Wellbeing@School

Technical manual

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TE RŪNANGA O AOTEAROA MŌ TE RANGAHAU I TE MĀTAURANGA

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1   Introduction

This manual provides a technical introduction to the two main survey tools available through the Wellbeing@School (W@S) website. These tools have been designed to provide robust information that can be used to monitor trends and inform decision making

Part A of the manual introduces the tools and describes the general process used in their development, while Parts B and C provide more specific information about each tool and the processes used to analyse and report data. Part D provides some concluding comments.

2   The survey tools

The W@S site (www.wellbeingatschool.org.nz) provides access to two tools that support school self-review processes: the Student Survey and the School Self-Review Tool. The tools were developed over a 2-year period. A core part of this development process was a national trial conducted in September 2011 which involved over 5,000 students at 77 schools.

2.1   The Student Survey

The Student Survey explores social wellbeing at school. It measures the extent to which students perceive that a safe and caring climate is modelled across different aspects of school life. The Student Survey has two parallel forms: a Year 5 to 8 survey for senior primary students, and a Year 7 to 13 survey for intermediate and secondary students. The Year 5 to 8 survey is made up of 55 items and uses simpler language. It is designed to be read aloud to students. The Year 7 to 13 survey includes three extra items (numbers 2, 56 and 57) that are more appropriate for older age groups.

2.2   The School Self-Review Tool

The School Self-Review Tool (SSRT) measures the extent to which school leaders and teachers perceive that a safe and caring climate is modelled through different aspects of school practice. The SSRT is designed to be completed by a team of school leaders, teachers and other school stakeholders in a way that promotes dialogue and discussion.

The SSRT is supported by an online survey for teachers, which includes a subset of the SSRT items. The teacher survey is designed to give the self-review team information about teachers'

perspectives on school life. The self-review team then use this information to help make judgements as they complete the SSRT.

2.3 Defining wellbeing

The main focus of the W@S tools is the social dimension of wellbeing. The tools explore common *aspects* of school life that are associated with a safe and caring school climate, which deters behaviours such as bullying. Five aspects of school life are explored. Four of these relate to positive practices and behaviours:

•   school-wide climate and practices
•   teaching and learning
•   community partnerships
•   pro-social student culture and strategies.

The fifth aspect, aggressive student culture, explores the extent to which aggressive and bullying behaviours occur at school.

Most of the aspects are further divided into sub-aspects, which form the basis for the way the two W@S survey tools are organised (as shown in Table 1). Not all of the sub-aspects are included in the Student Survey (shown in the table by the use of "NA"). Each aspect and sub-aspect are described more fully in a document that can be found on the W@S website entitled *The Aspects of School Life Explored by W@S*.

Table 1   **The aspects and sub-aspects of the SSRT and Student Survey**

Main *aspect*	SSRT *sub-aspects*	Student Survey *sub-aspects*
School-wide climate and practices	Collaborative school	Caring and collaborative school
	Caring school	
	Student leadership valued	
	Safe policies	Safe school
	Safe school	
	Social support for students	NA
	Respect for culture	Respect for culture
Teaching and learning	Caring teaching	Caring teaching
	Caring learning	Caring learning
	Effective professional learning	NA
Community partnerships	Home–school partnerships	Home–school partnerships
	School–community connections	NA
Pro-social student culture and strategies	Pro-social student culture	Pro-social student culture
	Students' social strategies	Students' social strategies
Aggressive student culture	Aggressive student culture	Aggressive student culture

To ensure the SSRT and Student Survey support schools to consider the extent to which culturally responsive practices contribute to a safe and caring climate, we included the sub-aspect "respect for culture" in both tools. We have also woven questions through other sections of the Student Survey and SSRT that explore culturally responsive practices. These questions explore ideas such as whether school-wide practices acknowledge the cultural backgrounds of the range of students who attend a school, whether the classroom programme includes a focus on exploring and valuing difference and diversity, and how schools form partnerships with parents, whānau and local iwi with the aim of working together to support student wellbeing.

3 Overview of the tool development process

This section describes the development of the two survey tools, starting with a background analysis of related literature and existing tools, through to the analysis of trial results and the selection of final items..

3.1 The literature review

Two literature reviews were carried out to inform the development of the W@S website. The first was an overview paper (Boyd, 2011), written to provide a basis for the development of the website tools and processes, as well as up-to-date evidence. The main focus of this paper was on current New Zealand and international findings and debates about approaches to developing a safe school climate and addressing bullying behaviour. These findings are summarised in the booklet *Wellbeing at School: Building a Safe and Caring Climate That Deters Bullying* (Boyd & Barwick, 2011). This booklet can be found on the W@S website.

To provide a further guide to the content and possible measurement debates concerning the W@S tools, a review of New Zealand and international survey tools designed for students and school staff was also carried out (Boyd, 2010). The review included tools designed to gather data on respondents' perceptions of school climate (with a focus on safety) and bullying behaviour.

3.2 Development of the survey blueprints

The two literature reviews were used to develop concept blueprints for the Student Survey and SSRT. These blueprints described the aspects and sub-aspects which the literature suggested were key dimensions of school life associated with safe and caring school climates that deter aggressive and bullying behaviours.

3.3 Item development

Using the item blueprint and the tool development paper (Boyd, 2010) as a starting point, items were developed for the main aspects and sub-aspects outlined in the blueprint. Each item was designed as an indicator of practice for a particular aspect or sub-aspect.

Some items in the Student Survey were adapted from those used in other New Zealand tools that have been nationally trialled with representative populations (such as the Me and My School survey). Other items were developed specifically for the tool. Care was taken to develop short items with accessible language that would be likely to have the same meaning to all students.

3.4   Blueprint and item review

The survey blueprints and draft survey items were reviewed twice by members of the W@S reference panel. This panel consists of a mix of school practitioners, education policy makers and researchers, including those who work in the areas of Māori and special education. The items and blueprints were also reviewed by NZCER and Ministry of Education staff who had expertise in survey development and/or some of the content areas covered by the surveys.

As a result of these multiple reviews, some items were added, some were removed, and changes to items, response options and survey instructions were made.

3.5   The pilots

To ensure the Student Survey included language and content that could be understood by a broad range of students, including Māori and Pacific students and those with lower literacy levels, NZCER conducted an intensive pilot of the Student Survey with students from four decile 1–2 schools. The pilot included Year 5 to 9 students from primary, intermediate and secondary schools. Both forms of the Student Survey were piloted.

The pilot had two components: administration of a draft survey to whole classes, and cognitive interviews with individual students. At each school a teacher, assisted by an NZCER staff member, administered the survey to one class of students. Students were offered multiple opportunities to query questions during the survey via written comments and during a feedback discussion. Teachers and principals were also encouraged to provide verbal or written feedback on the survey.

Following each class administration, individual cognitive interviews were held with a small number of volunteer students. Students were selected to represent the range of ethnicities in their class. Care was taken to ensure both boys and girls participated.

Cognitive interviewing is a technique used to pre-test survey and interview questions. It explores possible overt and covert problems in questions and response options (Willis, 2005). During a cognitive interview, verbal probing and "think aloud" procedures are used to check respondents' understanding of survey instructions, item statements and response options.

For the Student Survey the main focus of the interviews was on exploring students' understanding of the different response options and the content, language and appropriateness of selected items. A number of specific and general prompts were developed for interviews. The purpose of these prompts was to explore the response options and selected questions that were considered to be

potentially difficult to interpret. Students were also asked for their ideas about alternatives for any words or items they did not understand.

After each class administration and set of cognitive interviews, the survey was modified and the revised items were trialled by students at the next school. A revised cognitive interview schedule was also developed.

Following the four pilots, the two survey forms were refined for use in a larger trial.

3.6   The trial

A larger trial of both forms of the Student Survey and the SSRT was carried out to collect data for a preliminary analysis before the main national trial. The trial was held in July 2011 and involved 12 schools selected to be broadly representative of New Zealand schools. Schools were invited to complete both instruments. All 12 returned Student Surveys and 8 completed the SSRT. Students from two or three year levels trialled the surveys at most of the schools.

Students were asked to write feedback about any questions they found hard to answer, and the teachers responsible for administering the Student Survey were asked to complete a short feedback form.

The data from both forms of the Student Survey were combined and analysed using the Rasch Partial Credit Model (Rasch, 1980; Masters, 1982). The analysis showed that survey scores corresponding to each W@S aspect could be mapped onto measurement scales. The findings were also used to support a further review of the items. Refined versions of the two Student Survey forms were created for use in the national trial.

3.7   The national trial

A national trial of the Student Survey and SSRT was carried out in September 2011. The trial had two main purposes. The first was to create a data set that would inform the final selection of survey items for the Student Survey and SSRT and allow the construction of W@S reporting scales linked to national reference data. The second main purpose was to trial the online platform and the associated survey administration processes with teachers and students.

The national trial involved over 5,000 students. Subsequent analysis of the data from the trial led to the construction of the final instruments and reporting scales. Parts B and C of this manual provide detailed information about the trial and subsequent analysis phase.

