

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). The critical level was adjusted to  $p = .05$  for the ten tasks where differences in team performance among 120 teams were being examined.

For the first three of the nine demographic variables, few statistically significant differences among the subgroups were found. For the remaining six variables, statistically significant differences were found on substantial numbers of tasks. Details are presented below.

### 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 were no statistically significant differences among the three subgroups on the nineteen tasks, or on questions of the *Social Studies Survey*.

For year 8 students, there were statistically significant differences among the three subgroups on three of the twenty-six tasks. Students from main centres scored highest on *Refugees* (p17), *Knowing the World* (p43), and *Link Task 10* (p45). Students from rural areas scored lowest on *Refugees* (p17) and *Knowing the World* (p43). There was also a statistically significant difference on one question of the *Social Studies Survey* (p47): Students from provincial towns scored lowest in enthusiasm for learning or doing more social studies as they got older (question 1).

### School Size

Results were compared from students in larger, medium sized, and small schools (exact definitions were given in Chapter 1). For both year 4 and year 8 students, there were no statistically significant differences among the three subgroups on any tasks, or on any questions of the *Social Studies Survey*.

### School Type

Results were compared for year 8 students attending full primary schools and year 8 students attending intermediate schools. A statistically significant was found for just one of the twenty-six tasks. Students from full primary schools scored higher than students from intermediate schools on *Link Task 5* (p26). There were no significant differences on questions of the *Social Studies Survey*.

## Zone

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

For year 4 students, there was a statistically significant difference among the three subgroups on only one of the nineteen tasks. Students from Auckland scored lowest and students from the South Island scored highest on *The Map* (p36). There were no statistically significant differences on questions of the *Social Studies Survey*.

For year 8 students, there were statistically significant differences among the three subgroups on six of the twenty-six tasks. Students from the South Island scored highest on all of these tasks, which featured a substantial focus on factual knowledge: *Parliament* (p24), *Link Task 6* (p34), *The Map* (p36), *Knowing the World* (p43), *Link Task 8* (p45), and *Link Task 12* (p45). There was also a statistically significant difference on one question of the *Social Studies Survey* (p47): Students from the South Island were lowest, and students from Auckland highest, in enthusiasm for learning or doing more social studies as they got older (question 1).

## Gender

Results achieved by male and female students were compared.

For year 4 students, there were statistically significant differences between boys and girls on two of the fourteen tasks. Boys scored higher than girls on *The Map* (p36) and *Where in the World* (p40), two tasks involving maps. There were no statistically significant differences between boys and girls on questions of the *Social Studies Survey*.

For year 8 students, there were statistically significant differences between boys and girls on nine of the nineteen tasks. Girls scored higher than boys in three tasks: *Drinking Fountain* (p19), *New Zealand's Flag* (p29), and *Link Task 7* (p34). On the other hand, boys scored higher than girls on six tasks from Chapter 6 (Knowledge): *The Map* (p36), *Charting the Journey* (p38), *Where in the World* (p40), *Landscapes* (p44), *Link Task 8* (p45), and *Link Task 12* (p45). There were no statistically significant differences between boys and girls on questions of the *Social Studies Survey*.

## 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 ten of the nineteen tasks. Because of the number of tasks involved, the specific tasks will not be listed here. They included tasks in all content areas. In all except one case performance was lowest for students in the low SES group (the exception was *Link Task 2* [p20], on which students from medium SES schools scored lowest). Students in the high SES group generally performed better than students in the medium SES group, but in most cases these differences were small. There were also statistically significant difference on two questions of the *Social Studies Survey* (p46), with students from low SES schools reporting greater enjoyment of social studies at school (question 2) and greater enthusiasm for learning or doing more social studies as they got older (question 1).

For year 8 students, there were statistically significant differences among the three subgroups on nineteen of the twenty-six tasks. Because of the number of tasks involved, the specific tasks will not be listed here. In each case, performance was lowest for students in the low SES group. In most cases, students in the high SES group also performed better than students in the medium SES group. On the *Social Studies Survey* (p47), there was a statistically significant difference on one question: students from low SES schools felt that they learned more social studies at school (question 3). This contrasts with the lower actual performance on tasks.

