

# **Educational outcomes of children on guardianship or custody orders**

**A pilot study**

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**A pilot study**

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# Symbols

–	nil or rounded to zero
..	not applicable
F	females
M	males
n	sample size
n.a.	not available
P	persons
Std dev.	standard deviation

# Summary

## The issues

It is well known that education is important for the overall wellbeing of children and that literacy and numeracy levels are generally high among Australian children. But what is not so well known is whether all children, including those children who are in the child protection system, are academically performing at similar levels. There is limited Australian research on this topic, and this pilot study addresses this gap by examining the educational performance of children and young people on guardianship or custody orders.

## The study

The study population included children in years 3, 5 and 7 at government schools who participated in education department-based reading and numeracy tests in August 2003, and who were on guardianship or custody orders. Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory provided data on 895 children for this study. This pilot project involved interdepartmental linkage of administrative data across multiple jurisdictions – the first Australian study in this field to have done so.

## The findings

This pilot study found that children on guardianship/custody orders across all year levels had poorer academic performance, as assessed by reading and numeracy test scores, than all children sitting these tests.

Other results include:

- Children on guardianship/custody orders were considerably less likely to achieve the national benchmarks for reading and numeracy across almost all year levels compared with all children in each jurisdiction.
- Indigenous children on orders have much lower reading and numeracy scores than other children on orders.
- There were generally no significant or consistent associations for sex, living arrangements, or length of time on care and protection orders with mean reading and numeracy scores for children on guardianship/custody orders.

The report also briefly discusses comparability issues and possible confounding factors for which data was not collected, such as socioeconomic status.

## The message

Although only a pilot study, the disparities revealed in these analyses do provide evidence of poor academic performance among children on guardianship/custody orders. They make a compelling case that further work needs to be undertaken to identify and fully understand the factors that influence these patterns. Stage 2 of this project, if undertaken, has the potential to identify these factors as the children will be assessed two years later, incorporating a longitudinal perspective on how educational performance changes over a period of time on guardianship/custody orders.



# 1 Introduction

Community services departments in Australia are responsible for the welfare of over 20,000 children who are placed in child protection services, such as care and protection orders and out-of-home care (AIHW 2006). Children and young people come into contact with these services for a number of reasons. Many have been abused, neglected or otherwise harmed by their parents. In other cases, the child's or young person's parents are ill, deceased, in prison, or unable or unwilling to provide adequate care or protection (refer to Appendix A for more details about the child protection process in Australia).

Children's overall functioning and wellbeing is influenced not only by their family circumstances and the services and efforts of the child welfare agency, but also by the support provided by other family-serving agencies, such as the mental health and school systems (Conger & Rebeck 2001).

Education makes a significant contribution to the development and wellbeing of children and young people, and is an important gateway to future employment and life opportunities. For many children and young people in the care of the state, school is their safest and most stable environment (Queensland Government 2003). A school can provide social connectedness and friendship (Bonny et al. 2000; Mansour et al. 2003) and is believed by some to be 'the big opportunity for kids in care to have a chance in life' (Owen 2001, cited in Mondy 2003).

However, a history of disrupted school attendance due to relocation and exclusion, in addition to disabilities, learning difficulties, and emotional and behavioural problems, can mean that the educational needs of children and young people in the care of the state are not met (CREATE Foundation 2006; Queensland Government 2003). Furthermore, it has been suggested that lost educational opportunities have a cumulative effect on children in care as they move through the various stages of education and development (Queensland Government 2003). These factors have ramifications on future employment prospects and the ability to participate effectively in community life.

In recent years, there has been an increasing focus on examining the outcomes of child protection services, particularly in relation to the educational needs and outcomes of children and young people in the care of the state. It is recognised that children and young people often have low educational performance when entering the child protection services (Queensland Government 2003; Evans et al. 2004). This could be a reflection of the abuse or neglect they may have experienced, as well as the influence of their socioeconomic circumstances (Veltman & Browne 2001; Social Exclusion Unit 2003). A significant question regarding the outcomes of child protection services is whether educational performance improves after a period of time on child protection orders and in out-of-home care.

Internationally, numerous studies have found that children in care perform more poorly at school than other children, including: poorer school grades, lower scores on standardised tests, developmental delays, higher rates of special education placement and grade retention, behavioural and disciplinary problems, and higher absenteeism, truancy and drop-out rates (Sawyer & Dubowitz 1994; Evans et al. 2004; Social Exclusion Unit 2003; Merdinger et al. 2005). Most of these studies, however, were not based on longitudinal analyses of educational performance.

These findings are consistent with a number of small-scale Australian studies that have examined similar issues among children in the child protection system (Cavanagh 1996; de

Lemos 1997; Cashmore & Paxman 1996; Quinn & Leahy 2005; CREATE Foundation 2006; Queensland Government 2002; Queensland Government 2003).

Over the last decade there has been limited national information published on the educational needs and outcomes of children and young people in care in Australia. In fact, a recent audit of Australian out-of-home care research identified that there is an obvious lack of Australian research conducted on this topic (Cashmore & Ainsworth 2004). Of those Australian studies that have been undertaken on children and young people in care, there are a number of clear gaps:

- Almost all studies had samples limited to one state.
- Of those that collected national data, information was only collected on school experience, attendance and completion, and not on measures of academic performance such as school grades and test scores (CREATE Foundation 2003, 2004, 2006).
- Almost all studies collected only cross-sectional data and, for those few studies that reported data over multiple years, individual children were usually not followed up over time (Queensland Government 2003; CREATE Foundation 2006).
- Two studies investigated the academic performance of individual children in care over time, but both had small sample sizes (Quinn & Leahy 2005; Queensland Government 2003).

There is a clear need for a national study of children and young people in the child protection and care system that tracks their individual educational performance over time. Administrative data collections held by states and territories, in combination with data linkage methodology, has the potential to provide an important contribution to these issues.

## **Purpose and structure of this report**

This study adds to previous research on the educational outcomes of Australian children placed in child protection services. It is the first Australian study of this scale to analyse data on the academic performance (as assessed by reading and numeracy scores) of children on guardianship or custody orders across multiple jurisdictions.

This project is a pilot study, which is longitudinal in nature and designed in two stages. Stage 1 provides a snapshot of the academic performance of all children in years 3, 5 and 7 at government schools who participated in education department-based reading and numeracy tests in August 2003, and who were on a guardianship or custody order at the time. Stage 2 is intended to assess these children two years later, with the aim of identifying any change in their performance over time, as well as providing a second snapshot of the educational attainment of children in care.

This report presents the cross-sectional baseline data from stage 1 of the project. The report has four chapters. The second chapter provides an overview of the methods used and data quality issues (further details are included in Appendices B and C). The results are presented in Chapter 3, with more detailed statistical tables included in Appendix D. The main findings are then discussed in Chapter 4.

## 2 Methods

This chapter provides an overview of the study population, measures of educational performance, data quality and analytical methods used in this report, and details the data linkage methods used in stage 1 of the project.

### 2.1 Study population

The study population included children in years 3, 5 and 7 at government schools who participated in education department-based reading and numeracy tests in August 2003, who were on guardianship or custody orders at the time and for whom states and territories were *in loco parentis*.

*In loco parentis* meaning 'in place of parents', refers to the legal responsibility of a person or organisation to take on some, or all, of the functions and responsibilities of a parent, including matters relating to the health and wellbeing of the child.

A guardianship or custody order is defined as an 'order that is sought through the court that has the impact of transferring custody or guardianship of the child'. For the purposes of this project, it only includes orders where guardianship or custody of a child is transferred to the community services department, or another agency or department. It excludes permanent care orders and administrative arrangements or agreements with the community services departments, which have the same effect as a court order of transferring custody or guardianship.

All jurisdictions were invited to participate in the study. Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory provided 2003 data for stage 1 of the project. Victoria also provided additional data for 2000 to 2004.

### 2.2 Data linkage procedure

This pilot project involved interdepartmental linkage of administrative data across multiple jurisdictions, the first Australian study in this field to have done so. Collection of data for this project required collaboration between the education and community service departments within each participating jurisdiction, as well as the AIHW. All data linkage was conducted within and by the jurisdictions. Specific procedures to match data on the target population were developed between the two departments in each state and territory.

Within each participating state and territory, the community services department created a unit record file for all children aged 6 to 14 years who were on guardianship/custody orders at the time of education department testing for national reporting. This unit record file was then sent to the education department, and included only those data items required for data linkage purposes (such as full name, sex, date of birth, and Indigenous status). The education departments were then able to link the details of these children with the corresponding numeracy and reading test scores. This unit record file was then sent back to the community services department, where child protection data was added. Identifying data items (for

example, name and date of birth) were removed, and a unique ID was provided for each child to allow statistical linkage for stage 2 of the project.

The unit record file was then forwarded to the AIHW, and included demographic and child protection information from state and territory community services departments and educational performance from the state and territory education departments. The following variables were included on the data file:

- sex
- Indigenous status
- living arrangements
- length of time on the current guardianship/custody order
- length of time the child has continuously been on all care and protection orders
- school year attended
- scaled reading score
- scaled numeracy score
- unique ID.

The project was undertaken with full clearance from the AIHW Ethics Committee – a fully constitutional committee, whose membership and procedures comply with the relevant National Health and Medical Research Council (NHMRC) guidelines, including the *Guidelines on ethical conduct in human research*. The security, integrity, privacy and confidentiality of the data are protected by a range of stringent legal and administrative safeguards at the AIHW.

Legal advice was also sought by each relevant state and territory department regarding the privacy issues of children on care and protection orders, and measures were put in place to ensure that privacy legislation was not broken.

## 2.3 Measures of educational performance

State and territory reading and numeracy test scores were used to assess the educational performance of children on guardianship/custody orders. While reading and numeracy tests do not measure the full breadth of student knowledge and understanding, they are designed to assess whether children have achieved the minimum standard appropriate for their year of schooling. All jurisdictions have their own curriculum and monitoring programs, however, nationally agreed minimum reading and numeracy standards at years 3, 5 and 7 have been applied to the testing regime of each state and territory. Within each state and territory, a common achievement scale, which underlies the reporting for all years and across time, has been developed for each curriculum area.

Comparative data, used to evaluate the educational performance of children on guardianship/custody orders, was sourced from the education departments and the *National report on schooling in Australia* publication (MCEETYA 2004). In this report, the following data from education departments were used as comparative measures:

- Summary statistics about the test performance of all children in government schools who sat the reading and numeracy exams in each participating state and territory (for example, mean, standard deviation and sample size).
- Reading and numeracy benchmark ‘cut-off’ test scores.

The national reading and numeracy benchmarks are established by expert judges, and each is a measure of the minimally competent student, below which a student would have difficulty progressing to the next level. Equivalent benchmarks are established for each jurisdiction's test, thus enhancing the comparability of the tests of different states and territories and ensuring differences in results against the national benchmarks are a consequence of factors other than the tests (MCEETYA 2004).

This report compares the educational performance of children on guardianship/custody orders with all students who sat the test. While it would have been preferable to compare children on orders with those not on orders, this was not possible given the data received. Nonetheless, the comparative data used to assess the inequality in education performance is more likely to underestimate, rather than overestimate, these differences.

## **2.4 Data quality**

This pilot study included data from Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory. Of all children aged 8–14 years on guardianship or custody orders/arrangements in Australia at 30 June 2003, 50% were from these five jurisdictions. It should be noted that the data presented in this report may not be nationally representative, as the jurisdictions included may differ from those excluded (that is, New South Wales, Western Australia and the Northern Territory).