PART B: The Student Survey

4 Introduction

The W@S Student Surveys measure students' perceptions of social wellbeing at their school. They explore the extent to which students perceive their school climate to be safe and caring. Two survey forms are available: one focused on Years 5 to 8 and the other on Years 7 to 13. Both forms investigate five aspects of school life, with each aspect represented by a collection of survey items. The two survey forms are essentially parallel, with wording for some items adjusted to suit the relevant age group. The Year 7 to 13 survey form contains three items that are not included in the Year 5 to 8 survey. Schools with Year 7 and 8 students are able to choose which form of the survey best suits their students.

The W@S website can be used to convert raw survey scores on each aspect to locations on a measurement scale. Once located on the scale, the distribution of scale scores for a group of students (for instance, a year-level cohort) can be compared with the distribution of scores for nationally representative reference groups.

This section of the technical manual describes the construction of the measurement scale that underpins the Student Survey and the compilation of national reference data.

4.1 The survey frame

The W@S Student Survey is based on a framework that defines five aspects of school life that all contribute to a safe and caring climate. The selection of the five aspects is described in section 3.3. Table 2 shows the arrangement of items by aspect within the two survey forms, including the type of response categories used.

Table 2 **Type of response categories and number of items, by aspect**

Aspect	Response categories used	Number of items	
		Year 5 to 8 survey	Year 7 to 13 survey
School-wide climate and practices	4 point agreement scale*	15	16
Teaching and learning	4 point agreement scale*	13	13
Community partnerships	4 point agreement scale*	6	6
Pro-social student culture and strategies	4 point agreement scale*	11	11
Aggressive student culture	5 point frequency scale**	10	12

*   Agreement scale categories: strongly disagree; disagree; agree; and strongly agree.

**   Frequency scale categories: never or hardly ever; 1 or 2 times a year; 1 or 2 times a month; 1 or 2 times a week; and almost every day.

4.2 Developing scales to measure the W@S aspects

Student responses to a survey item can be scored by assigning a number to each possible response category (for example: strongly disagree = 0; disagree = 1; agree = 2; and strongly agree = 3). These "raw" item scores can be summed and the raw total used to indicate a student's overall level of agreement with the survey items. However, raw survey scores do not take into account the fact that some statements may be easier to agree with than others—each statement is given the same "weight". Similarly, raw scores do not recognise that for any statement the change in the level of agreement signified by moving from one response category to the next may differ across the range of adjacent categories. For instance, moving from the "agree" to "strongly agree" response category for a statement may represent a bigger change in the level of agreement than moving from "strongly disagree" to "disagree".

To overcome these limitations, a scale was developed for each W@S aspect that takes into account the differences in response characteristics between and within items. The development of the scales is based on an application of the Rasch Model.

The Rasch Model is a mathematical model with strong measurement properties. The model assumes that the probability of selecting a particular response category for an item is a function of person and item parameters, and that these parameters can be located on the same interval scale. Developing a Rasch measurement scale involves writing a set of survey items designed to assess a trait or construct ("pro-social student culture", for example) and using the items in a trial to collect a range of responses. The collected data then undergo an analysis to ascertain how well response patterns exhibited in the data match those predicted by the model. Both statistical and graphical indicators are used to ascertain the quality of the fit. Once a series of well-fitting items has been located on a scale (item calibration) it becomes possible to estimate student locations on the same scale and to obtain national reference distributions at different year levels.

As described in section 4, the construction of the W@S aspect scales involved developing a collection of appropriate survey items for each aspect to be measured, using the items in a series of trials, and then collecting student responses via a national trial involving students in Years 5 to 13.[1]

The Rasch Model was applied at each trial stage to inform the selection of 58 final statements, which researchers deemed were useful indicators of the different W@S aspects and for which responses showed good fit to the measurement model.

Data were collected during the national trial using both online and paper-and-pencil versions of the survey. To check that both modes led to similar item calibrations, a separate analysis for each survey mode was carried out. The correlations between the two sets of item calibrations and student location estimates were very high—in excess of 0.95 for items and 0.9995 for students—indicating the survey items were operating in a similar way regardless of mode.

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[1] The numbers involved from Years 11, 12 and 13 were small. National reference profiles were produced for Years 5 and 6, Years 7 and 8, and Years 9 and 10.

Separate analyses were also carried out for each of the two survey forms (Years 5 to 8 and Years 7 to 13). The results indicated that response data for both survey forms could be successfully combined to produce one overall set of item calibrations for each aspect.

The response patterns to many items suggested that for the purposes of constructing the aspect scales, the two disagreement categories ("disagree" and "strongly disagree") should be collapsed into one larger category. Some items had very low frequencies in the "strongly disagree" category, resulting in imprecise estimates for the related thresholds, and some item thresholds were estimated to be very close to one another. Neither of these situations leads to good measurement, so it was decided to collapse the lower two categories of all items with responses on the agreement scale. A similar approach was taken to the items on the frequency scale ("aggressive student culture"), where a variety of collapsing rules were employed to ensure the items maintained good measurement properties.

4.3 Constructing a joint comparison scale

In order to allow comparisons to be made between scores on the different aspect scales, a joint comparison scale was constructed—the WBS scale. Scores on each of the aspect scales (measured in the logits, the unit used by the Rasch model) were transformed to a common measurement unit—the *wbs* unit. The transformation is set so that the standard deviation recorded for each aspect in the national trial is represented by 50 *wbs* scale units, and the mean item threshold score for each aspect is set at 250 *wbs* units. This means that scale scores (for both item thresholds and students' aspect scores) generally vary between 100 and 400 *wbs* scale units. Making this transformation to a common scale allows the scores on the separate aspects to be compared directly. In general, schools will be aiming to score high on the four agreement scales and low on the frequency scale (used for aggressive student culture).

Table 3 lists the items in the order they are presented in the surveys. The main aspects and sub-aspects to which the items belong are identified, and thresholds (indicated by d01, d12, d23 etc.) for the response categories are given. These thresholds define a location on the scale where a response category becomes the most likely response. For instance, the thresholds for item 3, "Everyone knows the school rules about behaviour", are placed at 224 and at 309 *wbs* units on the W@S scale. This means that for students located below 224 *wbs* units on the W@S scale, the most likely response category is "disagree". For students located between 224 and 309 *wbs* units the most likely response category is "agree", while for students located above 309 *wbs* units the most likely response category is "strongly agree".

The average item threshold for each item is located at a slightly different place on the scale, reflecting the fact that some items are more difficult to agree with than others.

The last column shows an "infit" statistic for each item. This indicates how well the item responses fitted the measurement model in the national trial. Ideally, the infit statistic should be close to 1. Values between 0.8 and 1.2 are considered to show acceptable item fit to the Rasch Model.

Table 3 Items included in the W@S Student Survey

Item	Item stem	Aspect	Sub-aspect	Response scale	d01 (*wbs*)	d12 (*wbs*)	d23 (*wbs*)	d34 (*wbs*)	Infit statistic
1	I feel I belong at school.	W	W-Car	Agreement	180	313			1.07
2*	At school, people accept me for who I am.	W	W-Car	Agreement	177	304			1.04
3	Everyone knows the school rules about behaviour.	W	W-Saf	Agreement	224	309			1.12
4	At school, we celebrate the good things students do.	W	W-Car	Agreement	199	299			1.03
5	Teachers and students care about each other.	W	W-Car	Agreement	198	296			0.79
6	Teachers are interested in my culture or family background.	W	W-Cul	Agreement	246	334			0.99
7	I feel safe at school.	W	W-Saf	Agreement	184	283			0.93
8	I always feel safe when I am going to or from school.	C	C	Agreement	201	282			1.03
9	Everyone thinks our school values are important (like respect for others).	W	W-Car	Agreement	222	311			0.90
10	Behaviours like hitting or bullying are not OK at school.	W	W-Saf	Agreement	165	219			1.20
11	At school, everyone knows what to do if someone is being hurt or bullied.	W	W-Saf	Agreement	216	308			0.96
12	Students have a say in what happens at school.	W	W-Car	Agreement	222	342			1.00
13	At school, we are encouraged to get on with students from different cultures or backgrounds.	W	W-Cul	Agreement	170	279			0.97
14	The buildings and grounds are looked after at school.	W	W-Saf	Agreement	203	308			1.09
15	Teachers think all students can do well.	T	T-Mod	Agreement	204	266			0.93
16	Teachers treat students fairly.	T	T-Mod	Agreement	225	294			0.89
17	Teachers often praise students for helping each other.	T	T-Mod	Agreement	218	300			0.98
18	Teachers always behave how they would like us to behave.	T	T-Mod	Agreement	227	294			0.98
19	Teachers make learning interesting.	T	T-Mod	Agreement	237	301			1.04
20	Teachers always take action if someone is being hit or bullied.	T	T-Mod	Agreement	212	272			1.08
21	Teachers care about how I feel.	T	T-Mod	Agreement	222	298			0.85
22	Teachers always treat each other with respect.	T	T-Mod	Agreement	179	275			0.94
23	Teachers get on well with students from different cultures and backgrounds.	W	W-Cul	Agreement	162	284			0.89
24	Teachers ask for our ideas about how students can get on better with each other.	W	W-Car	Agreement	228	316			1.03
25	At school, I am taught to think about other students' feelings.	T	T-Lrn	Agreement	214	302			1.09

