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## APPENDIX

# Survey methodology and respondent characteristics

### Introduction

This is the sixth cycle of the NZCER national survey of secondary schools. In 2018, we were looking for efficiencies in running the survey that would maintain the research project's track record of collecting the views of representative groups of principals, teachers, and trustees, and a cross-section of parents and whānau.<sup>79</sup>

In 2018, we were mindful of the context in which the survey would run: 2018 was especially busy in the secondary sector, with a major review of NCEA underway and contract negotiations also a focus. During the development phase, there was some concern among stakeholder groups about a perceived proliferation of surveys of teachers and principals.

To reduce respondent burden and to manage the cost of the survey, we planned to reduce the length of the teacher and principal surveys, to investigate the feasibility of sampling fewer teachers, and to shift one of the four paper-based surveys to an online delivery.<sup>80</sup> These changes are described in more detail below where we provide information about the survey sampling and procedures for each respondent group. This is followed by a description of the survey respondents and their schools.

### Survey sampling and procedures

In 2018, changes were made to the survey methodology for three respondent groups—teachers, parents and whānau, and trustees—as follows:

- teachers were sampled differently
- the trustee survey moved from a paper to online delivery mode
- parents and whānau were sampled differently.

No methodological changes were made to the principal survey in 2018.

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<sup>79</sup> Ideally, we would also survey students, but this is beyond the budget for this project.

<sup>80</sup> Time was spent during the project review process in 2017 investigating the possibility of online surveys. This included: a scan of relevant research literature; identifying trends in the four groups' response rates for previous rounds of the survey; comparing costings for both options; and considering how we might contact potential respondents with no up-to-date lists of, for example, secondary teachers' email addresses. To inform the decision making, we had asked respondents to the 2016 national survey of primary and intermediate schools whether they would prefer a paper or online survey; their responses were mixed. We therefore took a cautious approach to moving to an online survey, and decided to move only the trustee survey in 2018.

## Principals

The same procedures that have been used for the principal survey since we began surveying secondary schools in 2003 were used again in 2018. The survey went to the principal at all 314 state and state-integrated secondary schools in New Zealand. The principal survey is comprehensive (comprising 69 questions) and was paper-based.

In the previous three secondary surveys, response rates for principals have ranged from 55% to 59%. We conservatively estimated the principal response rate might be around 45% ( $n = 141$ ) in 2018. The actual principal response rate was 53% ( $n = 167$ ), close to the response rates for previous surveys. The margin of error for the principals' responses is 7.6%.

## Teachers

In previous surveys, teacher surveys were sent to one in four teachers at every secondary school and more than 1,700 teachers responded—more than are needed to be able to report robust findings from a largely representative group of teachers. In 2018, we aimed to reduce the number of teachers being asked to complete surveys, and still collect sufficient survey responses from teachers.

Based on response rates for our previous surveys of secondary teachers, we estimated that sending out 2,256 teacher surveys (for 12 teachers at each of a cross-section of 188 schools, 60% of secondary schools<sup>81</sup>) should enable this. Schools' office administrators were sent guidelines for randomly identifying which 12 teachers they should distribute surveys to.<sup>82</sup> The teacher response rate in 2018 was 31% ( $n = 705$ ). The margin of error for teachers' responses is around 3.7%.<sup>83</sup>

## Trustees

Previously, all four surveys were paper-based. We wanted to administer one of the surveys online to see if this less expensive delivery mode would still yield robust findings. Two surveys were short enough to be conducted online: the trustee survey (32 questions) and the parent and whānau survey (26 questions). We were making changes to how we sample parents and whānau and did not want any effects of a change in sampling to be confounded by the possible effects of a change in delivery mode. Also, we thought that online access could be an issue for some parents. For these reasons, we chose to administer only the trustee survey online in 2018.

Shifting the trustee survey to an online platform (SurveyMonkey) was the only methodological change for the trustee survey. In 2018 (paper) letters that included a survey link were sent to the board chair and one other trustee (we asked the board chair to give one letter to another trustee whose opinion might differ from their own) at all 314 state and state-integrated secondary schools in New Zealand. In previous years, the same distribution process has been used for paper surveys.

In the previous three secondary survey rounds, response rates for trustee surveys were between 37% and 45%. The trustee response rate in 2018 was 22% ( $n = 138$ ). The margin of error for trustees' responses is around 8.3%

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81 In 2018, the characteristics of schools that were asked to distribute the teacher, and parent and whānau surveys were approximately representative of all secondary schools, reflecting the profile of all secondary schools by school decile, location, and school type (Years 9–15, or Years 7–10, for instance).