There are differences between states and territories in legislation, policies and practices in relation to care and protection orders, and each state and territory has different reading and numeracy tests and its own scaling system for these tests. For these reasons, the test scores are not directly comparable across the states and territories and test scores from the participating jurisdictions could not be aggregated to produce quasi-national mean scores for children on guardianship/custody orders. This limited the types of analyses that could be undertaken due to the small sample sizes in some jurisdictions.

An important limitation of the study is that data were not collected on socioeconomic status or for students who were exempt or absent from the tests (see Appendix B for further details).

In this report, the methods used for calculating the proportions and 95% confidence intervals of children on guardianship/custody orders achieving the national reading and numeracy benchmarks differ slightly to the method used for all children (see Appendices B and C for further details). This should be taken into account when interpreting the data.

Data were only received for children on guardianship/custody orders attending government schools (see Appendix B for further details on other data quality issues).

## **2.5 Analytical methods**

Several analytical methods have been used to compare the educational performance of children on guardianship/custody orders with the performance of all children in years 3, 5 and 7 who sat the same test at the same time in the same jurisdiction. This was done by comparing mean test scores and the performance of students against the national benchmarks. The mean test scores of children on guardianship/custody orders by selected subgroups have also been examined.

## **Comparison of mean test scores**

### **State means**

Significance testing was undertaken to assess whether the mean reading and numeracy test scores of children on guardianship/custody orders were significantly different to the mean scores of all children who sat these tests in each state and territory. Due to large differences in the sample size between 'children on guardianship/custody orders' and 'all children' in each jurisdiction, a single-sample t-test was used (Kirkwood 1988) (see Appendix C for further details).

### **Among subgroups**

Descriptive statistics (for example, mean, standard deviation and sample size) are presented for children on guardianship/custody orders by sex, Indigenous status, living arrangements and length of time on care and protection orders. Missing data for these variables were excluded pair-wise; that is, cases were only excluded if they were missing the data required for a specific analysis (Field 2000; Pallant 2005).

When comparing the mean reading and numeracy test scores between two or more subgroups of the study population, independent t-tests were used for sex and Indigenous status, and one-way ANOVAs were used for year level and living arrangements.

As the data for length of time on care and protection orders were not normally distributed, Spearman's correlation coefficients were used when exploring the relationship between the tests scores and length of time variables (Field 2000).

### **National benchmarks**

The proportion of children on guardianship/custody orders achieving the national reading and numeracy benchmarks was calculated using the benchmark 'cut-off' test scores provided by the education departments in each state and territory. This was then compared to the proportion of all students achieving the reading and numeracy benchmarks in each state and territory. Benchmark performance data of children on guardianship/custody orders (as for all children) is comparable across the states and territories.

The methods for calculating the proportions and 95% confidence intervals of children on guardianship/custody orders achieving the national benchmarks is not the same as that used by MCEETYA in their national reporting (see Appendices B and C for further details).

### **Multiple linear regression**

Multiple linear regression analyses were undertaken to explore which variables were strongly associated with the reading and numeracy test scores. The factors included in the regression were sex, year level, state, Indigenous status, living arrangement and length of time on current guardianship/custody order. The Australian Capital Territory (ACT) did not provide data for length of time on current guardianship/custody order. Therefore, four regression models have been carried out – numeracy and reading models including the ACT, and numeracy and reading models excluding the ACT, which enabled length of time on current guardianship/custody order to be included as a factor in the regression.

As each state/territory has different scaling systems for their reading and numeracy test scores, the scores were standardised to enable the data for all jurisdictions to be aggregated using a common scale, and thus increase the sample sizes for the models over those for individual jurisdictions. A larger sample size increases the power of the model to identify significant associations and improve the robustness of the findings.

See Appendix C for further details on the methodology for modelling the data.

## 3 Findings

It is well-known that proficiency in literacy and numeracy is essential to effective participation in daily life and that an educated workforce contributes to a productive, prosperous society (AIHW 2005). However, as outlined in Chapter 1, less is known about the academic performance in literacy and numeracy of children in the child protection system.

This chapter attempts to address this issue by presenting an overview of academic achievement based on year 3, 5 and 7 reading and numeracy test scores, and compares the academic performance of children on guardianship/custody orders with all children in these year levels. Differences in academic performance associated with demographic and other characteristics of the children are also examined.

All results presented in this report relate to data from Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory, as only these jurisdictions provided data for this project. It is not appropriate to compare data between states and territories as different reading and numeracy tests and scaling systems were used in each jurisdiction.

### 3.1 Size of study population

Data were received for 895 children in Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory, who sat the years 3, 5 or 7 reading and/or numeracy tests in government schools in August 2003, and were on guardianship/custody orders as defined in Section 2.1 (Table 1). This represents 51% of the estimated number of all children on guardianship or custody orders/arrangements at 30 June 2003 typically in years 3, 5 and 7 in these five jurisdictions (AIHW 2003).

Overall, nearly all children on guardianship/custody orders in this study sat both the reading and numeracy tests (95%), and this proportion only varied slightly between the participating jurisdictions (Table 1). Slightly more children completed the numeracy test than the reading test (886 compared with 861 overall). This study excludes those children on guardianship/custody orders who were exempt or absent from both the tests.

**Table 1: Number of children in study population, by state and territory, 2003**

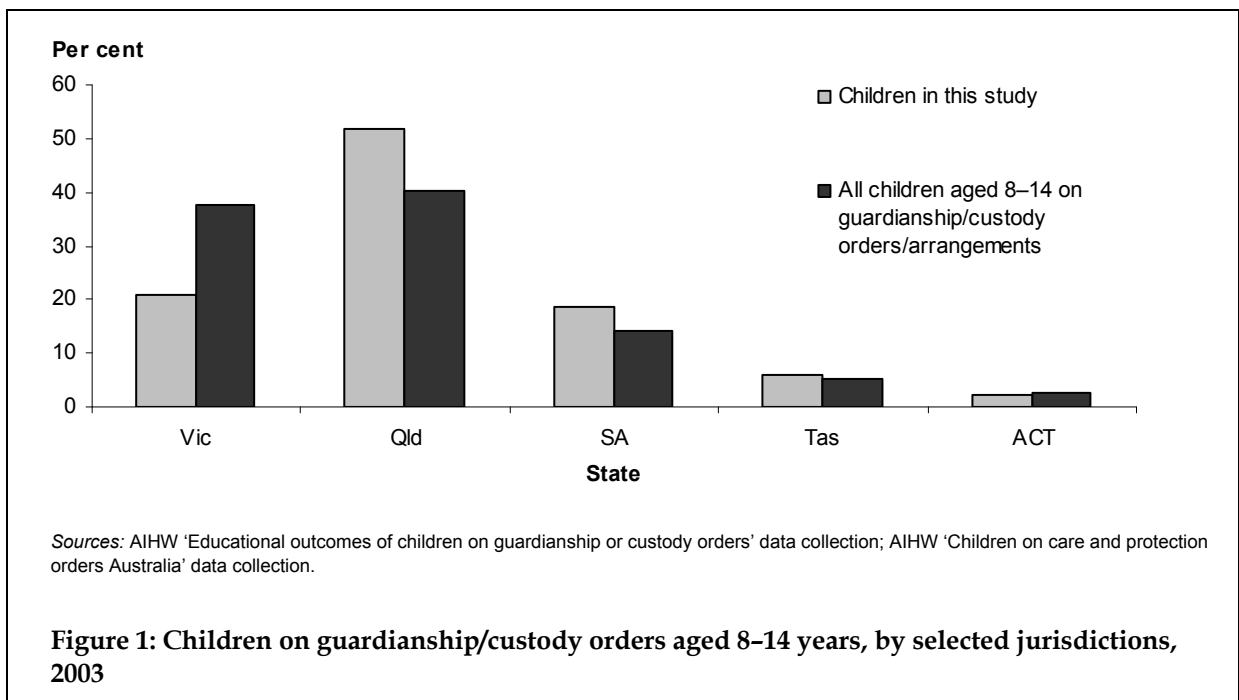
State/territory	Completed reading test	Completed numeracy test	Completed both tests	Completed either test
Vic	170	186	168	188
Qld	451	459	447	463
SA	168	168	168	168
Tas	52	53	50	55
ACT	20	20	19	21
<b>Total</b>	<b>861</b>	<b>886</b>	<b>852</b>	<b>895</b>

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

Of the children on guardianship/custody orders in this study, over half were from Queensland (52%), and a further 21% and 19% were from Victoria and South Australia, respectively. Six per cent were from Tasmania and 3% from the ACT. For participating



jurisdictions, when compared to the proportions of all children aged 8–14 years on guardianship/custody orders at 30 June 2003, Queensland and South Australia were over-represented in this study, and Victoria was notably under-represented (Figure 1).



## 3.2 Comparison of mean test scores

In each state and territory in 2003, children on guardianship/custody orders across all year levels had much lower mean test scores for reading and numeracy than all children sitting these tests (Table 2). These differences were all found to be statistically significant, with the exception of the Year 3 reading test in Tasmania, and the Year 7 reading and Year 5 numeracy tests in the Australian Capital Territory. This may be a reflection of the small number of children on guardianship/custody orders in these two jurisdictions (see Table 1) – much larger differences are required to demonstrate statistical significance in smaller samples.

Each state and territory has different reading and numeracy tests and uses a different scaling system, so it is not valid to directly compare test scores across jurisdictions. However, the extent of the differences between the mean test scores of children on orders and all children was generally consistent across jurisdictions. Detailed tables of the mean test scores for each jurisdiction, stratified by various characteristics, are provided in Appendix D (Tables A1–A5).

Additional time-series data from Victoria indicates that this pattern of poorer test scores across all year levels among children on guardianship/custody orders compared with all children in the state occurred in each year from 2000 to 2004 (Table A6).

**Table 2: Mean reading and numeracy test scores, by year level, 2003**

	Year 3		Year 5		Year 7		
	Children on guardianship/custody orders	State	Children on guardianship/custody orders	State	Children on guardianship/custody orders	State	
<b>Reading</b>							
Vic	3.10*	3.38	3.77*	4.21	4.71*	5.28	
Qld	489*	531	571*	611	646*	683	
SA	42.4*	48.7	50.8*	55.5	55.8*	60.3	
Tas <sup>(a)</sup>	287	320	324*	374	366*	446	
ACT <sup>(a)</sup>	404*	524	514*	662	658	720	
<b>Numeracy</b>							
Vic	2.92*	3.30	3.58*	4.08	4.57*	5.14	
Qld	489*	534	550*	607	620*	681	
SA	42.8*	49.5	52.8*	59.3	58.6*	65.6	
Tas <sup>(a)</sup>	288*	364	347*	408	381*	464	
ACT <sup>(a)</sup>	484*	529	546	635	600*	697	

\* Difference between the mean test score of children on guardianship/custody orders and the state mean is significant at the 95% level ( $p \leq 0.05$ ).

(a) As the number of children on guardianship/custody orders in this jurisdiction is very small, caution should be taken in interpreting the results.

*Notes*

1. Mean test scores cannot be compared between jurisdictions as different reading and numeracy tests and scaling systems are used in each state and territory.
2. The standard deviations of the mean scores are presented in Appendix D (Tables A1–A5).

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

### 3.3 Children achieving the national benchmarks

In Australia, the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) has established national benchmarks for reading, writing and numeracy, which represent minimum standards of performance below which students will have difficulty progressing satisfactorily at school (see Chapter 2 for further details). The proportions of children on guardianship/custody orders and all children achieving these benchmarks are presented in this section (refer to Appendix C for details on the different methods used for children on orders compared to state-based estimates).

The data in this section are comparable across the states and territories (unlike the previous section) as equivalent benchmarks are established for each jurisdiction's test, thus enhancing the comparability of the tests across Australia.

