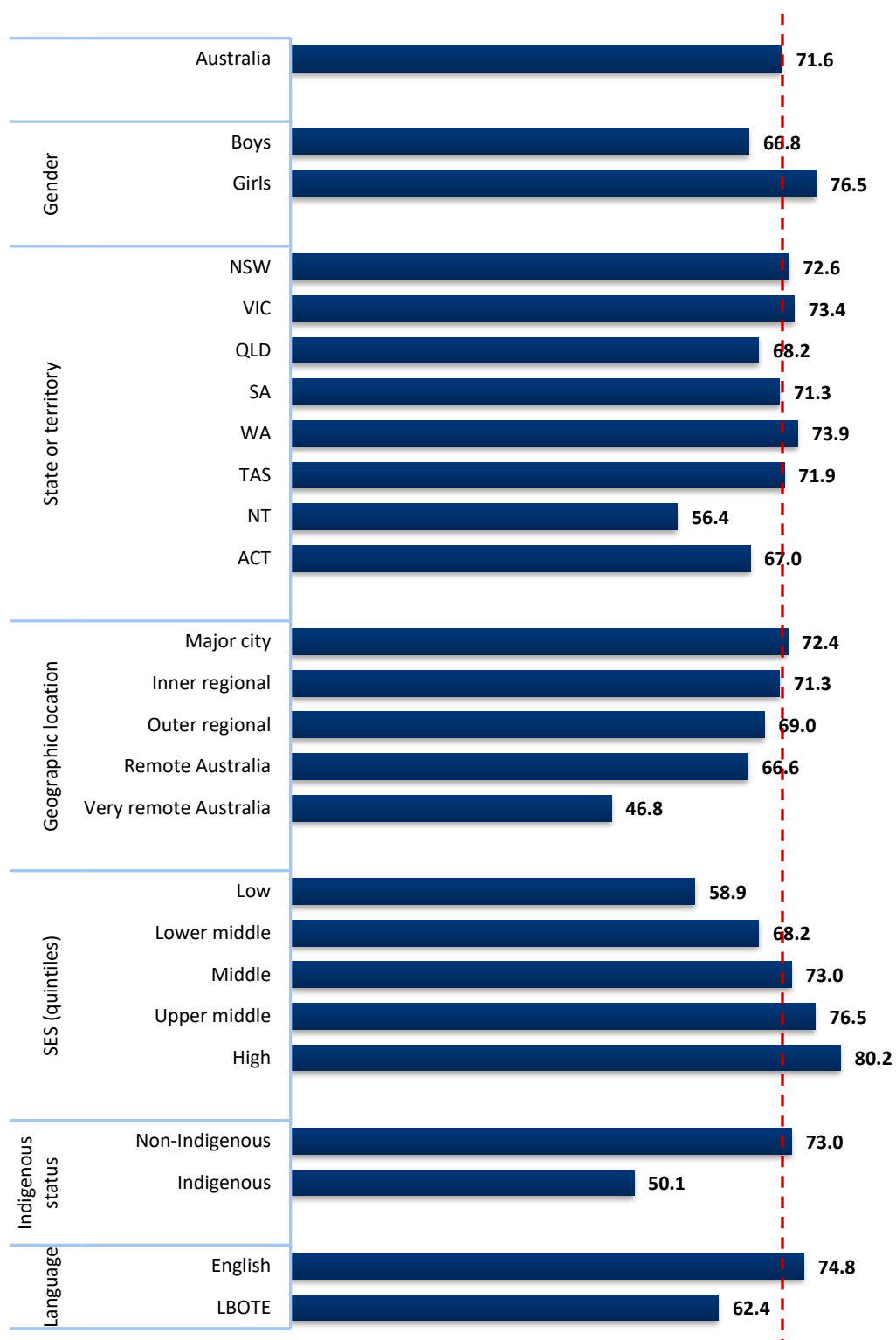
Source: Derived using data from AEDC.

There are some differences based on state and territory, and these may well reflect differences in community resources, differences in participation patterns and access, and differences in policy settings. Gaps between Indigenous and non-Indigenous children are large, as are those between students living in low-SES communities (lowest quintile) and those living in high-SES communities (highest quintile). There is a 21.3-point gap between students from high SES backgrounds and those from low SES backgrounds.

Table 5-2 presents the results separately for the two domains as well as the combined results. Australia-wide in 2018, 84.4 per cent were of children developmentally on track in the language and cognitive skills domain, and 77.3 per cent in communication skills and general knowledge.

Table 5-2 **Percentage of children in the first year at school who are developmentally on track in language and cognitive skills and communication skills and general knowledge, by student background characteristics: 2018 (%)**

		Language and cognitive skills	Communication skills and general knowledge	Both domains
	Australia	84.4	77.3	71.6
Gender	Boys	81.6	73.0	66.8
	Girls	87.4	81.7	76.5
State or Territory	NSW	87.2	76.8	72.6
	VIC	84.6	79.4	73.4
	QLD	82.4	74.0	68.2
	SA	82.7	77.8	71.3
	WA	83.4	81.3	73.9
	TAS	80.6	80.9	71.9
	NT	66.8	66.5	56.4
	ACT	84.2	72.5	67.0
Location	Major city	85.8	77.6	72.4
	Inner regional	82.7	77.8	71.3
	Outer regional	80.3	76.5	69.0
	Remote	77.4	74.8	66.6
	Very remote	55.0	59.5	46.8
Socioeconomic status (quintile based on area)	Lowest	73.8	67.0	58.9
	Lower middle	81.8	74.8	68.2
	Middle	85.5	78.6	73.0
	Upper middle	88.5	81.1	76.5
	Highest	91.4	83.9	80.2
Indigenous status	Non-Indigenous	85.8	78.3	73.0
	Indigenous	62.6	61.6	50.1
Language background	English	85.4	80.9	74.8
	LBOTE	81.7	66.8	62.4

Source: Derived using data from AEDC.

Marked developmental differences exist across different groups of children. While the overall levels of development in the two domains vary somewhat, the direction and magnitude of

gaps between groups of children are consistent: Indigenous children, those living in low-SES communities and those from language backgrounds other than English are behind developmentally and in need of greater support to be ready to become successful learners at school.

Differences based on participation in pre-school programs

Universal access to pre-school programs is available for all children in the year before full-time school, but not everyone participates. Differences in participation in the programs, and attendance at day-care centres, may be associated with differences in opportunity for Australian children to be developmentally ready for school learning. Data from the AEDC questionnaire indicates whether or not each child participated in a pre-school program in the year immediately prior to starting school, and also whether they attended a day care centre.

Table 5-3 reports the rates of attendance at pre-school programs and day care centres in the year prior to entering school. The percentages are presented as well as the actual numbers of children.

Table 5-3 **Participation in pre-school programs by attendance at day care in the year before commencing school: 2018 (%)**

		Percentages		Numbers	
		Attended pre-school	Attended Day care	Attended pre-school	Attended Day care
Nationally	Australia	92.4	51.8	296,133	166,014
Gender	Boys	92.3	52.1	152,056	85,859
	Girls	92.5	51.4	144,053	80,117
State and territory	NSW	89.8	63.9	91,258	64,894
	VIC	96.4	37.2	76,307	29,477
	QLD	86.7	59.1	58,079	39,567
	SA	97.4	34.4	20,593	7,279
	WA	95.7	31.4	34,029	11,178
	TAS	98.6	34.6	6,317	2,216
	NT	95.0	30.0	3,350	1,057
	ACT	97.0	49.8	5,905	3,030
Geographic location	Major city	92.3	55.3	212,205	127,156
	Inner regional	92.9	47.5	52,411	26,807
	Outer regional	91.7	39.9	24,385	10,601
	Remote	92.7	29.5	4,162	1,322
	Very remote	91.6	22.8	2,641	657
Socioeconomic status	Lowest	86.9	42.0	53,488	25,814
	Lower middle	90.8	49.1	55,297	29,926
	Middle	93.1	52.2	60,246	33,826
	Upper middle	94.6	54.8	64,547	37,420
	Highest	95.8	59.4	62,308	38,620
Indigenous status	Non-Indigenous	92.7	52.5	278,817	157,775
	Indigenous	86.6	41.7	17,217	8,296
Language	English	93.7	52.6	224,274	125,830
	LBOTE	88.4	49.3	71,646	40,005

Source: Derived using data from AEDC.
Note: 'Don't know' responses were excluded from the analysis.