82 Reply-paid envelopes were sent out with every paper survey, enabling each one to be returned directly to NZCER.

83 Random sampling is needed in order to calculate the margin of error. Because we have no control of how the instructions for random sampling are actually followed in a school, this cannot be called true random sampling. These figures are therefore approximations.

## Parents and whānau

For previous secondary surveys, the parent and whānau sample has been based on a sample of 35 schools, selected to provide a good cross-section of schools according to decile bands, and roll size within the decile bands. Previously, we have recruited each school by talking to the principal about their school participating in the parent survey, offering them a short summary of their parents' responses by way of incentive. When a principal declined, another school with similar characteristics was contacted. Making direct contact with principals proved a time-consuming process. Also, schools that participated sent surveys to every fifth family with a child attending the school, meaning the number of parent surveys we sent to schools was proportional to the school's roll. This meant more parent surveys were sent to larger secondary schools.

In 2018, we sent 20 parent surveys to each of the same 188 schools that received teacher surveys (a total of 3,760 parent and whānau surveys were sent to schools). These were accompanied by guidelines for randomly selecting 20 families to send surveys to.

Response rates to the parent and whānau survey in the previous three secondary surveys ranged from 25% to 33%. The parent response rate in 2018 was 14% ( $n = 508$ ). Although this was low, there were sufficient responses to support reliable data analysis. The margin of error for parents' responses is around 4.3%.

## Additional strategies to maximise response rates

To maximise response rates and mitigate the potential negative effects of changes in our methodology, in 2018 we promoted the survey with the sector via NZCER's newsletter and Facebook page, the *Education Gazette*, and via communications sent out by PPTA, NZSTA, and SPANZ to their members.

Initially, the survey ran during August, early in the third term of the school year. The closing date for the survey was extended to mid-September, and we included data from surveys received for a further fortnight after this date. Surveys—mostly from teachers and parents—were still being returned well after the survey had closed and all scanning and data entry had been completed and were therefore excluded from the dataset.

## The survey respondents and their schools

The following sections present details about the principals, teachers, trustees, and parents and whānau who completed surveys. Because of the changes made to the survey methodology in 2018, we have included more detailed information about respondents than in 2015. Characteristics of each respondent group in 2018 are compared with the characteristics of the corresponding respondent group in 2015.

### Responding principals' schools

The schools being led by principal respondents were broadly representative of the overall demographic profile of all state and state-integrated secondary schools in New Zealand. As Table 46 shows, in 2018 there was an under-representation of principals at decile 1–2 schools, as there was in 2015.

**TABLE 46 Profile of principal respondents by school decile bands compared with all secondary schools; 2015 and 2018**

Decile bands	All state and state-integrated secondary schools (n = 314)	Principals 2015 (n = 182) %	Principals 2018 (n = 167) %
1-2	15	11	11
3-4	21	23	22
5-6	25	28	24
7-8	22	19	24
9-10	18	20	18

Table 47 shows that the schools being led by principal respondents in both 2018 and 2015 were largely representative of all secondary schools in terms of location.

**TABLE 47 Profile of principal respondents by school location compared with all secondary schools; 2015 and 2018**

School location	All state and state-integrated secondary schools (n = 314)	Principals 2015 (n = 182) %	Principals 2018 (n = 167) %
Rural	5	5	4
Town	10	9	11
Small city	21	21	22
Metropolitan	65	64	63

## The principals

Sixty-one percent of the principals were male, very similar to 63% in 2015. One principal used the response option “Gender diverse” that was added to the survey in 2018.

Table 48 shows that, in 2018, around two-thirds of principals who responded were aged under 60. Compared with respondents in 2015, we saw more principals in the 40–49 and over-60 age ranges responding, and fewer in the 50–59-year range.

TABLE 48 **Principal respondents by age; 2015 and 2018**

Age	Principals 2015 (n = 182) %	Principals 2018 (n = 167) %
Under 40	2	2
40–49	15	21
50–59	53	44
60–64	23	25
Over 65	7	9

The majority of principals identified as NZ European/Pākehā. In 2018, slightly fewer principal respondents than in 2015 identified as Māori (see Table 49).

TABLE 49 **Principal respondents by ethnicity; 2015 and 2018**

Ethnicity	Principals 2015 (n = 182) %	Principals 2018 (n = 167) %
NZ European/Pākehā	90	90
Māori	12	9
Asian	1	1
Pasifika	2	1
Other	6	4

NB. Respondents could identify with more than one ethnic group.