In 2003, children on guardianship/custody orders were significantly less likely to achieve the national benchmarks across almost all year levels compared with all children in each jurisdiction. However, although not statistically significant, it was found that a higher proportion of Victorian Year 3 children on orders achieved the national reading benchmark than all children in the state, and similarly, larger proportions of ACT children on orders in Year 7 (reading) and Year 3 (numeracy) achieved the national benchmarks. Caution should be used in interpreting the results from Tasmania and the ACT due to the small number of cases in these jurisdictions.

Although not statistically significant for all jurisdictions or across all year levels, the proportion of children achieving the national benchmarks generally decreased with increasing age—Year 5 and 7 students were generally less likely to achieve the benchmarks than those in Year 3 (Table 3). This pattern was less pronounced among all children in the state and, in many cases, was not statistically significant (that is, the 95% confidence intervals overlapped across year levels, despite the larger sample sizes). However, among children on guardianship/custody orders, there was generally a substantial decline in the proportion of children achieving the benchmarks between Year 3 and the two older year levels.

**Table 3: Proportion of children on guardianship/custody orders achieving the national reading and numeracy benchmarks, by year level, 2003 (per cent)**

	Reading				Numeracy			
	Children on guardianship/custody orders		State		Children on guardianship/custody orders		State	
	Per cent	95% C.I.	Per cent	95% C.I.	Per cent	95% C.I.	Per cent	95% C.I.
<b>Vic</b>								
Year 3	94.8	85.6–98.9	90.4	88.3–92.5	93.5	84.3–98.2	95.8	95.3–96.3
Year 5	77.1	62.7–88.0	89.6	88.4–90.8	84.9	72.4–93.3	94.7	94.0–95.4
Year 7	78.1	66.0–87.5	90.3	89.7–90.9	53.5	41.3–65.5	85.8	85.1–86.5
<b>Qld</b>								
Year 3	81.5	73.9–87.6	93.8	92.2–95.4	77.7	69.9–84.3	92.1	90.5–93.7
Year 5	52.2	44.1–60.2	81.4	78.9–83.9	63.6	55.7–71.0	86.3	84.7–87.9
Year 7	65.6	57.6–73.0	89.3	88.2–90.4	57.6	49.5–65.4	85.2	84.6–85.8
<b>SA</b>								
Year 3	60.0	44.3–74.3	89.7	88.1–91.3	75.6	60.5–87.1	90.1	88.4–91.8
Year 5	65.6	52.3–77.3	88.6	87.2–90.0	68.9	55.7–80.1	90.7	89.5–91.9
Year 7	79.0	66.8–88.3	92.9	92.3–93.5	61.3	48.1–73.4	85.2	84.4–86.0
<b>Tas<sup>(a)</sup></b>								
Year 3	92.9	66.1–99.8	96.4	95.6–97.2	73.3	44.9–92.2	93.9	92.5–95.3
Year 5	94.4	72.7–99.9	95.2	94.3–96.1	66.7	41.0–86.7	92.4	91.2–93.6
Year 7	50.0	27.2–72.8	88.3	87.2–89.4	45.0	23.1–68.5	80.6	79.5–81.7
<b>ACT<sup>(a)</sup></b>								
Year 3	57.1	18.4–90.1	96.2	95.3–97.1	100.0	59.0–100.0	95.2	94.1–96.3
Year 5	85.7	42.1–99.6	96.1	95.0–97.2	66.7	22.3–95.7	91.9	90.2–93.6
Year 7	100.0	54.1–100.0	91.4	90.3–92.5	42.9	9.9–81.6	86.4	84.8–88.0

(a) As the number of children on guardianship/custody orders in this jurisdiction is very small, caution should be taken in interpreting the results.

**Notes**

1. Benchmark calculations for children on guardianship/custody orders include only government school students, whereas state calculations include government and non-government school students.
2. Benchmark calculations for children on guardianship/custody orders exclude students who were exempt from the tests, whereas state calculations include exempted students and these students are reported as falling below the benchmark.
3. The methods used in this report to calculate percentages and confidence intervals of children who are on guardianship/custody orders who have achieved national benchmark achievement levels is not the same as the method used by MCEETYA to report state-based results (see Appendices B and C for further details).

Sources: MCEETYA 2004; AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

## 3.4 Profile of children on guardianship/custody orders

The purpose of this section is to examine the differences in academic performance between particular subgroups of children on guardianship/custody orders. This may identify subgroups who are at an increased risk of poor academic performance among an already disadvantaged group.

### Sex and year level

Of the children on guardianship/custody orders who sat the reading and/or numeracy tests, 54% were males and 46% were females (Table A7). These proportions were fairly similar across participating jurisdictions, and were consistent with the proportions for all children on care and protection orders at 30 June 2003 (51% males, 49% females) (AIHW 2004).

In 2003, there was no clear pattern and generally no significant differences in the mean reading and numeracy scores between males and females on guardianship/custody orders across all year levels (Table 4). Some exceptions to this general finding were found for Tasmania and Victoria. In Tasmania, females had significantly higher numeracy scores than males overall, although no significant differences were found between year levels. In Victoria, males had significantly higher numeracy scores than females, both overall and in Year 7.

**Table 4: Mean test scores, by sex of children on guardianship/custody orders, 2003**

	Year 3		Year 5		Year 7		Total	
	Males	Females	Males	Females	Males	Females	Males	Females
<b>Reading</b>								
Vic	3.12	3.07	3.63	3.88	4.70	4.75	3.94	3.89
Qld	491	486	563	579	647	645	572	573
SA	40.5	44.1	50.0	51.4	55.8	55.7	50.0	50.8
Tas <sup>(a)</sup>	270	278	325	328	292	409	301	345
ACT <sup>(a)</sup>	370	451	480	540	694	587	517	520
<b>Numeracy</b>								
Vic	2.99	2.83	3.56	3.60	4.68*	4.39	3.86*	3.59
Qld	490	488	542	558	626	612	556	555
SA	42.3	43.2	51.3	53.8	57.6	59.8	51.6	52.8
Tas <sup>(a)</sup>	271	306	342	355	335	419	321*	370
ACT <sup>(a)</sup>	496	469	474	583	654	529	555	532

\* Difference between males and females in the mean test scores is significant at 95% level ( $p \leq 0.05$ ).

(a) As the number of children on guardianship/custody orders in this jurisdiction is very small, caution should be taken in interpreting the results.  
*Note:* Mean test scores cannot be compared between jurisdictions as different reading and numeracy tests and scaling systems are used in each state and territory.

*Source:* AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

As with all children in the state, mean reading and numeracy test scores for children on guardianship/custody orders increased with year level across all jurisdictions – that is, Year 3 students had the lowest scores, while Year 7 students had the highest (Table 2; Table 5). Almost all of these differences were statistically significant, except for reading test scores in Tasmania and numeracy scores in the ACT. This may be a reflection of the small number of children on guardianship/custody orders in these jurisdictions – much larger differences are required to demonstrate statistical significance in smaller samples.

Similar proportions of children on guardianship/custody orders completed the reading and/or numeracy tests in years 3, 5 and 7 (30%, 34% and 36% respectively)(Table A7).

**Table 5: Mean test scores, by year level of children on guardianship/custody orders, 2003**

	Year 3	Year 5	Year 7
<b>Reading</b>			
Vic*	3.10	3.77	4.71
Qld*	489	571	646
SA*	42.4	50.8	55.8
Tas <sup>(a)</sup>	287	324	366
ACT <sup>(a)**</sup>	404	514	658
<b>Numeracy</b>			
Vic*	2.92	3.58	4.57
Qld*	489	550	620
SA*	42.8	52.8	58.6
Tas <sup>(a)**</sup>	288	347	381
ACT <sup>(a)</sup>	484	546	600

\* All three year levels (years 3, 5 and 7) had significantly different mean test scores at the 95% level ( $p \leq 0.05$ ).

\*\* Mean test scores were significantly different between years 3 and 7 at the 95% level ( $p \leq 0.05$ ). However, Year 5 mean test scores were not significantly different to those for years 3 and 7.

(a) As the number of children on guardianship/custody orders in this jurisdiction is very small, caution should be taken in interpreting the results.

Note: Mean test scores cannot be compared between jurisdictions as different reading and numeracy tests and scaling systems are used in each state and territory.

Source: AIHW *Educational outcomes of children on guardianship or custody orders* data collection.

## Indigenous status

Aboriginal and Torres Strait Islander children are over-represented in the child protection system (AIHW 2006). While Aboriginal and Torres Strait Islander children accounted for 4% of all children aged 8–14 years in Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory in 2003, they represented 18% of all children in this age group on guardianship or custody orders/arrangements in these jurisdictions (ABS 2006; AIHW 2003).

In this study, one in five children on guardianship/custody orders who sat the reading and/or numeracy tests, was identified as Indigenous. The proportion of Indigenous children on guardianship/custody orders varied between jurisdictions – ranging from 10% to 24% (Table A8).

The proportion of children on guardianship/custody orders sitting the reading and numeracy tests in years 3, 5 and 7 were relatively similar for Indigenous Australians and other Australians – 30% of Indigenous students and 32% of other students in Year 3, 37% and 33% in Year 5, and 32% and 37% in Year 7, respectively (Table A8).

The disparity in mean reading and numeracy test scores between Indigenous and other children varies considerably depending on the year level, type of test and jurisdiction (Table 6). While means test scores for Indigenous children were considerably lower in Victoria, Queensland and South Australia, these differences were only statistically significant for some of the Queensland tests.

The numbers of Aboriginal and Torres Strait Islander children in Tasmania and the Australian Capital Territory in each year level were too small to draw any reliable conclusions (Table 6; Table A8).

**Table 6: Mean test scores, by Indigenous status of children on guardianship/custody orders, 2003**

	Year 3		Year 5		Year 7	
	Indigenous Australians	Other Australians	Indigenous Australians	Other Australians	Indigenous Australians	Other Australians
<b>Reading</b>						
Vic	3.05	3.10	3.64	3.78	4.63	4.73
Qld	472	495	553*	578	625	651
SA	40.4	42.9	46.3	52.2	54.8	56.1
Tas <sup>(a)</sup>	290	286	320	325	411	361
ACT <sup>(a)</sup>	—	404	—	514	603	669
<b>Numeracy</b>						
Vic	3.02	2.91	3.51	3.59	4.41	4.60
Qld	484	491	513*	564	579*	629
SA	38.4	43.9	48.8	54.0	55.6	59.6
Tas <sup>(a)</sup>	258	293	386	339	388	380
ACT <sup>(a)</sup>	—	484	—	546	543	623

\* Difference between the mean test scores of Indigenous and Other Australians is significant at the 95% level ( $p \leq 0.05$ ).

(a) As the number of Aboriginal and Torres Strait Islander children on guardianship/custody orders in these jurisdictions is very small, caution should be taken in interpreting the results.

**Notes**

1. Mean test scores cannot be compared between jurisdictions as different reading and numeracy tests and scaling systems are used in each state and territory.
2. Records where Indigenous status was not stated/missing/unknown were included in the 'Other Australians' category.