The rates show that in 2018, of Australian children in the first year at school 92.4 per cent had attended a pre-school program in the previous year. The rates vary by background and location. The rates were highest in Tasmania (98.6 per cent), possibly reflecting the state-wide provision of kindergarten in schools, and also in South Australia (97.4 per cent) and the ACT (97.0 per cent). The rates were lowest in Queensland (86.7 per cent and New South Wales (89.8 per cent).

Going to pre-school in the year prior to primary school is as common in remote areas (92.7 per cent) as it is in cities (92.3 per cent).

Rates of attending are lowest for Indigenous children (86.6 per cent) and those living in low-SES areas (86.9 per cent).
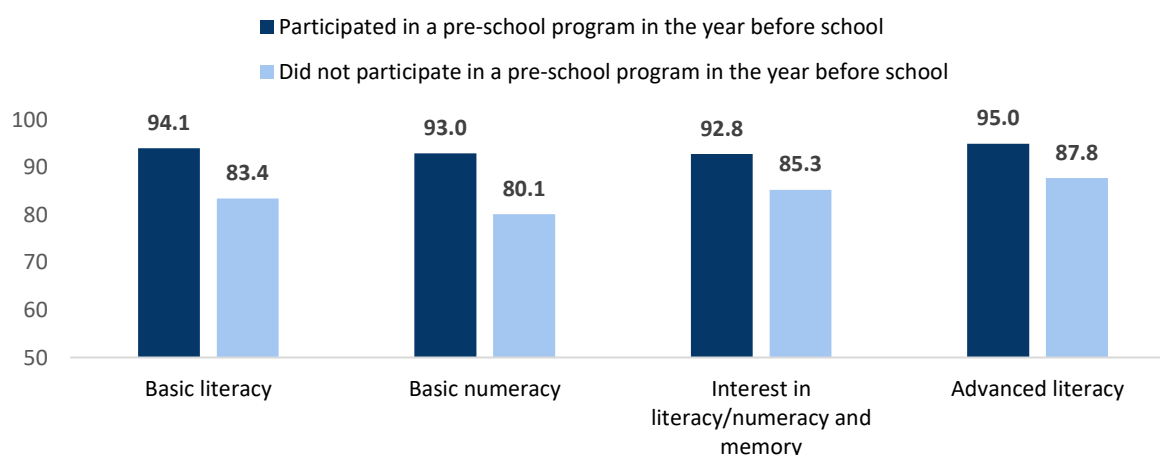
Does participation in a pre-school program or attendance at a day care centre have any relationship with being developmentally ready at the point of entry to school?

One way to assess this is by comparing the key language and cognitive skills of children who did and did not participate in pre-school. Four skills that measure specific aspects of children's cognitive and linguistic development in the AEDC are:

1. *Basic literacy* – the identification of letters, attaching sounds to letters, an awareness of rhyming words and an ability to write one's own name
2. *Basic numeracy* – the ability to count to 20, recognise numbers and shapes, as well as compare, sort and classify numbers
3. *Interest in literacy/numeracy and memory* – an interest in books, reading, mathematics and numbers and the absence of memorisation difficulties, and
4. *Advanced literacy* – the ability to read and write (simple) words or sentences.

Differences in the assessed rates of being developmentally ready in the four language and cognitive skills by participation in pre-school are reported in Figure 5-4.

Figure 5-4   Percentage of children developmentally on track in language and cognitive skills, by attendance in pre-school in the year prior to school, 2018 (%)

Source: Derived using data from AEDC.

Participation in a pre-school program is associated with stronger skills in basic literacy and numeracy and in advanced literacy and interest in literacy and numeracy. This does not imply causality, but the gaps between those participating and those not, are quite marked.

Just over nine in every ten children (92.4 per cent) were reported by their Foundation teacher as having participated in a pre-school program in the year before starting school. The 7.6 per cent of children not participating in such programs are less likely to be developmentally on track for each of the language and cognitive development skills. The gap is 7.5 percentage points for interest in literacy/numeracy and memory, and 7.2 points in advanced literacy. The gap widens to 10.7 points in basic literacy and 12.9 points in basic numeracy.

The risk of not being developmentally on track in basic literacy and numeracy skills is considerably higher for those who do not participate in pre-school. However, this may have to do with the types of children who do and do not enrol in pre-school rather than the effects of participating in pre-school. To look at this issue, a logistic regression analysis was conducted predicting the likelihood of being on track (developmentally ready) in key skills at entry to school for those who attended and those who did not attend pre-school, controlling for the background characteristics of children. The key skills relate to (1) being on track (not vulnerable or at risk) in the language and cognitive skills domain, (2) being on track (not vulnerable or at risk) in the communication skills and general knowledge domain, and (3) being on track (not vulnerable or at risk) on both skill domains combined.

The results of the analysis are presented in Table 5-4. The estimates are likelihoods or probabilities expressed as percentages. The reference group, against which all estimates are compared and based, comprises non-Indigenous girls in New South Wales from English-speaking backgrounds living in middle SES city areas. The reference group estimates are provided at the top of the table and show that, for example, members of the reference group have an 83.7 per cent chance of being developmentally on track in language and cognitive skills. For males with the same attributes, the chances fall to 75.6 per cent (a gap of 8.1 points). The rates are lower for those living in low SES areas, Indigenous students, those living in very remote communities and those in the Northern Territory and the ACT. They are higher for high SES students (those living in high SES areas).

The results show that, all else being equal, attending a pre-school in the year prior to commencing primary school substantially increases the chances of being developmentally on track and ready for school. In language and cognitive skills, the effect is equivalent to raising the chances of being on track by 8.5 percentage points. For communication skills and general knowledge, the effect is equivalent to 9.0 percentage points. When combining the skills and measuring across both domains, the advantage for those attending pre-school rises to 12.3 percentage points.

The results highlight the importance and value of participation in pre-school programs for all children in the year before commencing school to enable them to be well-placed to become successful learners in school. High quality pre-school programs are earmarked as part of the approach needed to achieve the national goals for education, and the results in this section strongly support that view.

Table 5-4 **Likelihood of being on track (developmentally ready) in key skills at entry to school expressed as percentages, by selected background characteristics and attendance at pre-school**

	Language and cognitive skills		Communication skills and general knowledge		Combined skills	
	Estimate (%)	Gap (% point)	Estimate (%)	Gap (% point)	Estimate (%)	Gap (% point)
Reference group	83.7		78.0		71.0	
Attended						
Pre-school	92.2	8.5	87.0	9.0	83.3	12.3
Day care	85.5	1.8	79.4	1.4	72.9	1.9
Gender						
Male	75.6	-8.1	67.0	-11.0	58.8	-12.2
State or territory *						
VIC	77.6	-6.1	78.6	0.6	69.1	-1.9
QLD	79.5	-4.2	74.3	-3.7	66.4	-4.6
SA	78.2	-5.5	76.6	-1.4	67.7	-3.3
WA	78.1	-5.6	81.2	3.2	71.0	0.0
TAS	78.9	-4.8	82.5	4.5	72.2	1.2
NT	66.0	-17.7	70.7	-7.3	58.3	-12.7
ACT	71.7	-12.0	71.3	-6.7	60.3	-10.7
Location						
Inner Regional	82.6	-1.1	77.1	-0.9	70.2	-0.8
Outer Regional	83.9	0.2	79.9	1.9	72.7	1.7
Remote	83.6	-0.1	80.2	2.2	72.6	1.6
Very Remote	74.6	-9.1	77.1	-0.9	65.3	-5.7
Socioeconomic Status						
Low	75.0	-8.7	70.1	-7.9	61.1	-9.9
Lower Middle	80.5	-3.2	75.0	-3.0	67.1	-3.9
Upper Middle	86.7	3.0	80.2	2.2	74.2	3.2
High	88.8	5.1	82.7	4.7	77.2	6.2
Indigenous status						
Indigenous	66.4	-17.3	65.1	-12.9	52.7	-18.3
Language background						
Other than English	81.2	-2.5	63.9	-14.1	59.3	-11.7

Note: The reference group comprises non-Indigenous girls in New South Wales from English-speaking backgrounds living in middle SES city areas.