## Student Ethnicity

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

For year 4 students, there were statistically significant differences in performance on five of the fourteen tasks. Non-Māori students scored higher than Māori students on *Link Task 1* (p20), *Stamps of New Zealand* (p28), *Where in the World* (p40), *Link Task 8* (p45), and *Link Task 11* (p45). There was also a statistically significant difference between Māori and non-Māori students on one question of the *Social Studies Survey* (p46), with Māori students reporting greater enthusiasm for doing social studies at school (question 2).

For year 8 students, there were statistically significant differences in the performance of Māori and non-Māori students on fourteen of the nineteen tasks. On thirteen of these tasks, non-Māori students scored higher than Māori students. Because of the number of tasks involved, those specific tasks will not be listed here. The notable exception was that Māori students scored higher than non-Māori students on *Marae* (p30). There were no statistically significant differences between Māori and non-Māori students on questions of the *Social Studies Survey*.

## Proportion of Maori 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 in performance between the three subgroups were found on six of the nineteen tasks. In each case, students attending schools with less than ten percent Māori students scored highest and students attending schools with more than thirty percent of Māori students scored lowest. Because of the number of tasks involved, and their spread across four chapters, the specific tasks will not be listed here. There were also statistically significant differences on three questions of the *Social Studies Survey* (p46). Students in schools with higher proportions of Māori students reported greater enjoyment of studying social studies at school (question 2), greater frequencies of their class doing really good things in social studies (question 5), and greater enthusiasm for learning or doing more social studies as they got older (question 1).

For year 8 students, statistically significant differences in performance between the three subgroups were found on seventeen of the twenty-six tasks. On sixteen tasks, students attending schools with less than ten percent Māori students scored highest, and students attending schools with more than thirty percent of Māori students scored lowest. Because of the number of tasks involved, those specific tasks will not be listed here. The notable exception to the trend was that students attending schools with more than 30 percent Māori students scored highest on *Marae* (p30). There were no statistically significant differences on questions of the *Social Studies Survey*.

### 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 in performance between the three subgroups were found on six of the nineteen tasks. In each case, students attending schools with more than five percent of Pacific Island students scored lower. Because of the number of tasks involved, and their spread across three chapters, the specific tasks will not be listed here. There were also statistically significant differences on three questions of the *Social Studies Survey* (p46). Students in schools with more than five percent Pacific Island students reported greater enjoyment of studying social studies at school (question 2), greater frequencies of their class doing really good things in social studies (question 5), and greater enthusiasm for learning or doing more social studies as they got older (Question 1).

For year 8 students, a statistically significant difference in performance between the two subgroups were found on just one of the twenty-six tasks. Students attending schools with more than five percent of Pacific Island students scored lower on *Landscapes* (p44). There were also statistically significant differences between the two subgroups on two questions of the *Social Studies Survey*. Students from schools with more than 5 percent Pacific Island students showed greater enthusiasm for increased emphasis on social studies at school (question 4) and for learning or doing more social studies as they got older (Question 1).

### Summary

Very few statistically significant differences were found for subgroups based on community size, school size or school type. At year 4 level there was only one statistically significant difference among the subgroups based on geographic zone, but at year 8 level South Island students performed better on six of the twenty-six tasks.

Girls performed better than boys on three tasks, all at year 8 level. Boys performed better than girls on two map-related tasks at both levels, and four further factual knowledge or map tasks at year 8. Non-Māori students performed better than Māori students on about one third of the tasks at year 4 level and about two thirds of the tasks at year 8 level. However, year 8 Māori students performed better than their non-Māori counterparts on one task (*Marae*).

The three variables relating to school ethnic composition and school socioeconomic index are linked to each other, and present an interesting picture. There were statistically significant differences between the three SES (socioeconomic index) subgroups for about half of the tasks at year 4 level and about three quarters of the tasks at year 8 level, with students from low SES school consistently performing least well. A similar increasing trend from year 4 to year 8 was found in the analyses comparing the performances of students from schools with low, medium and high proportions of Māori students. In contrast, a sharply decreasing trend was observed in the analyses comparing the performances of students from schools with lower and higher proportions of Pacific Island students, with a statistically significant difference on only one of twenty-six tasks at year 8 level. In the *Social Studies Survey*, enthusiasm for social studies as a school subject was found to be higher in schools with higher proportions of Pacific Island students, and also at year 4 level in schools with high proportions of Māori students.