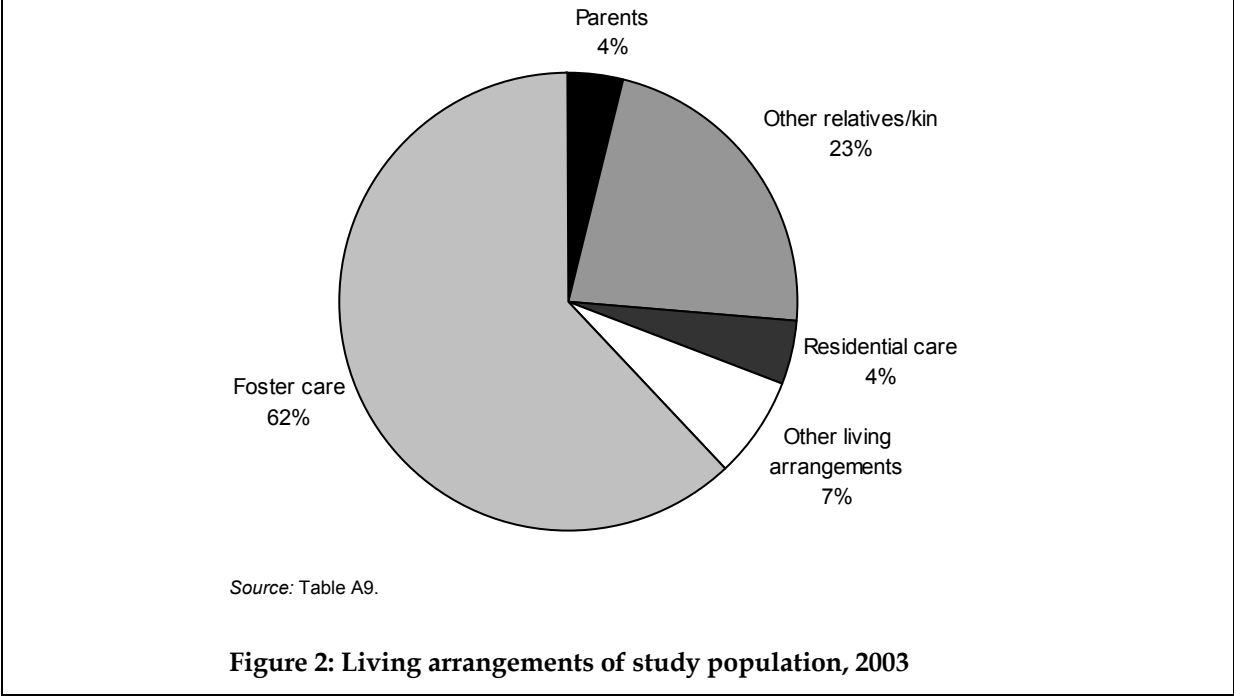
Source: AIHW *Educational outcomes of children on guardianship or custody orders* data collection.

## Living arrangements

Guardianship/custody orders generally remove responsibility of the child from the parents and transfer it to the community services department, or another agency or department. Part of this responsibility involves finding suitable accommodation for the child. The majority of children on care and protection orders are placed in out-of-home care, which provides alternative accommodation to children and young people who are unable to live with their parents (AIHW 2004; 2006). These arrangements can include foster care, relative/kinship

care, facility-based or residential care, and independent living arrangements (see Appendix A for further details).

The majority of children on guardianship/custody orders in this study lived with foster carers (62%) or with relatives or kin other than their parents (23%) (Figure 2).



Due to differences in policy and practice between states and territories, not all jurisdictions were able to supply data on each of the living arrangement categories (see Table A9). In addition, the sample sizes of some of these categories were very small. For these reasons, data on living arrangements were aggregated into three categories for analysis – relatives/kin, foster care, and ‘other living arrangements’.

The mean reading and numeracy test scores by living arrangements vary somewhat by state and territory, year level and type of test; however, the differences in these mean scores were not statistically significant (Table 7). Victorian children on guardianship/custody orders in years 3 and 5 living in foster care, tended to have higher mean tests scores than those living with relatives/kin or in ‘other living arrangements’. In Year 7, the mean scores for ‘other living arrangements’ were lower than for the other two categories. There were no clear patterns for Queensland and South Australia. The number of children on guardianship/custody orders living in different arrangements in Tasmania and the Australian Capital Territory in each year level were too small to draw reliable conclusions.



**Table 7: Mean test scores, by living arrangements of children on guardianship/custody orders, 2003**

	Year 3			Year 5			Year 7		
	Relatives/ kin	Foster care	Other	Relatives/ kin	Foster care	Other	Relatives/ kin	Foster care	Other
<b>Reading</b>									
Vic	2.94	3.43	2.89	3.70	3.86	3.81	4.90	4.89	4.33
Qld	484	489	548 <sup>(a)</sup>	573	570	582 <sup>(a)</sup>	645	649	598
SA	43.1	40.7	47.6	48.7	51.7	50.4	49.7	56.2	56.2
Tas	—	277	348 <sup>(a)</sup>	327 <sup>(a)</sup>	306	347	—	348	420
ACT	341 <sup>(a)</sup>	430	—	443 <sup>(a)</sup>	568	441 <sup>(a)</sup>	884 <sup>(a)</sup>	613	—
<b>Numeracy</b>									
Vic	2.80	3.13	3.02	3.44	3.72	3.62	4.80	4.55	4.40
Qld	493	486	516 <sup>(a)</sup>	552	549	538 <sup>(a)</sup>	620	622	603
SA	44.8	41.3	45.9	53.3	53.2	51.1	61.0	59.4	55.6
Tas	—	279	349 <sup>(a)</sup>	315 <sup>(a)</sup>	350	346	—	364	431
ACT	493 <sup>(a)</sup>	481	—	—	578	483 <sup>(a)</sup>	779 <sup>(a)</sup>	571	—

(a) Sample size is very small—caution should be taken in interpreting the results.

*Notes*

1. There were no significant differences in the mean tests scores for children on guardianship/custody orders by living arrangement categories at the 95% level ( $p \leq 0.05$ ).
2. 'Relatives/kin' includes children living with parents, and relatives/kin who are, and are not, reimbursed by the state/territory for care of the child. 'Other' living arrangements include residential care, and other living arrangements that don't fit into the other two categories.
3. Mean test scores can not be compared between jurisdictions as different reading and numeracy tests and scaling systems are used in each state and territory.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

## Length of time on care and protection orders

At any point in the child protection process, the community services department can apply to the relevant court to place the child on a care and protection order (see Appendix A for more details). A child can be on only one care and protection order at any point; however, a child may be placed on a number of consecutive orders over time.

In this study, the average length of time that children had been on their current guardianship/custody order ranged from 2 to 4 years across the jurisdictions. The average continuous length of time on all care and protection orders ranged between 3 and 5 years (Table 8).

In Victoria, Tasmania and the ACT, there was no significant difference in the length of time children remained on either the current guardianship/custody order or all care and protection orders across year levels. In Queensland, Year 7 children had been on their current guardianship/custody order significantly longer than those in years 3 and 5. In South Australia, those in Year 7 had been on both their current guardianship/custody order and all care and protection orders significantly longer than those in Year 3.

**Table 8: Length of time on care and protection orders of study population, 2003**

	Vic	Qld	SA	Tas	ACT
<b>Length of time on current guardianship/custody order (months)</b>					
Mean	26.9	46.1	40.4	43.2	n.a.
Minimum	<1	<1	<1	<1	n.a.
Maximum	103	155	152	145	n.a.
Standard deviation	20.9	42.6	39.3	42.0	n.a.
Sample size	181	463	168	54	n.a.
<b>Continuous length of time on all care and protection orders (months)</b>					
Mean	34.2	n.a.	61.3	56.9	60.0
Minimum	<1	n.a.	1	4	1
Maximum	112	n.a.	158	152	172
Standard deviation	23.2	n.a.	43.8	41.2	53.5
Sample size	181	n.a.	168	55	21

*Note:* Length of time on current guardianship/custody order and all care and protection orders may not be comparable between jurisdictions due to different legislation, policies and practices in each state and territory.

*Source:* AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

In Victoria, Tasmania and the ACT, no significant correlations were found between the reading and numeracy test scores and the length of time on either the current guardianship/custody order or all care and protection orders (Table 9).

Although some significant, albeit very small, correlations were found in Queensland and South Australia, length of time on orders, as measured by the  $R^2$ , only explained between 1.3% to 4.2% of the variability in the reading and numeracy test scores (Field 2000). As the findings were not consistent across the jurisdictions, no conclusions can be drawn regarding the relationship between length of time on care and protection orders and academic performance.

**Table 9: Correlation between length of time on care and protection orders and test scores of children on guardianship/custody orders, for all year levels, 2003**

	Length of time on current guardianship/custody order				Continuous length of time on all care and protection orders			
	Reading		Numeracy		Reading		Numeracy	
	Correlation coefficient ( $r_s$ )	$r_s^2$	Correlation coefficient ( $r_s$ )	$r_s^2$	Correlation coefficient ( $r_s$ )	$r_s^2$	Correlation coefficient ( $r_s$ )	$r_s^2$
Vic	0.021	<0.001	-0.006	<0.001	-0.092	0.008	-0.082	0.007
Qld	0.114*	0.013	0.058	0.003	—	—	—	—
SA	0.204*	0.042	0.197*	0.039	0.171*	0.029	0.186*	0.035
Tas	0.159	0.025	-0.058	0.003	0.098	0.010	-0.040	0.002
ACT	—	—	—	—	-0.214	0.046	-0.184	0.034

\* Correlation coefficient ( $r_s$ ) is significant at 95% level ( $p \leq 0.05$ ).

*Source:* AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

## 3.5 Regression analysis

Regression analysis is used in this report to explore the relationship of the numeracy and reading test scores with all the factors simultaneously and 'adjust for' or 'control for' any confounding effects.

Multiple linear regression analyses were undertaken to identify the independent predictors of mean reading and numeracy test scores based on the information that was supplied (that is, standardised reading and numeracy scores for children on guardianship/custody orders are the dependent variables). The factors included in the regression were sex, year level, state, Indigenous status, living arrangement and length of time on current guardianship/custody order. The models therefore do not include all factors that might potentially influence reading and numeracy test scores. For example, socioeconomic status and parental education have been found to be associated with academic achievement, but these were not available for inclusion in the analysis. The regression models only statistical relationships or associations between scores and other factors – causal relationships cannot be inferred on the basis of these data alone.

The numeracy and reading scores have been modelled separately as they are highly correlated (Table A10). The ACT did not provide data for length of time on current guardianship/custody order. Therefore, four separate regression models have been carried out – numeracy and reading models including the ACT, and numeracy and reading models excluding the ACT, which enables length of time on current guardianship/custody order to be included as a factor in the regression.

See Appendix C for further details on the methodology for modelling the data.

### Results

When all the variables were entered into the model (sex, year level, state, Indigenous status, living arrangement) as measured by the  $R^2$ , the full additive model for all jurisdictions explained 44% of the variance in the standardised reading scores and 37% of the variance in the standardised numeracy scores (Table 10). The  $R^2$  did not change when length of time on current guardianship order was included and the ACT data was excluded from the model. Given that the range of factors included in the regression is limited, it is not surprising that some of the variance remains unexplained by the model.

In both the reading and numeracy models, highly statistically significant associations with year of schooling and Indigenous status were identified ( $p < 0.0001$ ). As might be expected, reading and numeracy scores increased from Year 3 to Year 5 to Year 7 for children on guardianship/custody orders, even though their mean test scores were generally statistically significantly lower than for all children in the same year (see Table 2).

Indigenous children on orders had lower reading and numeracy scores than other children on orders. The difference in test scores between the two groups is one-third that of the difference between years 3 and 5 or years 5 and 7 for reading, and one-half that of the difference between years 3 and 5, or years 5 and 7 for numeracy. Thus, this Indigenous disadvantage is notionally equivalent to about eight to twelve months of schooling.

