



# **TWELVE YEARS OLD & COMPETENT**

The fifth stage of the Competent Children project  
– a summary of the main findings

**Cathy Wylie**



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NEW ZEALAND COUNCIL FOR EDUCATIONAL RESEARCH  
TE RŪNANGA O AOTEAROA MŌ TE RANGAHAU I TE MATAURANGA  
WELLINGTON 2004

TWELVE YEARS OLD & COMPETENT

NEW ZEALAND COUNCIL FOR EDUCATIONAL RESEARCH  
PO Box 3237, Wellington, New Zealand

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ISBN 1-877293-38-5

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## 1. THE COMPETENT CHILDREN PROJECT

The Competent Children project, funded by the Ministry of Education, focuses on a group of about 500 Wellington region children. The study has charted these children's cognitive, social and attitudinal competencies from when they were close to 5 years of age and still in early childhood education, and aims to continue this process until they leave school.

The study's main aims are to explore the roles of home and education in the development of the children's competencies and to investigate if these roles change over time and as the children have other experiences. We have accordingly collected at stages information about the children's home resources and activities, experiences out of school, and school experiences. The first stage was when the children were near age 5, the second when they were age 6, the third, age 8 and the fourth, age 10. This summary report presents the findings for the fifth stage—age 12.<sup>1</sup> Findings from the sixth stage, when the study participants were age 14, will be available in 2005. Next year, we will also be returning to find out what is happening in the children's lives as they turn 16.

Like the two other longitudinal cohort studies of children's development being undertaken in New Zealand (the Dunedin and Christchurch studies, which began in the 1970s), this study is limited to a single region of the country. However, we drew the sample in relation to early childhood education types rather than the Wellington region population. The sample therefore has a higher representation of children from high-income homes, whose mothers have a trade or tertiary qualification (other than university), and who identify as Pākehā/European than would be the case if the sample had been drawn for the Wellington region or the country as a whole. Similarly, the proportions of children (engaged in, for example, sport or accessing the Internet at home) and the mean levels on the cognitive competencies that we report probably differ from those if the sample had been taken for the country as a whole, particularly where activities and experiences relate to differences in family income and maternal qualification.

The information we have collected thus far during our study provides rich and comprehensive pictures of the children's lives at each of the different ages. It also allows us to investigate questions relating to the way that changes in children's lives affect them, and to look at the relationships between their experiences, resources and activities at home and school and their engagement and achievement in school.

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<sup>1</sup> At ages 5 and 6, the study included some 300 children. At age 8, we brought in around 200 children from a related parental survey done when these children were age 5 and at the same time as our first stage of this research.

## This stage of the project

Our look at the children at age 12 covers a wide range of the current activities, experiences and views of 12-year-olds in contemporary New Zealand. It also takes account of information from the study children's parents and teachers, whom we interviewed. At age 12, 53 percent of the study children were in Year 7 and 47 percent in Year 8.

As with the earlier stages of the study, we related the children's past and present experiences and perceptions to their competency levels. The 9 competencies we chose to focus on at age 12 were:

- communication
- perseverance
- individual responsibility
- curiosity
- social skills with peers
- social skills with adults
- mathematics
- literacy (reading comprehension, reading age, writing, vocabulary)
- logical problem-solving.

The first six competencies were measured by teacher ratings, and the last three were measured by tests/tasks that the children did. However, we accompanied one of the teacher-assessed competencies—social skills with peers—with a task for the children. In addition to asking teachers to rate the children's competency in this area, we asked the children questions relating to bullying at school.

At the time we interviewed the teachers, they had been teaching the children in the study for an average of 7.3 months, with a range of 1 month to 4 years or more. The average age of the children at this time was 12 years, with a range of 11.10 years to 12.6 years.



## 2. CHILDREN'S COMPETENCIES AT AGE 12

We look first at the study children's scores on each of the competency measures at age 12, with some description of trends in particular items making up the competency measures. We then look at the relationships between the competency measures at age 12.

Because of the period of growth covered in the children's lives, we have been unable to use the same measures in every phase of the study, although we have kept the same items and tests as much as possible.

### Teacher-rated competencies

- Communication • Curiosity • Perseverance • Individual Responsibility
- Social Skills with Adults • Social Skills with Peers

#### KEY FINDINGS

- Overall, the study children's classroom behaviour on these measures, as rated by their teachers, was much the same at age 12 as it had been when the children were ages 8 and 10.
- Around two-thirds to three-quarters of the 12-year-olds seemed comfortable in the class in their role as learners, with 15 percent or fewer receiving poor scores for individual items making up the six measures.
- The study children had higher scores for the listening items on the communication measure than for the speaking items.
- While many of the study children enjoyed new experiences, thinking laterally or "outside the square" was common for only around a third of them.
- Most children were getting on with their peers.
- The teachers did not consider peer pressure to be a major issue for most of the children. However, the children's responses to a hypothetical situation (being given a "hard time" in the school grounds) showed fewer of the children would respond assertively at age 12 than they would have at age 10 and a doubling across the two ages of the (albeit small) proportion of children indicating they would respond with aggression. A greater number of the study children said they would seek their parents' help if their first response to receiving a hard time did not work.

## Communication

The measure of communication covered receptive language, or listening skills, and expressive language, or speaking skills.

As at earlier ages, the study children's listening scores tended to be higher than their speaking scores (Table 1). Around three-quarters or more of the children always or often understood the information their teacher gave them in class, asked for something they did not understand to be repeated or explained again and followed conversations and stayed on topic. Just over half the children were seen by their teachers to often or always speak confidently or to offer a clear and convincing argument.

**TABLE 1 TEACHERS' RATINGS OF CHILDREN'S COMPETENCY: COMMUNICATION**

ITEM	RANKING				
	5 %	4 %	3 %	2 %	1 %
<b>RECEPTIVE</b>					
Follows conversation and stays on same topic	31	43	20	6	0
Understands information given to the class	31	50	17	3	0
Asks for something not understood to be repeated or explained again	29	36	20	13	3
Good listener	27	41	20	11	1
Can remember and carry out instructions after hearing them once	24	44	22	9	2
<b>EXPRESSIVE</b>					
Clearly explains things seen or done	23	44	22	9	2
Expresses views and needs appropriately	22	40	26	11	1
Confident speaker	22	33	27	14	4
Modifies language according to situation and audience	18	42	27	12	2
Provides clear and convincing argument	17	37	30	12	4

5 = always, 1 = never. Figures in tables may not total 100% due to rounding.

## **Curiosity**

The children's scores at age 12 for the curiosity items were much the same as at ages 8 and 10, but were generally much lower than for the items on our other measures. Around two-thirds of the 12-year-olds were seen by their teachers always or often to enjoy new experiences/challenges (Table 2).

**TABLE 2 TEACHERS' RATINGS OF CHILDREN'S COMPETENCY: CURIOSITY**

ITEM	RANKING				
	5 %	4 %	3 %	2 %	1 %
Takes an active interest in surroundings	19	46	27	8	1
Enjoys new experiences/challenges	17	43	30	10	1
Asks a lot of questions/wants to know how and why	12	36	32	16	4
Thinks laterally, "outside the square"	8	29	37	20	5

5 = *always*, 1 = *never*.

## **Perseverance**

As at earlier ages, most children (77 percent) finished all their work always or often (Table 3). This percentage was much the same as at age 10 and somewhat higher than the 65 percent at age 8. Just over half the children always or often persisted with solving a problem, even when things went wrong.

**TABLE 3 TEACHERS' RATINGS OF CHILDREN'S COMPETENCY: PERSEVERANCE**

ITEM	RANKING				
	5 %	4 %	3 %	2 %	1 %
Finishes all work	39	37	14	8	1
Good concentration span when working in the classroom	27	36	22	13	2
Makes an effort to do something even if s/he doesn't want to	24	42	20	12	2
Persists with solving a problem, even when things go wrong	18	38	28	14	3

5 = *always*, 1 = *never*.

### **Individual responsibility**

Just over half the study children could always be relied on to pass messages between school and home at age 12, and just over a third always followed class routines without having to be reminded. Just over half always or often acted with some thought to the consequences of their action (Table 4).

**TABLE 4 TEACHERS' RATINGS OF CHILDREN'S COMPETENCY: INDIVIDUAL RESPONSIBILITY**

ITEM	RANKING				
	5 %	4 %	3 %	2 %	1 %
Can be relied on to pass messages between school and home	51	28	14	8	0
Takes responsibility for his/her actions	42	35	17	5	1
Keeps track of time, puts books away in right place	40	32	17	11	1
Follows class routines without having to be reminded	36	42	16	6	1
Acts without thinking of consequences*	3	11	27	35	23

5 = always, 1 = never. \* Reverse scored (5 = never, 1 = always).

### **Social skills with adults**

All but 11 percent of the children showed respect for the adults in the school often or always. Around two-thirds also showed confidence in their interactions with adults in the school and could present their point of view appropriately to an adult, even when there was a disagreement (Table 5). The scores on the social skills with adults items were much the same as at age 10.

**TABLE 5 TEACHERS' RATINGS OF CHILDREN'S COMPETENCY: SOCIAL SKILLS WITH ADULTS**

ITEM	RANKING				
	5 %	4 %	3 %	2 %	1 %
Shows respect for adults in the school	57	32	9	2	0
Presents his/her point of view appropriately	34	34	22	7	2
Confident in her/his interactions with adults in the school	28	42	20	8	2

5 = always, 1 = never.

## Social skills with peers

In their teachers' experience, most children got on with others (the positive side of relations with peers) and were not influenced by peer pressure to do something out of character (the negative side of peer relations). Just over half the children were never left out of groups by other students, and just under half were never difficult for their peers to get on with (Table 6).

The proportion of study children who could always work with other children over an extended time period without needing adult intervention had continued to increase (22 percent at age 12 compared with 18 percent at age 10 and 12 percent at age 8). There were also increases in the proportions of children considered always good at keeping and making friendships (31 percent at age 12 compared with 25 percent at age 10 and 20 percent at age 8) and never influenced by peer pressure (37 percent compared with 27 percent at age 10 and 23 percent at age 8). However, the proportions of children experiencing difficulties in peer relations (ratings of 1 and 2) had remained much the same between ages 10 and 12, indicating a widening range of skills and confidence.

**TABLE 6 TEACHERS' RATINGS OF CHILDREN'S COMPETENCY: SOCIAL SKILLS WITH PEERS**

ITEM	RANKING				
	5 %	4 %	3 %	2 %	1 %
Good at making and keeping friendships	31	47	15	6	1
Works with other students over time without adult intervention	22	50	18	8	2
Most students find ___ difficult to get on with*	49	31	12	5	2
Influenced by peer pressure to do something out of character*	37	35	21	7	1
Left out of groups by other students*	58	27	10	5	0

5 = always, 1 = never. \* Reverse scored (5 = never, 1 = always).

### *Task related to bullying*

As an adjunct to the teacher rating of the children's peer-related social skills, we asked the children these questions:

- “What would you say or do if someone gave you a hard time in the school grounds?”
- “What would you say or do if they continued to give you a hard time in the school grounds?”<sup>2</sup>

Table 7 shows a drop between ages 10 and 12 in the proportion of children who would give an assertive response if given “a hard time” in the school grounds, and double the proportion who would give an aggressive response. Teachers were still seen as the key sources of help in this situation, and parents as more likely to be involved if the first response did not deter the person giving the child a hard time. Slightly higher proportions of 12-year-old than 10-year-old children said they would avoid the situation or did not know what they would do. There was also an increase across the two ages in the small proportions of children who said they would seek help from other students or groups of friends. Although a number of the schools attended by children had peer mediators, few students mentioned them as people they would involve in this particular situation.