Confident and creative individuals

Under the second goal of the Alice Springs Declaration, as well as becoming successful learners and active and informed citizens, Australian students are expected to become confident and creative individuals. This means having an ability to 'show initiative [and] use creative abilities', a 'sense of optimism' about life and the future, an ability to 'relate well to others and form and maintain healthy relationships', dispositions such as 'empathy and respect for others', and a successful preparation for future roles as community members (Education Council, 2019, p. 6).

The AEDC includes a number of questions on aspects of children's development that relate to the formation of confident and creative individuals. In particular, children's development in the 'social competence', 'emotional maturity' and 'physical health and wellbeing' domains is directly relevant to children's confidence and creativity at and beyond school.
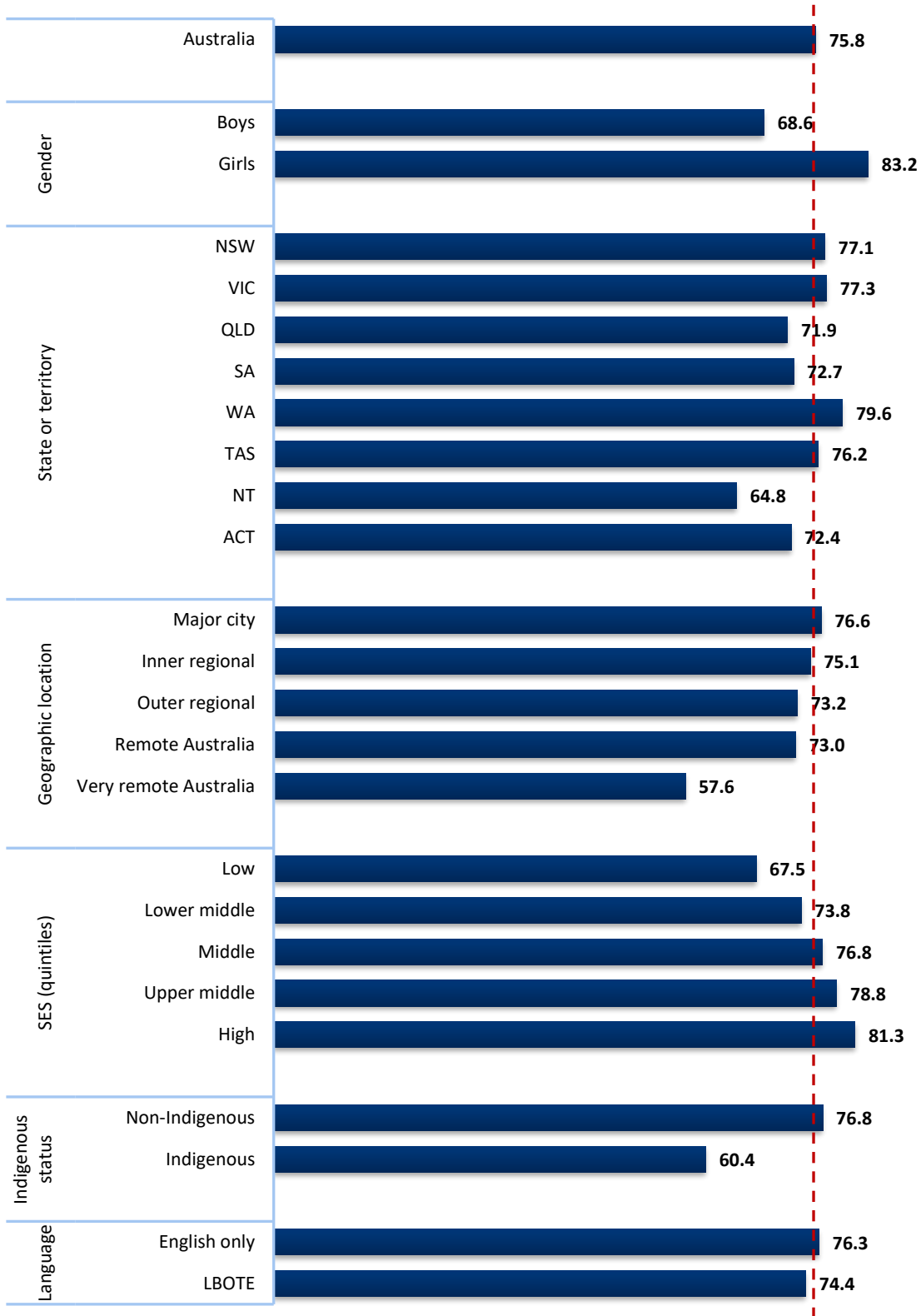
Key indicator 3: Social competence

As defined in the AEDC, children who are developmentally ready in the social competence domain rarely have problems getting along, learning or playing with others. They are self-confident, can follow class routines and are capable of helping others. Those who are less developmentally ready, on the other hand, have greater difficulties in forming connections with other children and adults. They do not accept responsibility for their own actions, they struggle with respecting rules and following class routines, and they show difficulties in self-directed learning and adaptation to change.

Figure 5-5 presents the proportions of children rated as developmentally on track in the social competence domain, by different student background attributes. Those classified as vulnerable or at risk make up the remainder of the population. According to the figures, Australia-wide just over three-quarters of children were developmentally on track in 2018. The rates, however, vary by student background.

Girls are far more likely to be assessed as developmentally on track in social competence than are boys – 83.2 per cent for girls compared to 68.6 per cent for boys. The gap between the number of Indigenous students and non-Indigenous students is 16.4 percentage points. Children living in low-SES communities are 13.8 percentage points less likely to be assessed as developmentally on track in social competence compared to those living in high-SES communities. As with the differences recorded for cognitive and communication skills, inequalities in social competence are particularly striking based on the SES profile of the child's community, the Indigenous status of the child, and their gender.

Figure 5-5   Percentage of children developmentally on track in social competence in their first year at school, by student background characteristics: 2018 (%)

Source: Derived using data from AEDC.

Key indicator 4: Emotional maturity

In the first years of school, children's emotional maturity is as important as their social competence to allow them to become confident and creative individuals. The AEDC 'emotional maturity' domain provides important information on the school readiness of young Australians in terms of emotional maturity. According to the AEDC, children displaying high levels of emotional maturity have become capable of controlling and restraining their anxiousness, aggressiveness and impulses. This enables them to concentrate on learning inside and outside the classroom. Those who are more emotionally immature, on the other hand, struggle with various aspects of emotional regulation. They can display aggressiveness, be disobedient, inattentive, distracted or impulsive (Department of Education and Training, 2019). Happiness, emotional control and concentration are hallmark features of emotional maturity.

Figure 5-6 shows the proportion of children assessed as developmentally on track in emotional maturity, broken down by different student and community attributes.

Australia-wide just over three-quarters (77.1 per cent) of children were developmentally on track in 2018. This is slightly higher than children's school readiness in social competence, comparable to Australian children's readiness for school in the communication skills and general knowledge domain, but lower than in the language and cognitive skills.

As with other skills related to children's development, sizeable gaps exist between different groups of children.