The parameter estimates for the reading score for Victoria, South Australia and the ACT are statistically significantly lower compared to those for the other two states. Due to the standardisation of test scores by jurisdiction, this does not mean that the absolute scores themselves were necessarily lower for these three jurisdictions. Rather, it should be interpreted as meaning that for Victoria, South Australia and the ACT there was a larger

relative difference between the test scores for children on orders and the mean Year 5 score for all children in the jurisdiction. Similarly the parameter estimates for the numeracy score are lower for South Australia than for the other four jurisdictions; in South Australia, then, there was a larger relative difference in numeracy scores between the scores for children on orders and the mean Year 5 score for all children in this jurisdiction.

The interaction between Indigenous status and year of schooling was also tested, but was not statistically significant. Neither sex nor living arrangement had a statistically significant association with reading or numeracy scores for children on guardianship/custody orders. This was also the case for length of time on current guardianship order (in the model excluding the ACT).

**Table 10: Multiple regression models for reading and numeracy test scores for children on guardianship/custody orders, 2003**

Predictor variable	Category <sup>(a)</sup>	Parameter estimates	
		Reading model	Numeracy model
<b>All states</b>			
Intercept		-1.571 *	-1.462 *
State	<i>Qld</i>		
	Vic	0.245 *	0.183
	SA	-0.208 *	-0.348 *
	Tas	0.054	0.014
	ACT	-0.566 *	-0.287
Sex	<i>Female</i>		
	Male	-0.114	-0.015
Year level	<i>Year 3</i>		
	Year 5	1.106 *	0.922 *
	Year 7	2.086 *	1.854 *
Indigenous status	<i>Other Australians</i>		
	Indigenous Australians	-0.359 *	-0.439 *
Living arrangements	<i>Relatives/kin</i>		
	Foster care	0.032	-0.072
	Other living arrangements	-0.023	-0.158
<b>All states (excluding the ACT)<sup>(b)</sup></b>			
Intercept		-1.630 *	-1.487 *
State	<i>Qld</i>		
	Vic	0.271 *	0.188
	SA	-0.198 *	-0.350 *
	Tas	0.064	-0.012
Sex	<i>Female</i>		
	Male	-0.110	-0.021
Year level	<i>Year 3</i>		
	Year 5	1.101 *	0.926 *
	Year 7	2.057 *	1.863 *
Indigenous status	<i>Other Australians</i>		
	Indigenous Australians	-0.370 *	-0.431 *
Living arrangements	<i>Relatives/kin</i>		
	Foster care	0.021	-0.062
	Other living arrangements	-0.013	-0.138
Length of time on current guardianship/ custody order (months)		0.020	0.004

\* Statistical significance at the 95% level ( $p \leq 0.05$ ) when all other variables in the model are held constant ( $Pr > |T|$ ).

(a) An italic entry indicates the reference category.

(b) ACT was excluded from the model as no data on 'length of time on current guardianship/custody order' was available for this jurisdiction.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

## 4 Discussion

Education is a crucial element in the development and wellbeing of children and young people, and is an important gateway to future employment and life opportunities. However, there are certain groups of Australian children who are educationally disadvantaged due to their past and present environments, such as those who are in need of protection from abuse, neglect or harm.

This pilot study builds on existing information on the poorer educational outcomes of children in the child protection system, and is the first Australian study of this scale to assess the academic performance (as assessed by reading and numeracy scores) of children on guardianship/custody orders, across multiple jurisdictions.

The results in this report provide evidence about the poorer educational achievement and the unmet educational needs of children on guardianship/custody orders compared with all children in Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory. It provides the basis for further analysis intended for stage 2 of this project, which will examine any change in their relative educational outcomes over time.

### Key findings

- *Poorer academic performance of children on guardianship/custody orders*

This pilot study found that children on guardianship/custody orders across all year levels had much lower mean test scores for reading and numeracy than all children sitting these tests. These differences were statistically significant in all jurisdictions, except for some tests in Tasmania and the ACT. This may be a reflection of the small number of children on guardianship/custody orders in these jurisdictions.

These overall findings are consistent with a number of small-scale Australian studies in Victoria, Queensland and South Australia, which found that the average literacy and numeracy results for children in care were lower than for all children in the state (Queensland Government 2002; Queensland Government 2003; CREATE Foundation 2006). Similarly, Cavanagh (1996) found that 64% of children in out-of-home care in Victoria were rated as below average in the areas of literacy and numeracy skills. Poor academic performance among children in care has also been reported in international studies that found that maltreated children and those in out-of-home care perform more poorly on standardised tests than their peers (Eckenrode et al. 1993; Sawyer & Dubowitz 1994; Kinard 2001).

Children on guardianship/custody orders were significantly less likely to achieve the national benchmarks across almost all year levels compared with all children in each jurisdiction; these benchmarks represent the minimum standards of performance below which students will have difficulty progressing satisfactorily at school. This is similar to other findings from Queensland and South Australia, where the proportions of children in care achieving the reading and numeracy benchmarks were 14%–38% lower than all children in the state in 2004 (CREATE Foundation 2006; MCEETYA 2005). While it is interesting to compare results between studies, it must be noted that ‘children in care’ may be defined differently to those included in this study; for example, the Queensland study only included those in care for at least two years.

- ***Much lower test scores among Indigenous children***

Aboriginal and Torres Strait Islander children on guardianship/custody orders had much lower mean reading and numeracy test scores than other children on such orders, across all year levels. Similar findings have previously been reported in Queensland for children in the care of the state (Queensland Government 2003).

While this pattern of poorer academic performance of Indigenous children was generally not statistically significant for individual jurisdictions, when the data were standardised and combined in a multiple regression model, Indigenous children on guardianship/custody orders had significantly lower reading and numeracy scores than other children on orders. This Indigenous disadvantage is notionally equivalent to about eight to twelve months of schooling.

These results are consistent with those found for the academic performance of Indigenous children overall, which has shown that Indigenous children are far less likely to achieve the national literacy and numeracy benchmarks than all children (MCEETYA 2004, 2005). This may be associated with the generally lower socioeconomic status of Indigenous families (ABS & AIHW 2005), and it is well recognised that socioeconomic status is highly associated with poorer academic performance (Veltman & Browne 2001; Social Exclusion Unit 2003).

- ***Older students had higher test scores***

As for all children overall, mean reading and numeracy test scores for children on guardianship/custody orders generally increased with year level across all jurisdictions (that is, Year 3 students had the lowest scores while Year 7 students had the highest). These results were confirmed in the regression analyses, where year of schooling for children on guardianship/custody orders was shown to be a significant predictor of reading and numeracy scores – reading and numeracy scores increased from Year 3 to Year 5 to Year 7. This reflects that the level of difficulty of the tests increases with year level, and the test scores are scaled accordingly. However, these mean scores were still much lower for children on guardianship/custody orders than the means for all children in each jurisdiction.

- ***No clear differences in test scores between males and females***

In this study, there were no clear patterns and generally no significant differences in the mean reading and numeracy scores between males and females on guardianship/custody orders overall, or across all year levels. Similar results were found for the proportions of children achieving the national benchmarks. This finding differs from national reporting on student achievement, which shows that female students generally perform better than males for reading and numeracy (MCEETYA 2004).

- ***Living arrangements of children on guardianship/custody orders not a significant factor in academic achievement***

Almost all children on guardianship/custody orders were living in out-of-home care (92%), except for a small group who were living with their parents, or other relatives/kin who were not reimbursed. There were no clear patterns in the mean test scores by living arrangement categories, nor were there any statistically significant differences.

Previous Australian studies have not compared the educational outcomes of children in care between different types of living arrangements. Internationally, earlier studies have found no significant differences in the school performance of those placed in kinship/relative care compared to those placed in non-relative foster care (Benedict et al. 1996; Iglehart 1994) and

those not in out-of-home care (Sawyer & Dubowitz 1994). Runyan & Gould (1985) also reported no difference between the standardised test performance of maltreated children who had been placed in out-of-home care, and those who remained at home.

Perhaps the type of living arrangement is less important than the stability of the living situation. Previous studies have found that multiple changes in homes and schools are associated with poorer academic achievement among all children, and stability in out-of-home care placement has been shown to improve educational performance when compared with pre-placement levels (Eckenrode et al. 1995; Evans et al. 2004).

- *Length of time on care and protection orders had little effect on test scores*

Across the jurisdictions, the average continuous length of time that children had been on care and protection orders ranged from 2 to 5 years. Although a few significant correlations were found, as measured by the  $R^2$ , length of time on orders only explained between 1.3% and 4.2% of the variance in the mean reading and numeracy test scores. In addition, the length of time a child had been on their current guardianship/custody order was not significantly associated with reading and numeracy scores in the regression analysis (in the model excluding the ACT). As the findings were not consistent across the jurisdictions, no conclusions can be drawn regarding the relationship between length of time on care and protection orders and academic performance.

### **Other factors which may influence academic achievement**

The academic achievement of children on guardianship/custody orders is likely to be affected by multiple aspects of disadvantage, including maltreatment, dysfunctional families, removal from parents, instability in care and poverty (Sawyer & Dubowitz 1994; CREATE Foundation 2006). Furthermore, a number of studies have found that children who have been abused or neglected often suffer from anxiety, depression, learned helplessness and low self-esteem, and are likely to have challenging behaviours, limited motivation, and reduced social skills and attentiveness – factors which can have detrimental effects on the child's development and academic performance (Veltman & Browne 2001).

While this study explored the academic performance of children after they entered child protection services, their educational achievement before entering these services is unknown. However, it is recognised that children and young people often have low educational performance when entering the child protection system, and it has been suggested that this may have a cumulative effect on children as they move through the various stages of education and development (Queensland Government 2003; Evans et al. 2004).

Data on socioeconomic status were not available for use in this study. Past research indicates that maltreated children are more likely to come from families with a lower socioeconomic status, and that low socioeconomic status is itself correlated with poorer educational outcomes (Veltman & Browne 2001; Social Exclusion Unit 2003). However, some studies have found that children in care and maltreated children have poorer academic performance even when compared with other children of similar disadvantaged backgrounds (Kendall-Tackett & Eckenrode 1996; Social Exclusion Unit 2003).

State and territory governments are already aware that these children are at risk of poor educational outcomes, and many policy and program initiatives are in place or being established to address this problem (see Appendix E).



## Data issues

While this pilot project collected valuable information on various aspects of academic achievement, there are some limitations. The main limitations of the data and analyses for this report are presented below.

An important limitation is that children on guardianship or custody orders who were absent or exempt from the tests were not classified as assessed students and were not included in the mean score or benchmark calculations in this study. Some children may have been absent on the day of the test, some may have been withdrawn by parents/care-givers from the testing and others may have been attending a school not participating in the testing. Furthermore, exemptions are granted to students where testing would not be appropriate, such as those with a disability or high support needs, those with English language difficulties and those where testing would have adverse effects on their health and wellbeing (MYCEETYA 2004). In Queensland, it has been found that a high proportion of children in care are exempt from the tests (14–18% compared with 2% for the general student population), and a slightly higher proportion of children in care are absent from the tests (CREATE Foundation 2006). In addition, data were only received for children on guardianship/custody orders attending government schools. This suggests that the findings presented in this report may not be completely representative of the academic performance of all children on guardianship/custody orders. It is estimated that this study obtained educational performance information for around 50% of children on guardianship/custody orders typically in years 3, 5 and 7 in the participating jurisdictions (see Section 3.1).

This pilot study included data from only five jurisdictions – Victoria, South Australia, Queensland, Tasmania and the ACT. Each participating jurisdiction has different literacy and numeracy tests and its own scaling system for these tests. Hence, the mean test scores presented are quite different and are not comparable across the states and territories. For these reasons, the test scores in each jurisdiction could not be aggregated to produce quasi-national means of test scores for children on guardianship/custody orders, thus limiting the types of analyses that could be undertaken due to the small sample sizes in some jurisdictions.