**TABLE 7 STRATEGIES CHILDREN AT AGES 10 AND 12 SAID THEY WOULD USE WHEN ENCOUNTERING DIFFICULTIES IN THE SCHOOL GROUNDS**

Strategy	Initial response at age 10 (N = 507)	Second response at age 10 (N = 507)	Initial response at age 12 (N = 496)	Second response at age 12 (N = 496)
	%	%	%	%
Assertive response	46	14	29	12
Ask teacher to help	21	55	29	48
Go somewhere else/do something else	21	18	26	16
Aggressive	5	4	10	9
Passive/do not know	3	3	7	5
Tell mum/dad/parents	0	2	5	17
Seek help from another student	2	1	3	3
Seek help from group of friends/gang	1	2	3	4
Peer mediators	0	1	1	1

<sup>2</sup> These questions were very similar to a question the children were asked at age 10: “What would you say or do if you were playing outside at lunchtime and another child picked on you?” Some of the study children possibly gave different responses at age 12 than at age 10 because “someone” could be perceived to be an adult rather than another child.

## Task-assessed competencies

- Literacy • Mathematics • Logical Problem-Solving

### KEY FINDINGS

- Children in Year 8 had slightly higher scores on average than the children in Year 7 for the Burt Word Reading Test, writing task and reading age, but not for mathematics or the Progressive Achievement Test (PAT) in Reading Comprehension.
- The average reading age on the PAT Reading Comprehension was 12.0–12.6 years.
- The study children now recognised an average of 85 words out of the 110 on the Burt Word Reading (Vocabulary) Test.
- As at previous ages, the teachers' estimates of the children's reading age showed a median about a year above the children's chronological age, and they were increasingly aware of those who were lagging behind.
- The proportion of children estimated by their teachers to be reading below their chronological age had grown by age 12 to 27 percent (from 20 percent at age 10 and 16 percent at age 8).
- All but 14 percent of the children wrote more than 15 lines about something interesting they had seen or done, their favourite book or their favourite television programme.
- Most of the study children used correct punctuation and spelling within a simple range of syntax and provided an argument for their point of view that had at least some supporting ideas. Under half could vary sentence structure and order their ideas logically.
- The range of writing scores was wider at age 12 than at age 10, with slightly higher average scores for surface features than deep features.
- No clear patterns showing areas that were better or less understood than others emerged in the mathematics scores. Three-quarters of the children correctly answered a question asking for application of measurement; only 26 percent correctly answered a question seeking understanding of graphs.
- The study children now had a median score of 72 percent on the Standard Progressive Matrices task which we used to assess logical problem-solving, up from their median score of 63 percent when they were aged 10.
- The cognitive competencies were relatively strongly correlated, as were the social and attitudinal competencies other than curiosity.
- A path analysis showed relationships among the mathematics, literacy and communication scores. Communication—listening and speaking—was directly related to vocabulary, reading comprehension, writing and mathematics. Vocabulary performance contributed to performance in reading comprehension and writing; reading comprehension contributed to mathematics and writing.

## Literacy

We used four measures of literacy: the Burt Word Reading test, the PAT Reading Comprehension, teacher estimates of each child's reading age and a slightly modified version of the writing task used at ages 8 and 10.

### *The Burt Word Reading Test*

At age 12, the median percentage score on this test was 79 percent, up from the medians of 66 percent at age 10, 45 percent at age 8 and 17 percent at age 6. One child got all 110 items correct, and the fourth (top) quartile started at 88 percent compared with 79 percent at age 10 and 59 percent at age 8. The first (lowest) quartile of children was 35 percent at age 8. At age 10, this lowest quartile mark had shifted upwards to 51 percent; by age 12, it was 69 percent.

The mean raw score out of 110 was 84.61. As in previous phases of the Competent Children Project, the study children's mean score was higher than the comparable age group when the Burt Test was standardised for New Zealand in 1980. Then, the mean raw score was 78.94 for students 12.0–12.5 years of age. The study children in Year 8 achieved a mean raw score of 86.9 (SD 15.2) and those in Year 7, a mean raw score of 82.3 (SD 17.2).

### *PAT Reading Comprehension*

This test has different questions for Year 7 and Year 8 students, with an overlap of 31 questions. Year 7 students' mean raw score (using Form A of the PAT Reading Comprehension) was 21.97 (SD 9.64), close to the mean raw score of 22.07 (SD 8.52) for Form 1 (now Year 7) students on Form A achieved in the 1990 NZCER review of PAT. The Year 8 mean raw score in the current study was 22.37, slightly higher than the Form 2 (now Year 8) mean raw score of the 1990 review, which was also 22.07 (SD 8.82).

### *Teachers' estimates of reading age*

We used reading age as a quick way to tap into teachers' professional judgement based on their knowledge of what children the children were reading and had been reading.

The median for teachers' estimates of children's reading ages was 13.0–13.5 years, compared with 11.5–12.0 years at age 10 and 9.0–9.5 years at age 8. The upper quartile was age 14.0–14.5 years, and the lower quartile, age 11.5–12.0 years, with four students given a reading age of under 8 years. There had been a gradual increase in the proportion of children thought to be reading below their chronological age as they had become older. Sixteen percent of the children were thought to be reading below their chronological age at age 8, 20 percent at age 10 and 27 percent at age 12.

### *Writing*

The writing task we gave at age 12 extended the ones used at ages 8 and 10. The study children were asked to write 15–20 lines about something interesting that they had seen or done, or about their favourite book or television programme, telling us what happened and what they liked most about it. A non-fiction topic was chosen to put boys and girls on an equal footing. Forty-five percent of the children chose to write about something they had done, 27 percent about their favourite book and 25 percent about their favourite television programme. Six percent wrote about something they had seen.

The median raw score on the writing test was 50 percent. There was a somewhat wider range of scores than at age 10. The top quartile was 67 percent and the bottom quartile, 45 percent: thus, half the study children's scores fell within this range. At age 10, around half the children scored between 65 and 79 percent. There was a greater increase in writing scores between the ages of 8 and 10 than there was between the ages of 10 and 12.

Most of the study children wrote more than 15 lines, and three-quarters produced text that had just a few words misspelt. Around two-thirds were using punctuation that was mostly correct, within a simple range. Seventy percent were using simple syntax correctly. All but 10 percent had a vocabulary wider than high frequency words, and half were beginning to or did match their choice of vocabulary to their task. Forty percent could vary their sentence structure; around 30 percent were ordering their ideas logically and starting to use paragraphs. Sixty-nine percent provided an argument that had at least some supporting ideas for their point of view.

**TABLE 8 WRITING TASK – SCORES FOR PARTICULAR FEATURES**

Features	%
<b>Surface features</b>	
Length	
1–8 lines	1
9–14 lines	13
15+ lines	86
Spelling	
More than 20% spelling errors	1
10–20% spelling errors	6
5–10% spelling errors	15
3–5% spelling errors	28
< 3% spelling errors	51
Punctuation	
Beginning use of full stops and capitals.	31
Mostly correct use of full stops, capitals, commas for listing, question marks, and beginning use of quotation marks.	50
Mostly correct use of full stops, capitals, commas for listing, question marks, exclamation marks, and quotation marks.	17
Accurate use of full stops and capitals, commas, question marks, exclamation marks, speech marks, apostrophes, parentheses, dashes, colons, and semi-colons.	2
Using conventions of writing [punctuation] accurately and confidently.	.4
Grammar and syntax	
None — jumble of words	0
Beginning use of conventional syntax [word order].	24
Conventional syntax generally evident. Control of verb forms, i.e. singular/plural agreement, subject/verb agreement and tense.	70
Wide use of subordinated structures in sentences with variety in length and errors rare. [Complex sentences with subject/object, descriptive passages and use of pronouns, adverbs, and adjectives. Clauses appropriately linked. Tense mostly correct.]	6
Using conventions of writing [grammar] accurately and confidently.	.4

**TABLE 8 WRITING TASK – SCORES FOR PARTICULAR FEATURES**

Features	%
<b>Deep features</b>	
<b>Vocabulary choice</b>	
High frequency vocabulary predominates.	10
Vocabulary broadening beyond high frequency.	36
Beginning to use vocabulary appropriate to task/genre.	42
Makes language choices appropriate to the audience. Vocabulary generally appropriate to task/genre.	10
Evidence of vocabulary carefully chosen for task and audience.	2
<b>Choice of form</b>	
Simple sentences only.	4
Beginning to vary sentence beginnings and structure. Beginning to extend sentences with conjunctions.	57
Varies sentence beginnings and length. Beginning to use clauses within sentences.	34
Varies sentence beginnings and sentence length to suit purpose. Range of sentence types showing accurate use of clauses within sentences.	5
Structures material confidently in appropriate styles.	.6
<b>Progression of description</b>	
Writes several related sentences on the topic.	19
Some sequencing is evident.	51
Sequences ideas logically. Beginning to organise some ideas into paragraphs.	25
Organises and links ideas logically. Organises ideas into coherent paragraphs.	4
Links main and supporting ideas. Strong sequential structures evident within and between paragraphs.	.6
<b>Quality of argument</b>	
No justification for ideas.	29
Includes several ideas, some with supporting detail—some facts and opinions.	54
Beginning to support main ideas with some detail—expresses personal viewpoints.	14
Consistently includes details to support main ideas—expresses and explains a point of view.	3
Links main and supporting ideas. Justifies point of view persuasively—expresses and argues a point of view.	.6

## **Mathematics**

As at ages 8 and 10, we used a reduced set of 20 items from the standardised PAT Mathematics. The selected items were those that are around the median in their level of difficulty and power to differentiate between students (high scorers overall got the items correct and low scorers overall did not). The mean raw score out of 20 for the study children was 10.19 (SD 4.77). The mean raw score of the children in Year 7 was 9.82 (SD 4.57); for those in Year 8, it was 10.57 (SD 4.9).

Most of the scores ranged around 50 percent, with no clear patterns showing areas of mathematics that were better or less understood than others. Three-quarters of the study children got the correct answer for a question seeking application of measurement; only 26 percent correctly answered a question seeking understanding of graphs (related to data, statistics and probability).

## **Logical problem-solving**

We used a pattern-matching test, the Standard Progressive Matrices, to assess logical problem-solving. The median score was 72 percent, an increase from the median scores of 63 at age 10, and 40 percent at age 8. The study children now correctly matched an average 42 patterns out of the 60 they were presented with.



### 3. CHILDREN'S PERFORMANCE ACROSS TIME

#### KEY FINDINGS

- Overall, children's level of performance at age 5 was not a reliable guide to their level of performance at age 12 for literacy and the social and attitudinal measures.
- However, there was more consistency over time in the scores of children who were performing at high or low levels at nearly age 5, just before they reached school. For example, 77 percent of those who were in the top quartile of mathematics scores at age 5 had scores at or above the median at age 12, compared with 13 percent of those whose mathematics scores at nearly age 5 put them in the lowest quartile.
- Consistency firmed over time. Eighty-nine percent of the top quartile group for mathematics at age 10 scored at or above the median at age 12, compared with 4 percent of those in the lowest quartile group at age 10.

#### Children in the top and bottom quartiles

Two-thirds of the children who were performing in the top quartile at age 5 were scoring above the median at age 12 for the cognitive competencies and curiosity. At least two-thirds of those in the top quartile at age 8 were performing above the median at age 12 for all the competencies. Between a fifth to two-fifths of the children who performed in the lowest quartile at age 5 were performing above the median at age 12, but fewer children lifted their performance to this extent between ages 8 and 12. Improved performance was much less likely for mathematics.

However, more children from the lowest quartile at age 8 had progressed above the median by age 12 than seemed likely from our analysis at age 10. This finding suggests that though the windows of opportunity for developing performance do seem to narrow over time, particularly by the end of the first three years of school, they are not closed. The opportunities—support, experiences and relationships—available to children can make a marked difference.

## The different competencies

Mathematics had the highest level of consistency in performance between ages 5 and 12. Around a third of the variance, or spread, in the children's scores for mathematics at age 12 could be accounted for by their scores at age 5, indicating the importance of activities and conversations using mathematics, patterns and symbols before children reach school.