Item	Item stem	Aspect	Sub-aspect	Response scale	d01 (*wbs*)	d12 (*wbs*)	d23 (*wbs*)	d34 (*wbs*)	Infit statistic
26	At school, I am taught that it's OK to be different from other students.	T	T-Lrn	Agreement	196	279			1.10
27	At school, I am taught what behaviours are OK and not OK.	T	T-Lrn	Agreement	170	269			0.99
28	At school, I am taught how to manage my feelings (like if I get angry).	T	T-Lrn	Agreement	236	304			1.06
29	At school, I am taught what to say or do if students are hassling or bullying me.	T	T-Lrn	Agreement	220	289			1.04
30	Students treat each other with respect.	S	S-Pro	Agreement	219	317			0.92
31	Students treat teachers with respect.	S	S-Pro	Agreement	211	298			0.97
32	Students get on well with other students from different cultures.	W	W-Cul	Agreement	193	310			1.05
33	Students always stand up for others if someone is hassling them.	S	S-Pro	Agreement	221	294			1.02
34	Students include others who are being left out or ignored.	S	S-Pro	Agreement	219	308			0.92
35	Students look after others who are new at school.	S	S-Pro	Agreement	169	262			0.97
36	Students are good at listening to each others' views and ideas.	S	S-Pro	Agreement	211	310			0.97
37	I can say how I am feeling when I need to.	S	S-Sps	Agreement	219	301			1.00
38	If I have a problem with another student, I feel I can ask other students for help.	S	S-Sps	Agreement	209	288			0.98
39	I can stand up for myself in a calm way.	S	S-Sps	Agreement	197	282			1.11
40	If I have a problem with another student, I feel I can ask teachers for help.	S	S-Sps	Agreement	218	284			0.97
41	If other students hassle me, I know how to ignore them or walk away.	S	S-Sps	Agreement	190	273			1.14
42	My parents, family, and whanau always feel welcome at school.	C	C	Agreement	202	305			0.90
43	Teachers and parents work together.	C	C	Agreement	229	318			1.02
44	My parents and teachers respect each other.	C	C	Agreement	186	288			0.85
45	Outside school, I have a parent or adult who I can go to if I am upset.	C	C	Agreement	211	274			1.08
46	In the area where I live, people get on with each other.	C	C	Agreement	213	290			1.11
47	Do other students put you down, call you names, or tease you in a mean way?	SB	SB	Frequency	166	194	216	254	1.00
48	Do other students leave you out or ignore you on purpose?	SB	SB	Frequency	186	244			1.08
49	Do other students hit, push, or hurt you in a mean way?	SB	SB	Frequency	208	252			0.97
50	Do other students tell lies or spread rumours about you?	SB	SB	Frequency	183	217	236	264	1.10
51	Do other students threaten you in a mean way, or force you to do things?	SB	SB	Frequency	216	256			0.95
52	Do other students take or break your stuff in a mean way (e.g., money, pens)?	SB	SB	Frequency	281				0.91
53	Do other students say rude things about your culture or family?	SB	SB	Frequency	263				0.95

Item	Item stem	Aspect	Sub-aspect	Response scale	d01 (*wbs*)	d12 (*wbs*)	d23 (*wbs*)	d34 (*wbs*)	Infit statistic
54	Are other students rude to you because you learn in a different way from them?	SB	SB	Frequency	277				0.86
55	Do other students use cellphones (like texting) or the Internet (like facebook) to be mean to you or spread rumours?	SB	SB	Frequency	292				1.06
56*	Do other students say sexual things you do not like, or touch you in a way that makes you feel uncomfortable?	SB	SB	Frequency	274				1.15
57*	Do other students call you gay to put you down, or are they rude to you because of your sexuality?	SB	SB	Frequency	274				0.99
58	Are you bullied by other students?	SB	SB	Frequency	203	248			0.93

* Items 2, 56, and 57 are not included in the Year 5 to 8 survey.

Key for aspects and sub-aspects

SW	**School-wide climate and practices**
W-Car	Caring and collaborative school
W-Saf	Safe school
W-Cul	Respect for culture
T	**Teaching and learning**
T-Mod	Caring teaching
T-Lrn	Caring learning
C	**Community partnerships**
S	**Pro-social student culture and strategies**
S-Pro	Pro-social student culture
S-Sps	Students' social strategies
SB	**Aggressive student culture**

5　The aspect scales

Figure 1 provides a graphical representation of the scales constructed for each aspect of the Student Survey. To the right of each scale is the distribution of threshold locations for the items that make up the aspect. For example, "7.01" represents the threshold between the first and second category for item 7. To the left of each scale is a curve showing the distribution of students' scores on that aspect, as estimated by the national trial data.

For all aspects, the locations of item response categories cover the part of the scale where students are located. This means that the surveys are targeting the student populations effectively, and consequently useful information can be gained from students with varying perceptions about the extent to which their school climate is safe and caring.

For the four positive aspects (school-wide climate and practices, teaching and learning, community partnerships, and pro-social student culture), a high scale score indicates a firm perception that these practices are in place. This is reversed for aggressive student culture: a high scale score indicates a perception that more aggressive behaviour is evident in the school.

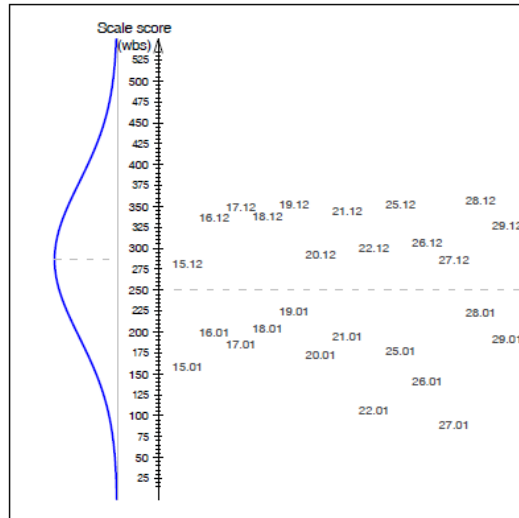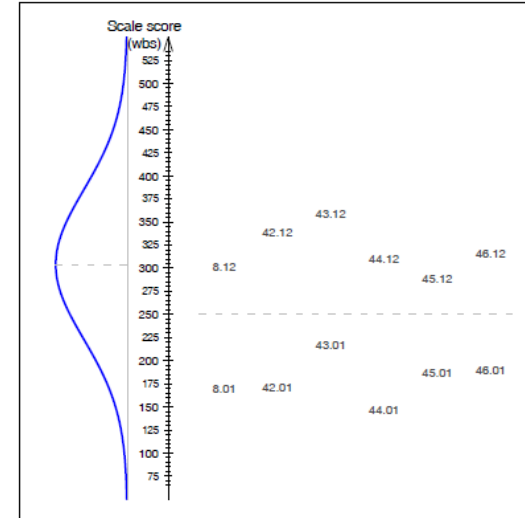Figure 1 **W@S scales showing item locations with student distributions**
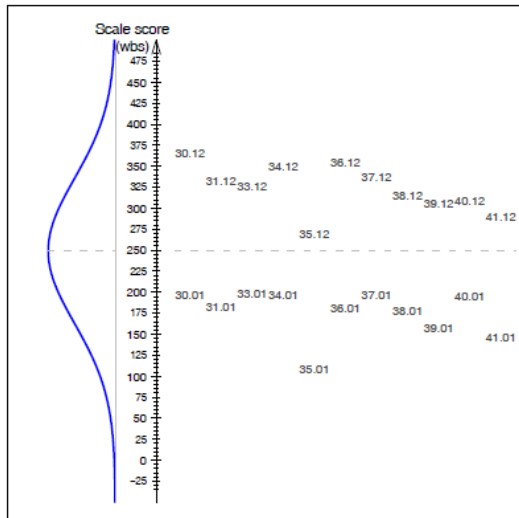
D. School-wide climate and practices
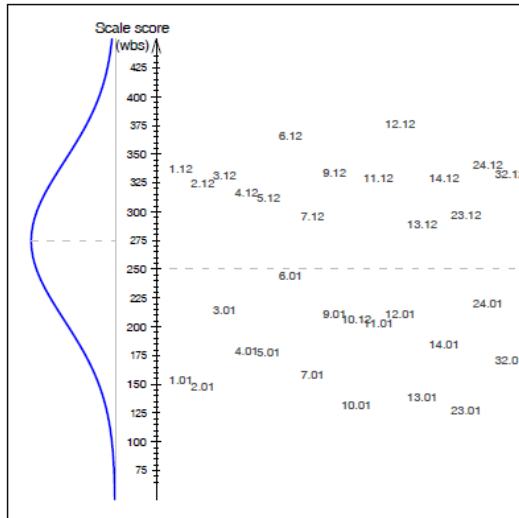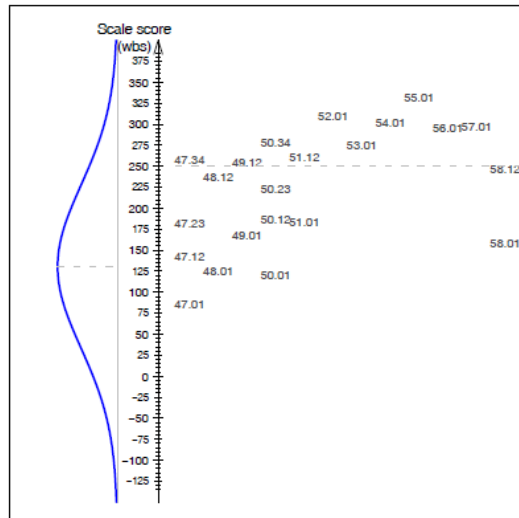

C. Teaching and learning

B. Community partnerships

E. Pro-social student culture and

A. Aggressive student culture

6 Correlations between aspects

Table 4 shows the correlations between the scores on the different aspects. In general, we would expect student scale scores on the first four main aspects to be fairly strongly correlated. The correlations between the aggressive student culture aspect and other aspects related to pro-social student behaviours and attitudes are negative—also as expected. However, the strength of the correlations suggest that agreement with statements making up the pro-social student culture aspect does not necessarily preclude the reporting of high frequencies of behaviours associated with aggressive student culture.