There are a number of factors that may influence the test results but have not been examined in this report. These include socioeconomic status, stability of the placement (such as number of orders and length of time in current living arrangement) and those absent/exempt from the tests.

## Where to from here?

This pilot project is longitudinal in nature and designed in two stages. Stage 1, as presented in this report, presents a snapshot of the reading and numeracy tests for children who were on guardianship/custody orders in 2003. Stage 2 is intended to assess these children two years later, with the aim of identifying any change in their performance over time, as well as providing a second snapshot of the educational attainment of children in care.

As is evident from this report, the sample sizes in some jurisdictions are very small. Therefore, stage 2 as originally proposed may not be feasible in order to achieve statistically valid results. The AIHW will explore strategies for increasing sample sizes while meeting the original intentions set for stage 2 of the project.

In order to monitor the effectiveness of child protection interventions, this work needs to be ongoing and monitored over time to track any changes in academic performance.

The results in this report, from stage 1 of the project, point to a need to reduce the disparities in academic achievement between children on guardianship/custody orders and all children. More work needs to be done to identify and work through the issues that influence these inequalities. There needs to be ongoing commitment from the community services and education sectors to fund and undertake this work.

In future, it would be valuable to include additional indicators of educational performance, in order to capture, to some degree, those children on guardianship/custody orders who do not participate in state testing (for example, special education placement and presence/level of disability). Additional information on the age of the child (including those that are too old for their class group and grade retention), socioeconomic status, stability of placement (such as the number of orders and the length of time in current living arrangement) and complete data on those absent/exempt from the tests would help to better identify and understand the reasons for the lower academic performance among children in the child protection system. The inclusion of more detailed data, dependent on its availability and comparability across all jurisdictions, may provide a greater understanding of the education status of children and young people in care, allowing for effective intervention to better support students to develop the necessary literacy and numeracy skills to participate equitably in Australian society.

In addition, further monitoring would be aided by more comparable testing between jurisdictions. In 2007, it is planned that children in all state and territories will sit the same literacy and numeracy tests. This will allow the data on test scores to be aggregated at a national level, thereby increasing sample sizes, and improving the power to show statistically significant differences.

# Appendix A: The child protection process in Australia

Although each jurisdiction has its own legislation, policies and practices in relation to child protection, the processes used to protect children are broadly similar (Bromfield & Higgins 2005). A simplified version of the main processes used in child protection systems across Australia is shown in Figure A1. These processes are outlined in more detail below.

## Reports to the department

Children who are assessed to be in need of protection can come into contact with state and territory child protection and support services through a number of avenues. These include reports of concerns about a child made by community members, professionals, organisations, the child themselves, their parent(s) or another relative. These reports may relate to abuse and neglect or to broader family concerns, such as economic problems or social isolation.

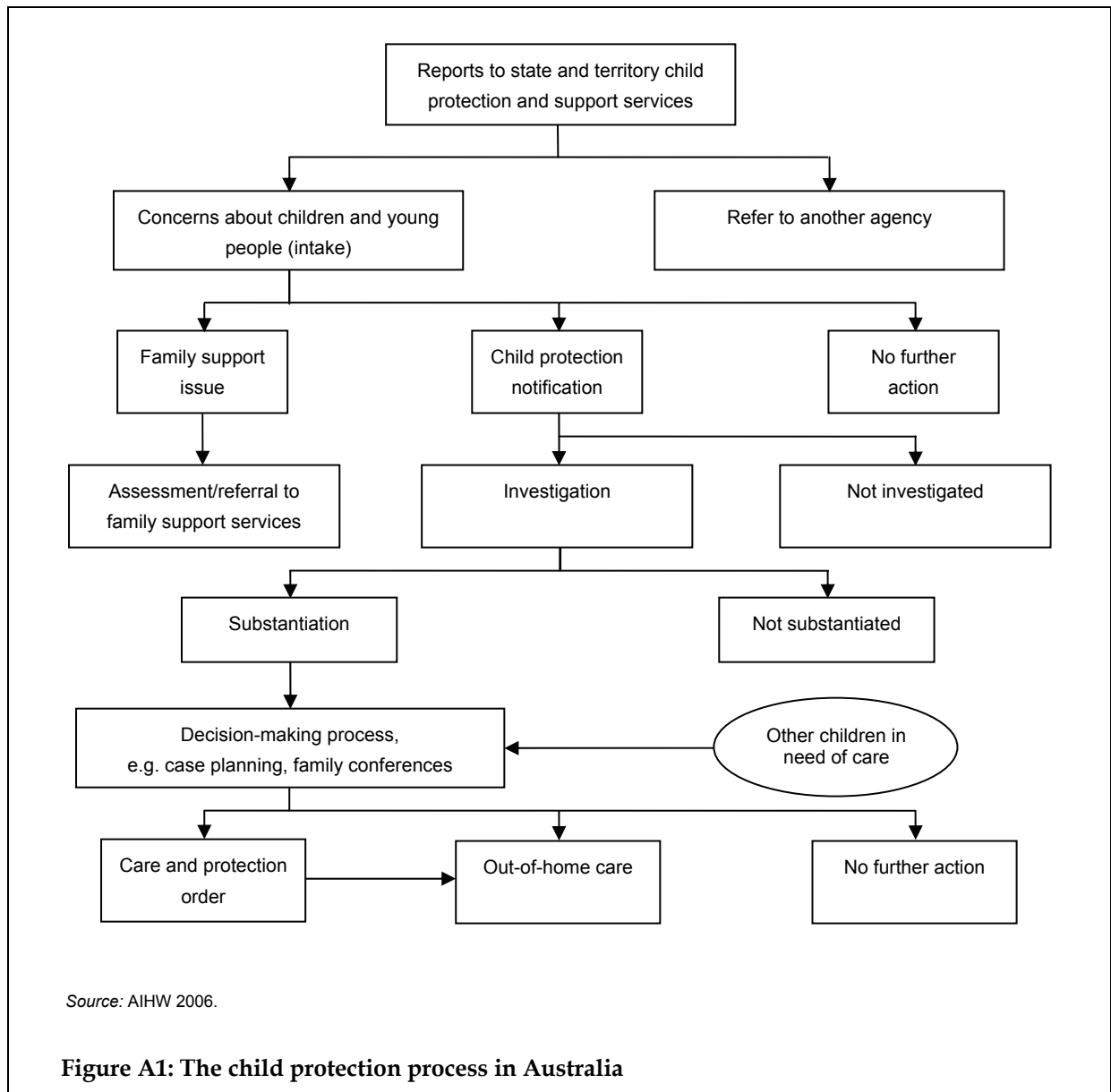
Reports to the department are assessed and may be referred to another agency, or further assessed by the child protection and support services department, to determine whether any further action is required.

Reports requiring further action are generally classified as either a family support issue or a child protection notification, although the way reports are classified varies somewhat across jurisdictions. Departmental officers, in deciding whether a report will be classified as a child protection notification, take a range of factors into account. Those reports classified as requiring family support are further assessed and may be referred to family support services. Child protection notifications are dealt with through a separate process.

## Notifications, investigations and substantiations

A **notification** is a contact made to the authorised department by persons or other bodies making allegations of child abuse and neglect, child maltreatment or harm to a child. A child protection notification is assessed by the department to determine whether it requires an investigation; whether it should be dealt with by other means, such as referral to other organisations or to family support services; or whether no further protective action is necessary or possible. An **investigation** is the process whereby the community services department obtains more detailed information about a child who is the subject of a notification and makes an assessment of the degree of harm or risk of harm for the child. After an investigation is completed, a notification will either be 'substantiated' or 'not substantiated'.

A notification will be **substantiated** where it is concluded after investigation that the child has been, is being or is likely to be abused, neglected or otherwise harmed. States and territories differ somewhat in what they actually substantiate. All jurisdictions substantiate situations where children have experienced significant harm from abuse and neglect through the actions of parents. Some jurisdictions also substantiate on the basis of the occurrence of an incident of abuse or neglect, independent of whether the child was harmed, and others substantiate on the basis of the child being at risk of harm occurring.



## Care and protection orders and out-of-home care

At any point in the child protection process (from notification, through investigation to substantiation), the community services department can apply to the relevant court to place the child on a care and protection order. Such action is usually taken only as a last resort in situations where the department believes that continued involvement with the child is warranted. This may occur in situations where supervision and counselling are resisted by the family, where other avenues for resolution of the situation have been exhausted, or where removal of a child into out-of-home care requires legal authorisation.

**Care and protection orders** are legal or administrative orders or arrangements which give community services departments some responsibility for a child's welfare. The level of responsibility varies with the type of order or arrangement. These orders include guardianship and custody orders, supervision and other finalised orders, and interim and

temporary orders. The involvement might take the form of: total responsibility for the welfare of the child (for example, guardianship); responsibility for overseeing the actions of the person or authority caring for the child; responsibility for providing or arranging accommodation; or reporting or giving consideration to the child's welfare.

**Out-of-home care** provides alternative accommodation to children and young people who are unable to live with their parents. It is defined as out-of-home overnight care for children and young people under 18 years of age where the state or territory makes a financial payment. In most cases, children in out-of-home care are also on a care and protection order of some kind.

Children in out-of-home care can be placed in a variety of living arrangements or placement types. The following categories are used in the national data collection:

- Home-based care – where placement is in the home of a carer who is reimbursed for expenses incurred in caring for the child. This category is further divided into:
  - relative/kinship care – where the caregiver is a family member or a person with a pre-existing relationship to the child
  - foster care – where care is provided in the private home of a substitute family which receives a payment intended to cover the child's living expenses
  - other home-based care – care in private homes that does not fit into the above categories.
- Residential care – where placement is in a residential building whose purpose is to provide placements for children and where there are paid staff.
- Family group homes – these provide short-term care in departmentally-owned homes. Usually, these homes do not have salaried staff, but are available rent free to approved carers who receive board payments to reimburse them for the cost of looking after the children in their care. However, in some jurisdictions, family group homes are residential units staffed by 24 hour carers who are paid staff.
- Independent living – where young people are living independently, such as those in private boarding arrangements and lead-tenant households.

## Appendix B: Data quality

The state/territory mean reading and numeracy test scores (supplied by the education departments) were used to evaluate the educational performance of children on guardianship/custody orders. These mean test scores include all children in government schools who sat the test, including those children on guardianship/custody orders from this study. As a result, the comparisons made in Section 3.2 are not exclusively between those children on orders and those not on orders. However, this is likely to reduce, rather than increase, the capacity to find a significant difference between the two groups.

While all children enrolled in years 3, 5, and 7 should participate in the education department-based reading and numeracy tests, some children may have been absent on the day of the test, some may have been withdrawn by parents/care-givers from the testing, and others may have been attending a school not participating in the testing. Other students may have been formally exempted from the tests where testing would not be appropriate, such as those with a disability or high support needs, those with English language difficulties, and those where testing would have adverse effects on their health and wellbeing. It has been found that a considerably higher proportion of children in care are absent or exempt from the tests than for the general student population (CREATE Foundation 2006).

Children on guardianship/custody orders who were absent or exempt from the tests were not classified as assessed students and were not included in the mean score or benchmark calculations. Also, as this project examines data linkage across government departments, data were only received for children on guardianship/custody orders attending government schools. For these reasons, not all records in the community service and education administrative databases could be matched – it is estimated that this study obtained educational performance information for around 50% of children on guardianship/custody orders typically in years 3, 5 and 7 in the participating jurisdictions (see Section 3.1).