The strength of correlations between earlier and age 12 scores for the social and attitudinal competencies was moderate rather than strong, although they became more consistent between the ages of 8 and 12. Children's scores on the social and attitudinal competencies may reflect different individual responses and interactions between individual children, their teachers and peers, as well as different settings. Social and attitudinal competencies may be more influenced by context than are the cognitive competencies.

Reading seems to be the competency that is least context-dependent, with the children's earlier levels of performance most likely to be subsumed into age 10 performance. Path analysis showed that the social and attitudinal competencies "feed into" the cognitive competencies at the same age, and that the cognitive competencies feed into the social and attitudinal competencies of the next age.

## Gender and ethnicity

The children's gender and ethnicity did not make marked differences to the patterns of progress for children who were in the top quartile of earlier performance. Once a certain level of knowledge and skills had been gained, it was likely to be maintained.

Gender and ethnicity were more apparent in differences in patterns of progress for children in the bottom quartile at age 5. Boys in the lowest quartile at the earlier ages were more likely than their female counterparts to progress above the median at age 12 for mathematics and the Burt Word Reading Test, although the girls were more likely to have moved above the median for the social and attitudinal competencies. The trends for ethnicity suggest that Māori children who scored in the bottom quartile at age 5 were less likely than their Pākehā/European counterparts to progress above the median for mathematics, and less likely to make progress from age 8 to age 12 in mathematics, reading comprehension and writing.

## **Maternal qualification and early family income**

Maternal qualification and family income showed more links with patterns over time. Children whose family income was low when they were age 5 were less likely to perform at or above the median at age 12 if they had been in the top quartile at age 5 for mathematics, reading and communication, but this pattern was not evident in relation to children in this category who were in the top quartile at age 8. Children whose mothers had no qualification and who were in the top quartiles at age 5 and/or age 8 were somewhat less likely than their peers whose mothers had some qualification to have scores at or above the median at age 12 for mathematics, reading comprehension and writing.

Children whose mothers had a university qualification were most likely to move from the lowest quartile at age 5 for the cognitive competencies, and those whose mothers had no qualification or a school qualification, least likely. Progress from the bottom quartile at age 8 to above the median at age 12 was more likely for children whose mothers had a university qualification. Children whose families had very high incomes at age 5 were more likely to progress from the lowest quartile at age 5 to above the median at age 12 for mathematics, and there was a similar trend for progress from age 8.

Comparison of the activities and experiences of children from low-income homes who were scoring above the median at age 12 for mathematics and reading comprehension, and those who were not, showed differences in the children's use of time and use of language that are consistent with theories of cultural capital.



## 4. CHILDREN'S EXPERIENCES AND COMPETENCY LEVELS

Longitudinal pictures of children's experience and access to resources show that behind the "snapshots" taken at each age lies (sometimes) considerable variability in previous experience and access to resources. We therefore look here first at how differences in patterns over time for some key family resources and experiences at home and school related to the study children's competency levels at age 12, after taking into account family income when the children were age 5, and maternal qualification levels. We then take a closer look at the children's experiences at home and school at age 12, and the relationship between their experiences in these environments and their competency levels.

### **The contribution of early childhood education and of cumulative experiences at age 12**

#### KEY FINDINGS

- Early childhood education quality was still contributing to the children's competency in mathematics and literacy at age 12.
- Family income levels when the children were nearly age 5 had more bearing than current family incomes on their competency at age 12.
- While high numbers of house shifts and changes of school disadvantaged some children, high levels of maternal qualification and family income appeared to be acting as buffers.
- Maternal qualification levels mattered more than family income for children's competency levels at age 12. (High parental qualification levels relate to the opportunities children have to use symbols and language from an early age. These experiences foster enjoyment, and enjoyment is associated with higher performance levels.)
- Competency levels at age 12 were not related to the kind of family a child was living in (i.e., one- or two-parent) or to whether the family had remained intact since the child was born.
- Age 12 competency levels were also unrelated to patterns of maternal employment from when the child was nearly age 5, or to current maternal employment.

- Few paths through school had run smoothly, with most children having experienced a problem that parents and teachers had resolved together, or a teacher they did not like. These experiences, however, did not influence competency at age 12 unless the problems continued.
- Children who had received consistent messages about the value of school from their parents' voluntary work at their school had higher average scores at age 12.
- The few children whose classes always numbered below 25 had higher scores at age 12 for mathematics, literacy and logical problem-solving.
- Children who had consistently attended high-decile schools had higher average scores at age 12. Little overall difference was evident between consistent attendance at state, state integrated and private schools, but those who had attended state integrated schools had higher scores for social skills with peers, and those who had attended private schools, for writing.
- Staying clear of bullying behaviour over the years, whether as victim, bully or both, benefited children.

### **Early childhood education**

The study children's early childhood education experience was still contributing to their mathematics and reading comprehension scores seven years later. By age 12, the range of early childhood education aspects showing relationships with the children's mathematics scores was wider than with their PAT Reading Comprehension scores, perhaps because more reading activities occur in homes, or perhaps because the kinds of activities and interactions provided by early childhood education staff support mathematics performance through practice in patterns and puzzle-solving.

Most of the associations with mathematics remained after taking the children's scores at age 5 and family income and maternal qualification into account. The proportion of variance in scores, and the size of the difference between the scores for children with different levels of early childhood education experience increased rather than decreased with time. Both these patterns suggest that early childhood education contributes to children's performance at age 12 through ways of working and thinking, rather than the simple provision of knowledge at a certain level.

The particular early childhood education quality aspects that continued to show associations with the PAT Reading Comprehension scores focused on staff-child interaction, along with a “print-saturated” environment. The centrality of staff-child interaction found in this study for long-term outcomes is consistent with other large-scale research on concurrent and short-term relations between early childhood education quality and outcomes for children.

## **Family resources**

### *House moves*

Sixty-nine percent of the study children had moved house at least once since their birth, and 14 percent had moved at least five times. Mobility between houses was more common for children in two-parent families with one step-parent, for children from low-income families, children of one-parent families, and those children whose mothers had no maternal qualification. Children who had moved house five or more times were those most likely to have lower average scores on mathematics and social skills with peers. Maternal qualification and family income appeared to be protective factors for the other competencies with regard to a high number of house shifts.

### *Family income*

Family income levels were not static over this period for many of the study children. They were mostly likely to be much the same for those children whose family incomes had been more than \$80,000 when the study child was age 5 (84 percent). Over the seven years between the study children being nearly age 5 and age 12, 65 percent of those who had had low family incomes (below \$30,000) saw some increases, as did 54 percent of those with family incomes between \$30,000–60,000, and 61 percent of those with family incomes of between \$60,000–80,000. Nine percent of the families saw some decreases in their family income over this period.

Children whose family incomes were low when they were age 5 had lower average scores at age 12, whether or not their family income levels improved over the seven years. Earlier levels of family income accounted for more of the variance in children’s scores at age 12 than did current levels of family income. Children from homes that were then low-income were only half as likely as those from then high-income homes to score at or above the study median score at age 12 for mathematics and the PAT Reading Comprehension.

### *Parental qualifications*

Although there are overlaps between family income and maternal qualification levels, maternal qualification is the stronger factor in relation to children’s competency levels at age 12. Paternal qualification levels also make a separate

contribution to children's cognitive scores. The higher the level of maternal qualification, the more likely that the children's father would have the same qualification level.

## **Home and school**

### *Homework, TV and music*

Always completing homework and consistently watching, from age 5, fewer than an average of two hours of television a day benefited children in terms of their competency scores. The reverse was true for children who had watched large amounts of television consistently from ages 5 to 12. (This association with lower competency levels was not reduced by sometimes watching smaller amounts.) Children whose participation in music varied between ages 8 and 12 did not have lower average scores than those whose participation was consistent. Those with the lower scores were those who had consistently had no participation in music.

### *Family composition*

By age 12, 71 percent of the study children had always lived with both their biological parents, and 6 percent with one biological parent. Twenty-three percent had experienced some changes in their family composition, with 13 percent living with a step-parent and 10 percent living sometimes with two parents and sometimes with one. Family type, whether stable or changing, was not related to the children's competency levels at age 12.

### *Maternal employment and welfare benefits*

Few of the study children had mothers who did not undertake some paid employment between the time the children were nearly 5 years of age and when they were age 12. A few mothers were in full-time work throughout this period. Different patterns of maternal employment were unrelated to the children's scores at age 12.

Twenty-two percent of the study children were in families that had received welfare during the age 8 to age 12 period. There was an indication that the cumulative experience of being in such a family may disadvantage mathematics performance at age 12.

### *Parents' engagement with the school*

Most of the study parents had engaged with a teacher at least once during the age 8 to age 12 period on a problem that their child was experiencing. However, problems only had an adverse effect on cognitive competencies for those children consistently experiencing academic problems. Social and attitudinal competencies were affected if the children experienced a problem in two or more of the three study phases.

The children's teachers reported that they had relationships that they thought consistently good/excellent with only 13 percent of the children's parents over the ages 8 to 12 period. These children, and those for whom the relationship was seen as very good/excellent for two of the three phases, tended to have higher average scores.

Sixty-nine percent of the parents gave voluntary help at their child's school in at least one of the three study phases during the age 8 to age 12 period, and only 2 percent of the parents had had no involvement in their child's school for two or three of the study phases. Children whose parents did voluntary work at their school for at least two of the three phases had higher average scores, suggesting that children were receiving a consistent message about the value of school. Conversely, children whose parents had no involvement in their school in two or three of the phases had lower scores. They, too, were getting consistent messages, but not ones supporting their engagement in school.

Thirty-four percent of the children's parents were always satisfied with their child's progress at school across ages 6 to 12. Only 8 percent were never satisfied or only once satisfied. Children whose parents consistently reported satisfaction with their child's progress or whose parents said they were becoming satisfied with the child's progress at ages 10 or 12 had higher competency scores at age 12.

#### *School characteristics*

The few children whose classes had always been small (i.e., 25 or fewer students) had higher average scores for mathematics, literacy and logical problem-solving. Otherwise, there were no differences related to cumulative experiences of classes of different size, whether the classes were much the same in size over the years or varied. However, the variation in class size in our sample was not large.

The children who had consistently attended state integrated schools since school entry had higher average scores for social skills with peers. Children who had consistently attended private schools had higher average scores for writing.

Half the study children had been attending schools, on a consistent basis, in the same socio-economic decile band (low, medium, high) since school entry. Children who had attended a high-decile school for at least three of the four study phases between ages 6 to 12 had higher average scores. Children who had always attended a low-decile school had lower average scores. Children with mixed attendance patterns had much the same average scores as those who had consistently attended medium-decile schools, indicating that switching to different decile schools, even when the move is to a higher decile school, may not confer benefits.

### *Number of schools attended*

By age 12, only 25 percent of the children were in the same school in which they had started, reflecting the break that comes for most at the end of Year 6. Fifty-one percent were at their second school, and 16 percent at their third school. Thus, most of the study children had attended three schools at most.

Eight percent of the children had attended four or more schools (the highest being eight) by age 12. Children whose parents said their child had had teachers he or she did not like were almost twice as likely to be those who had changed schools as those who had stayed in the same school. This dislike may have been the reason for changing schools and a school change under such circumstances should not be seen as school mobility per se.

On the whole, children who had attended a single school tended to have higher average scores for reading and writing, and children who had attended four or more schools to have lower than average scores for mathematics. Family resources diluted the strength of these associations. Although there is high interest in the effects of transition between different school stages, we found no disadvantages for children who changed schools between age 10 and 12, usually moving from a primary to an intermediate school.

### *Bullying and coping*

Staying clear of bullying behaviour, whether as victim or bully, or both benefits competency. Only three of the study children were consistently upset and not coping in all three phases between ages 8 and 12. Children who were upset more than once over this time, or currently, and who did not cope with it tended to have lower average scores. Children who had upsets but coped with them tended to have higher average scores for mathematics. Those who experienced no upsets during this time had higher average scores for perseverance, individual responsibility and social skills with peers.

