Although national monitoring has been designed primarily to present an overall national picture of student achievement, there is some provision for reporting on performance differences among subgroups of the sample. Seven demographic variables are available for creating subgroups, with students divided into two or three subgroups on each variable, as detailed in Chapter 1 (p8).

The analyses of the relative performance of subgroups used an overall score for each task, created by adding scores for the most important components of the task.

Where only two subgroups were compared, differences in task performance between the two subgroups were checked for statistical significance using t-tests. Where three subgroups were compared, one way analysis of variance was used to check for statistically significant differences among the three subgroups.

Because the number of students included in each analysis was quite large (approximately 450), the statistical tests were quite sensitive to small differences. To reduce the likelihood of attention being drawn to unimportant differences, the critical level for statistical significance was set at p = .01 (so that differences this large or larger among the subgroups would not be expected by chance in more than one percent of cases). For team tasks, the critical level was raised to p = .05, because of the smaller sample size (120 teams, rather than about 450 students).

For the first four of the seven demographic variables, statistically significant differences among the subgroups were found for less than fifteen percent of the tasks at both year 4 and year 8. For the remaining three variables, statistically significant differences were found on a substantial proportion of tasks at one or both levels. In the report below, all "differences" mentioned are statistically significant differences (to save space, the words "statistically significant" are omitted).

School type

Results were compared for year 8 students attending full primary and intermediate schools. No differences were found on any of the 35 tasks or any questions of the *Writing Survey* (p59).

School size

Results were compared from students in larger, medium sized, and small schools (exact definitions were given in Chapter 1).

For year 4 students, there were differences among the three subgroups on 3 of the 29 tasks. On *Link Task 1* (p30) and *Link Task 13* (p58), students from small schools scored highest, with students from medium sized schools lowest on the former and students from large schools lowest on the latter. On *Accident Report* (p35), students from large schools scored lowest. There were no differences on questions of the *Writing Survey* (p59).

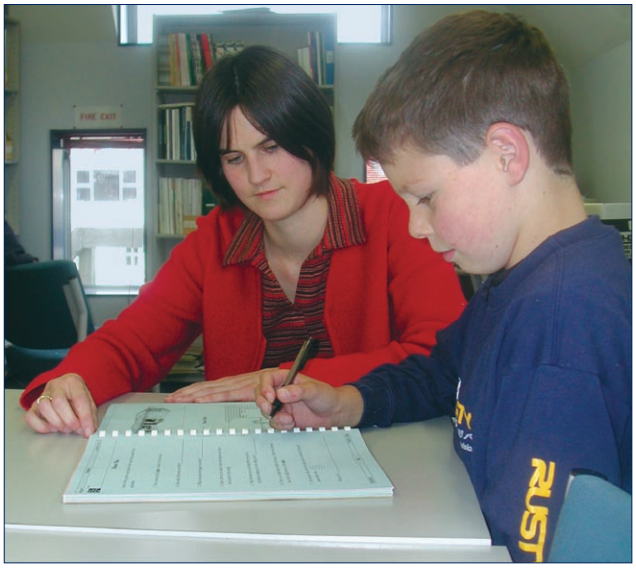
For year 8 students, no differences were found on any of the 35 tasks or any questions of the *Writing Survey* (p59).

Community size

Results were compared for students living in communities containing over 100,000 people (main centres), communities containing 10,000 to 100,000 people (provincial towns), and communities containing less than 10,000 people (rural areas).

For year 4 students, there were differences among the three subgroups on 2 of the 29 tasks. Students from rural areas scored lowest on *Link Task 12* (p58) and *Link Task 13* (p58), with students from main centres highest on the latter. There was also a difference on one question of the *Writing Survey* (p59), with students from provincial towns least frequently having brothers or sisters read their writing (question 11).

For year 8 students, there were differences on 2 of the 35 tasks. Students from rural areas scored lowest on both *Spots* (p18) and *Spelling* (p52), with students from provincial towns highest on the former. There were no differences on questions of the *Writing Survey* (p59).



Zone

Results achieved by students from Auckland, the rest of the North Island, and the South Island were compared.

For year 4 students, there were differences among the three subgroups on 4 of the 29 tasks. Students from Auckland scored lowest on *Please* (p28), *Link Task 3* (p30), and *Link Task 4* (p30), with South Island students highest on *Please.* Conversely, Auckland students were highest and South Island students lowest on *Link Task 1* (p30). There were also differences on two questions of the *Writing Survey* (p59), with students from Auckland most positive about writing in school (question 1) and students from the South Island least positive about how good they thought they were at writing (question 2).

For year 8 students, there were differences among the three subgroups on 5 of the 35 tasks. Students from Auckland were lowest on all five: *Link Task 2* (p30), *Windmills* (p40), *Postcard* (p44), *Lost Pet* (p46), and *Link Task 9* (p49). Four of these tasks were in chapter 4 (functional writing). There was also a difference on one question of the *Writing Survey* (p59), with students from the South Island indicating less use of computers for writing at school (question 14).

Student ethnicity

Results achieved by Māori and non-Māori students were compared.