Other comparative measures used in this report are the national reading and numeracy benchmarks. Estimates of the proportion of children in Australia achieving the national benchmarks are derived by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) using a nationally agreed process which also provides 95% confidence intervals for each estimate (MCEETYA 2004). The proportion of all children in Australia achieving the national benchmarks includes students who sat the test and students who were formally exempted. Exempted students are reported as falling below the benchmark and so are included in the benchmark calculation. However, for children on guardianship/custody orders students who were exempt from the tests were excluded from the benchmark calculation as not all jurisdictions provided information on those students exempt from the tests. In addition, the method used for estimating the confidence intervals of students on guardianship/custody orders achieving the benchmark in this study differs to the method used for national data (see Appendix C).

Furthermore, when calculating the proportion of students achieving the national benchmark, only children on guardianship/custody orders attending government schools were included in this study, whereas the comparison data sourced from the *National report on schooling in Australia* publication includes students attending both government and non-government schools (MCEETYA 2004).

As with many other administrative data collections, the identification of Aboriginal and Torres Strait Islander children may not be complete in the community service and education

departments' databases. The under-identification of Indigenous children may affect the counts and calculation of the mean test scores and may underestimate the extent of the disparity.

# Appendix C: Statistical methodology

## Single-sample $t$ test

Single sample  $t$ -tests were used to assess whether the mean test scores of children on guardianship/custody orders differed significantly to the state mean test scores. That is, whether the sample mean was significantly higher or lower than the population mean.

The formula used is below (Kirkwood 1988):

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} \quad \text{d.f.} = n - 1$$

Two-sided significance tests were used, to allow for departures from the null hypothesis in either direction (Kirkwood 1988; Daniel 1999). A difference in the negative direction (that is, that mean test scores of children on guardianship/custody orders were lower than the state mean test scores) was expected.

## Confidence intervals for national benchmarks

Confidence intervals have been calculated to determine whether the proportion of children on guardianship/custody orders and all children achieving the national benchmarks are meaningfully different from one another, taking into account chance variation. To do this, confidence intervals have been calculated for children on guardianship/custody orders using the exact 95% confidence limits, which have been approximated to an F distribution (Armitage et al. 2002). The exact tests have been used as the data set is relatively small and the mean scores are not normally distributed.

The formulas used to calculate the lower and upper confidence intervals are below (Armitage et al. 2002):

$$\pi_L = \frac{r}{r + (n - r + 1)F_{0.025, 2n-2r+2, 2r}}$$

$$\pi_U = \frac{r + 1}{r + 1 + (n - r)F_{0.025, 2r+2, 2n-2r}^{-1}}$$

For the state-based estimates, the method used for calculating the 95% confidence intervals differs from that described above. The methods used by MCEETYA for calculating confidence intervals involve specifically developed software, accounting for some sources of error in the measurement and estimation process, and are reliant on having data for fairly large cohorts of students. These processes were not available for calculating confidence intervals for children on guardianship/custody orders given the small size of the cohorts of students in each state and territory.

Where the confidence intervals for children on guardianship/custody orders do not overlap across year levels or compared with the state-based confidence intervals, the proportion of children achieving the national benchmarks are considered to be statistically significantly different from one another at the 95% level.



Other data quality issues relating to national benchmarks are outlined in Appendix B.

## Multiple regression

Multiple linear regression analyses were undertaken to identify the independent predictors of mean reading and numeracy test scores based on the information that was supplied. The factors that were potentially available for inclusion in the regression were sex, year level, state, Indigenous status, living arrangement and length of time on current guardianship order and all care and protection orders.

Pearson's correlation coefficient was used when exploring the relationship between the reading and numeracy test scores. These scores were found to be highly correlated (Table A10), so were not included as predictor variables in the regression models, but were included as separate dependent variables. The ACT did not provide data for length of time on current guardianship/custody order. Therefore, four separate regression models have been carried out – numeracy and reading models including the ACT and numeracy and reading models excluding the ACT which enables length of time on current guardianship/custody order to be included as a factor in the regression.

Standardisation of the test scores was necessary because the states and territories all have different scoring scales, so it was meaningless to simply add the raw data from jurisdictions together. Standardisation enables the data for all jurisdictions to be aggregated using a common scale and thus increase the sample size for the model over those for individual jurisdictions. A larger sample size increases the power of the model to identify significant associations and improve the robustness of the findings.

Standardisation was undertaken using the following formula:

$$\frac{\text{Individual test score (children on orders)} - \text{State mean for Year 5 (all children)}}{\text{State standard deviation for Year 5 (all children)}}$$

Note that the standardisation could have been undertaken using the state mean for any of years 3, 5 and 7. Year 5 was chosen for the simple reason that it is the middle year of the three.

Due to the small number of variables, all variables were included in the model regardless of whether they were statistically significant.

Continuous length of time on all care and protection orders was not included in any of the regression models as Queensland did not have data for this variable, and this jurisdiction accounted for over half of the total sample.

Queensland was chosen as the reference category for 'state' as it has the largest sample size. Year 3 was chosen as the reference category for 'year level', and other living arrangements as the reference category for 'living arrangements' ('other' living arrangements includes residential care and any other living arrangements, excluding foster care and living with parents/relatives/kin).

# Appendix D: Detailed tables

Table A1: Mean reading and numeracy test scores, by year level, Victoria, 2003

	Year 3			Year 5			Year 7		
	Mean	Std dev.	n	Mean	Std dev.	n	Mean	Std dev.	n
<b>Reading</b>									
<b>All</b>	3.10	0.75	58	3.77	0.79	48	4.71	0.66	64
<b>Sex</b>									
Male	3.12	0.72	31	3.63	0.64	22	4.70	0.61	40
Female	3.07	0.80	27	3.88	0.89	26	4.75	0.75	24
<b>Indigenous status</b>									
Indigenous	3.05	0.27	6	3.64	0.22	5	4.63	0.29	8
Other	3.10	0.79	52	3.78	0.83	43	4.73	0.70	56
<b>Living arrangements</b>									
Relatives/kin	2.94	0.43	13	3.70	0.94	14	4.90	0.75	23
Foster care	3.43	0.82	23	3.86	0.80	16	4.88	0.65	17
Other	2.89	0.72	9	3.81	0.55	9	4.33	0.41	14
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	3.15	0.63	28	3.80	0.95	22	4.69	0.63	31
≥ 2 years	3.08	0.85	27	3.79	0.68	22	4.73	0.66	29
<b>Length of time on all care and protection orders</b>									
< 2 years	3.14	0.60	19	3.84	1.07	13	4.72	0.66	26
≥ 2 years	3.13	0.81	37	3.78	0.70	31	4.71	0.63	34
<b>Numeracy</b>									
<b>All</b>	2.92	0.66	62	3.58	0.64	53	4.57	0.57	71
<b>Sex</b>									
Male	2.99	0.69	33	3.56	0.52	24	4.68	0.53	44
Female	2.83	0.62	29	3.60	0.74	29	4.39	0.59	27
<b>Indigenous status</b>									
Indigenous	3.02	0.26	7	3.51	0.83	7	4.41	0.43	11
Other	2.91	0.69	55	3.59	0.62	46	4.60	0.59	60
<b>Living arrangements</b>									
Relatives/kin	2.80	0.51	16	3.44	0.77	16	4.64	0.62	31
Foster care	3.13	0.64	24	3.72	0.67	19	4.55	0.48	18
Other	3.02	0.79	10	3.62	0.51	9	4.40	0.47	17
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	3.00	0.55	32	3.60	0.66	24	4.62	0.51	36
≥ 2 years	2.82	0.72	27	3.59	0.67	25	4.51	0.59	31
<b>Length of time on all care and protection orders</b>									
< 2 years	2.99	0.52	23	3.55	0.58	15	4.67	0.52	29
≥ 2 years	2.91	0.71	38	3.61	0.69	34	4.49	0.57	38

Std dev. = standard deviation

n = sample size

Note: Totals for subgroups may not add to total for 'all' due to missing data.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

Table A2: Mean reading and numeracy test scores, by year level, Queensland, 2003

	Year 3			Year 5			Year 7		
	Mean	Std dev.	n	Mean	Std dev.	n	Mean	Std dev.	n
<b>Reading</b>									
<b>All</b>	489	71.3	135	571	60.5	159	646	65.7	157
<b>Sex</b>									
Male	491	71.9	76	563	51.7	81	647	62.9	92
Female	486	70.9	59	579	67.8	78	645	70.0	65
<b>Indigenous status</b>									
Indigenous	472	67.1	37	553	51.2	42	625	87.2	26
Other	495	72.1	98	578	62.5	117	651	60.1	131
<b>Living arrangements</b>									
Relatives/kin	484	70.3	38	573	52.8	49	645	68.4	52
Foster care	489	71.6	95	570	64.7	107	649	65.0	100
Other	548	83.8	2	582	26.3	3	598	31.8	5
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	485	74.0	60	562	68.3	70	649	64.4	58
≥ 2 years	492	69.3	75	578	52.9	89	645	66.8	99
<b>Length of time on all care and protection orders</b>									
< 2 years	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
≥ 2 years	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Numeracy</b>									
<b>All</b>	489	77.8	139	550	65.7	162	620	85.5	158
<b>Sex</b>									
Male	490	87.8	80	542	62.9	84	626	85.1	93
Female	488	62.3	59	558	68.0	78	612	86.0	65
<b>Indigenous status</b>									
Indigenous	484	82.6	38	513	67.0	43	579	96.7	27
Other	491	76.2	101	564	59.9	119	629	80.8	131
<b>Living arrangements</b>									
Relatives/kin	493	76.5	40	552	70.6	49	620	77.8	52
Foster care	486	78.0	96	549	63.6	110	622	89.8	100
Other	516	110.0	3	538	84.6	3	603	86.8	6
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	488	62.3	65	552	71.5	71	628	75.3	58
≥ 2 years	490	89.6	74	548	61.1	91	616	90.9	100
<b>Length of time on all care and protection orders</b>									
< 2 years	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
≥ 2 years	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Std dev. = standard deviation

n = sample size

n.a. = not available

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

**Table A3: Mean reading and numeracy test scores, by year level, South Australia, 2003**

	Year 3			Year 5			Year 7		
	Mean	Std dev.	n	Mean	Std dev.	n	Mean	Std dev.	n
<b>Reading</b>									
<b>All</b>	42.4	9.3	45	50.8	8.4	61	55.8	5.7	62
<b>Sex</b>									
Male	40.5	8.9	21	50.0	10.3	25	55.8	6.4	34
Female	44.1	9.5	24	51.4	6.8	36	55.7	4.8	28
<b>Indigenous status</b>									
Indigenous	40.4	11.3	9	46.3	11.0	14	54.8	4.4	16
Other	42.9	8.8	36	52.2	7.0	47	56.1	6.1	46
<b>Living arrangements</b>									
Relatives/kin	43.1	6.3	9	48.7	6.0	12	49.7	15.2	4
Foster care	40.7	10.1	28	51.7	8.9	37	56.2	4.5	43
Other	47.6	7.9	8	50.4	8.7	12	56.2	4.5	15
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	42.5	10.2	23	49.2	8.2	30	55.1	7.5	25
≥ 2 years	44.0	6.0	19	52.4	8.3	31	56.1	4.0	34
<b>Length of time on all care and protection orders</b>									
< 2 years	35.7	8.7	11	48.1	7.8	18	55.1	9.2	14
≥ 2 years	44.6	8.5	34	52.0	8.4	43	56.0	4.3	48
<b>Numeracy</b>									
<b>All</b>	42.8	8.9	45	52.8	9.1	61	58.6	10.4	62
<b>Sex</b>									
Male	42.3	11.5	21	51.3	12.4	25	57.6	13.0	34
Female	43.2	6.1	24	53.8	5.9	36	59.8	6.1	28
<b>Indigenous status</b>									
Indigenous	38.4	12.5	9	48.8	10.4	14	55.6	9.8	16
Other	43.9	7.6	36	54.0	8.5	47	59.6	10.5	46
<b>Living arrangements</b>									
Relatives/kin	44.8	8.9	9	53.3	5.4	12	61.0	7.6	4
Foster care	41.3	9.7	28	53.2	9.3	37	59.4	8.4	43
Other	45.9	4.4	8	51.1	11.7	12	55.6	15.3	15
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	43.6	7.5	23	50.3	11.2	30	59.4	10.5	25
≥ 2 years	41.2	10.9	19	55.2	5.8	31	59.0	8.8	34
<b>Length of time on all care and protection orders</b>									
< 2 years	40.5	5.9	11	48.5	12.5	18	60.9	8.0	14
≥ 2 years	43.5	9.6	34	54.6	6.7	43	57.9	11.0	48