### *Stability*

Overall, the experience of stability or just a couple of changes in the daily settings of children's lives—their homes (and possibly neighbourhoods) and schools—appeared to give children advantages in some, but by no means all, of the competencies. However, family income and maternal qualification levels appear to act "protectively" in relation to large numbers of changes in residence and schools for some competencies.

That mathematics performance seems to be affected by a higher number of changes of residence and school is consistent with children being more likely to develop their knowledge and skills in mathematics than in other competencies in a "building block" way. Children generally need to master one level before they can make further progress.

## The children's home experiences at age 12

### KEY FINDINGS

#### *Family situation*

- Just under half the children's mothers were in full-time employment, and just over half their fathers were working more than 40 hours a week on average.
- Parents needing help were more likely to call on friends than on family or neighbours, and children were more likely to talk to their mothers than fathers about school or what they were reading.

#### *Activities*

- Playing sports, hanging out with friends and watching television were the children's favourite non-school activities, with the girls more focused on friends and reading and the boys on playing electronic games and watching television. The study children were watching more television on average than at age 10. Boys liked cartoons, and girls liked soap operas and sitcoms.
- Ninety percent of the children had a computer in their home and spent nearly four hours a week using it. Boys' computer time centred more on games, music and surfing the Internet, girls on word processing, seeking information and using email and online chat rooms.
- Around two-thirds of the children enjoyed reading at home, with 45 percent identifying reading among their favourite out-of-school activities. Around half enjoyed writing and 45 percent working with numbers.
- Just under half the children were receiving sports coaching or performing arts/music lessons outside school. Sports and performing arts were also the main extracurricular activities done at school.
- Most had some money (either given or earned), with boys tending to spend it on games and toys, and girls on clothes and make-up.
- The boys' greater focus on action-based activities and the girls' on language and communication fitted with the slightly higher scores that the girls achieved in literacy and their higher scores for the social and attitudinal measures.

#### *Feelings about life at home*

- The 12-year-olds were somewhat more positive than they had been at age 10 that they were listened to, treated fairly, and got help if they needed it. Most felt they had interesting things to do at home. However, sizeable minorities reported being bored or told off or felt that their family showed little interest in their school life or homework.
- The children's views that showed most associations (either positive or negative) with their competency scores were with doing interesting things, being bored, helping out at home, getting help if needed, getting told off at home, and expectations being fair.

### *Engagement with parents*

- All the parents of the study children shared some activities with their 12-year-old children, notably socialising with other family or friends and transporting the children to their activities. Favoured activities with boys were watching sport and transporting them to activities, and with girls, shopping and talking. Children whose mothers had no qualification or whose families had low incomes shared fewer activities with their parents.
- Children whose parents mentioned just one or two shared activities scored lower on mathematics; children whose parents mentioned five to seven activities scored highest.
- Most parents had expectations or rules relating to schoolwork, housework, language and media use. Parents usually dealt with disagreements (only 1 percent of parents said they and their child never disagreed) by negotiation. The next main response was the parent exerting his/her authority. Children whose parents negotiated with them had higher average scores than children whose parents let them win.
- Help around the house, self-esteem, and behaviour at home were the main areas of parental concern in relation to their 12-year-old. However, around two-thirds of the parents had no concerns about their child in terms of these factors or the child's friendships, interests or school. Children for whom parents held some concerns generally had lower average scores on the competency measures.

### *Relationships with peers*

- Friendships were very important to the children at age 12. Boys were much more likely to spend time with friends in physical activity or playing games, and girls to spend time talking and shopping. Just over half the study children identified something negative about their friendships, as well as their positive aspects. Around 12 percent had mainly aimless friendships, and 3 percent did not have good friendships.
- Bullying frequency at age 12 was much the same as it had been at age 10. Around a quarter of the 12-year-olds reported being bullied and 15 percent said they had bullied another child in the last few months. Most bullying occurred at school and was verbal. A child's main response to bullying was to ignore it or seek help from a teacher or parent.

### *Children's values*

- Enjoyment of life and doing well at school or sport were the most important values for the study children at age 12, followed by being with family, having lots of friends and being helpful or kind. A happy family life and then good health were deemed of most importance in their adulthood. Twice as many children saw having an interesting job in adulthood as more important than having lots of money.

### **Siblings and birth parents**

At age 12, 83 percent of the study sample had at least one sibling, with a third having one, and just under a third, two siblings. Most either lived with, or were in contact with, their birth parents. Half of those who did not live with one birth parent saw their non-resident parent regularly. Children whose parents shared their custody or whose non-resident parent had regular access to them were more likely to get on with their non-resident parent.

### **Parental employment**

Full-time employment of the mothers of the study children had risen gradually over time, from 19 percent when the children in the study had yet to start school, to 32 percent at age 10 and 41 percent by age 12. Mothers in two-parent families were more likely to be working full-time than those in one-parent families. Otherwise, patterns of employment (and not being in employment) were similar across different family types. They were also similar across different levels of maternal qualification. However, maternal qualification levels were reflected in the kinds of work undertaken.

There were also gender differences in the kinds of employment undertaken by the parents of the study children. Fathers were much more likely than mothers to be in managerial or trade work. Mothers were more likely to be working as professionals (including teachers and nurses), technicians and associated professionals and clerks.

Fifty-six percent of the children's fathers worked more than 40 hours a week on average, a much higher proportion than the 29 percent of the mothers employed full-time. Use of others to help care for children when parents could not was mainly related to maternal employment, although there was less use of others where fathers were not employed. The use of paid care for children (by a caregiver or through an OSCAR programme) was related to family income and maternal qualification levels, with more use of paid care by families with higher levels of income and maternal qualification.

### **Parental support, income and leisure activities**

Most parents could easily call on some help if they needed it, more so from friends than family or neighbours. Family characteristics were unrelated to the availability of help from others.

Most family income was earned through wages or salary. Self-employment was a source for 26 percent of the children's families. Thirteen percent received a welfare benefit. While family income levels were related to family sources of income, maternal qualification levels were not.

Eighty-nine percent of the parents reported that they were generally happy, and 80 percent that they were in very good or excellent health. Parental happiness was related to their own health and to teacher reports of their child's happiness.

Watching television, reading and talking with friends headed the list of parents' leisure activities. In contrast to the gender differences between the study children's use of leisure time, there were only a few gender differences among their parents. Maternal qualification was the family characteristic most associated with differences in the use of leisure time, followed by family income. The differences that existed were related to the use of literacy and participation in "high culture". Mothers with no qualification or in low-income homes were also less likely to do voluntary work or to garden.

Most parents interviewed said they liked reading. Enjoyment of reading was related to maternal qualification levels. Interestingly, there was no association between parental and child enjoyment of reading. Although most parents watched television most days, the higher the level of maternal qualification and family income, the less amount of time went to television viewing.

### **Parent-child interaction**

There were some indications that the children talked more with their mothers than their fathers about school, possibly because of the greater likelihood of mothers being in part-time rather than full-time employment. Generally, there were few gender differences related to parental interaction with children, or involvement in their activities.

### **Children's activities**

At age 12, most of the study children watched television and did homework on at least two days a week. Sport, reading, computer use and spending time with friends were the next most frequent group of activities, followed by housework, playing electronic games and talking to friends on the phone or the Internet. The next and final group of activities were more occasional, with some of the children never experiencing them: reading magazines, newspapers or comics, taking part in art/music/dance classes or working for money outside the home. With the exception of homework, children usually most enjoyed those activities they did more frequently. Between 60 and 69 percent said playing sports, hanging out with friends and watching television were among their favourite activities.

There were some notable gender differences. Girls were more likely to read, talk with friends, do homework and go to art/music/dance classes. They most enjoyed hanging out with friends, talking with them and reading. Boys were

more likely to play electronic games and sport and to read comics. They most enjoyed playing electronic games and watching television.

Levels of maternal qualification were reflected in the time given to reading, computer use and participation in art/music/dance classes. Children's use of their leisure time at age 12 was unrelated to their level of family income.

### *Television*

A quarter of the children had a television in their bedroom, available for private use. Almost twice as many boys as girls had a television set in their bedroom, and four times as many of the children whose mothers had no qualification compared with those whose mothers had a university qualification. The latter group of children were more likely to have a desk in their bedroom. These differences in the items that were readily available to children for their private use may indicate differences in values.

At age 12, the study children were watching more television on average than they had at age 10, perhaps because their tastes were shifting to longer, adult programmes, with a third now watching adult soap operas. Gender played a role in programme preferences. Boys were more likely to prefer cartoons, and girls, adult soap operas and sitcoms. Boys did not watch more television on average, but their taste for cartoons may be reflected in their higher rate of watching television before school.

Television played a bigger part in the lives of children whose mothers had no qualification, were from low-income homes or were Māori or Pasifika, and a smaller part in the lives of children who enjoyed reading. More associations were evident between the children's competencies and their cumulative time spent watching television than with current time use, but those whose current television watching was less than an hour had higher average scores for mathematics and writing.

### *Computers*

By age 12, 90 percent of the study children had a computer in their home. The average time spent using a computer at home was 3.8 hours a week. Boys spent somewhat more time than girls on the computer. Access to a home computer and the time spent on it related to maternal qualification levels. The latter accounted for most of the differences found for some competency scores in relation to time spent on the computer.

The 12-year-olds mainly used the computer for homework, email and accessing the Internet. Boys were more likely to download games or music and to surf the Internet. Girls were more likely to word process, seek information for homework or projects and use email and online chat rooms.

Family characteristics of income or ethnicity were not associated with differences in computer use. However, the higher the level of maternal qualification, the greater the children's use of email and of the computer for homework or projects.

Less than 10 percent of the children had a computer in their bedroom. However, three-quarters of the study children had Internet access at home, and most could use the Internet on their own. Use of the computer rose with access to the Internet and being allowed to use it on their own. The children's main uses of the Internet were to seek information for schoolwork and to email.

Computer activities that showed significant associations with children's competencies, particularly mathematics and communication, were playing games, word processing, email, graphics and homework or projects.

### *Reading*

Around two-thirds of the study children enjoyed reading; 45 percent put reading among their favourite out-of-school activities. Enjoyment of reading was highest among those children whose mothers had a university qualification. Girls enjoyed reading more than boys.

Many of the children were reading a range of reading material, including fiction and information. Fiction was somewhat less likely to be read by boys and children whose mothers had no qualification. Children who enjoyed reading were more likely to read across the board. Enjoyment of reading was associated with higher average scores on all the competencies.

Reading has a double value: in itself and as a topic for conversation with parents. Most children spoke to someone at home about what they were reading, more often their mother than father. Children who enjoyed reading were more likely to gain this additional value from their reading. Maternal qualification again played a role in child-parent talk about reading. Talking with parents about reading was associated with higher scores on the competency measures.

Three-quarters of the study children visited a public library, most with their family, although 15 percent went by themselves and 13 percent with friends. Public library use was lowest among those children whose mothers had no qualification, those who did not enjoy reading, and boys. Frequent use of a public library was associated with higher scores on the competency measures.

Reading is a key aspect of children's performance at age 12, and not just for scores on reading measures.

### *Writing*

The home writing that was done by half or more of the children was largely informative and as part of relationships with others, or it was related to word knowledge or copying existing material. Half the children enjoyed writing, with girls enjoying it more than boys. Enjoyment of writing had positive associations with children's social and attitudinal competencies and writing, but not with reading or mathematics.

### *Mathematics*

At age 12, 45 percent of the study children enjoyed working with numbers. This enjoyment was positively associated with the children's scores on the social and attitudinal competencies, mathematics and logical problem-solving. The main mathematics activities the children did at home were embedded in games or required use of a ruler. Least common were activities involving calculators or computers.

### *Clubs, lessons, formal music and extracurricular activities*

Seventy-nine percent of the children at age 12 belonged to a club or group—slightly down on the 85 percent at age 10. Sports club membership continued to dominate. Membership of children's service clubs had dropped to 13 percent from 21 percent at age 10. Membership of groups was more likely for boys, especially sports, and less likely for children whose mothers had no qualification and for children from low-income homes.