Table 4 **Correlation between the aspects**

	Teaching and learning	Community partnerships	Pro-social student culture	Aggressive student culture
School-wide	0.80	0.70	0.76	−0.22
Teaching and learning		0.68	0.76	−0.16
Community partnerships			0.64	−0.19
Pro-social student culture				−0.24

7 Reliability and validity of the Student Survey

7.1 Reliability

The reliability of a survey describes its ability to provide consistent measures over repeated applications. Reliability coefficients given by Cronbach's alpha[2] provide an indication of internal consistency by estimating the proportion of variance that is not due to random error. This can range from 0 to 1, with a reliability of 0.9 meaning that 90% of the observed variance is true variance and 10% is due to error. 0 shows Cronbach alpha estimates for each aspect and sub-aspect. These are all very acceptable for this type of survey.

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[2] The use of Cronbach's alpha arises from the classical test theory result that the reliability of test scores can be expressed as the ratio of variances of the true (unobserved) score and observed total score.

Table 5 **Reliability indices, by Student Survey aspect**

Main aspect	Sub-aspect	Number of items	Cronbach's alpha
School-wide climate and practices		16	0.87
	Caring and collaborative	7	0.77
	Safe school	5	0.67
	Respect for culture	4	0.70
Teaching and learning		13	0.91
	Caring teaching	8	0.88
	Caring learning	5	0.80
Community partnerships		6	0.74
Pro-social student culture and strategies		11	0.88
	Pro-social student culture	6	0.84
	Students' social strategies	5	0.80
Aggressive student culture		12	0.92

7.2 Validity

The validity of a survey refers to the degree to which the survey measures what it was intended to measure. However, no statistical process can adequately establish validity. The best approach is for the user of the survey to systematically examine the content of the survey in order to evaluate its suitability for their particular context and survey needs.

The W@S survey has been carefully planned and constructed to focus on understandings, attitudes and behaviours that have been accepted as important indicators of a safe and caring school climate by the research literature and a widely representative range of New Zealand educationalists. Each of the survey items and response scales has been subjected to thorough scrutiny by a range of reviewers, including researchers with expertise in survey construction. Cognitive interviews have been used to examine a range of respondents' comprehension and response behaviours, and all items have been extensively trialled and the response data analysed.

The items included in the survey to represent the different aspects of school life have all been deemed to show satisfactory fit to the Rasch Model. This means that the set of items used to represent each aspect can be regarded as indicating the strength of perspective on a single underlying construct that can be described on a developmental continuum and measured on an interval scale.

The correlations in Table 4 also provides evidence of validity. As expected, the positive aspects of school life are strongly correlated with each other and negatively correlated with perceptions of an aggressive student culture.

7.3 Item bias

Careful attention was given to gender and ethnic bias in the analysis of items in the Student Survey. A two-pronged approach was taken. In the first, *facial* bias detection, each item was piloted and reviewed to evaluate the extent of possible language bias. Any suspect items were modified or removed. This process is described in Part A of this manual.

The second approach is a *statistical* process that detects differential item functioning (DIF) between sub-groups of students. Individual items are examined to see whether response patterns are substantially different for any particular sub-group in the national reference sample. DIF analyses were carried out for both gender and ethnic sub-groups. The analyses detected some marginal differences between sub-groups on individual items, but these differences did not have a noticeable effect on the overall scale scores. No items were excluded on the basis of DIF.

8   The reference sample

Once students' scores are located on the W@S scale, they can be compared with survey results for an appropriate student reference group. These comparisons can be made with three reference groups at Years 5 and 6, Years 7 and 8, and Years 9 and 10. Reference information is also available by gender for each of these year group combinations. The reference groups are generally representative of New Zealand students, and their scale score distributions provide users with an indication of how the perceptions of students in their school compare with the perceptions of students nationwide. The sample of schools used to compile the reference information was to some extent a "convenience sample". While useful as an indicator of broad national trends, the reference information should not be treated as precise normative information.

This section of the technical report describes the compilation of the national reference data.

8.1 The reference sample design

The main goal of the sampling methodology was to achieve a nationally representative sample of New Zealand students in each of Years 5 to 10. A stratified random sampling design was used. The design aimed to give each student in New Zealand approximately the same chance of being selected into the sample. Stratification variables for the school selection were quintile[3] and school

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[3] Quintile 1: deciles 1−2; quintile 2: deciles 3−4; quintile 3: deciles 5−6; quintile 4: deciles 7−8; quintile 5: deciles 9−10

size.[4] The sample was divided into three parts: Years 5 to 6, Years 7 to 8, and Years 9 to 10. Each part of the sample was separately selected as a stratified random sample. Schools were selected from each quintile by school size group according to the proportion of students attending schools in the relevant groups.

The selected schools were contacted and invited to participate. Each school was asked to provide one, two or three classes of students depending on the school roll size in the year groups of interest. School size tends to act as a proxy variable for rural/urban schools, for school type, and for ethnic mix within a school. After sample selection, checks were carried out to ensure that representation for these variables was adequate.

Students from Years 11 to 13 were also invited to participate if Year 9 and 10 students were already involved in the trial. Because of the usual pressures on senior students and their teachers during Term 3, the invitation to participate held no obligation. As a result, only a very small number of students from Year 11 to 13 participated. While the information from students in these year groups was useful, it did not provide enough data to build a national reference profile for Years 11 to 13. As data become available through the W@S website, it may be possible to begin building these profiles.

8.2 Achieved sample

While establishing the sample it became apparent that because of the work commitment required by schools to administer the survey it was unrealistic to expect that all selected schools would be able to participate. It was decided, therefore, to begin with the schools that were willing to participate as part of the randomly selected sample and supplement the sample more purposively than originally planned.

Approximately 60 percent of the schools initially selected opted to participate. To replace the schools that declined to participate, two strategies were used. The first involved inviting a number of replacement schools based on a list of suitable random replacements generated using the sampling frame described above. The second strategy involved publicising the trial through a number of communication channels and asking schools who were interested in being involved to contact the project team. This resulted in a number of schools not involved in the initial sample expressing an interest in being part of the trial. We accepted some of these schools into the sample on the basis that they would not bias the demographic profile of the sample unduly. While we did accept that they might bring some "self-selection" bias, in general the self-selected schools acted as a non-random replacement list for schools from the original sample selection that were unable to take part.

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[4] School size was defined by three groups: small, medium and large. Small schools had about one class at each year level, medium schools two classes at each year level, and large schools three or more classes.

Table 6 **Sampled schools according to recruitment method**

Year level	Sampled schools	Sampled replacements	Self-selected schools
Year 5–6	22	–	14
Year 5–8	–	–	6
Year 7–8	15	1	6
Year 9–10	9	3	1

As noted above, one of the main goals of the sampling methodology was to gather data from a sample of New Zealand students in each of Years 5 to 10. This was achieved as shown in Table 7.

Table 7 **Number of students by year level**

Year level	Male	Female	Missing	Total*
5	489	518	1	1,008
6	645	602	–	1,247
7	415	354	3	772
8	349	384	1	734
9	389	327	1	717
10	350	288	4	642
Total	**2,637**	**2,473**	**10**	**5,120**

The following tables show other characteristics of the make-up of the achieved sample.

Table 8 **Number of schools and students, by decile**

Quintile	Number of schools	Number of students
Decile 1 and 2	4	402
Decile 3 and 4	12	708
Decile 5 and 6	8	605
Decile 7 and 8	32	1,437
Decile 9 and 10	21	1,968
TOTAL sample	**77**	**5,120**

Table 9 **Number of schools and students, by school type**

School type	Number of schools	Number of students
Composite (Year 1–13)	1	83
Contributing	27	1,303
Full primary	29	1,808
Intermediate	6	474
Secondary (Year 7–13)	3	233
Secondary (Year 9–13)[5]	11	1,219
TOTAL sample	**77**	**5,120**

The achieved sample included a mix of students who identified as NZ European, Māori, Pacific, Asian, and other. The sample contained similar proportions of each ethnic group as exists in the general population.