Std dev. = standard deviation

n = sample size

Note: Totals for subgroups may not add to total for 'all' due to missing data.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

**Table A4: Mean reading and numeracy test scores, by year level, Tasmania, 2003**

	Year 3			Year 5			Year 7		
	Mean	Std dev.	n	Mean	Std dev.	n	Mean	Std dev.	n
<b>Reading</b>									
<b>All</b>	287	91.3	14	324	35.9	18	366	130.5	20
<b>Sex</b>									
Male	270	127.4	6	325	24.5	11	292	170.9	8
Female	278	47.2	6	328	55.0	6	409	58.1	8
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	243	86.7	7	316	45.1	9	359	136.9	9
≥ 2 years	331	77.9	7	334	24.6	8	372	131.4	11
<b>Length of time on all care and protection orders</b>									
< 2 years	222	115.2	4	329	42.7	7	398	75.9	6
≥ 2 years	313	70.6	10	322	32.8	11	352	148.4	14
<b>Numeracy</b>									
<b>All</b>	288	92.9	15	347	48.8	18	381	98.7	20
<b>Sex</b>									
Male	271	81.5	7	342	57.4	12	335	83.9	8
Female	306	66.0	5	355	28.2	5	419	79.9	8
<b>Length of time on current guardianship/ custody order</b>									
< 2 years	289	81.5	7	342	32.8	10	378	91.7	9
≥ 2 years	288	107.6	8	353	71.1	7	382	108.5	11
<b>Length of time on all care and protection orders</b>									
< 2 years	292	24.5	3	338	31.3	8	398	87.4	6
≥ 2 years	287	104.3	12	353	60.1	10	373	105.4	14

Std dev. = standard deviation

n = sample size

Notes

1. Due to the small number of cases in Tasmania, data for some sub-categories (namely, Indigenous status and living arrangements) can not be presented, due to confidentiality and privacy issues.
2. Totals for subgroups may not add to total for 'all' due to missing data.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

**Table A5: Mean reading and numeracy test scores, by year level, Australian Capital Territory, 2003**

	Reading			Numeracy		
	Mean	Standard deviation	Sample size (n)	Mean	Standard deviation	Sample size (n)
<b>Year 3</b>	404	117.7	7	484	29.7	7
<b>Year 5</b>	514	86.3	7	546	126.7	6
<b>Year 7</b>	658	126.2	6	600	98.8	7

Note: Due to the small number of cases in the ACT, data for all sub-categories (sex, Indigenous status, living arrangements and length of time on all care and protection orders) can not be presented, due to confidentiality and privacy issues. The ACT did not supply data on length of time on current guardianship/custody order.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

**Table A6: Mean reading and numeracy tests scores, by year level, Victoria, 2000 to 2004**

	Year 3		Year 5		Year 7		
	Children on guardianship/ custody orders	State	Children on guardianship/ custody orders	State	Children on guardianship/ custody orders	State	
<b>Reading</b>							
2000	2.59	3.33	3.55	4.21	n.a.	n.a.	
2001	2.80	3.37	3.61	4.26	4.64	5.23	
2002	2.90	3.46	3.73	4.18	4.62	5.23	
2003	3.10	3.38	3.77	4.21	4.71	5.28	
2004	2.70	3.34	3.77	4.24	4.93	5.31	
<b>Numeracy</b>							
2000	2.83	3.24	3.47	4.08	n.a.	n.a.	
2001	2.68	3.11	3.68	4.24	4.51	5.15	
2002	2.76	3.27	3.88	4.30	4.56	5.19	
2003	2.92	3.30	3.58	4.08	4.57	5.14	
2004	2.79	3.24	3.70	4.09	4.59	5.12	

*Note:* All differences between the mean tests scores of children on guardianship/custody orders and the state mean are significant at the 95% level ( $p \leq 0.05$ ).

*Source:* AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

**Table A7: Study population, by year level and sex, 2003**

	Year 3			Year 5			Year 7			Total		
	M	F	P	M	F	P	M	F	P	M	F	P
<b>Number of children</b>												
Vic	34	30	64	24	29	53	44	27	71	102	86	188
Qld	81	60	141	84	78	162	93	67	160	258	205	463
SA	21	24	45	25	36	61	34	28	62	80	88	168
Tas <sup>(a)</sup>	7	6	16	12	6	19	8	8	20	27	20	55
ACT	4	3	7	3	4	7	4	3	7	11	10	21
<b>Total<sup>(a)</sup></b>	<b>147</b>	<b>123</b>	<b>273</b>	<b>148</b>	<b>153</b>	<b>302</b>	<b>183</b>	<b>133</b>	<b>320</b>	<b>478</b>	<b>409</b>	<b>895</b>
<b>Per cent</b>												
Vic	53	47	100	45	55	100	62	38	100	54	46	100
Qld	57	43	100	52	48	100	58	42	100	56	44	100
SA	47	53	100	41	59	100	55	45	100	48	52	100
Tas	54	46	100	67	33	100	50	50	100	57	43	100
ACT	57	43	100	43	57	100	57	43	100	52	48	100
<b>Total</b>	<b>54</b>	<b>46</b>	<b>100</b>	<b>49</b>	<b>51</b>	<b>100</b>	<b>58</b>	<b>42</b>	<b>100</b>	<b>54</b>	<b>46</b>	<b>100</b>

M = males

F = females

P = persons

(a) 'Persons' includes children for whom sex data was not provided.

Note: Percentages were calculated excluding missing data.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

Table A8: Study population, by Indigenous status, 2003

	Year 3		Year 5		Year 7		Total					
	Indigenous Australians	Other Australians	Indigenous Australians	Other Australians	Indigenous Australians	Other Australians	Indigenous Australians	Other Australians				
	All children	All children	All children	All children	All children	All children	All children	All children				
	Number of children											
Vic	7	57	64	7	46	53	11	60	71	25	163	188
Qld	39	102	141	43	119	162	27	133	160	109	354	463
SA	9	36	45	14	47	61	16	46	62	39	129	168
Tas	3	13	16	3	16	19	2	18	20	8	47	55
ACT	—	7	7	—	7	7	2	5	7	2	19	21
<b>Total</b>	<b>58</b>	<b>215</b>	<b>273</b>	<b>67</b>	<b>235</b>	<b>302</b>	<b>58</b>	<b>262</b>	<b>320</b>	<b>183</b>	<b>712</b>	<b>895</b>
	Per cent											
Vic	11	89	100	13	87	100	15	85	100	13	87	100
Qld	28	72	100	27	73	100	17	83	100	24	76	100
SA	20	80	100	23	77	100	26	74	100	23	77	100
Tas	19	81	100	16	84	100	10	90	100	15	85	100
ACT	—	100	100	—	100	100	29	71	100	10	90	100
<b>Total</b>	<b>21</b>	<b>79</b>	<b>100</b>	<b>22</b>	<b>78</b>	<b>100</b>	<b>18</b>	<b>82</b>	<b>100</b>	<b>20</b>	<b>80</b>	<b>100</b>

Note: Records where Indigenous status was not stated/missing/unknown were included in the 'Other Australians' category.  
Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.



**Table A9: Study population, by living arrangements, 2003**

Living arrangements	Vic <sup>(a)</sup>	Qld	SA	Tas	ACT	Total
<b>Number of children</b>						
<i>Family care</i>						
Parents	—	34	—	—	—	34
Relatives/kin who are not reimbursed	—	11	25	2	—	38
<i>Home-based care</i>						
Foster care	62	309	108	38	15	532
Relatives/kin who are reimbursed	55	97	—	—	4	156
Other home-based care	17	—	—	5	—	22
<i>Other arrangements</i>						
Residential care	19	6	2	9	1	37
Independent living	—	2	—	—	—	2
Other living arrangements	—	4	33	1	1	39
<b>Total</b>	<b>153</b>	<b>463</b>	<b>168</b>	<b>55</b>	<b>21</b>	<b>860</b>

(a) Victoria was unable to provide data on living arrangements for 35 children.

*Notes*

1. The categories 'Home-based care' and 'Other arrangements' refer to types of out-of-home care.
2. Due to differences in policy and practices, states and territories may use different types of living arrangements.

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

**Table A10: Correlations between reading and numeracy test scores, 2003**

	Correlation coefficient (r)
Qld	0.742
Vic	0.809
SA	0.564
Tas	0.665
ACT	0.740

Note: All correlations are statistically significant at the 99.9% level (p≤0.001).

Source: AIHW 'Educational outcomes of children on guardianship or custody orders' data collection.

# Appendix E: Initiatives to improve educational outcomes

This section provides a broad overview of the types of initiatives in place or being established in Australia to improve the educational experiences and outcomes of children in the child protection system. The policies, practices, services and programs that are available vary between states and territories. Some examples of the types of initiatives aimed at children in out-of-home care and/or the care of the state include:

- Individual learning plans for children and young people in care. These are usually developed by teachers in collaboration with other stakeholders, and are intended to enhance the educational experiences and outcomes of the child/young person by providing access to services and programs that will maximise their academic potential.
- Educational and related support programs/services available to children in care may include:
  - student support groups
  - programs to support or enhance social skills
  - anti-bullying programs
  - behaviour support
  - reintegration and transition planning and support
  - coaching and mentoring
  - personal development
  - mental health services
  - therapy services
  - youth support workers
  - social work and guidance officer support
  - homework clubs
  - tutoring programs
  - language support programs
  - sporting and cultural activities.
- Alternative education programs and settings for children and young people in care who cannot be accommodated in mainstream school settings.
- Formal and informal collaboration and coordination between the community services departments and the schooling sector to improve the educational experiences and outcomes of children and young people in care.
- Financial assistance provided to caregivers to assist with education and other needs of children in their care.
- Financial and other assistance for people leaving out-of-home care to access education and training.

- Scholarships, awards and events to provide encouragement, recognition and financial support to students who complete their secondary education, and who may be undertaking further study or training.
- Funding support for research on the educational experiences and outcomes of children in out-of-home care, and exploring factors and support mechanisms that contribute to retention.
- Programs and protocols which try to minimise disruption to the education of students that may arise due to changes in their particular circumstances. These are complemented by strategies to promote placement stability.

Educational and related support services/ programs which are available to all children, but may benefit those in care include:

- In 2005, the Australian Government provided tutoring vouchers up to the value of \$700 for each child in Year 3 in 2003, whose achievement was below the national reading benchmark.
- Services to improve the transition of young children from home to school.
- Specialist support and intervention services/ programs for children with indicators of need (such as disability, 'at risk' behaviours, and so on).
- In-class tuition program for students at risk of poor educational outcomes, aimed at increasing the number of students who successfully complete Year 12.
- Some states and territories have raised the school-leaving age, which will increase the length of time children and young people remain at school.

In addition, state and territory community services departments have policies and practices related to ensuring that children and young people in care receive the necessary health, education and wellbeing services and programs. This may include the regular assessment and monitoring of the educational needs of children in care.

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