Forty-seven percent of the study children attended lessons or coaching outside school. Participation in lessons outside school reflected family income levels. Performing arts lessons were most popular, followed by sports. Girls were more likely to attend performing arts lessons. The higher the level of maternal qualification, the more likely it was that children would attend performing arts lessons.

Forty-nine percent of the study children played a musical instrument or took part in a musical group, according to their parents. Forty-one percent played an instrument, and 11 percent sang in a choir. Nine percent played in an orchestra or cultural group. Choir and orchestra or cultural group membership occurred in similar levels at all family income levels. Playing an instrument was related to maternal qualification and family income levels.

Most children took part in some extracurricular activity at school, predominantly sports (64 percent), followed by performing arts (32 percent) and voluntary or service groups (20 percent). Girls were more likely to take part in performing arts activities and service groups; boys in computer activities and games.

### *Money*

Only 2 percent of the study children had no money of their own at age 12. The main sources were their family, through chores (47 percent), regular pocket money (40 percent) and irregular money (35 percent). A quarter had a job outside the home, with the main kind of work a source of employment that has since dried up in the Wellington region, delivering daily newspapers. Competency scores were unrelated to whether children worked outside the home.

Saving was the most frequent use of money earned or given, followed by buying food, games and toys or clothes and make-up. Boys were more likely to spend their money on games and toys; girls, on clothes and make-up.

### *Gender differences*

The gender differences in the activities the children engaged in at home show how traditional stereotypes continue in everyday life: boys focused on action; girls on language and communication. The differences give some context to the differences found in competency scores. These favoured girls, although the size of the differences was small in relation to literacy and mathematics. Gender differences were more marked in relation to social and attitudinal competencies.

### *Reflections on children's engagement with activities*

Television watching, sports and time with friends were common ways of spending time for the study children at age 12, no matter what their social background. The differences that were apparent related to either gender or social background and mainly concerned engagement in activities that use language or symbols, particularly through reading, performance and communication. These are the activities that positively contribute to children's performance levels. Cheaper options, such as spending large amounts of time on television viewing, appear to make some negative contributions.

Children whose mothers had no qualification experience a "double whammy" in relation to these differences: they do fewer of the activities that have positive associations and watch more television. Because children are more likely to value familiar activities, it becomes harder for them to take on new activities or drop old ones.

It is worth noting the overlaps of enjoyment of reading, writing and number use, and the continuing positive contributions these make to children's competency scores after taking into account maternal qualification and family income. This inter-relationship suggests a path forward for children from homes that are disadvantaged in terms of these key resources.

If children from these homes enjoy literacy- and mathematics-related

activities from an early age—a matter of both opportunity and methods of engaging children's attention and interest—then they may be more likely to keep up with activities that use and extend early knowledge and skills as they grow older. One can only underline the importance of the greater awareness of providing such opportunities in early childhood education that has become evident in recent years, and of building parental confidence and skills to work with children at home.

### **Children's perspectives on their home life**

At age 12, most of the study children felt they belonged in their home, got support, had interesting things to do and were fairly treated. They were somewhat more positive than they had been at age 10 that they got help if they needed it, were treated fairly and listened to. However, there were sizeable minorities who said they got bored, felt told off or felt that their family showed little interest in their school life or homework.

Differences in gender and family resources and characteristics were reflected in just a few differences in these views, suggesting that gender and social differences were not the decisive factors in children's home experience, or their judgement of that experience, although we did find that children whose mothers had a university qualification were more likely to rate more highly the items that showed associations with the age 12 competency scores.

The children's views that showed most associations with their competency scores were:

- doing interesting things
- being bored (a negative association)
- helping out at home (a negative association for those who always helped out at home)
- getting help if needed
- getting told off at home (a negative association)
- fair expectations.

Another 10 of the items showed associations with mathematics and some of the literacy measures.

### *Parental support and sharing of activities*

Parental support came in the form of help, having things explained and having parents knowledgeable about how the children spent their time (that they had completed their homework, for example). It also came in the form of feeling close to parents, listened to by them and trusted by them to let the child do what he or she wanted to do at home.

All the parents of the study children shared some activities with their chil-

dren. Socialising with other family or friends and transporting them to their activities headed the list. Parents of boys were more likely to watch sport with them and transport them to activities. Parents of girls were more likely to mention shopping and talking. These are consistent with some of the gender differences in children's activities. There were some differences related to family resources, particularly maternal qualification. Children whose mothers had no qualification or whose families had low incomes shared fewer activities with their parents.

Children's mathematics scores at age 12 were related to the number of activities shared with parents, with lower average scores for children whose parents mentioned just one or two shared activities, and the highest average scores for children whose parents mentioned five to seven activities.

#### *Parental expectations*

Most of the study children at age 12 said they came home from school to a parent; 31 percent also mentioned a sibling. Fifteen percent came home to an empty house.

Most of the parents reported expectations or rules relating to schoolwork, housework, language and media use. Dress and telephone use were least likely to attract parental authority. Children were less aware of these expectations or rules, perhaps because they were not always overt or enforced. Parents and children were most likely to agree about the existence of rules or expectations relating to homework, television watching and housework, and least likely to agree about those relating to telephone use. Gender made little difference to the rules: boys reported more rules about electronic games, which they were more likely than girls to be playing, and girls, who talked more on the telephone than boys, to report rules about that. Two-thirds of the children who spent time in two households encountered similar rules or expectations in both.

Only 1 percent of the parents said they and their 12-year-old child never disagreed. Negotiation was the main response when they did, followed by the parent getting cross and the parent getting their way. Almost half the parents used a range of responses at different times. Parental reports of their responses to children were largely unrelated to the children's perceptions of feeling comfortable at home, listened to or treated fairly, although children who said they were rarely or never told off were more likely to have parents who would negotiate in times of disagreement. Children whose parents negotiated with them had higher average scores than children whose parents let them win.

Overall, many of the study children lived in homes that were supportive and gave them structure, but without being overly restrictive. There were some telling differences related to family characteristics, particularly maternal

qualification, but social class was not operating within strict borders and distinct differences. Nor was gender clearly differentiating interactions between the study children and their parents.

### *Puberty*

On parental reports, the girls were much more likely than the boys to be experiencing puberty changes at age 12: 84 percent compared with 59 percent. Puberty changes for girls included developing breasts (58 percent), experiencing mood swings (50 percent), getting body hair (35 percent) and starting menstruation (20 percent). Thirty percent of the girls experiencing puberty changes were sometimes or often uncomfortable with them, compared with 19 percent of the boys. Puberty changes and reactions to them were generally unrelated to children's competency levels.

There was some relationship between experience of puberty changes and experience of unsettling events, and with children's general happiness, which teachers and parents saw similarly. Most of the children were said to be in very good or excellent health, with parental reports of their overall children's health reflecting family income levels.

### *Coping with upsets*

Forty-one percent of the parents thought their 12-year-old child was experiencing something upsetting, a slightly higher proportion than at earlier school ages. Parents were most aware of family-related reasons for children being upset. However, as at earlier ages, most children who were upset could cope with it; 11 percent of those who were upset could not. Experiences of upsets and how children coped with them were largely unrelated to family characteristics or gender.

We found that those whose coping with being upset varied had lower scores for perseverance and social skills with peers. There was a tendency for children who were coping poorly to score lower on the cognitive competencies, although this was not evident after accounting for maternal qualification.

### *Parental concerns*

Help around the house, self-esteem and behaviour at home were the main areas of parental concern in relation to their 12-year-old. However, two-thirds or more of the parents of the study children had no concerns about their child in relation to help around the house, their self-esteem, behaviour at home, friendships, interests or school.

Some interesting trends emerged relating to maternal qualification: parents with university qualifications seemed more tolerant of their age 12 children

becoming assertive, and possibly less likely to see that assertiveness as contesting parental authority. Help around the house and behaviour at home were more likely to be concerns where mothers had no qualification and family incomes were low.

In general, children for whom parents held some concerns had lower average scores on the competency measures. Parental concern about their child in relation to school was not related to the cognitive competencies, but to the social and attitudinal competencies.

#### *Friendships and relations with peers*

Friendships were very important to the study children at age 12. Being with friends was among their most preferred ways to spend their time. Much of this activity was informal. There were marked gender differences, with boys much more likely to spend their time with friends in informal physical activity or playing games, and girls much more likely to spend time talking and shopping. Boys valued sharing interests more than girls, and girls, having someone to talk to.

Just over half the study children could identify something that was not so good about their friendships—mainly arguments, or unreliability. Boys were somewhat more positive (or less critical) about their friendships than girls, perhaps reflecting different expectations and ways of relating to friends. Differences in family resources and ethnicity were not reflected in differences as marked as those with gender in the way the study children spent time with their friends or what they valued about their friendships.

Just over half the children said they had five or more close friends; 13 percent had one or two. The number of close friends was unrelated to gender or family characteristics and was largely unrelated to children's competency scores. Close friends tended to be of the same sex, but 42 percent of the boys and 27 percent of the girls said their close friends included both boys and girls.

Ninety-one percent of the study children felt that their parents liked their friends, or most of them. Parental judgement was still respected and held more weight than friendships. When we asked the study children what they would do if their parents told them not to do something and their friends really wanted them to do it, 66 percent said they would not do the activity, and another 6 percent said they would try to persuade their friends not to do it. Fourteen percent would try to persuade their parents to let them. Eleven percent thought it would depend what the activity was. Only 6 percent would go ahead and do the activity their friends proposed but their parents opposed. Girls were more likely to try to persuade their parents to let them do the activity, and boys more likely to do it anyway.

Through factor analysis, we found that fun in friendships was more likely to be valued than communication and that most children had good friendships. However, around 12 percent had mainly aimless friendships, and 3 percent did not have good friendships.

### *Bullying*

Around a quarter of the study children said they had been picked on or bullied by someone in the last couple of months. Bullying frequency at age 12 was much the same as it was at age 10. Most bullying occurred at school (20 percent), with 4 percent of the children having been bullied at home and 2 percent in a public place. Most of the bullying was verbal. The main response to the bullying was to ignore it or seek help from a teacher or parent. Fifteen percent of the children said they had bullied another child in the last few months.

Gender was unrelated to experiences of being bullied or bullying, but children whose mothers had no qualification were more likely to be bullied. There were more reports of bullying from children attending decile 5–10 schools than those attending decile 1–4 schools. Children who had experienced bullying—as victim or bully or both—tended to score lower than those who had not been involved in bullying.

### *Patterns of peer relations and children's earlier social skills and school behaviour*

Cross-tabulation of factors relating to children's earlier social skills and their current patterns of relations with peers showed no notable associations between "ordinary" levels of social skills and comfort at school at age 10, and "ordinary" relations with peers at age 12. However, relatively poor social skills, social isolation and being bullied at age 10 were more likely to precede being bullied at age 12. Children who had been socially isolated two years earlier were less likely to see friendship as a key value, and those who had had poor social skills, less likely to think of friendships as fun. Earlier poor social skills and experiences of bullying were more likely to precede social isolation and bullying at age 12, and less likely to see friendship involving communication, fun or a part of the everyday.

Friendship mattered a great deal at both ages for these children, but was not a source of satisfaction. Looked at another way, it would appear that some children with poor social skills at age 10 need additional support from adults in their life if they are to have positive experiences of friendship two years later.

### *Patterns of peer relations, attitudes to school and competency levels*

We found that those who bullied other children were more likely to have

friendships focused on fun and to score highly on the “appearances matter” set of values (see below). They were less likely to be engaged in learning or to view diligence as a sign that they were doing well at school. Those who were regularly bullied did not show differences in friendship patterns or values, but were more likely to feel distressed at school and to be less engaged in learning than those who were not bullied. They were more likely to see diligence as a sign that they were doing well at school. For both the bully and the bullied, school is not enjoyable, but for rather different reasons.