Table 10 **Number of students, by year level and ethnicity***

Year level	NZ European	Māori	Pacific	Asian	Other
5	718	161	84	57	208
6	914	214	141	70	210
7	510	125	100	65	132
8	442	125	153	56	95
9	503	79	53	53	128
10	458	101	55	75	84
Total	**3,545**	**805**	**586**	**376**	**857**

* Where students have indicated multiple ethnic groups, these have been counted under each specified category.

0 shows how many students at each level were administered the survey according to mode. In Years 5 to 8 the numbers are fairly even by mode. In Years 9 and 10 the vast majority of students completed the paper-and-pencil survey.

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[5] Low-decile secondary schools are not represented well in the achieved sample. However, unlike achievement data, where decile is a strong predictor of outcome, analysis indicates decile is not a very good predictor of wellbeing as measured by the W@S scales. This suggests that the effect of this under-representation on the national reference data is unlikely to be large.

Table 11 **Survey mode, by year level**

Year level	Online	Paper and pencil
5	521	487
6	746	501
7	268	504
8	336	398
9	65	652
10	64	578

8.3 Patterns between year groups, gender and ethnicity

A number of patterns are evident in the national reference data by year group and gender. This section of the *Technical Manual* discusses these patterns.

Table 12 presents mean standardised scale scores (in *wbs* units) for girls and boys across Years 5 to 10. As mentioned earlier, all standard deviations have been set to 50 *wbs* units. Although this table presents means for individual year levels, reference data shown on the aspect box plots have been combined to show two year-level groups together: Years 5–6, Years 7–8, and Years 9–10.

Responses within these year groups tend to be similarly distributed, but show sharp contrasts between groups on some aspects. This can readily be seen in Figure 2, which shows the distribution of responses in the national sample for girls and boys across each aspect of W@S.

The overall patterns show that students' perception that their school is safe and caring diminishes as they get older. This pattern holds across all survey aspects except aggressive student culture. Whether it is the reality or the perception that changes over time is a topic for discussion within individual schools.

Table 12 **Mean scale score (wbs units), by year level and gender for each aspect**

| Year level	School-wide (*wbs*)		Community partnerships (*wbs*)		Teaching and learning (*wbs*)		Pro-social student culture (*wbs*)		Aggressive student culture (*wbs*)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
5	280	291	293	301	286	293	267	270	200	192
6	282	289	295	301	286	291	266	269	194	184
7	266	281	283	294	272	282	245	260	198	184
8	265	273	279	287	265	275	243	250	189	183
9	236	240	257	262	234	237	219	224	189	174
10	232	231	252	253	230	232	216	219	187	178

The differences between year level and gender are clearly shown in the graphs below (Figure 2). On the whole, boys and girls showed similar patterns of response, with boys being slightly less positive on the school-wide climate and practices and pro-social student culture and strategies aspects within the year-level groupings. Boys also appear to report incidents of aggressive behaviour more often than girls. Although some differences in average trends between genders are clear, it should be noted that there is also considerable overlap between genders, with more difference between year-level groups than between genders.

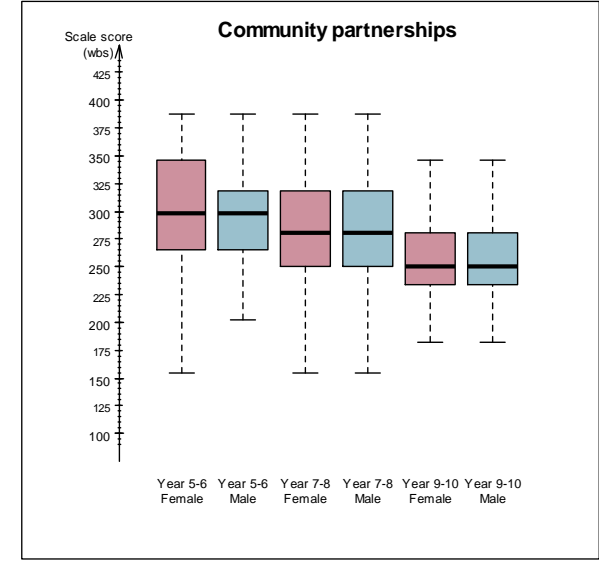Figure 2 **The distribution of scale scores, by aspect, year level and gender**

A. School-wide climate and practices

School-wide climate and practices
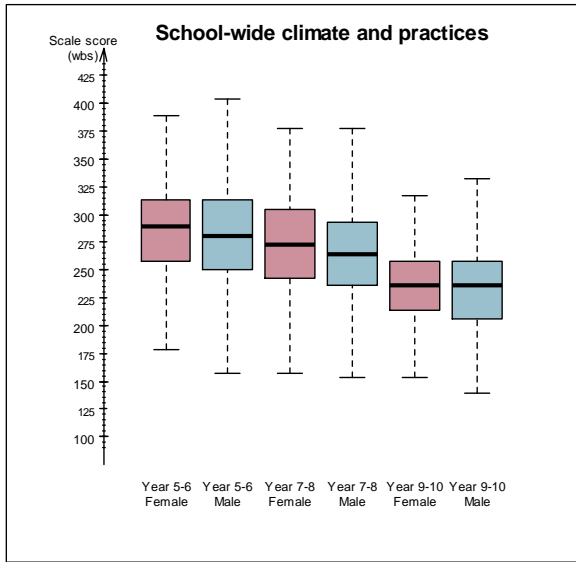
B. Teaching and learning