## Responding teachers' schools

Teacher surveys were received from 705 teachers in 132 schools, which were approximately representative of all secondary schools. Table 50 shows that there was an over-representation of teachers at decile 3–4 schools and a slight under-representation of teachers at decile 7–8 schools, compared with the distribution of all secondary teachers by school decile band.

TABLE 50 **Teacher respondents compared with the distribution of all secondary teachers by school decile band**<sup>84</sup>

Decile bands	All state and state-integrated secondary schools (n = 314) %	All secondary teachers in NZ (n = 20,974) %	Responding teachers 2018 (n = 705) %
1–2	15	10	10
3–4	21	18	25
5–6	25	23	25
7–8	22	26	21
9–10	18	22	20

Table 51 shows an over-representation of teachers at small city schools and an under-representation of teachers at metropolitan schools, compared with the distribution of all secondary teachers by school location.

TABLE 51 **Teacher respondents compared with the distribution of all secondary teachers by school location**

School location	All state and state-integrated secondary schools (n = 314) %	All secondary teachers in NZ (n = 20,974) %	Responding teachers 2018 (n = 705) %
Rural	5	2	3
Town	10	8	6
Small city	21	14	24
Metropolitan	65	76	66

Looking at responding teachers' schools by a combination of quintile and location, there was under-representation of decile 1–2 schools in metropolitan areas (5%, compared with 9% of all secondary schools) and over-representation of decile 5–6 schools in towns (10%, compared with 6% of all secondary schools).

<sup>84</sup> Because of the change in sampling teachers in 2018, we cannot directly compare them to the teacher respondents in 2015, in terms of school characteristics.

## The teachers

Sixty-one percent of the teachers were female, similar to the 2015 respondents. One teacher used the response option “Gender diverse” that was added to the survey in 2018.

Table 52 shows that there were only slight differences in the distribution of teachers’ ages in 2018 compared with 2015.

TABLE 52 **Teacher respondents by age; 2015 and 2018**

Age	Teachers 2015 (n = 1,777) %	Teachers 2018 (n = 705) %
Under 40	34	30
40–49	25	27
50–59	25	26
60–64	11	11
Over 65	4	6

Over the past decade, the proportion of teachers responding to the survey who identify as NZ European/Pākehā has shown a gradual decline from 88% in 2009 to 79% in 2018 (see Table 53). Ten percent of the teachers identified as Māori, around 5% as Asian, and 3% as Pacific people (Samoan, Tongan, Cook Islands Māori, and Niuean). The proportion of teachers identifying with other ethnic groups was 12%. This group included teachers who gave their ethnicity as European, North American, South African, Middle Eastern, and New Zealander/Kiwi.

TABLE 53 **Teacher respondents by ethnicity; 2015 and 2018**

Ethnicity	Teachers 2015 (n = 1,777) %	Teachers 2018 (n = 705) %
NZ European/Pākehā	81	79
Other	14	12
Māori	8	10
Asian	4	5
Pasifika	2	3

NB. Respondents could identify with more than one ethnic group.

The teachers who identify with Māori, Indian, Samoan, or Tongan ethnic groups were more likely to be at decile 1–2 schools (17%, 10%, 7%, and 4%, respectively, of the teachers at this group of schools). The responding teachers at decile 1–2 schools were less likely to be NZ European/Pākehā (58%, compared with around 81% of teachers at schools of other deciles).

In 2015 and 2018, teachers’ subject areas were combined into groupings for analysis and reporting (see Table 54). These groupings were largely similar in both survey years. Compared with teachers’ subject groupings in 2015, there were slightly more Mathematics and Science teachers and slightly fewer English and Languages teachers in the 2018 teacher respondents.

TABLE 54 Teacher respondents by subject groupings; 2015 and 2018

Subject groupings	Teachers 2015 (n = 1,777) %	Teachers 2018 (n = 705) %
Mathematics and Science	29	33
English and Languages	26	21
Social Sciences, the Arts, and Commerce	22	19
Technology, Health and PE, Transition, Careers, and Special Education	21	24
Other areas	3	3

In 2018, these subject groupings are used to report different response patterns in *Section 4: Teaching and learning in secondary schools* and *Section 5: Arrangements for curriculum provision*.

### Responding trustees' schools

Trustee surveys were received from 138 trustees on the boards of 97 schools. Compared with all secondary schools, the 2018 trustee respondents were not a close fit (see Table 55). In particular, trustees at decile 1–2 schools were under-represented, and trustees at decile 7–8 schools were somewhat over-represented.