Girls are much more likely than boys to display levels of emotional development suggesting readiness for school (the gap is a sizeable 17.6 percentage points). Gaps are also large based on students' geographical location with students in major cities more likely to be developmentally ready emotionally than are students in very remote Australia (16.2 percentage point gap).
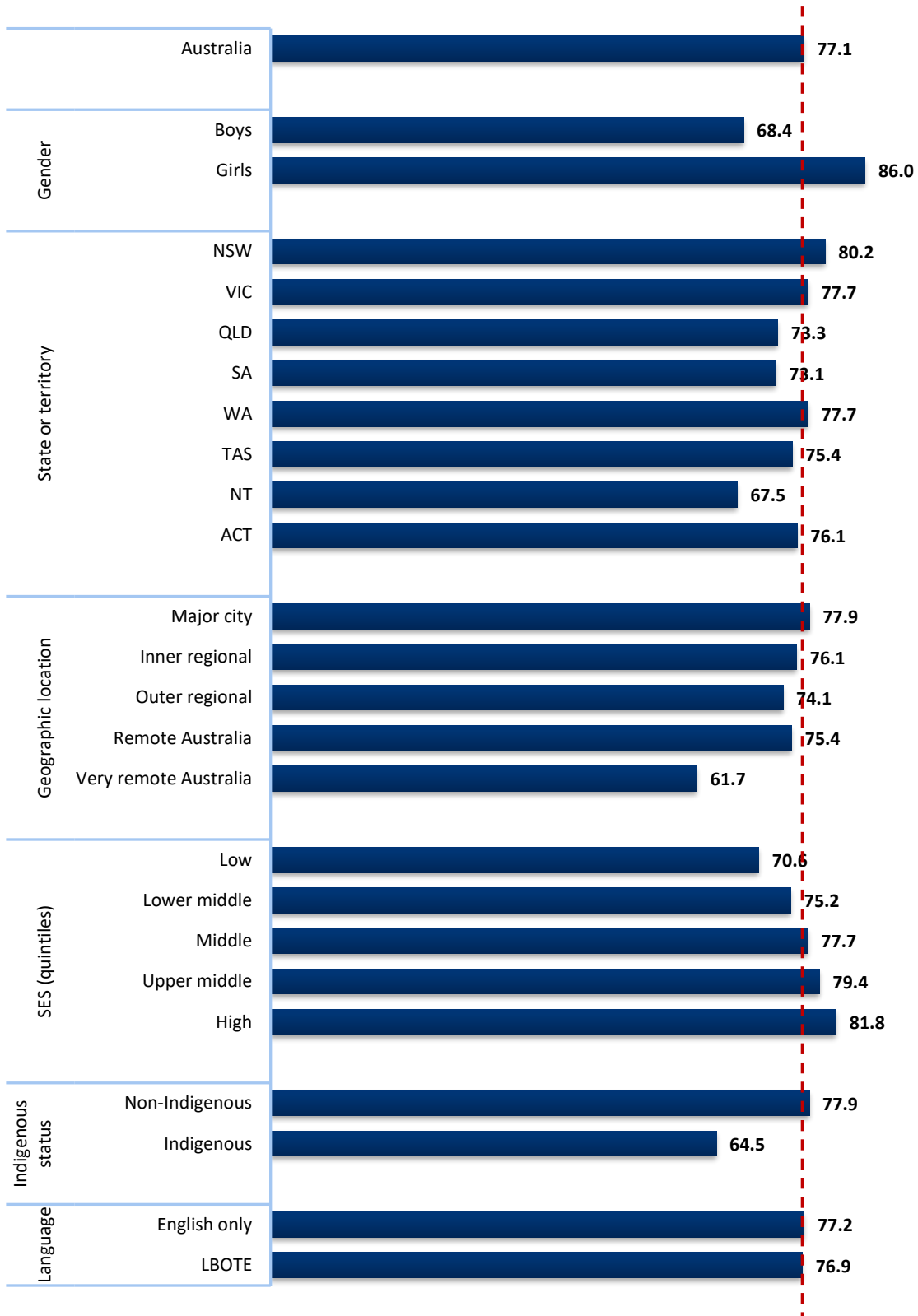
According to the AEDC assessments, Indigenous students are far less likely to be developmentally on track in emotional maturity when they enter school than are non-Indigenous students – 64.5 per cent compared to 77.9 per cent for non-Indigenous.

State and Territory differences also exist. The rates of those developmentally on track are highest in New South Wales (80.2 per cent) and lowest in the Northern Territory (67.5 per cent), though most other states and territories fall within a narrow range between 73.1 per cent and 77.7 per cent.

The social background of children, as measured by the SES of the area they live in, is also relevant to differences among children. Those living in low SES areas (lowest quintile) are less likely to be assessed as developmentally on track than are children from high SES areas (highest quintile) – 70.6 per cent for low SES and 81.8 per cent for children in high SES areas.

These patterns are consistent with those observed for children's social competence.

Figure 5-6   Percentage of children developmentally on track in emotional maturity in their first year at school, by student background characteristics, 2018 (%)

Category	Group	Value
	Australia	77.1
Gender	Boys	68.4
	Girls	86.0
State or territory	NSW	80.2
	VIC	77.7
	QLD	73.3
	SA	73.1
	WA	77.7
	TAS	75.4
	NT	67.5
	ACT	76.1
Geographic location	Major city	77.9
	Inner regional	76.1
	Outer regional	74.1
	Remote Australia	75.4
	Very remote Australia	61.7
SES (quintiles)	Low	70.6
	Lower middle	75.2
	Middle	77.7
	Upper middle	79.4
	High	81.8
Indigenous status	Non-Indigenous	77.9
	Indigenous	64.5
Language	English only	77.2
	LBOTE	76.9

Source: Derived using data from AEDC.

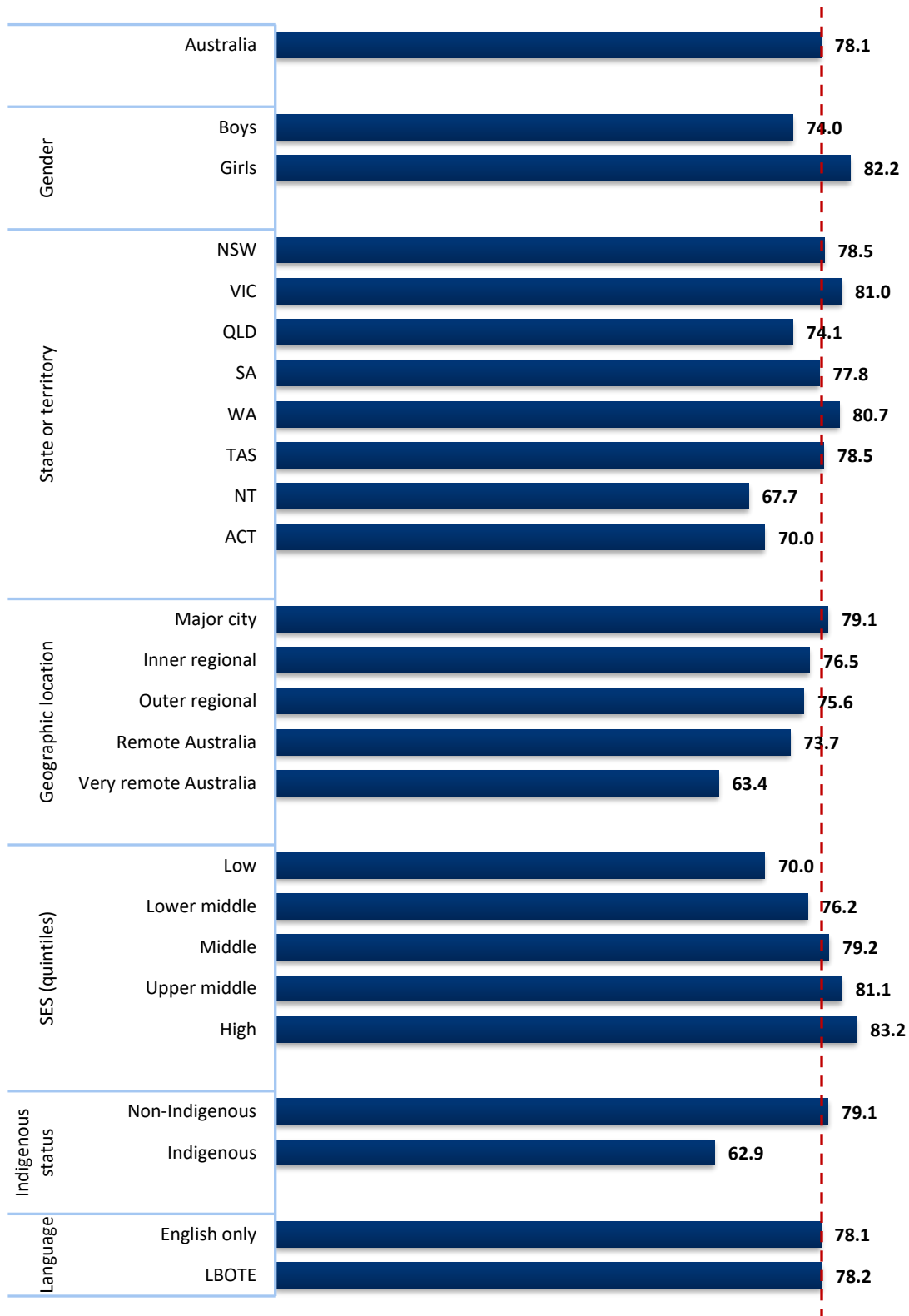Educational opportunity in Australia 2020