Teaching and learning

C. Community partnerships
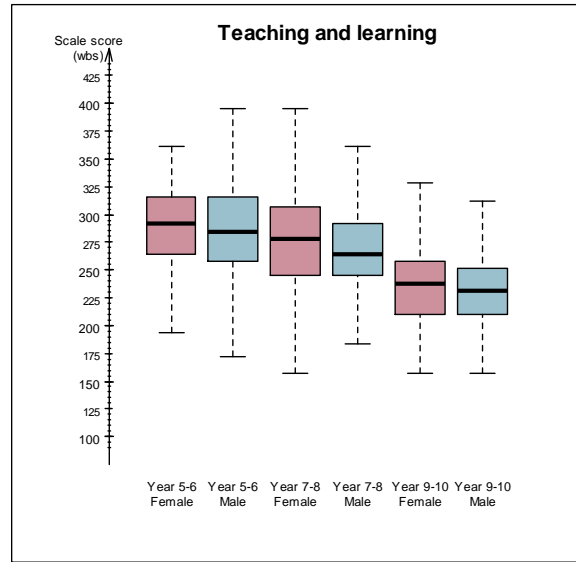
Community partnerships

D. Pro-social student culture and

Prosocial student culture and strategies

E. Aggressive student culture
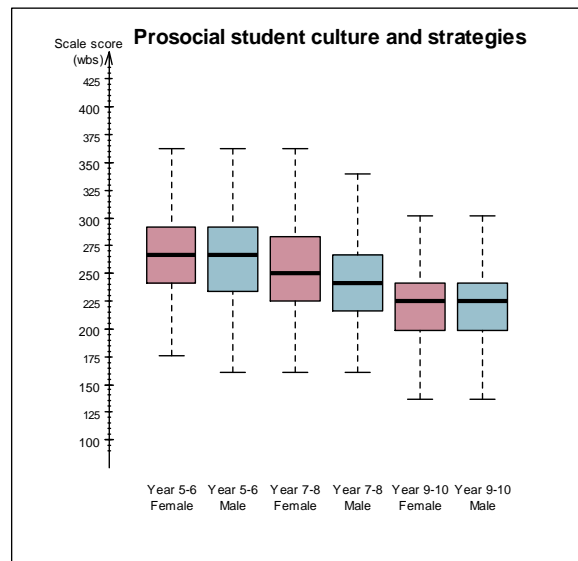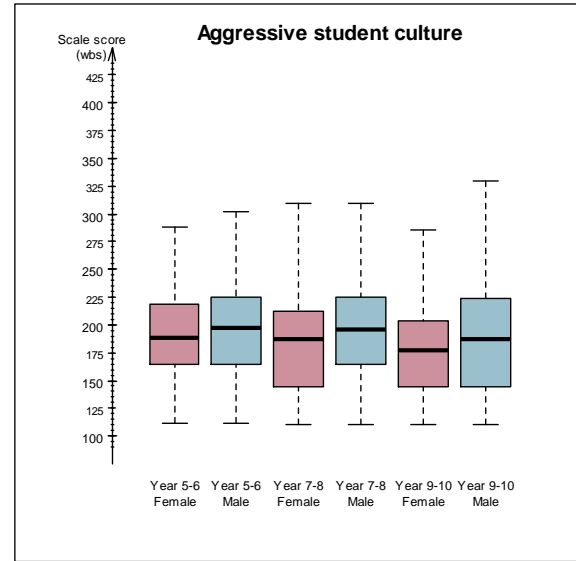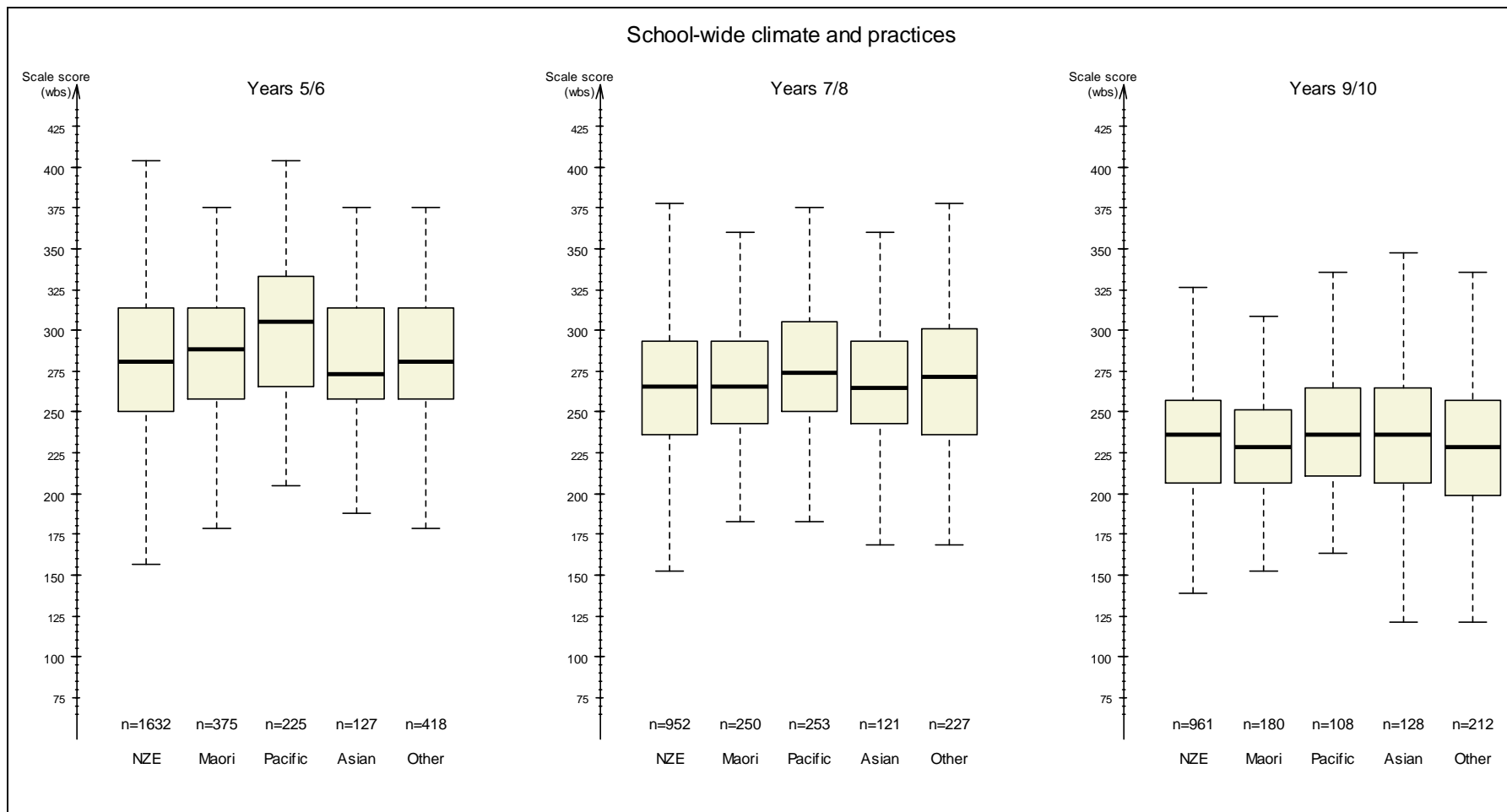

Aggressive student culture

Figure 3 shows the distribution of scores in the national sample for each aspect, by ethnic group. Scores are presented in year group bands: Years 5–6, Years 7–8, and Years 9–10. In some sub-groups the numbers are small, making inferences about similar demographic groups at a national level difficult. As data become available through the W@S website, a more detailed demographic analysis may be possible.

In general, Pacific students appear to perceive practices at school in a more positive light than their peers. This is especially apparent at the younger year levels. However, there is no consistent pattern across ethnicities for the aggressive student culture aspect.

Ethnic group was self-selected by the students who completed the trial survey. Students are represented under each ethnic group with which they have identified.
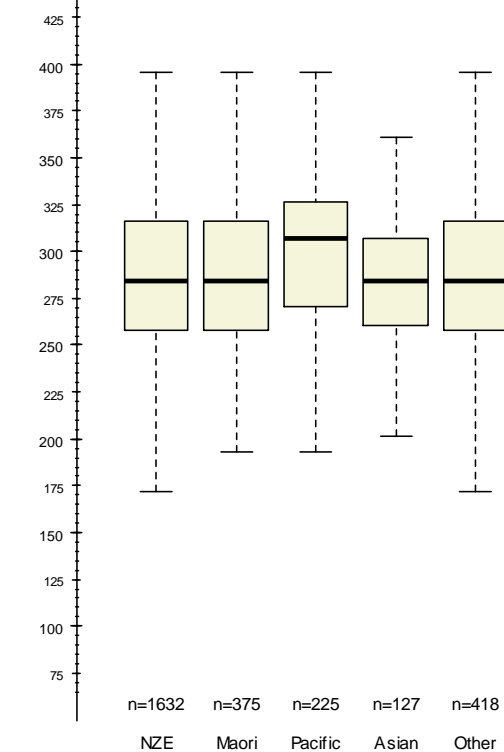
Figure 3 **The distribution of scale scores by aspect, year level and ethnicity**

Teaching and learning

Years 5/6

Scale score (wbs)

425
400
375
350
325
300
275
250
225
200
175
150
125
100
75

n=1632   n=375   n=225   n=127   n=418
NZE   Maori   Pacific Asian   Other

Years 7/8

Scale score (wbs)

425
400
375
350
325
300
275
250
225
200
175
150
125
100
75

n=952   n=250   n=253   n=121   n=227
NZE   Maori   Pacific Asian   Other

Years 9/10

Scale score (wbs)