Distress at school was also more likely to be experienced by those who experienced isolation at school. These children saw school progress in terms of “ease” and were more likely to respond aggressively if given a hard time in school. Thus, those who felt isolated did not respond passively, but like the bully and bullied were more likely to disengage from learning.

Children who emphasised communication in their friendships were more likely to reach out for help if they needed it and to problem-solve. The other trends for other patterns of friendship that we found suggest that these relate to how children tackle work at school, with lower scores for the PAT Reading Comprehension for children who had aimless friendships or for whom friendship was an especially key value.

The indications here are that while friendship is an everyday part of most children’s lives at age 12, its value can over-topple if it becomes too important, if relationships are vexed or focused on power or if the friendship has little shared content. Too large a focus on friendship can counter engagement in schoolwork, or it can be a sign that children are not engaging in the work required to make the most of school.

### **Children’s values**

Enjoyment of life and doing well at school or sport were the most important values for the study children at age 12. The next biggest group of values in terms of importance was being with family, having lots of friends and being helpful or kind.

The connections we found between the values comprised three main groups:

- The anchored life: 50 percent of the study children had high scores for the items in this group.
- Action and friendship: 31 percent of the study children had high scores for the items in this group.
- Appearances matter: 9 percent of the study children had high scores for the items in this group.

Children with high scores for the “anchored life” items were more likely to enjoy reading at age 12 and to have had higher scores for communication at age 10. Those with higher scores for “action and friendship” were more likely to have had higher scores for social skills at age 10. The children with higher scores for the “appearances matter” group of items were more likely to have had lower scores at age 10 for individual responsibility.

The study children said that a happy family life, followed by good health, would be of most importance to them in their adulthood. Having an interesting job was mentioned by twice as many of the children at age 12 as having lots of money.

## The children's school experiences at age 12

### KEY FINDINGS

#### *School characteristics*

- Most children had more than one teacher, and two-thirds were being taught in composite classes. The average class size was 28.
- Teachers thought that the general level of parental and peer support for the schoolwork of the children in their classroom was very high on average.

#### *Enjoyment of school*

- According to parents, 75 percent of the study children were enjoying school at age 12, with 77 percent liking their current teacher and girls slightly more enthusiastic than boys about school. Children's overall attitudes to school most related to maternal qualification and to a lesser extent to their current achievement levels, with lower average scores for children who were bored or unhappy.
- The children were generally positive about school. Seventy-one percent scored highly on a factor relating to engagement in school that drew together experiences of enjoyment, support, fairness and belief in the value of the work of school. However, 16 percent had medium-high scores on a factor related to feeling distress at school, and boys were somewhat less positive than girls about school and showed less engagement in it.

- Children who enjoyed reading and did not watch a lot of television were more likely to find school engaging. Distress at school, however, was unrelated to enjoyment of reading or amount of television watched. Some feelings about school were associated with maternal qualification and a few with ethnicity, but there were no associations with family income and school characteristics.
- The children's feelings about school were related to their competency levels. The feelings with the most associations were those about school work itself. Feelings about interaction with teachers, relations with peers and engagement with learning and achieving were also important. Feelings about their interaction with teachers were particularly related to mathematics scores.

#### *Homework*

- The children spent an average of 3.31 hours on homework, and 94 percent of parents said they or someone else in the house helped the child with homework. Around half the children had difficulty completing their homework, mainly because of out-of-school interests, the difficulty of the work or family obligations. Those children who spent at least an hour a week on homework and whose teachers said they always completed their homework had higher average scores for the cognitive competencies.
- Just under half the children thought it very important to do homework (49 percent). The children's views on this matter were unrelated to their competency scores.

#### *Doing well at school*

- Children's ways of judging how well they were doing at school did not show clear-cut groupings in terms of attributions to either their own ability or effort or in terms of extrinsic or intrinsic indications. Lower average scores were, however, evident for those children who equated doing well with not having anything hard to do.
- At age 12, teachers were more likely than they had been at the younger ages to describe the children as having a sense of humour and liking a challenge. They saw around half of the children as mature, reliable, kind or well-behaved, an increase from previous ages, and girls more likely than boys to exhibit these characteristics. Children whose mothers had a university qualification appeared to be more confident overall.

- Children who were seen by their teachers as making very good or excellent progress were those most likely to be described as having such attributes as maturity, confidence and liking a challenge, although some attributes (for example, kindness, having a sense of humour) were evident in much the same degree across all the achievement levels.
- The majority of the children had teachers who felt they could make a difference to the children's learning. However, 37 percent had teachers who felt they could make some difference, and 8 percent, teachers who thought they could make only a little difference. Teachers felt more confident working with children who are already working well than with children who are struggling.
- Most parents (88 percent) said they felt comfortable talking with their child's teacher about their child, but fewer were working with teachers to resolve any problems at age 12 than was the case at the earlier ages. Associations were found between academic problems and below-average progress, but not with social-emotional problems.
- The 30 percent of parents who had reservations or were dissatisfied with their child's progress at school was a somewhat larger proportion than at previous ages. While these parents were likely to work with teachers to solve problems, they were more likely to be uncomfortable talking with the teacher and to want to change something in the classroom, such as classroom resources. Parental satisfaction was unrelated to family characteristics, but was related to children not making progress or being bored.

#### *Plans for the Future*

- Decisions as to which secondary school a child would attend had been made or were being made for most of the children. Parents and children were tending to share the decision-making.
- Many of the 12-year-olds (59 percent) were looking forward to going to secondary school; only 15 percent (twice as many of whom were boys than girls) were definitely not looking forward to doing so. Those who were not looking forward to it or who felt unsure thought the work at secondary school might be too hard or the social environment difficult.

## School characteristics

Around 40 percent each of the study children were attending intermediates or full primary schools, with under 10 percent each attending Years 7–15 secondary schools, or composite schools—mostly private. A higher proportion of the study children were attending private schools than their peers in the Wellington region.

The kind of school attended by the children related to family characteristics. Children whose mothers had no qualification were more likely to be attending intermediates or decile 1 schools; very few of this group were attending private schools. There was a similar trend in relation to family income. Māori and Pasifika children were more likely to be attending decile 1–2 schools, and Māori children, state schools.

There were some apparent differences for children's literacy and logical problem-solving levels related to the type of school they were attending. However, the patterns of distribution of school types in terms of socio-economic characteristics were uneven: most composite schools fell into the decile 9–10 or no decile brackets; few intermediates were decile 9–10 schools; and few full primary schools were decile 1–2. Once we took maternal qualification and family income into account, these differences were no longer evident.

We did find lower average scores for children currently attending decile 1–2 schools for mathematics and reading comprehension, over and above family characteristics. Some of this pattern may be due to how the study children in these schools were spending their time. They were less likely to be engaging in reading and more likely to be watching television than children attending the higher decile schools. In estimating the range of reading age in their class, the teachers in the lower decile schools gave a lower reading age at the bottom end of the range than did teachers of classes in higher decile schools, and a wider range than most others. Decile 1–2 school classes in the study also had somewhat lower average attendance, a lower average level of parental support, a higher proportion of children whose first language was not English and fewer small classes (under 20). However, decile 1–2 parents expressed satisfaction levels much the same as other parents.

Private school students in this study had higher average scores for writing, after taking family income and maternal qualification into account. No clear differences emerged in regard to children's accounts of their time-use, or their attitudes to writing or their parents' accounts of their relationship with the school that could shed light on why this might be so; however, private school students were more likely than others to spend a longer time on homework.

## **Classroom characteristics**

The average class size of 28 experienced by the children participating in the Competent Children project had remained constant from age 8. Class numbers were lowest in private schools and highest in intermediate schools. Sixty-seven percent of the children were being taught in composite classes, most covering both Year 7 and Year 8.

Only 11 percent of the children at age 12 had a single teacher for all their subjects. Almost all the classroom teachers taught their children literacy; mathematics was likely to be taught by another teacher for a third of the children, and science, a quarter. The specialist subjects of technology and music or art were most likely to be taught by another teacher. However, at age 12, children's home class teachers saw the children's parents just as often if they did not teach the child all their subjects as if they did.

Teachers rated the general level of parental support for the schoolwork of the children in their class as very high on average. There were some associations with the general level of parental support in a classroom and mathematics and the literacy measures other than the PAT Reading Comprehension. Levels of parental support were related to the school socio-economic decile, and ownership (whether the school was a state school, state integrated or private).

The general level of peer support in the study children's classrooms was also rated high by the teachers. Children who were in classrooms with low ratings for peer support had lower average scores for the social and attitudinal competencies and writing after taking family income and maternal qualification into account. Levels of peer support were unrelated to school characteristics.

## **Attitudes to school and teachers**

### *Parents' perceptions*

According to parents, 75 percent of the study children were enjoying school at age 12. Girls were slightly more enthusiastic than boys. Children's overall attitudes to school were most related to maternal qualification. They were also related to their current achievement levels, with lower average scores for children who were bored or unhappy.

It was reasonably common for children to encounter at least one teacher they did not like in their school career: 43 percent of the children had done so, and a further 14 percent had had some teachers they had mixed views about. Seventy-seven percent of the parents reported that their child liked his or her current teacher. Liking the teacher was unrelated to family characteristics but was related to gender. Children's views about their current teacher did not seem to affect their mathematics, literacy, logical problem-solving or curiosity scores.

However, children were picking up something in their relationship with their teacher that was reflected in teacher ratings of the children's dispositions and social skills. Similar trends emerged when we looked at the associations with parents' reports of children's views of previous teachers.

#### *Children's perceptions*

Overall, the children were positive about their experiences of school: most usually enjoyed themselves; they felt teachers helped them and they had good friends. Just over half said they usually did interesting things at school, liked their teachers and learnt most things pretty quickly. Seventy-one percent had high scores on a factor relating to engagement in school that drew together experiences of enjoyment, support, fairness and belief in the value of the work of school. However, 16 percent of the study children had medium–high scores on a factor relating to feeling distress at school.

Boys were somewhat less positive about their school experience than girls, and showed less engagement. Some feelings about school were associated with maternal qualification. There were no associations with family income, and only a few with ethnicity. School characteristics were not associated with differences in student views of their experiences, indicating that differences in school characteristics do not lead to quite distinct types of school experiences.

Engagement in school related to whether the children enjoyed reading and how much television they watched. Those who enjoyed reading and did not watch a lot of television were more likely to find school engaging. Distress at school, however, was unrelated to enjoyment of reading or amount of television watched.

Children's views of their school experience, and reactions to it, related to their competency levels at age 12. The views with the most widespread associations were those relating to the actual work of school, and either alienation or identification with its structure and what it offered. Views that were associated with around two-thirds of the competency measures related to the students' interaction with their teachers, to peer relations and to the student's engagement with the work of learning and achieving. All the other views also showed some associations. Overall, there were more associations with the social and attitudinal competencies than the cognitive competencies, and most of the associations with mathematics scores were found in items related to student interaction with the teacher.

On comparing the children's views of their classrooms at age 12 with their views of their classrooms at ages 8 and 10, we found that enjoyment levels were lower at age 12, but so too were perceived levels of competition and of the difficulty of classwork.

## **Problem-solving at school and attendance**

At age 12, children were still looking to teachers for help and advice if they encountered a problem in their work. A few children said they would do nothing or give up if faced with a difficulty in a project or finding a book in the school library.

Ninety-three percent of the study children had good attendance at school, with little difference related to school or family characteristics. Children whose attendance was lower than others had lower average scores for the social and attitudinal competencies but not the cognitive competencies.

## **Homework**

### *Children's views*

Most of the study children did homework at least two days a week: 57 percent said they did homework on four or five days, and 32 percent on two or three days each week. Nine percent said they did homework on one day a week, and 1 percent said they never did homework. The average time spent on homework was 3.31 hours a week. Time on homework reflected maternal qualification and family income levels and was slightly higher for girls. Children who did homework more often spent more time on it overall.