Physical health and wellbeing

A further AEDC domain that is relevant to children's confidence and creativity in the early years is 'physical health and wellbeing'. While less directly connected to children's overall confidence and creativity than the 'social competence' and 'emotional maturity' domains, the way in which physical health and wellbeing is defined and measured in the AEDC makes it important for this aspect of children's successful development. The AEDC defines physical health and wellbeing in terms of children's ability to physically cope with the school day, and whether they have the independence and energy levels to make the most of their schooling. On the other hand, children who are developmentally vulnerable in physical health and wellbeing struggle to cope with the school day. They may be late, hungry or tired and may have limited or fading energy levels, which can affect their confidence and creativity (Department of Education and Training, 2019).

Figure 5-7 shows the proportion of children rated as developmentally on track in physical health and wellbeing, reported by various student background characteristics.

Australia-wide 78.1 per cent of children were developmentally ready physically in 2018. This is slightly higher than children's school readiness in social competence, emotional maturity and communication skills and general knowledge, but still significantly lower than in the language and cognitive skills domain.

Figure 5-7   Percentage of children developmentally ready in physical health and wellbeing in their first year at school, by student background characteristics: 2018 (%)

Category	Group	Value
	Australia	78.1
Gender	Boys	74.0
	Girls	82.2
State or territory	NSW	78.5
	VIC	81.0
	QLD	74.1
	SA	77.8
	WA	80.7
	TAS	78.5
	NT	67.7
	ACT	70.0
Geographic location	Major city	79.1
	Inner regional	76.5
	Outer regional	75.6
	Remote Australia	73.7
	Very remote Australia	63.4
SES (quintiles)	Low	70.0
	Lower middle	76.2
	Middle	79.2
	Upper middle	81.1
	High	83.2
Indigenous status	Non-Indigenous	79.1
	Indigenous	62.9
Language	English only	78.1
	LBOTE	78.2

Source: Derived using data from AEDC.

Active and informed citizens

Developing strong ethical and cultural capabilities

Important to the aims of education in Australia is shaping individuals as active and informed members of the community. It may seem that this goal is less relevant to the early years since active and informed citizens are described as 'committed to national values of democracy' and able to 'appreciate Australia's rich social, cultural, religious and linguistic diversity', understand Australia's system of government and understand and acknowledge Indigenous cultures (Education Council, 2019, p. 8). These qualities appear distant from the experiences of children in the early years.

However, the concept of active and informed citizenship does have relevance to the early years. Acting 'with moral and ethical integrity' and 'work[ing] for the common good' are goals applicable to the early years, and the AEDC provides relevant information on these aspects of children's development. Two subscales – one from the social competence domain and one from the emotional maturity domain – relate directly to the early development of attitudes and dispositions toward active and informed citizenship. They are:

- **Responsibility and respect**, including children's respectful attitudes toward other persons and their property, rule-following, carefulness with material and general self-control (social competence domain)
- **Prosocial and helping behaviour**, including children's helpful and caring attitude toward others (e.g. when someone feels hurt, sick or upset) (emotional maturity domain).

The proportion of children developmentally ready in the two subdomains reported separately, as well as the proportion of children developmentally ready in a measure combining both subdomains, are presented in Table 5-5. The results are disaggregated by child background characteristics.

According to the assessed levels of development, children in very remote parts of Australia are less likely to be developmentally on track in terms of showing responsibility and respect compared to children in other parts of Australia – 77.4 per cent for very remote and 90.2 per cent for inner regional. Differences are also apparent between children from low SES areas (86.3 per cent) and those from high SES areas (92.9 per cent). The corresponding rates for children's prosocial and helping behaviour are lowest in low-SES communities (84.4 per cent) and highest among children from high SES backgrounds (90.7 per cent).

Gaps between states and territories are larger for the responsibility and respect subscale (10.2 percentage points between the lowest rate in the Northern Territory and the highest rate in Western Australia) and smaller for students' prosocial and helping behaviour (5.8 points between the lowest rate in the Northern Territory and the highest rate in New South Wales). For both subscales, however, the gap between most states and territories is less than four percentage points, suggesting that state-level differences in the formation of active and informed citizens in the early years are negligible.

Compared to boys, girls have a much higher rate of being developmentally on track on both skills.

Table 5-5 **Percentage of children developmentally on track on key aspects of early citizenship in the first year at school, by child background characteristics: 2018 (%)**

		Responsibility and respect	Prosocial and helping behaviour	Both domains
	Australia	90.4	91.4	85.3
Gender	Boys	86.4	87.5	79.4
	Girls	94.5	95.4	91.3
State or Territory	NSW	91.2	92.7	86.8
	VIC	91.6	91.9	86.7
	QLD	88.0	89.9	82.4
	SA	88.7	89.8	82.9
	WA	92.1	90.8	86.2
	TAS	91.1	91.7	86.0
	NT	81.9	86.9	76.7
	ACT	88.4	91.6	84.0
Geographic location	Major city	90.8	91.4	85.6
	Inner regional	90.2	91.8	85.6
	Outer regional	89.1	91.0	84.0
	Remote Australia	88.5	91.0	83.8
	Very remote Australia	77.4	85.5	72.9
Socioeconomic status	Lowest	86.3	84.4	80.1
	Lower middle	89.5	87.1	84.3
	Middle	91.1	88.4	86.0
	Upper middle	91.9	89.4	87.1
	Highest	92.9	90.7	88.6
Indigenous status	Non-Indigenous	91.0	91.7	85.9
	Indigenous	81.4	87.5	76.0
Language	English only	90.5	92.2	86.0
	LBOTE	90.2	89.0	83.3

Source: Derived using data from AEDC.

Looking at the skills combined, as a key indicator, the results presented in Table 5-5 show that 85.3 per cent of young Australians possess appropriate developmental capabilities in their first year of school – early indications of skills needed for further development of citizenship skills. However, some Australian children are not yet displaying the same level of skills.

In very remote parts of Australia, over one in four children (27.1 per cent) are assessed as not developmentally on track in these critical skills, much more than those in city areas (14.4 per cent). There are also large gender differences with a gap between girls and boys of 11.9 percentage points (20.6 per cent of boys versus 8.7 per cent of girls).

