

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 (p5).

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 10 percent of the tasks at both year 4 and year 8. For the remaining three variables, relating to student gender, student ethnicity and school socio-economic status (decile rating), statistically significant differences were found on more than 10 percent 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 30 tasks, but there was a difference on one question of the *Year 8 Music Survey* (p46). Students attending intermediate schools said they spend more time out of school dancing/moving to music (question 4d).

### 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 was a difference among the subgroups on 1 of the 30 tasks. Students from small schools scored highest on the individual component of *Radical Rhymes* (p16). There were also differences on two questions of the *Year 4 Music Survey* (p47). Compared to other students, students from large schools said they spent more time in school both playing instruments (question 2b) and making up music (question 2e).

For year 8 students, there was again a difference on 1 of the 30 tasks. Students from small schools scored highest on the individual component of *Musical Sticks* (p30). There were also differences on two questions of the *Year 8 Music Survey* (p46). Compared to other students, those attending medium sized schools said they spend more time in school playing instruments (question 2b), with students in small schools reporting the least time. Students in small schools said they spent the least time making up music (question 2e).

### 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 differences among the three subgroups on 2 of the 30 tasks. Students from rural areas scored lowest on *Link Task 9* (p43) and students from medium sized towns and cities scored highest on the individual component of *Musical Sticks* (p30). There were no differences on questions of the *Year 4 Music Survey*.

For year 8 students, there again were differences on 2 of the 30 tasks. Students from the main centres scored highest on both *Link Task 4* (p28) and *Two Pieces* (p32). This may reflect greater involvement in music lessons and experience with orchestras. There was also a difference on one question of the *Year 8 Music Survey* (p46). Students from medium sized towns and cities reported the least time in school making up music (question 2e), while students from main centres reported the most time.

### 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 difference among the three subgroups on 1 of the 30 tasks. Students from Auckland scored lowest on the individual component of *Radical Rhymes* (p16). There were also differences on two questions of the *Year 4 Music Survey* (p47). Students from the rest of the North Island said they devoted more time outside of school to singing (question 4a) and were most positive about learning or doing more music as they got older (question 6).

For year 8 students, there were differences among the three subgroups on 2 of the 30 tasks. Students from Auckland scored lowest on the individual component of *Musical Sticks* (p30) and students from the rest of the North Island scored lowest on *Two Pieces* (p32). There was also a difference on one question of the *Year 8 Music Survey* (p46). Auckland students reported spending the most time outside of school making up music (question 4e).

### Gender

Results achieved by male and female students were compared.

For year 4 students, there were differences between boys and girls on 4 of the 23 tasks that allowed this comparison. Girls scored higher than boys on all 4 tasks, all of which involved singing: *Link Task 1* (p19), *Vocal Sizzle* (p21), *Echo Songs* (p25), and *Link Task 3* (p28). Girls were also more positive than boys on 12 questions of the *Year 4 Music Survey* (p47). These involved overall attitudes to music in school and in the future (questions 1 and 6), enjoyment of and involvement in singing (questions 3a, 4a and 5a), enjoyment of and involvement in dance/moving to music (questions 2d, 3d, 4d and 5d), enjoyment of making up music (questions 3d and 5d), and enjoyment of playing instruments out of school time (question 5b).

Among year 8 students, girls scored higher than boys on 4 of the 23 tasks: *Vocal Sizzle* (p21), *Keyboard Patterns* (p24), *Echo Songs* (p25), and *Animal Antics* (p40). Girls were also more positive than boys on 9 questions of the *Year 8 Music Survey* (p46). These involved interest in further learning of/about music (question 6), enjoyment of and involvement in singing (questions 2a, 3a, 4a and 5a), enjoyment of and involvement in dance/moving to music (questions 3d, 4d and 5d), and enjoyment of listening to music at school (question 3c).

### Student Ethnicity

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

For year 4 students, there were differences on 9 of the 21 tasks that allowed this comparison. Māori students scored higher than non-Māori students on one task: *Vocal Sizzle* (p21). However, they scored lower than non-Māori students on the other 8 tasks. These 8 tasks were *Coloured Keys* (p27), *Link Task 4* (p28), *Two Pieces* (p32), *High to Low* (p36), *Musical Instruments* (p35), *Melodic Direction*

(p38), *Blow Pluck Hit* (p42), and *Music in Style* (p42). Most of these appeared to favour students who had participated in organised music lessons or groups outside of school. There were also two differences on the *Year 4 Music Survey* (p47), with Māori students more positive about doing singing in school (question 3a) and reporting spending more time singing outside of school (question 4a).

For year 8 students, there were differences between Māori and non-Māori students on 5 of the 21 tasks. Non-Māori students scored higher on all five tasks: *Link Task 4* (p28), *Two Pieces* (p32), *High to Low* (p36), *Animal Antics* (p40), and *Link Task 8* (p43). There were no differences on questions of the *Year 8 Music 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 differences among the three subgroups on 17 of the 30 tasks, spread across Chapter 3 to 6 but most notably including 8 of the 10 tasks in Chapter 6. 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 smaller than the differences between students from low and medium SES schools. There were also differences on 4 questions of the *Year 4 Music Survey* (p47). Students attending low SES schools reported that they spent more out of school time singing (question 4a), dancing/moving to music (question 4d), and making up music (question 4e). Students attending medium SES schools were most positive about spending out of school time listening to music (question 5c).

For year 8 students, there were differences among the three subgroups on 8 of the 30 tasks, spread fairly evenly across Chapters 3 to 6. On these 8 tasks, students from high SES schools generally did better than students from medium SES school, who in turn generally did better than students from low SES schools. There were also differences on two questions of the *Year 8 Music Survey* (p46). Students attending low SES schools were most positive about singing in music at school (question 3a) and about learning or doing more music as they got older (question 6).

### Summary

School type (full primary or intermediate), school size, community size and geographic zone did not seem to be important factors predicting achievement on the music tasks. The other three factors revealed more substantial differences. Girls performed better than boys on four tasks at each year level, with singing tasks prominent among these, and in the music surveys girls clearly were more involved in and enthusiastic about both singing and dancing/moving to music. Non-Māori students performed better than Māori students on eight tasks (38 percent of tasks) at year 4 level, but Māori students performed better on one singing task. At year 8 level, non-Māori students performed better than Māori students on five tasks (24 percent of tasks). There were statistically significant differences in the performance of students from low, medium and high SES (decile) schools on 57 percent of the year 4 tasks and 27 percent of the year 8 tasks. The results suggest that private music lessons and other organised music experiences boost the musical development of students from economically advantaged families, particularly in the earlier years of primary schooling when school-based lessons are not widely available.