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. Nine demographic variables are available for creating subgroups, with students divided into two or three subgroups on each variable, as detailed in Chapter 1 (p6).

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 the first four of the nine demographic variables, statistically significant differences among the subgroups were found for less than twenty percent of the tasks at both year 4 and year 8. For the remaining five variables, statistically significant differences were found on a substantial proportion of tasks at one or both levels. Details are presented below.

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 no statistically significant differences among the subgroups on any of the 17 tasks. For year 8 students, there was a statistically significant difference on 1 of the 23 tasks: students from medium sized schools scored highest on *Link Task 10* (p39).

School Type

Results were compared for year 8 students attending full primary and intermediate schools. A statistically significant difference between these two categories was found on just 1 of the 23 tasks. Students from full primary schools scored higher than did students from intermediate schools on *Link Task 4* (p23).

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 statistically significant differences among the three subgroups on 3 of the 17 tasks. Students from the South Island scored highest, and students from Auckland scored lowest on all three: *Fish 'n Chips* (p17), *Link Task 5* (p38), and *Link Task 9* (p39).

For year 8 students, there were no statistically significant differences among the three subgroups on any of the 23 tasks.

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 cities), and communities containing less than 10,000 people (rural areas).

For year 4 students, there was a statistically significant difference among the three subgroups on 1 of the 17 tasks. Students from main centres scored highest and students from rural areas scored lowest on *Hoyts Answer Phone* (p15).

For year 8 students, likewise, there was a statistically significant difference among the three subgroups on just 1 of the 23 tasks. Students from main centres scored highest and students from rural areas scored lowest on *Coca Cola* (p27).

Gender

Results achieved by male and female students were compared.

For year 4 students, there were statistically significant differences between boys and girls on 3 of the 17 tasks. Girls scored higher than boys on *Link Task 3* (p23), *Coca Cola* (p27), and *Link Task 5* (p38).

For year 8 students, there were statistically significant differences between boys and girls on 6 of the 23 tasks. Girls scored higher than boys on all six tasks: *Hoyts Answer Phone* (p16), *Link Task 1* (p24), *Shortland Street* (p32), *Eastland Brochure* (p36), *Link Task 5* (p38), and *Link Task 8* (p39).

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 statistically significant differences among the three subgroups on 16 of the 17 tasks. Because of the large number of tasks involved, they will not be listed here. In each case, students in the low SES schools performed worst. While students from high SES schools generally did better than students from medium SES school, these differences were usually much smaller than the differences between students from low and medium SES schools.

For year 8 students, there were statistically significant differences among the three subgroups on 19 of the 23 tasks (7 of the 9 listening tasks and 12 of the 14 viewing tasks). In each case, students in the low SES schools performed worst. While students from high SES schools generally did better than students from medium SES school, these differences were usually much smaller than the differences between students from low and medium SES schools.

Student Ethnicity

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

For year 4 students, there were statistically significant differences on 10 of the 17 tasks (4 of the 8 listening tasks, 6 of the 9 viewing tasks). In each case, non-Māori students scored higher than Māori students.

For year 8 students, there were statistically significant differences between Māori and non-Māori students on 9 of the 23 tasks (3 of the 9 listening tasks and 8 of the 14 viewing tasks). In each case, non-Māori students scored higher than Māori students.

Proportion of Māori Students in Schools

Schools were categorised into three subgroups: schools with less than 10 percent Māori students, schools with 10 to 30 percent Māori students, and schools with more than 30 percent Māori students. Results were compared for students attending schools in these three categories.

For year 4 students, statistically significant differences between the three subgroups were found on 11 of the 17 tasks (7 of the 8 listening tasks and 4 of the 9 viewing tasks). In most cases, students attending schools with less than ten percent Māori students scored markedly higher than students in the other two categories. Differences between the second and third category were often smaller.

For year 8 students, statistically significant differences between the three subgroups were found on 8 of the 23 tasks (3 of the 9 listening tasks and 5 of the 14 viewing tasks). In all cases, performance levels declined as the proportion of Māori students increased.

Proportion of Pacific Island Students in Schools

Because most of the Pacific Island students are concentrated into relatively few schools, it was difficult to create sensible subgroups for schools with higher or lower percentages of Pacific Island students. Two subgroups were formed: students attending schools with up to 5 percent Pacific Island students, and students attending schools with more than 5 percent Pacific Island students. Results were compared for students in these two subgroups.

For year 4 students, statistically significant differences between the two subgroups were found on 9 of the 23 tasks (5 of the 8 listening tasks and 4 of the 9 viewing tasks). In each case, students attending schools with more than five percent of Pacific Island students scored lower.

For year 8 students, statistically significant differences between the two subgroups were found on just 2 of the 23 tasks. Students attending schools with more than five percent of Pacific Island students scored lower on *Follow Me* (p18) and *Link Task 4* (p23).

Summary

School size, school type (full primary or intermediate), community size or geographic zone did not seem to be important factors predicting achievement on listening and viewing tasks. At both year levels girls performed better than boys on some tasks, with the proportion of tasks favouring girls increasing from year 4 to year 8. Non-Māori students outperformed Māori students on about half of the tasks at both year levels. Students attending schools with high proportions of Māori students performed worse than students attending other schools on about two-thirds of the tasks at year 4 level, but this improved at year 8 level with differences on only about one third of tasks. An even more marked improvement was observed for students attending schools with more than five percent Pacific Island students: they performed worse than students at other schools on about half of the year 4 tasks but on less than ten percent of the year 8 tasks. The most disturbing results involved the school socio-economic index, with statistically significant differences in the performance of students from low, medium and high decile schools on 94 percent of the year 4 tasks and 82 percent of the year 8 tasks.