The results suggest that the early development of attitudes and behaviours indicative of a sense of shared responsibility and mutual support among the group or community one belongs to is more advanced among girls by the time they enter school. Girls' socialising experiences in the early years may well be conducive to a greater likelihood of developing the attributes required for becoming active and informed citizens in the future.

Consequences of skill differences in the early years

Research on children's educational trajectories suggests that the development of skills in the early years can be one of the strongest predictors of future achievement (Duncan et al., 2007; La Paro & Pianta, 2000; McClelland, Acock, & Morrison, 2006). What evidence do we have currently on the longer-term impact of differences in skills on entry to school?

One source of evidence is the Longitudinal Survey of Australian Children (LSAC), which tracks a national cohort of children selected at birth (LSAC Birth Cohort). The survey for the Birth Cohort includes the indicators used in the AEDC. For our purposes, consistent with the measures used in the earlier part of this chapter, successful learners are taken to be the students who are not developmentally vulnerable on all of the four AEDC literacy and numeracy subdomains (i.e. basic literacy, basic numeracy, interest in literacy/numeracy and advanced literacy), while confident and creative children are those who are developmentally ready (i.e. on track) in both social competence and emotional maturity. In the analysis, the later years refer to Year 5 for the successful learner domain and to the 10-11-year-old age group for the confident and creative individual domain. This makes it possible to use the same 'middle years' indicators as those used earlier in the report: successful learners are those who meet the NAPLAN Year 5 benchmark in both literacy and numeracy, while confident and creative individuals are those who meet the confident and creativity benchmark at age 10-11. The measures are presented in Table 5-6.

Table 5-6   LSAC longitudinal development indicators available for two of the three education declaration goals

|	Early years	Later years
Successful learner	Developmentally ready in the 4 literacy and numeracy subdomains	Above the national minimum standard in NAPLAN literacy and numeracy
Confident and creative individual	Developmentally ready in social competence and emotional maturity	Meets the confidence and creativity benchmark

Given the possible combinations of meeting early and later year milestones, developmental *trajectories* for each of the two domains can be described using four categories:

1. 'remained on track' for those who are on track or succeeding on both the early years and later years measures,

2. 'came back on track' for those who are not developmentally ready at the first time point but subsequently are able to overcome early developmental delays and display desired skill levels by the middle years,

3. 'drifted' for those who are initially developmentally ready but subsequently fall behind in the middle years, and

4. 'continued to struggle' for those who are not developmentally on track in the early years and remain behind in the middle years.

Figure 5-8 reveals that skills early on can have longer-term implications, but also that early developmental delays are not a binding destiny. This is true for both the skills of successful lifelong learners and those for creative and confident individuals. Taking the population of Australian children as a whole, just over seven in ten children have solid foundations in basic literacy and numeracy in the early years and are able to achieve above the national minimum standard in NAPLAN literacy and numeracy in Year 5.

Figure 5-8 Changes between school entry and the middle years in numbers of children having skills of successful lifelong learners and skills of creative and confident individuals (%)
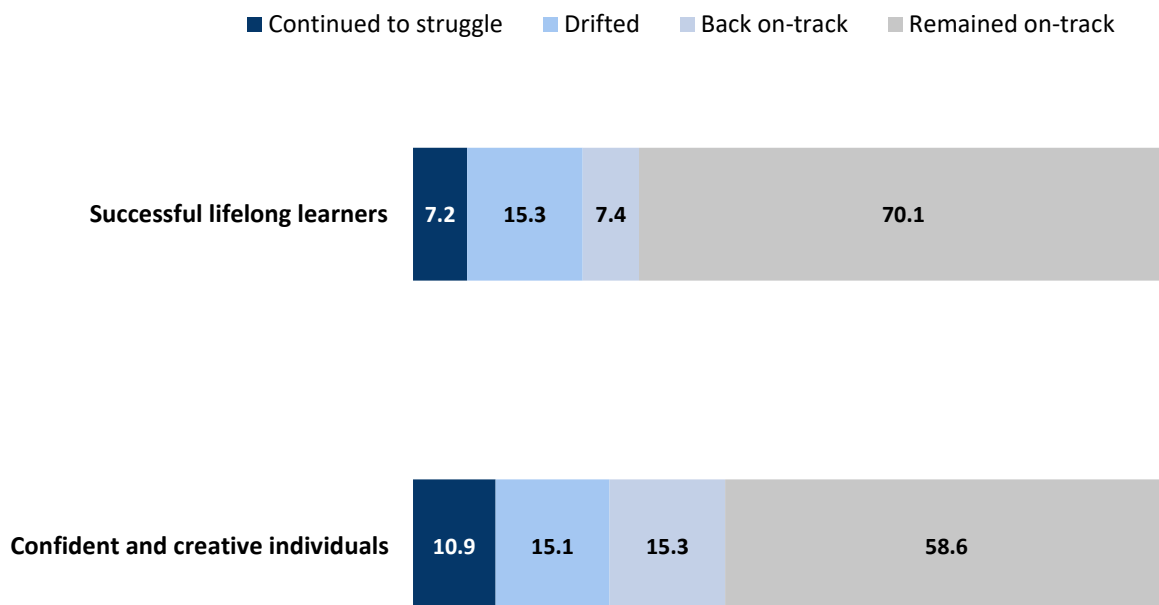
Source: Derived using LSAC B-cohort data.
Note: The difference in the proportion of children who meet the early milestone in the AEDC and in the LSAC Birth cohort (0.9 per cent in the successful learner domain and 3.75 per cent in the confident and creative individual domain) is due to the fact that the latter relies on a sample of children who were assessed as part of the AEDC in the very first AEDC in 2009.

Approximately 7.2 per cent of children were developmentally vulnerable in literacy and numeracy at entry to school and remained behind the majority of children at Year 5 in primary school. This is about one half of those who were developmentally vulnerable at the point of

entry to school in literacy and numeracy, as 7.4 per cent of students were behind in the early years but had caught up by Year 5. So, about half those assessed as vulnerable continue to struggle and remain behind during primary school.

Larger than these two groups taken together, however, is the group of students who were assessed as developmentally ready at school entry but fell behind in literacy and/or numeracy by Year 5. This group represents more than one in seven Australian children (15.3 per cent). For them, even though solid foundations existed when entering school, the learning opportunities available in school proved inadequate.

The general patterns for the skills of confident and creative individuals are consistent with those for successful lifelong learners. The majority of children (58.6 per cent) display desired levels of social competence and emotional maturity at entry to school and capitalise on these foundations, still displaying the desired standard of skills at age 10-11. A further 15.3 per cent of children, while developmentally vulnerable in social competence and emotional maturity at entry to school, overcome early difficulties to have acquired the desired skill levels and be back on track by age 10-11.

However, as for successful lifelong learning, for over one in seven children (15.1 per cent), solid foundations in the early years do not protect against difficulties or delays, starting off developmentally on track but falling behind by age 10-11. Finally, just over one in ten children (10.9 per cent) are developmentally behind at the point of entry to school on the measure of being confident and creative individuals and remain so through to age 10-11. School is not able to lift their skill levels to the desired standard, and as such has placed them at risk of not developing the skills to become confident and creative individuals.

Differences by social background

The longer-term effects of early differences in skill development vary by social background. Figure 5-9 reports the differences in outcomes for successful lifelong learning and for creativity and confidence by quartiles of child SES – lowest, lower middle, upper middle, and highest.

The results show different patterns based on social background. In terms of successful learners, the vast majority of high SES children (highest quartile) were developmentally on track at the point of entry to school in literacy and numeracy skills and were assessed as being above the national minimum standard in literacy and numeracy in Year 5 (87.8 per cent). Very few children from this background were not developmentally on track at the point of entry to school (5.7 per cent) and most of this group gained the skills to the desired standard by Year 5 (4.2 per cent).