TABLE 55 Profile of trustee respondents by school decile bands, compared with all secondary schools; 2015 and 2018

Decile bands	All state and state-integrated secondary schools (n = 314) %	Trustees 2015 (n = 232) %	Trustees 2018 (n = 138) %
1–2	15	13	7
3–4	21	18	25
5–6	25	27	20
7–8	22	27	28
9–10	18	16	20

NB. Numbers in some tables may not add to 100, due to rounding.

Table 56 shows that, in 2018, the trustee respondents' school locations varied slightly from the national picture. Compared with the national picture and the group of trustees who responded in 2015, there were fewer trustees from rural and town schools, and more trustees from small city and metropolitan schools.



TABLE 56 Profile of trustee respondents by school location, compared with all secondary schools; 2015 and 2018

School location	All state and state-integrated secondary schools (n = 314)	Trustees 2015 (n = 232) %	Trustees 2018 (n = 138) %
Rural	5	6	4
Town	10	11	6
Small city	21	22	24
Metropolitan	65	60	66

### The trustees

In 2018, 55% of trustees who responded were women, consistent with the national proportion of women trustees.<sup>85</sup> In 2015, 52% of trustee respondents were women.

Table 57 shows there were slightly more trustee respondents in the 50–59 age bracket in 2018 than in 2015.

TABLE 57 Trustee respondents by age; 2015 and 2018

Age	Trustees 2015 (n = 232) %	Trustees 2018 (n = 138) %
Under 40	6	4
40–49	40	37
50–59	47	52
60–64	3	4
Over 65	4	1

Table 58 shows slightly greater proportions of trustee respondents in 2018 identified as NZ European/Pākehā and as Māori.

TABLE 58 Trustee respondents by ethnicity; 2015 and 2018

Ethnicity	Trustees 2015 (n = 232) %	Trustees 2018 (n = 138) %
NZ European/Pākehā	84	88
Māori	14	17
Asian	2	1
Pasifika	2	2
Other	7	4

NB. Respondents could identify with more than one ethnic group.

<sup>85</sup> As at 1 December 2018, 54% of trustees on boards of composite and secondary schools were women, according to: [https://www.educationcounts.govt.nz/statistics/schooling/board\\_of\\_trustees](https://www.educationcounts.govt.nz/statistics/schooling/board_of_trustees)

The trustee respondents in 2018 were a highly-qualified group, and were more highly qualified than those responding in 2015 (see Table 59). In 2018, a greater proportion of trustee respondents had a National/NZ Diploma or higher qualification (75%, compared with 66% of trustees in 2015). In particular, 19% of the trustees had a Master's degree or PhD, compared with 11% of respondents in 2015.

TABLE 59 Trustees' highest qualification; 2015 and 2018

Ethnicity	Trustees 2015 (n = 232) %	Trustees 2018 (n = 138) %
No formal qualification	2	3
School Certificate passes, National/NZ Certificate Level 1, NCEA Level 1	6	2
Sixth Form Certificate, National/NZ Certificate Level 2, NCEA Level 2	9	2
University Entrance, Scholarship, Higher School Certificate, National/NZ Certificate Level 3, NCEA Level 3	7	8
National/NZ Certificate Level 4, Advanced Trade Certificate	6	5
National/NZ Diploma	9	12
Bachelor's degree, postgraduate diploma, or graduate certificate	32	32
Honours degree, postgraduate diploma, or postgraduate certificate	14	12
Master's degree or PhD	11	19
Overseas secondary qualification	1	1
Other	1	4

## Responding parent and whānau schools

In 2018, we sent the same number of parent surveys to each school in a sample of schools chosen to be largely representative of all secondary schools. We received responses from parents with children at 121 schools.

Parent respondents are compared with the distribution of all students by school decile band in Table 60.<sup>86</sup> The distribution of parent respondents fairly closely reflects the distribution of all students by school decile bands.

<sup>86</sup> Because of the change in sampling parents in 2018, we cannot directly compare them to the parent respondents in 2015, in terms of school characteristics. Student numbers are used here only as a proxy for the distribution of parents, as family size could vary by school decile and location, for example.

TABLE 60 Parent and whānau respondents compared with the distribution of all secondary students by decile bands

Decile bands	All state and state-integrated secondary schools (n = 314) %	Students (n = 268,015) %	Parents 2018 (n = 508) %
1-2	15	9	6
3-4	21	17	21
5-6	25	23	23
7-8	22	27	27
9-10	18	23	20

Parent respondents are compared with the distribution of all students by school location in Table 61. There was an over-representation of parents with children enrolled at small city schools, and an under-representation of those with children at metropolitan schools.