Children who spent at least an hour a week on homework had higher average scores for the cognitive competencies than those who did not. While children who thought homework was important gave it more time, average hours spent on homework were unrelated to difficulties in completing it. Just over half the study children found some difficulty getting their homework done, mainly related to their own out-of-school interests, the difficulty of the work or family obligations.

Just under half the study children thought it was very important to do homework (49 percent). However, the children's views on the importance of homework were unrelated to their competency levels. Around two-thirds of the study children liked doing at least some of their homework, including 24 percent who liked doing most or all of what they were given. While maternal qualification was unrelated to views of homework, enjoyment of reading and working with numbers was.

### *Teachers' views*

Teachers reported that around three-quarters of the study children always did their homework. Homework completion was related to gender and levels of maternal qualification and family income, but not ethnicity. Children who always did their homework had higher average scores on the competencies.

### *Parents' views*

Ninety-four percent of the parents said they or someone else in the household gave their child some help with their homework. This help was mostly "as needed" and consisted of provision of resources or supervision. There were some differences in the kind of support parents gave which reflected family resources. Projects or research were thought to be the kind of homework students got the most value from, followed by mathematics.

### **Talking about school at home**

Three-quarters of the study children talked to their mothers most about their school experiences; 28 percent talked to their fathers. These children were almost twice as likely to talk about schoolwork itself as about social activities or interesting or unusual events.

### **Children's views on doing well at school**

The children's ways of judging how well they were doing at school did not show clear-cut groupings in terms of attributions to either their own (unchanging) ability or effort, or in terms of extrinsic or intrinsic indications. While we found that children who performed below average according to their teachers were more likely than those who were doing well to use ease and diligence as signs of doing well, they were just as likely as others to also see their achievement in terms of understanding.

The children with lower achievement were just as likely as others to get excited by understanding, thinking about things or getting a new idea about how things work. Boredom and lack of challenge were just as likely to be cited as reasons for dissatisfaction by parents whose child's achievement was below the average level as by parents of children achieving at the top level. This suggests that while low performers need tailored attention focused on the particular aspects that they find difficult, they also need stimulation and the opportunity for understanding and connection (rather than "the basics" only).

However, there were indications that children whose family resources may disadvantage them in terms of school experience put more emphasis on extrinsic signs and the ease with which they could do a task to guide them on how well they were doing at school. This would put them at a further disadvantage, given that we found lower average scores on the competency measures for those who saw doing well at school in terms of not having anything hard to do.

## **Teachers' overall assessments of children's performance**

Throughout this study, teachers' overall assessments of the study children's overall performance have not given patterns of normal distribution (the Bell-shaped curve) at any age, including age 12. The teachers have placed fewer students as below average than one would expect from a normal distribution. This situation may simply reflect the particular nature of this sample, which has a higher proportion than found nationally of children from homes with high levels of maternal qualification and income. However, there are implications for communication with parents if "average" is used as a benchmark in that parents and teachers have different understandings of what this term means. Interestingly, teacher assessments of the study children's mathematics performance relative to their class level gave more of a normal distribution curve than their views of overall performance.

The categories the children were assigned to by their teachers are consistent with the children's performance on the Competent Children's Project competency measures, with clear linear gradations between each category for the cognitive competencies, which were tests done by the children, as well as the ratings given by teachers for the social and attitudinal competencies.

Teachers' overall assessments of how the study children were doing at school also reflected the children's homework completion, attendance, health and happiness, their particular strengths and difficulties related to the curriculum, their level of engagement in school and their experience of distress (as given by the children). They did not reflect differences in school characteristics, but did reflect teachers' perceptions of the level of home support for a child, maternal qualification, family income, gender and, to a lesser extent, ethnicity.

### *Curriculum strengths and difficulties*

According to their teachers, 95 percent of the study children had at least one area of strength in their class curriculum. Some differences relating to gender and maternal qualification emerged, but family income and ethnicity were largely unrelated to perceptions of curriculum strengths, as were school characteristics. Around two-fifths of the study children were seen to have strengths in reading, mathematics or physical education.

Forty-two percent of the study children had no areas of difficulty in the class curriculum. Around a fifth had difficulty with spelling, mathematics, handwriting or story writing. Difficulty was more likely to be experienced by boys and children whose mothers had no qualification.

### *Behavioural strengths and difficulties*

At age 12, around half the children were seen as mature, reliable, kind or well-behaved, an increase from previous ages. At age 12, the study children were more likely to be described as having a sense of humour and liking a challenge than they were at younger ages. There were some differences in gender (girls were more likely than boys to be seen as mature, reliable, well-organised and tolerant), and fewer related to maternal qualification, indicating greater confidence among children whose mothers had a university qualification.

Teachers' overall views of the children's achievement related to some of these behaviours. Children whose achievement level was seen as very good or excellent were twice as likely as those assessed as making average or below average progress to be described as having strengths of maturity, independence or confidence, and three times as likely to be seen as organised and able to concentrate, or as leaders. They also were most likely to be seen as being reliable or sensible, creative or innovative and to like a challenge. However, the qualities of kindness, warm-heartedness, tolerance, patience, willingness and of being well-behaved, trying hard, having a sense of humour and being happy or at ease were evident in much the same degree for all achievement levels.

Around a fifth of the study children were seen as having poor work habits, being passive or having low self-esteem. Boys were more likely than girls to be seen as being immature or having poor work habits. Those children who were assessed as making less than average progress overall were around four times more likely to be seen as aggressive, three times as likely to have poor work habits and to be immature or easily led astray and twice as likely to be seen as living in their own world, having low-self-esteem and being unreliable. Bossiness, rudeness, being self-centred and not trying were found at much the same levels across all achievement levels.

### *Children's likely highest qualification*

Only 15 percent of the study children were thought likely to achieve a school level qualification, or none, as their highest qualification. Twenty-one percent were thought likely to achieve a postgraduate university degree, 38 percent an undergraduate university degree, 16 percent a tertiary diploma and 8 percent a trades qualification. Views of the children's highest qualification level were linked to views of their overall progress at age 12. They also reflected differences in gender, family characteristics and school characteristics.

Some obstacles to children achieving this likely level were seen for 64 percent of the study children. Poor self-management, low self-esteem, a greater interest in other things and more interest in being popular were the main obstacles

identified. Like parents, teachers saw more obstacles for boys in achieving the highest educational level they appeared capable of, with the obstacles located in their attitudes and what they wanted to do. Teachers also considered children from homes with fewer family resources as facing the greater obstacles.

### **Teachers making a difference for children**

Home support and resources seem to be factors in teachers' perceptions of children's progress at school and in their likely future progress. Gender also plays a part. This is probably why not all the teachers thought they could make a lot of difference to the study children's learning. Fifty-five percent of the study children had teachers who thought they could make a lot of difference to their learning, 37 percent had teachers who felt they could make some difference, and 8 percent had teachers who felt they could make only a little difference.

However, when we directly cross-tabulated teachers' views here with gender and family characteristics, we found no associations. What does seem to matter more is children's overall level of performance in their class; family characteristics and gender therefore play a "backroom" role rather than a directive role in teacher views about the efficacy of their teaching. This shows us that teachers feel more confident in working with those who are already working well, and less comfortable about their ability to improve the performance of those who are struggling, a consideration that has implications for the kind of support that teachers need to be given if we are to raise the level of achievement overall, and to reduce the gaps between those who are in the "long tail" of underachievement and those who are not.

### **Home support for children's learning at school**

#### *Teachers' perspective*

Seventy-five percent of the study children were thought by their teachers to be getting very good support or better from home for their work at school. Teachers' views of the children's home support reflected family income and maternal qualification levels but not ethnicity. The proportion of study children getting maximum home support was much the same across differences in school deciles and in school ownership.

One source of information that teachers use to gauge home support may be student achievement; another may be whether they have regular contact with children's parents (where there is interaction between the two realms). Where children were seen as having very good or maximum home support, teachers were more likely to think they could make a lot of difference to their learning and less likely to see difficulties in these children achieving their full potential in education.

The parent that teachers had usually interacted with throughout the study was the mother, but at age 12, the teachers had less regular contact with mothers than previous teachers: they saw 27 percent of the mothers of the children regularly, compared with 38 percent at age 10 and 43 percent at age 8. They had never met either parent of 11 percent of the study children. Patterns of teacher contact with fathers, which were less frequent, were much the same at age 12 as they had been since age 8.

The higher the level of maternal qualification, the more likely the teacher was to see the mother regularly. Student gender, ethnicity and family income were unrelated to how regularly teachers saw mothers, but they were more likely to have no relationship with mothers from low-income homes. The teachers saw 28 percent of their relationships with parents as either less than good or non-existent. On the whole, despite some broad decile-related differences, any differences in the parent–teacher relationship reflected differences in maternal qualification, parents' likely ease in formal educational environments and their interest in education. There may be some confounding here with children's achievement levels, since these tend to reflect maternal qualification levels at the extremes.

#### *Parents' perspective*

Eighty-eight percent of the parents said they felt comfortable talking with their child's teacher about their child. Seven percent said they had not met their child's teacher. Fewer parents worked with teachers to resolve a child's problem at age 12: 43 percent compared with 50 percent at age 10 and 65 percent at age 8. The problems were almost evenly divided between academic issues and social-emotional problems. Academic issues were more likely to be raised by the parents of children who were making below-average progress (although not all of them); social-emotional problems were unrelated to children's progress.

Sixty-nine percent of the parents expressed satisfaction with their child's progress at school; 20 percent had some reservations. Ten percent were dissatisfied, a somewhat larger proportion than at previous ages. Parental satisfaction was unrelated to family characteristics, but was related to children not making progress or being bored.

Parents who were dissatisfied or whose satisfaction was qualified were more likely to work with teachers to solve problems. However, they were also more likely to be uncomfortable talking with their child's teacher about the child and to want to change something in the classroom. A quarter of those who were satisfied with their child's progress also said they would like to change something in their child's classroom. Twenty-nine percent of the parents wanted to make

some change; a further 9 percent were undecided. The most frequent changes desired were changes to class programme or resources.

While children whose parents had been dissatisfied with their progress two years earlier were more likely to have lower average scores at age 12, there were also low scorers in the group whose parents were satisfied with their progress. Just under half of those whose parents expressed satisfaction with their progress scored below the median for the study measure of mathematics and the PAT Reading Comprehension at age 12. Nonetheless, the higher the teacher's assessment of child's overall achievement, the higher the level of parental satisfaction.

Maternal qualification was unrelated to parental satisfaction with their child's progress or comfort talking to the child's teacher, joint parent-teacher effort to sort out problems, parents talking to their child about school or parents' views of their child's attitude to school. However, interest in changing something about their child's class was highest for families where the mother had a university qualification (38 percent) and lowest in those with no qualification.

Most parental involvement in their child's school consisted of parent-teacher interviews. A third of the parents had done voluntary work at the school, but only 8 percent of this was taking place in classrooms by age 12, down from 17 percent at age 10 and 42 percent at age 8. Maternal qualification levels related to voluntary work, in and out of classrooms. We found no associations between competency scores and the total number of kinds of parental involvement in a child's school. However, there were some associations between specific forms of parental involvement in the child's school: voluntary work in the school was associated with higher mathematics and communication scores for the children of parents who did this; lack of involvement with lower mathematics scores. These patterns suggest the importance of the different signals that children can receive about the value of education, as well as parental comfort in the formal educational environment.

### **Selection of secondary school**

Secondary schools had been selected or narrowed down two or three schools for 91 percent of the Year 8 students and for 84 percent of the Year 7 students. Twenty-seven percent of those who had selected private schools and 24 percent of those who had selected state integrated schools were already attending these schools.

The school characteristics of the secondary schools that their children would attend were similar to those mentioned by parents who had made their selection when their children were younger. However, there was a decrease in the proportion choosing decile 9–10 schools and a corresponding increase in

those choosing schools in the adjacent decile 7–8 band. This shift may reflect the reality of school enrolment policies.