By contrast, for low-SES children (those from the lowest quartile), just over one in two (53.2 per cent) were assessed as developmentally on track (not vulnerable) in literacy and numeracy skills at entry to school, and assessed as being above the national minimum standard in literacy and numeracy in Year 5. Of the 26.3 per cent who were initially assessed as not being developmentally on track in the early years, over half (14.7 per cent of all low SES children) were still behind in Year 5 with skills at or below the national minimum standard expected for NAPLAN. Further, one in every five low SES children (20.5 per cent) started out on track but had fallen behind by the middle years, far in excess of those from high SES

families (6.5 per cent). This is a damning fact. Low-SES children are the least likely to be given opportunities to capitalise on early literacy and numeracy development once in primary school: over one in five low-SES children (20.5 per cent) drifted from early success to be struggling in the middle years. It suggests that solid foundations in literacy and numeracy are not equally a guarantee of later learning success across socioeconomic groups: the more socioeconomically disadvantaged students are, the less effective good early development is in ensuring literacy and numeracy success in the middle years of school.

Figure 5-9   Changes between school entry and the middle years in numbers of children having skills of successful lifelong learners and skills of creative and confident individuals, by student SES (%)
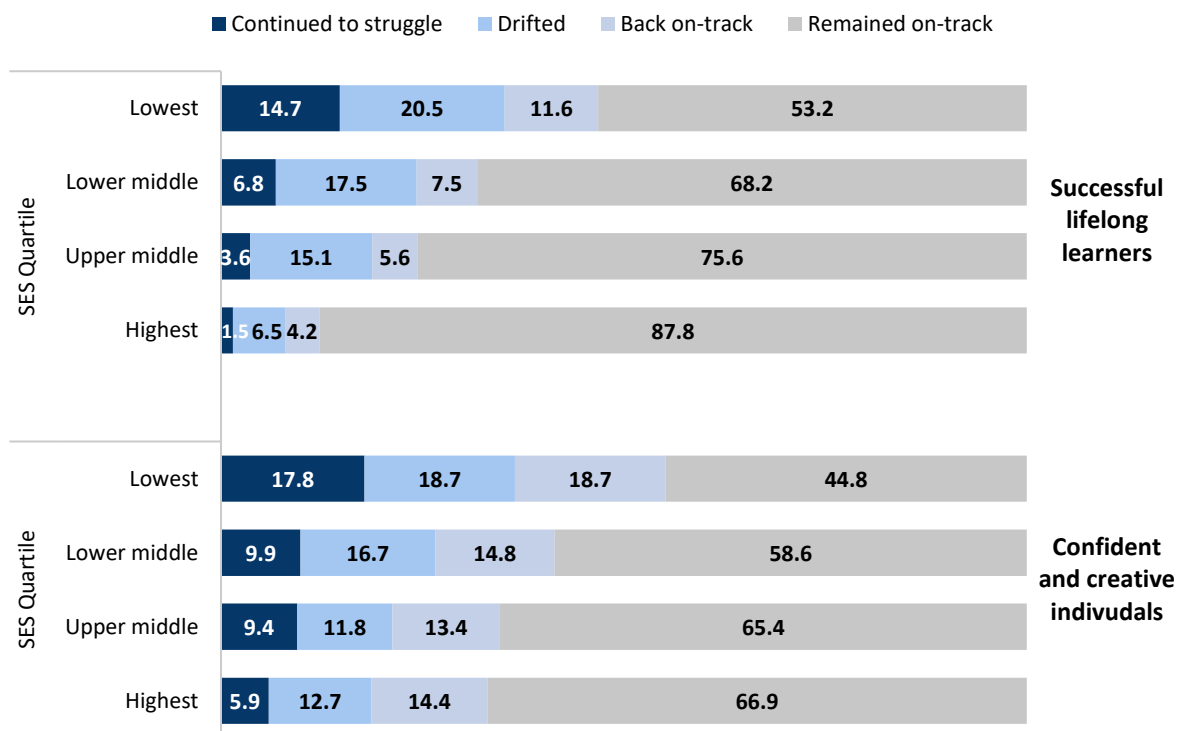
Source: Derived using LSAC B-cohort data.

For the measures of confident and creative individuals, fewer than one in two children from low-SES families (44.8 per cent) remain on track after entering school, while more than two in three children from high-SES families (66.9 per cent) do so. Children's likelihood of catching up and getting back-on track, going from early developmental delay to developmental success once reaching adolescence, is somewhat superior for low-SES students than for other students (18.7 per cent compared to 14.8 per cent for lower middle SES, 13.4 per cent for upper middle SES and 14.4 per cent for high SES), but starting from a significantly greater likelihood of not being on track at the beginning.

It is in the likelihood of drifting off-track or continuing to struggle that opportunities differ most across socioeconomic groups. Low-SES children are 1.5 times more likely than high-SES children to drift behind in primary school (18.7 per cent versus 12.7 per cent) and even three times more likely to be behind and stay behind (17.8 per cent versus 5.9 per cent).

Summary

Analysis of the early years of learning and development shows that while education can work to bridge gaps, the Australian education system is not yet doing this very well. Children from poorer backgrounds struggle the most at the beginning, and while some gain, grow and succeed in school in the ways our national goals desire, far too many do not. The proportion of children who are not developmentally on track at entry to school is similar to the proportion of young people who do not achieve success in young adulthood (Chapter 1). While the 2015 report showed that learners move in and out of successful or less successful categories throughout their education, on balance the early gaps remain.

Cognitive and communication skills were found to be already particularly unequally distributed across groups of children by the time they experience their first months of formal schooling. This finding is equally applicable to the socioemotional skills useful to make the most of educational opportunities as confident and creative learners in school. AEDC results from the social competence, emotional maturity, and physical health and wellbeing domains paint a consistent picture. Fewer opportunities to develop the physical and socioemotional dispositions and skills needed in school are available to children living in low-SES communities, Indigenous children and children whose parents have low levels of formal education. The various outcomes in this chapter show significant overlap, leading to compounded forms of disadvantage across developmental domains. This reinforces the need to provide greater support and developmental opportunities to these groups of children across all areas of the child's development.

Altogether, the fact that the majority of students who are successful in the early years continue on a path of well-rounded development well into the middle years delivers a powerful message. It suggests that investment in children's cognitive, language and social competence and emotional maturity development in the early years of life can create stable and solid foundations for making the most of the school and community opportunities presented to children as they grow up. Moreover, the analysis presented earlier suggests that children's participation in pre-school programs can be critical to accessing the early learning and development opportunities that support a strong start to school. Investment in high-quality early childhood education and care, especially for those who may benefit most, is critical to ensure all young people can become creative and confident individuals, successful learners and informed citizens of their community as they progress through Australia's education and training systems toward adult life.

6. Conclusion

Poring over the results presented in this report gives rise to the sense that for many in the population Australia's education and training systems are working well. On a range of measures, many of Australia's young people show that they are relatively good at mastering the knowledge and skills needed to succeed in the modern world. They enter school with strong foundations laid before school, and make good progress in the middle and senior years of school in developing the skills they need to complete school and successfully transition to full-time study and work, and gain post-school qualifications at university or in VET. Our systems, for many young Australians, are providing the skills for contributing effectively to modern workplaces and communities. In international comparisons, some Australian learners are top performers—up there with the world's best—and as they progress to become adults the communities they live in and the world more broadly will benefit from their contributions. Those who are doing well achieve all that the national goals say will be achieved.

There is another sense, however, that also stands out from the results of this report: our education and training systems are dogged by inequality. No matter which way you turn, which measure you use, parts of our population are missing out and falling behind. There are very uneven levels of academic learning across different groups of young Australians and wide gaps in achievement as learners progress from stage to stage. Young people from poorer backgrounds, Indigenous Australians, and rural students experience high rates of non-completion of school, and poorer outcomes. For these Australians, our systems are not functioning well, raising a question about the quality of education and the capacity for meeting the needs of all young Australians.