425
400
375
350
325
300
275
250
225
200
175
150
125
100
75

n=961   n=180   n=108   n=128   n=212
NZE   Maori   Pacific Asian   Other
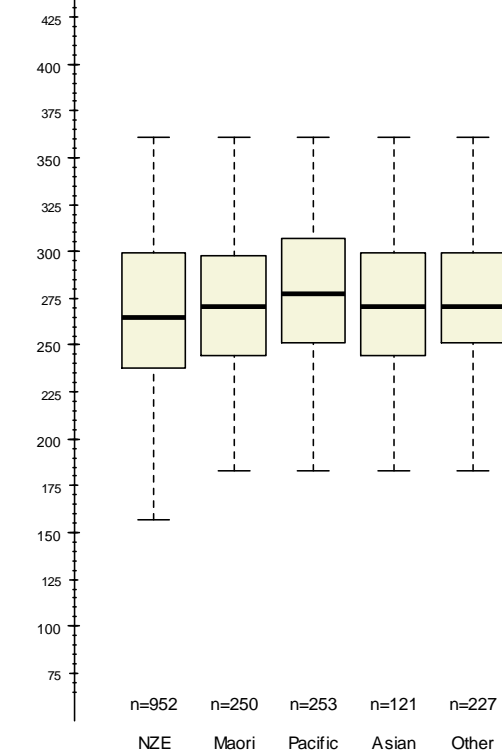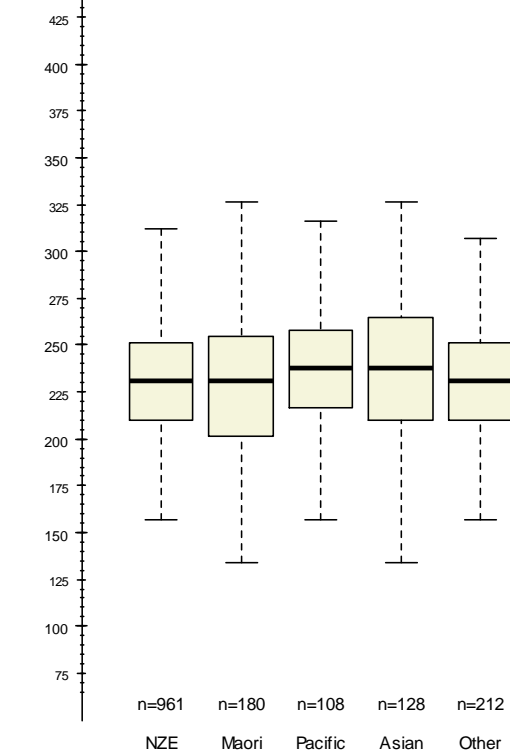
Community and partnerships
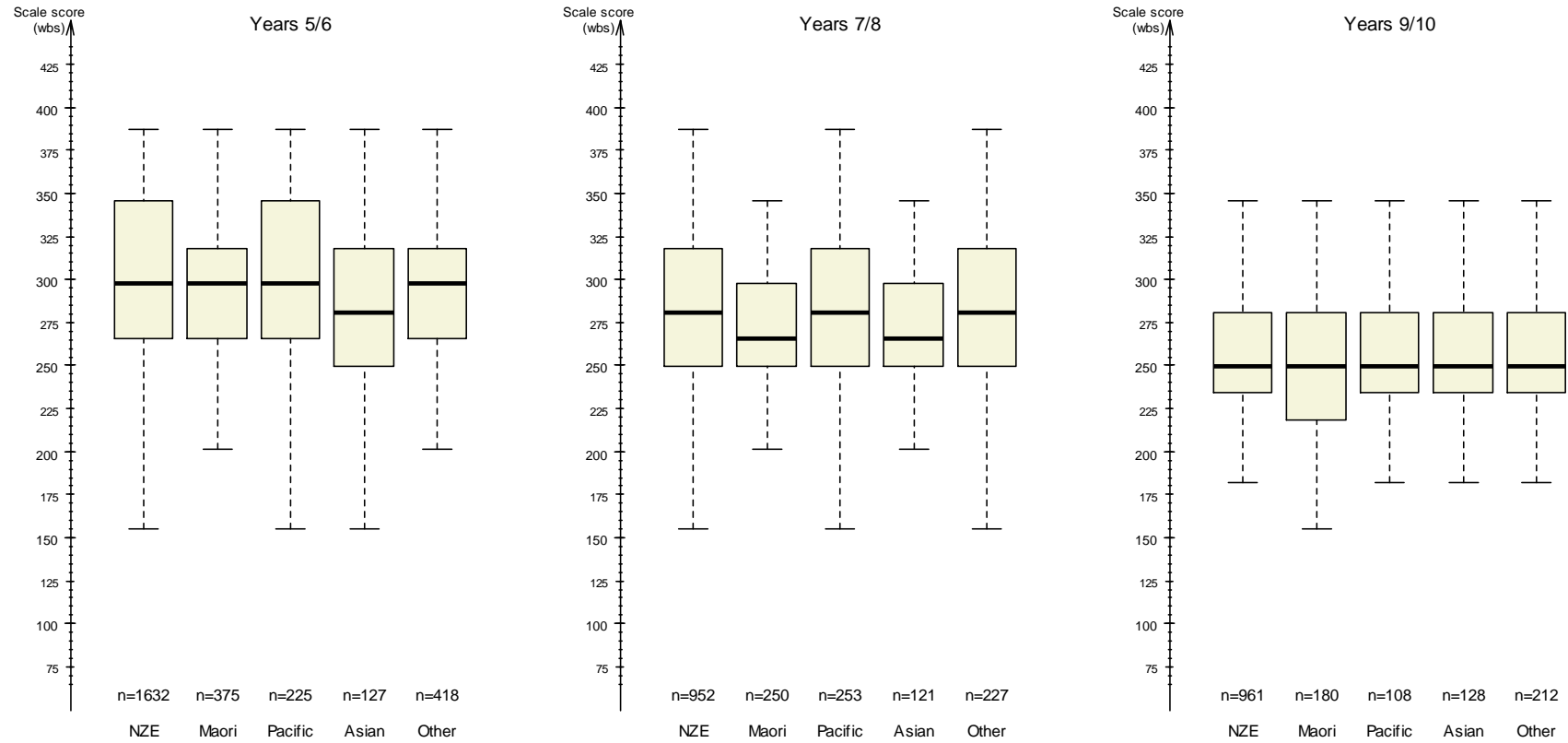
Years 5/6

Scale score (wbs)

n=1632	n=375	n=225	n=127	n=418
NZE	Maori	Pacific	Asian	Other

Years 7/8

Scale score (wbs)

n=952	n=250	n=253	n=121	n=227
NZE	Maori	Pacific	Asian	Other

Years 9/10

Scale score (wbs)

n=961	n=180	n=108	n=128	n=212
NZE	Maori	Pacific	Asian	Other

Pro-social student culture and strategies

Years 5/6

Scale score (wbs)

425				
400				
375				
350				
325				
300				
275				
250				
225				
200				
175				
150				
125				
100				
75				

n=1632	n=375	n=225	n=127	n=418
NZE	Maori	Pacific	Asian	Other

Years 7/8

Scale score (wbs)

n=952	n=250	n=253	n=121	n=227
NZE	Maori	Pacific	Asian	Other

Years 9/10

Scale score (wbs)

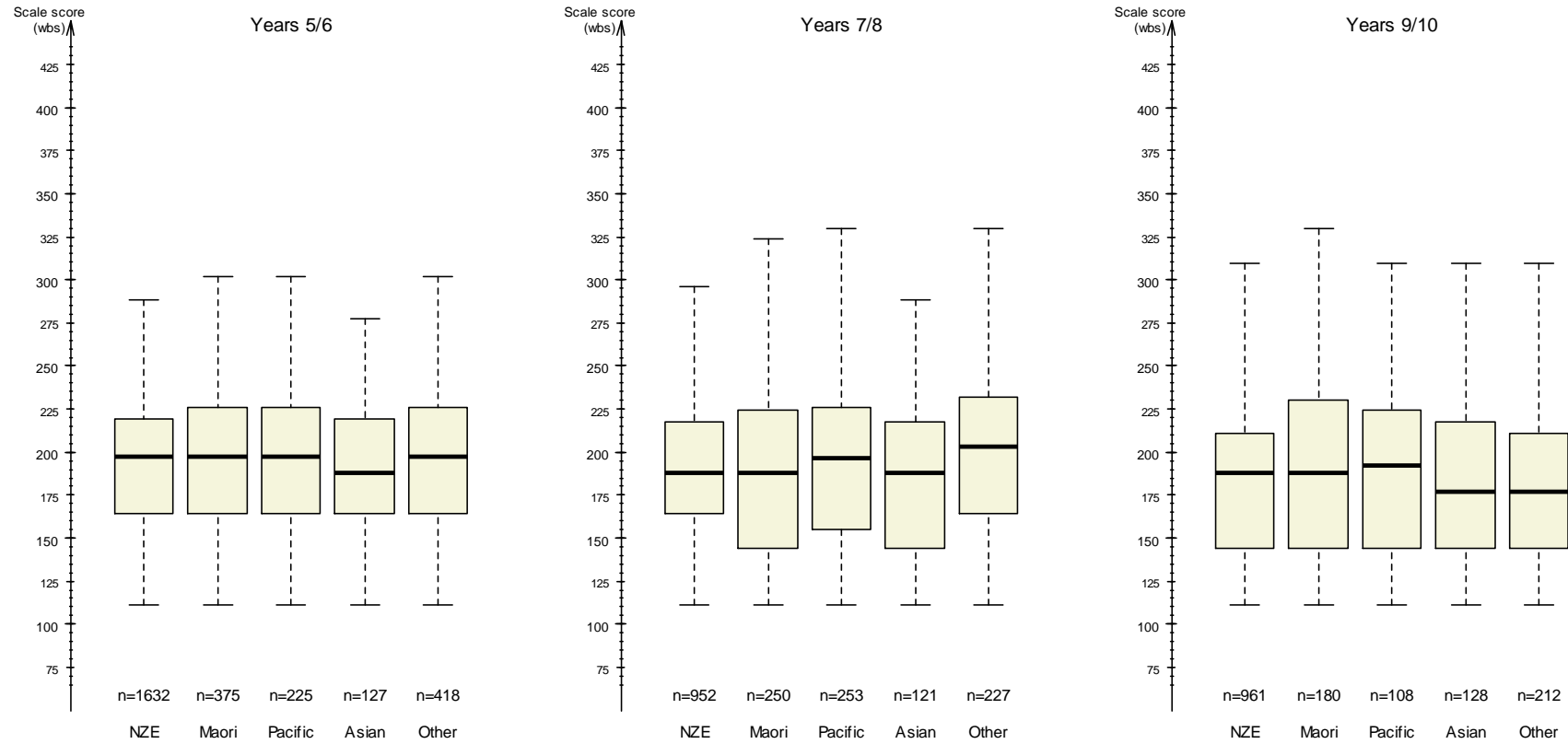| n=961	n=180	n=108	n=128	n=212
NZE	Maori	Pacific	Asian	Other
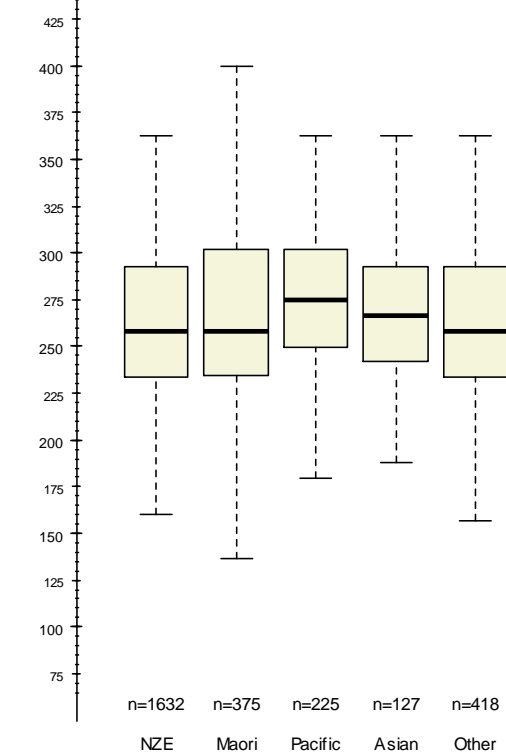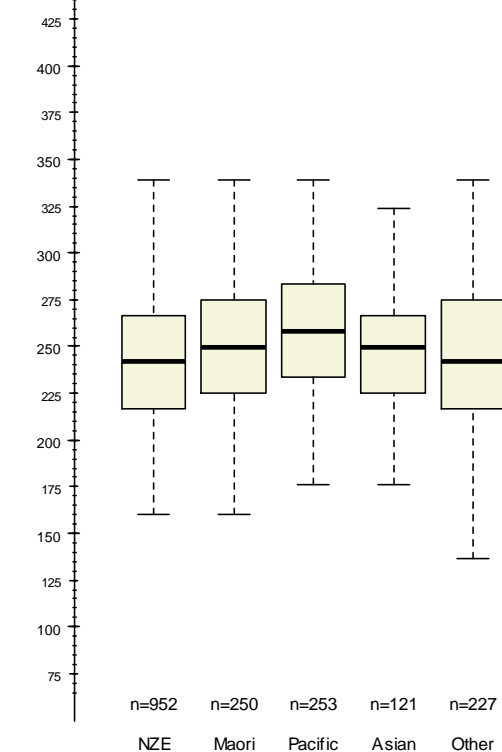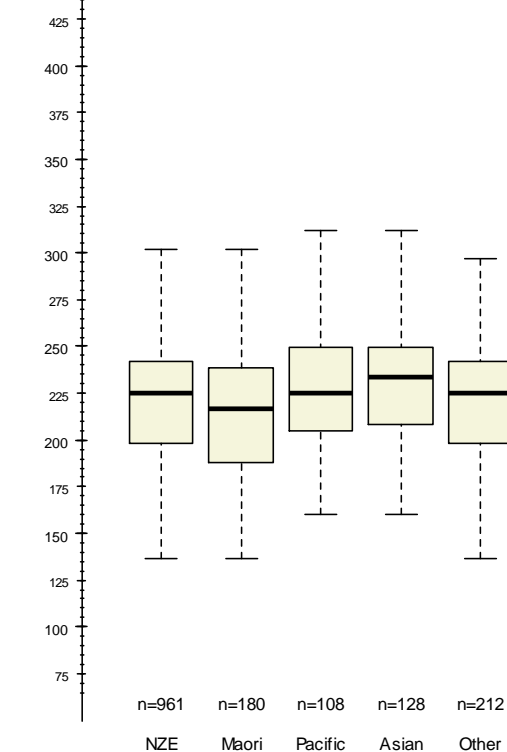
Aggressive student culture