For year 4 students, there were differences on 10 of the 28 tasks, spread across chapters 3, 4 and 5. In each case, non-Māori students scored higher than Māori students. The tasks involved were *Imagination* (p14), *Opinions* (p20), *Link Tasks 1* and *4* (p30), *Phone Message* (p38), *Windmills* (p40), *Lost Pet* (p46), *Link Task 9* (p49), *Story Edit* (p54), and *Link Task 12* (p58). There were also differences on three questions of the *Writing Survey* (p59), with Māori students more positive about how good they thought they were at writing (question 2), reporting that their parents read their writing more frequently (question 10), and reporting that they made more use of computers for writing at school (question 14).

For year 8 students, there were differences between Māori and non-Māori students on 13 of the 34 tasks, spread across chapters 3, 4 and 5, but most concentrated in chapter 5 (writing conventions). In each case, non-Māori students scored higher than Māori students. The tasks involved were *Link Tasks 1*, *4* and *5* (p30), *Phone Message* (p38), *Postcard* (p44), *Link Tasks 9* and *10* (p49), *Spelling* (p52), *Spelling Corrections* (p53), *Story Edit* (p54), *Shimbir* (p57), and *Link Tasks 14* and *15* (p58). There were no differences on questions of the *Writing Survey* (p59).

Gender

Results achieved by male and female students were compared.

For year 4 students, there were differences between boys and girls on 11 of the 28 tasks, of which seven were in chapter 4 (functional writing). Girls scored higher than boys on all tasks. The tasks involved were *Opinions* (p20), *Link Tasks 1* and *2* (p30), *Thank You Letter* (p32), *Accident Report* (p35), *Phone Message* (p38), *Postcard* (p44), *Link Tasks 6*, *8* and *10* (p49), and *Link Task 12* (p58). Girls also scored higher than boys on six questions of the *Writing Survey* (p59), indicating greater enjoyment of writing at school (question 1), higher self-perception as writers (question 2), more positive judgments of their writing by both their teachers (question 3) and their parents (question 4), greater enjoyment of writing in their own time (question 5), and

greater frequency of having some other person (question 13) read their writing.

For year 8 students, there were differences between boys and girls on 30 of the 34 tasks. Girls scored higher than boys on all of these tasks. Because of the large number of tasks involved, they will not be listed here. Girls also scored higher than boys on three questions of the *Writing Survey* (p59), indicating greater enjoyment of writing at school (question 1) and in their own time (question 5), and greater frequency of having a friend read their writing (question 12).

Socio-economic index

Schools are categorised by the Ministry of Education based on census data for the census mesh blocks where children attending the schools live. The SES index takes into account household income levels, categories of employment, and the ethnic mix in the census mesh blocks. The SES index uses ten subdivisions, each containing ten percent of schools (deciles 1 to 10). For our purposes, the bottom three deciles (1-3) formed the low SES group, the middle four deciles (4-7) formed the medium SES group, and the top three deciles (8-10) formed the high SES group. Results were compared for students attending schools in each of these three SES groups.

For year 4 students, there were differences among the three subgroups on 21 of the 29 tasks. Because of the large number of tasks involved, they will not be listed here. Students in the low SES schools performed worst. In general, there was a steady trend of improvement from lower SES schools to higher SES schools. There were also differences on two questions of the *Writing Survey* (p59), with students from low SES schools indicating more positive self-perceptions of their writing skills (question 2), and greater frequency of use of computers for writing at school (question 14).

For year 8 students, there were differences among the three subgroups on 29 of the 35 tasks. In general, there was a steady trend of improvement from lower SES schools to higher SES schools. There were also differences on four questions of the *Writing Survey* (p59), with students from low SES schools more positive about writing at school (question 1) and in their own time (question 5), and indicating a higher frequency of writing things like stories, poems or letters at school (question 7) and of sharing their writing with brothers or sisters (question 11).

Summary

School type (full primary or intermediate), school size, community size or geographic zone did not seem to be important factors predicting achievement on the writing tasks, or on attitudes to writing. Non-Māori students outperformed Māori students on about thirty-five percent of the tasks at both year levels. There were statistically significant differences in the performance of students from low, medium and high decile schools on 72 percent of the year 4 tasks and 83 percent of the year 8 tasks. The most startling result, however, involved the comparison of results for boys and girls. Girls performed better than boys on 39 percent of the year 4 tasks, but on 88 percent of the year 8 tasks. At both levels, girls also displayed more positive attitudes to writing.

Between 1998 and 2002, there have been noticeable changes in subgroup differences for three of the seven variables. The only variable showing a change for year 8 students was the SES index (based on school decile), with the percentage of tasks showing performance differences increasing from 72 percent in 1998 to 83 percent in 2002. For year 4 students, however, three variables showed reduced disparity in 2002. The percentage of tasks on which year 4 Māori students scored lower than non-Māori students decreased from 46 percent in 1998 to 36 percent in 2002. Similarly, the percentage of tasks on which year 4 students from low SES (decile) schools scored lower than students from high SES schools decreased from 83 percent to 72 percent. The most dramatic change involved the percentage of tasks on which year 4 girls performed better than boys, which decreased from 79 percent in 1998 to 39 percent in 2002.