The results are at odds with the very first goal expressed in the Alice Springs Declaration which commits Australian governments to promote excellence and equity in education and provide 'all young Australians with access to high-quality education that is inclusive and free from any form of discrimination', and 'recognise the individual needs of all young Australians, identify barriers that can be addressed, and empower learners to overcome barriers' (Education Council, 2019, p. 4). Excellent systems are those that both raise and level the bar in promoting skill development and outcomes. That is, they lift standards of achievement and ensure that the standards are shared evenly across young people from different backgrounds.

The concept of levelling the bar means delivering strong outcomes for all. It is clear from the results of this report that education systems in Australia are not achieving this. As a result, not all Australian students are achieving their potential, and overall Australia is falling short on the goals set out in the national declaration for education. Our failures, here, undermine our pretensions to be called world leading. You cannot be considered excellent without having equity, otherwise the concept of excellence is hollow: leading systems are meant to deliver on both fronts.

To get a sense of the size of the effort still required in Australia, it is worth looking at a summary of the findings from the key indicators used in this report. Figure 6-1 provides a summary of the numbers succeeding and those who are struggling at each of the main stages of learning and development. The estimates are of the numbers of successful lifelong

learners, creative and confident individuals and active and informed citizens produced by our kindergartens, schools, and tertiary institutions, as well as estimates of those who are missing out. The indicators form a framework of educational opportunity measures which can be used for evaluating how well Australia's education systems are achieving the national goals for education. The numbers are our best estimates based on available data.

Figure 6-1 Estimates of educational opportunity using a set of indicators for measuring how well Australia's education and training systems are achieving the national goals for education

	Successful lifelong learners		Creative and confident individuals		Active and informed citizens	
Entry to school	Developmentally on track on all key development domains	Developmentally on track in literacy and numeracy	Developmentally on track in social competence	Developmentally on track in emotional maturity	Developmentally on track in respecting others and social behaviour	
Succeeding	78.3% 253,693	84.5% 273,781	75.8% 245,593	77.1% 249,805	85.3% 276,373	
Missing out	21.7% 70,308	15.5% 50,220	24.2% 78,408	22.9% 74,196	14.7% 47,628	
Middle school years	Performs above the national minimum standard in both literacy and numeracy	Performs at or above the international benchmark standard in science	Exhibits behaviours indicative of creativity	Possesses a strong sense of self-efficacy or belief in self	Keeps informed about current events and has awareness of global issues	Views key civic engagement activities as important to being an active and good citizen of Australia
Succeeding	75.2% 219,593	69.0% 201,488	72.8% 212,585	67.5% 197,108	64.4% 188,056	63.3% 184,844
Missing out	24.8% 72,419	31.0% 90,524	27.2% 79,427	32.5% 94,904	35.6% 103,956	36.7% 107,168
Senior school years	Attains a Year 12 certificate or equivalent	Meets or exceeds international benchmark standard for age in maths, science and reading	Exhibits high level proficiency in creative problem solving	Possesses a strong sense of self-efficacy or belief in self	Keeps informed about current events and has awareness of global issues	Views key civic engagement activities as important to being an active and good citizen of Australia
Succeeding	81.6% 259,224	72.2% 229,362	65.0% 206,489	75.3% 239,210	73.8% 234,445	65.3% 207,442
Missing out	18.4% 58,452	27.8% 88,314	35.0% 111,187	24.7% 78,466	26.2% 83,231	34.7% 110,234
Early adulthood	Engaged fully in education, training or work	Gains post-school qualification	Adaptable to change and open to new ideas	Confident in self and the future	Keeps informed about the world	Active in the community
Succeeding	70.3% 268,030	73.1% 278,310	70.1% 266,888	71.9% 270,315	66.8% 254,324	61.9% 235,669
Missing out	29.7% 112,695	26.9% 102,415	29.9% 113,837	28.1% 110,410	33.2% 126,401	38.1% 145,056

As Figure 6-1 shows, about one-fifth to one-third of young people are behind or missing out on most indicators, that is, not acquiring the lifelong learning skills and not mastering the knowledge and skills needed to become creative and confident individuals and active and informed citizens. For example, 29.7 per cent of 24-year-olds, or 112,695 of the 2019 population, were not engaged in full-time education, training or work. Among senior year students, 27.8 per cent or 88,314 15-year-olds do not meet or exceed for their age the international benchmark standard in mathematics, reading and science. The proportions of the population not mastering the skills to become confident and creative individuals or active and informed citizens vary on most measures between 25.0 and 38.0 per cent.

An indication of the size of the effort required to improve things, though, is gained not just from the numbers of young people who are missing out (as large as the numbers are). The size of the effort is revealed more by looking at the backgrounds of those who are not succeeding. Those missing out are far more often from disadvantaged backgrounds. Figure 6-2 reports the social gaps in skills comparing the percentages of high and low SES students *not succeeding* on the key indicators. High SES generally refers to those in the highest quintile or decile, while low SES refers to those in the lowest quintile or decile.

Figure 6-2 Social gaps in skills: percentages of high SES and low SES young people *not succeeding* on key educational opportunity indicators, by stage of learning (%)

	Successful lifelong learners		Creative and confident individuals		Active and informed citizens	
Entry to school Age 0-8	Developmentally on track on all key domains	Developmentally on track in literacy and numeracy	Developmentally on track in social competence	Developmentally on track in emotional maturity	Developmentally on track in respecting others and social behaviour	
High SES	14.7%	9.1%	18.7%	18.2%	11.4%	
Low SES	33.3%	25.7%	32.5%	29.4%	19.9%	
Middle school years Age 9-14	Performs above the national minimum standard in both literacy and numeracy	Performs at or above the international benchmark standard in science	Exhibits behaviours indicative of creativity	Possesses a strong sense of self-efficacy or belief in self	Keeps informed about current events and has awareness of global issues	Views key civic engagement activities as important to being an active and good citizen of Australia
High SES	8.7%	15.0%	19.3%	27.8%	31.6%	33.4%
Low SES	49.4%	57.0%	36.4%	37.5%	40.4%	38.5%
Senior school years Age 15-19	Attains a Year 12 certificate or equivalent	Meets or exceeds international benchmark standard for age in maths, science and reading	Exhibits high level proficiency in creative problem solving	Possesses a strong sense of self-efficacy or belief in self	Keeps informed about current events and has awareness of global issues	Views key civic engagement activities as important to being an active and good citizen of Australia
High SES	8.2%	13.8%	21.0%	18.7%	15.0%	28.6%
Low SES	33.2%	51.4%	50.0%	32.3%	39.0%	39.8%
Early adulthood Age 20-24	Engaged fully in education, training or work	Gains post-school qualification	Adaptable to change and open to new ideas	Confident in self and the future	Keeps informed about the world	Active in the community
High SES	18.0%	13.7%	27.7%	23.7%	24.0%	29.6%
Low SES	49.2%	47.1%	36.8%	35.2%	44.0%	44.6%

The results show that there are large gaps in skills and development at the point of entry to school: many more low SES children are behind compared to their high SES peers. The gaps exist across all domains, across all skill areas, and are even larger at later stages of school and into adulthood. The results are consistent with research that has repeatedly demonstrated that social background is a key predictor of educational and future success (e.g. OECD, 2018a). Moreover, the performance gaps by social class manifest in the earliest years of children's lives and fail to narrow in the years that follow, such that children who start behind often stay behind (Garcia & Weiss, 2017).

The Alice Springs Declaration indicates that as a nation we have a collective responsibility to ensure that steps are taken to deliver on the educational goals for all young Australians. Any strategy requires a focus on both equity and excellence, supporting students from all backgrounds and communities to reach the highest levels of achievement. It must start from birth and address differences in need and opportunity across all stages of learning. While it may not be easy, it is critical that we set ourselves the task of achieving our national aspirations for education. Success can form the foundation of Australia's future prosperity, through generations of intelligent, confident, creative and engaged citizens.

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