In relation to family income and maternal qualification, differentiation in the patterns of primary school chosen occurred largely at the ends of the socio-economic decile spectrum and in relation to private schools. The same pattern was evident with choice of secondary school for the study children at age 12. However, there were still substantial proportions of parents from low-income families and those where the mother had no qualification who wanted their child to attend a decile 9–10 school. Very high-income families deciding on a non-state school were likely to favour a private school; high-income and Pasifika families were more likely to opt for state integrated schools. Two or more schools were more likely to be being weighed against each other by those families where the mother had a post-school qualification.

Deciding which secondary school to attend was largely a shared process, although students were more likely to see this decision as shared with them than their parents did, or up to them alone. Parents were more likely to make the decision on their own in families where the mother did not have a post-school qualification. This also appeared to be the case for Pasifika children.

Parents were twice as likely as the age 12 children to mention a good reputation as one of their main reasons for their choice of secondary school and somewhat more likely to mention the proximity of the school. Just over a quarter of both parents and children mentioned family tradition, and just under a quarter of each group the fact that friends of the child would be going or were already going there. No associations were found between the reasons given and who was involved in the decision-making.

Maternal qualification levels were not reflected in the reasons given by children for the choice of secondary school, but family income was, with school reputation more likely to be mentioned more by those with high or very high incomes. School reputation was also more likely to be mentioned as a major reason by those going on to decile 9–10 schools: this was the only difference in reason related to school socio-economic decile. Children going on to private schools were more likely to mention reputation; those going on to state schools, proximity; and those going on to state integrated or private schools, religion.

Family income differences were not reflected in the most frequent reasons that parents gave for choice of secondary school, but were if the reasons related to the school being single-sex and/or of religious character. Single-sex schools were more likely to be chosen for daughters than sons. Maternal qualification was largely unrelated to parental reasons for choice of secondary school, although the school choices made for the child's friends were mentioned most in

relation to children whose mothers had a university qualification. Among parents, there was no association between school decile and school reputation.

On the whole, the existing differences in patterns of current school attendance relating to differences in family resources look set to continue in the secondary schools attended by the study children. However, differences in family resources do not figure substantially in the reasons given by parents and children for choice of secondary school. While there were some expected differences, they were not consistent across both parents and children, nor were they clear-cut in relation to school decile.

### **Children's attitudes to secondary school**

Fifty-nine percent of the 12-year-olds were looking forward to going to secondary school, but 26 percent were fluctuating or unsure in their response to this change. Only 15 percent were definitely not looking forward to moving on to secondary school. Boys varied more in their feelings, but twice as many girls as boys were not looking forward to secondary school.

The main reasons why students felt positive about going on to secondary school were that they felt ready for a change, thought they would learn interesting things or have more challenge and would have more choice and be more independent (22 percent). Those who were not looking forward to secondary school, or who felt unsure about it, thought the work could be too hard or feared the social environment of the secondary school. Thirteen percent felt confused about moving on and said they did not know what to expect.

### **Parental aspirations for children's education**

Half the children's parents wanted their child to definitely have a tertiary education; only 4 percent said they would settle for secondary school only. Parents' aspirations reflected ethnicity, maternal qualification and family income levels. Māori parents were less likely to aspire to university or other tertiary education for their child, as were parents where the mother had no qualification.

The latter tended to be more aware of the costs of post-school education as a potential obstacle to their child getting the education they would like them to have. The main obstacles that parents saw as standing in the way of their aspirations for their child's education were the child's own choice; lack of money; and the child's attitude or temperament; with boys seen as more prone than girls to not realising their parental aspirations through their own choice or attitude.

Aspirations for the children at age 12 that included tertiary education were highest among the very high-income families and those where the mother had a university qualification.

Forty-five percent of the parents said they were saving for their child's post-primary education, a slight increase from the 40 percent at ages 8 and 10. Saving was most likely to be occurring for children whose mothers had a university qualification, in the very high-income families and in Pasifika and Asian families.

### **Occupational interests and expectations**

Around a fifth of the study children were interested in professional occupations and in sports. Only 7 percent of the children could not think of an occupation that they would like to do as an adult. Maternal qualification and family income levels were not significantly related to parental views of what would interest their child, although there were definite trends, notably more mention of professional occupations and science for those with mothers with a university qualification. Science was also more likely to be mentioned by children from very high-income homes. The uniformed services appealed more to those children whose mothers had a school-level qualification, or none. Gender made some difference to the parents' ideas of future occupations, but not the children's.



## 5. SOME OVERALL MESSAGES

### The role of family resources

Like many other studies of children's development that have collected data on family resources as well as school and class-level data, we have found that family resources play a major role. They do not operate in a rigid manner, nor do they relate to children's competency levels in a lock-step fashion, with every single level of family income or maternal qualification corresponding with a higher level of performance by children.

However, a comparison of the proportions of children scoring at or above the median for reading and mathematics at age 12 for different family income levels when the study children were nearly age 5 shows around a third of those who came from low-income homes, around half of those from medium-income homes and around two-thirds of those who came from high-income homes scored at this level. The range is wider in relation to maternal qualification. Around a fifth to a quarter of the study children with mothers with no qualification scored at or above the median for reading and mathematics at age 12 compared with around half for those children whose mothers had a school level, trade or tertiary level qualification, and around three-quarters to four-fifths of those whose mothers had a university qualification.

Our final statistical modelling, using two different methods, gave consistent and complementary pictures about the importance of language experience and use in everyday life, from an early age. Language experience and use is important for the development of not just comprehension in reading, but also of understanding and reasoning skills in mathematics. Language use and experience is also related to engagement in school or the ability to make the most of what schoolwork and school interactions have to offer. And they are related to family resource levels, particularly maternal qualification levels.

Many activities, behaviours and experiences are associated with advantage in terms of family resources. These include a greater use of reading and enjoyment of it and more time spent in activities that are likely to extend knowledge, analytical skills and communication skills. Some of these activities do not come cheaply, such as the performing arts. Other experiences include a greater parental interest in their children's education, an interest that is more likely to be informed by the parents' own educational experiences and confidence. And it includes more support for children to be assertive.

By treating family income and parental qualification levels separately rather than as components of a composite socio-economic status, we have been able to show that these factors do operate somewhat differently. Higher maternal qualification levels can act as a buffer for some of the disadvantages of low family income, but less so in reverse. This may be because so many activities and experiences that co-occur with having some form of maternal qualification, particularly at the upper end, are those that co-occur with engagement with the work of the school, particularly around reading and use of language in communication.

### **The role of participation and engagement**

There are also many similarities in the way that children from different backgrounds spend their time, react to adults and peers and identify what is important to them. Although children whose mothers had a high qualification were likely to watch less television than those whose mothers had no qualification, they did watch some television, and their tastes in programmes were not clearly distinctive. Differences in children's activities and engagement related more to gender than to social class.

Children who were struggling with school, in a spiral of lack of achievement and lack of engagement (feeling supported, having trust, having interesting things to do), came from all family backgrounds. Children who had been bullied, experienced isolation, had poor social skills and who struggled to gain more positive meaning out of friendships also came from all family backgrounds. Gender was more important than family resources in relation to performance in the social and attitudinal competencies. What matters in the work of teachers and parents to arrest such negative spirals of reinforcing experience, actions and reactions is not so much children's social backgrounds as their specific needs and the patterns of experiences and habits needing to be reshaped.

### **The roles of current and early experiences**

A longitudinal study can also compare the contribution of current and earlier experiences. Two striking findings relate to the importance of children's early experiences for their later performance. The first concerns the continued contribution of aspects of early childhood education, and the fact that some of these had grown over time rather than diminished. Second is the greater contribution that family income levels in these early years had made to children's later competencies, more so than current or improved family income levels during the seven years following.

These findings indicate that when weighing up the costs of providing support for children in their first few years, and therefore for their families, we need

to take a long-term view. It seems that some of the ground lost for some of the children in this study in those early years is very difficult to regain in later years. Children from homes with high maternal qualification found it easier to make up this ground than others. It is of concern that not only was it harder for children from homes with low levels of family resources to make up this ground, but also that children from these family backgrounds who had been early high performers were more likely to lose ground over time.

The difficulty of catching up was particularly marked in relation to mathematics. This may be because of the nature of mathematics, or it may be that we have historically as a country and education system put more emphasis on reading and the teaching of reading.

While this study points to the early years, before children reach school, and then the first three years of school as providing the best window of opportunity for children to gain solid foundations for continued learning, it also shows that adult responses to children's lack of engagement, lack of performance or their being upset is not age-limited in terms of making a difference for individuals. More children than we expected from our analysis of performance at earlier years moved from low levels of performance at age 10 to performing at or above the study median at age 12. Most parents of the study children had worked with their child's teacher at some stage to sort out difficulties their child had experienced.

What is of concern is that teachers of the study children at age 12 were less confident that they could make a difference to the learning of children who were struggling in their learning. This underlines the importance of the government's strong emphasis on providing more curriculum, pedagogical and assessment leadership and resources to support teachers in their work with students, and the need to ensure that learners who are struggling are a priority in this support. We also need to ensure that engaging learning experiences are available for students who have fewer home resources than others to complement and support the work of school.

### **The importance of understanding cumulative experiences**

Much of the analysis of "risk" and "resilience" among children emphasises both the co-occurrence of risk and supportive factors, and the need to see risk and resilience in terms of clusters of co-occurring factors rather than single decisive factors. The value of a longitudinal study such as this one is that it can show how this compounding in terms of occurrence happens through time, and that an accumulation of positive or negative experiences can tip a balance.

For example, the children in our study who had experienced just a few changes

of school by age 12 were unaffected; it was the children who had experienced more than four schools by the age of 12 who showed some areas of lower performance. We also found class size at age 12 to be unrelated to children's competency levels. It was only when we looked at experiences of class size over time that we could see trends. The amounts of time that the children at age 12 were spending watching television showed fewer associations with children's competency levels than did the cumulative amounts. By not limiting ourselves to current data only, we gain a greater understanding of the relationships between children's experiences and opportunities and their performance.

Finally, many of the study children had been upset at different stages of the times when we talked with their parents, but very few were upset at every stage and most had or were coping with being upset. Around half the study children had had a teacher they did not like, but this had not affected their performance at age 12. For many of the study children, life had been a mixture of beneficial and less beneficial experiences. We cannot ensure that children have only beneficial experiences, but we can take action so that they have enough of them, a critical mass, to make the difference.

## ***THE COMPETENT CHILDREN PROJECT***

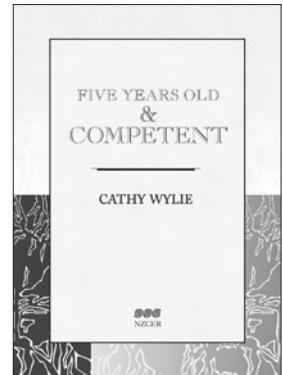
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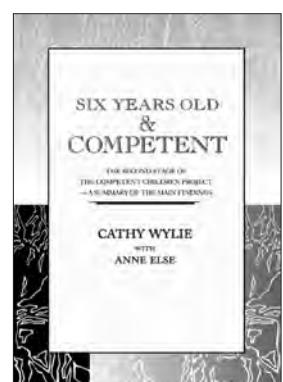
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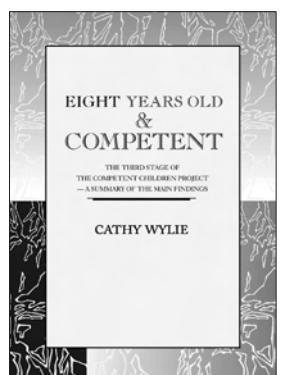
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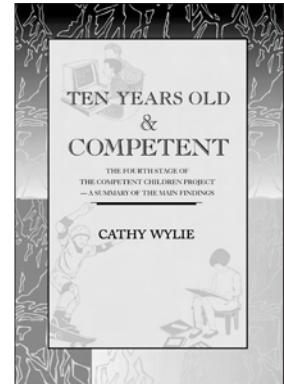
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