TABLE 61 Profile of parent and whānau respondents compared with the distribution of all secondary students by school location

School location	All state and state-integrated secondary schools (n = 314) %	Students (n = 268,015) %	Parents 2018 (n = 508) %
Rural	5	2	5
Town	10	7	6
Small city	21	12	24
Metropolitan	65	78	66

## The parents and whānau

The majority of parent respondents (82%) were women, the same as 2015.

Table 62 shows that parents' distributions by age in 2015 and 2018 were fairly similar.

TABLE 62 Parent and whānau respondents by age; 2015 and 2018

Age	Parents 2015 (n = 1,242) %	Parents 2018 (n = 508) %
Under 40	11	8
40-49	57	60
50-59	28	29
60-64	1	1
Over 65	1	1

The proportions of parents who identified with the ethnic groups shown in Table 63 were similar in 2015 and 2018.

TABLE 63 **Parent and whānau respondents by ethnicity; 2015 and 2018**

<b>Ethnicity</b>	<b>Parents 2015 (n = 1,242) %</b>	<b>Parents 2018 (n= 508) %</b>
NZ European/Pākehā	75	73
Māori	10	10
Asian	8	10
European (excluding NZ European)	6	6
Pasifika	4	5
Other group	<1	1

NB. Respondents could identify with more than one ethnic group.

In 2018, 46% of responding parents had degree qualifications, compared with 37% of parents who responded in 2015 (see Table 64).

TABLE 64 **Parents' highest qualification; 2015 and 2018**

<b>Ethnicity</b>	<b>Parents 2015 (n = 1,242) %</b>	<b>Parents 2018 (n= 508) %</b>
No formal qualification	5	6
School Certificate passes, National/NZ Certificate Level 1, NCEA Level 1	11	7
Sixth Form Certificate, National/NZ Certificate Level 2, NCEA Level	2	8
University Entrance, Scholarship, Higher School Certificate, National/NZ Certificate Level 3, NCEA Level 3	8	7
National/NZ Certificate Level 4, Advanced Trade Certificate	8	8
National/NZ Diploma	12	8
Bachelor's degree, postgraduate diploma, or graduate certificate	24	28
Honours degree, postgraduate diploma, or postgraduate certificate	8	9
Master's degree or PhD	5	9
Overseas secondary qualification	4	4
Other	1	4

No recent comparable national figures are readily available, but a comparison of 2013 Census figures for mothers aged 30 to 64 years—albeit a much wider group than the parents of current secondary students—gives some indication of the over-representation of parents with high-level qualifications, and under-representation of those with no qualifications. The Census data show around 17% without a qualification (compared with 6% of the parents responding to this survey in 2018) and 17% with a Bachelor's degree as their highest qualification (compared with 28% in this survey).

## In summary

Some methodological changes were made to the survey in 2018. Asking fewer teachers to complete surveys still gave sufficient responses to support the types of analysis we wanted to do (e.g., differences related to school decile). We sampled parents and whānau differently and had a low response rate, although the decile distribution was more even than in 2015. We changed the trustee survey from a paper survey to online, and the response rate for this survey was also lower than in previous years. Because of this we have not reported decile-related differences in trustees' responses. The principal response rate was similar to previous years. Overall, the relatively low response rates for teachers, trustees, and parents mean some caution needs to be taken when generalising from the survey findings.

Our respondent groups had some different characteristics in 2018. Some differences related to respondents' schools compared with all secondary schools, and other differences were related to the profiles of respondent groups in 2015 and 2018.

- **Principals:** In 2018, there was a slight under-representation of principals at decile 1–2 schools, as there had also been in 2015. In other respects, the group of principal respondents was largely similar to the principal respondents in 2015.
- **Teachers:** Those at decile 3–4 schools were somewhat over-represented and, to a lesser extent, teachers at decile 7–8 schools were under-represented in 2018. Teachers at small city schools were over-represented, and those at metropolitan schools were somewhat under-represented. Otherwise, the teacher respondents in 2018 had a largely similar profile to those in 2015.
- **Trustees:** Overall, the trustees in 2018 were more highly qualified than those who responded in 2015. Slightly fewer trustees were under the age of 50, and fewer were from rural or town schools. Trustees on boards of decile 1-2 schools were under-represented and those on decile 7-8 school boards were somewhat over-represented.
- **Parents and whānau:** Like the trustees, the parents who responded in 2018 were more highly-qualified than those who responded in 2015. Parents with children at decile 1–2 schools were under-represented, and those with children at decile 7–8 schools were somewhat over-represented, although both to a lesser degree than when the previous methodology was applied in 2015. Parents with children at small city schools were over-represented, and those at metropolitan schools were somewhat under-represented.