8.4 Scale descriptions

The ability to associate the wording of each survey item with the threshold locations on the scale for their associated response categories (strongly disagree to strongly agree) makes it possible to provide scale descriptions. This has been done for the W@S Student Surveys and these are presented in Figure 24. In each of the diagrams, the descriptive sentences to the right of the scale describe the kinds of responses that are most probable for students whose survey scores are located at that part of the scale.

Reading the descriptions from bottom to top gives an idea of how attitudes and perceptions change as scale scores increase. In general, there is a detectable "tipping point" in the middle of the descriptions, where typical views begin to show a more positive (rather than negative) perception of school climate. For instance, in the scale description for school-wide climate and culture, the tipping point happens between about 200 *wbs* and 250 *wbs*. At 200 *wbs*, students are likely to be disagreeing that students adhere to schools rules, or that teachers are interested in their family's background or culture, but by 250 *wbs* students are typically reporting more positive pro-social behaviour among their peers, that teachers and students get on well, and that they feel accepted at school.

The scale descriptions can also be used in conjunction with the reports generated by the W@S website related to the different aspects (*Aspects at a Glance*, and *Aspects in Detail*). These reports show distributions of student scale scores by aspect, with box plots. Linking the distribution of scale scores shown by the box plots with the scale descriptions allows the survey results to be interpreted in terms of the typical responses students are making to survey questions.

Figure 4 **Scale descriptions**

School-wide climate and practices

wbs

400

375 — Students strongly agree that they have a say in what happens at school, and that teachers are interested in their culture or family background.

Students strongly agree that teachers ask for their ideas about how they can get on better with each other. There is a strong belief that students from different cultures get on well.

350 — Students have a strong sense of belonging and being accepted, and there is a strong belief that the school values are important. "Everyone" knows the school rules about behaviour, and everyone knows what to do if someone is being hurt or bullied.

Students strongly agree that the school buildings and grounds are looked after.

Students strongly agree that teachers and students care about each other, and that successes are celebrated at school.

325 — Students strongly agree that teachers get on well with students from different cultures, as well as being encouraged themselves to get on with students from different cultures.

Students strongly agree that they feel safe at school.

300 — Students agree that teachers are interested in their culture or family background

Students agree that they are consulted about what happens at school.

Students agree that teachers ask for their ideas about how students can get on better with each other.

275 — They agree that everyone knows the school rules about behaviour, and that everyone thinks the schools values are important.

Students strongly agree that behaviours like hitting or bullying are not OK at school.

They agree that students get on well with other students from different cultures, that everyone knows what to do if someone is being hurt or bullied, and that teachers and students care about each other.

250 — Students report a sense of belonging and acceptance for who they are. They report students' successes are celebrated at school.

There is agreement that the school buildings and grounds are looked after.

Students agree that they feel safe at school.

225 — There is agreement that teachers get on well with students from different cultures and backgrounds and that students are encouraged to get on with students from different cultures or backgrounds.

Students agree that behaviours like hitting or bullying are not OK at school.

200 — However, they disagree that teachers are interested in their culture or family background, or that they are asked for ideas about how to get on better with each other.

There is disagreement that everyone knows the school rules about behaviour.

Students do not feel that everyone believes the school values are important, nor that everyone knows what to do if someone is being hurt or bullied.

175 — Students do not feel they have a say in what happens at school, and they disagree that student successes are celebrated.

Students disagree that the school buildings and grounds are looked after.

150 — Students disagree that teachers and students care about each other, and disagree that students from different cultures get on with each other.

Students do not feel safe at school, and do not feel they belong or are accepted for who they are.

125 — Students disagree that they are encouraged to get on with students from different cultures or backgrounds, and also disagree that teachers get on well with students from different cultures and backgrounds.

100

Community partnerships

wbs

400 ⊣

375 ⊣
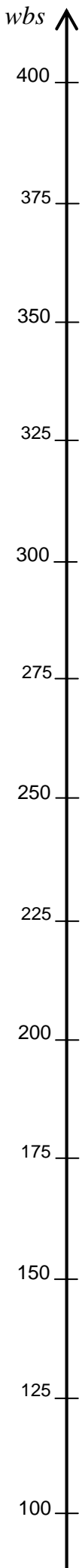
350 ⊣ Students strongly agree that their teachers and parents work together.

325 ⊣ Students strongly agree that their parents, family, and whānau feel welcome at school, and that there is mutual respect between parents and teachers.
Students strongly agree that they feel safe when going to and from school.
Students have a strong sense that people in their community get on together.

300 ⊣ Students strongly agree that they have a supportive adult outside school if they are upset.

275 ⊣ Students agree that teachers and parents work together.

250 ⊣ Students agree that their parents, family, and whānau feel welcome at school.
There is agreement that people get on with each other in their community, and that students feel safe going to and from school.
Students agree they have supportive access to an adult outside school if they are upset.

225 ⊣ Students agree that their parents and teachers respect each other.

200 ⊣ Students disagree that their teachers and parents work together.

175 ⊣ Students disagree that their parents, family, and whānau feel welcome at school.
Students disagree that people get on with each other in their community, and do not believe there is an adult outside school who they can go to if upset.
Students disagree that they feel safe going to and from school.

150 ⊣ Students disagree that their parents and teachers respect each other.

125 ⊣

100 ⊣

wbs

Teaching and learning

400

375

350

Students strongly agree that they are taught how to manage their own feelings, and think about others' feelings. They also strongly agree that are treated fairly by teachers, and that teachers care about how they feel.

325 — Students strongly agree that teachers make learning interesting and that they are taught what to say or do if they are being hassled or bullied by other students.

They also strongly agree that teachers provide consistent role models, and that teachers praise students for helping each other.

300 — Students strongly agree that they are taught that it's OK to be different from other students, and that they are taught what behaviours are OK and not OK.

Students strongly agree that teachers treat each other with respect, that teachers always take action if someone is being hit or bullied, and that teachers think that all students can do well.

275 — Students agree that they are taught how to manage their feelings. They also agree that teachers make learning interesting.

Students agree that teachers are consistent role models and treat students fairly. Students also agree that they are taught to think about other' feelings, and that teachers care about how they feel.

250 — Students agree that they are taught what to do if they are being hassled or bullied, that teachers will always take action if someone is being hit or bullied, and that teachers often praise students for helping each other.

225 — Students agree that they are taught it's OK to be different from other students, and they are taught what behaviours are, and are not, OK.

They also agree that teachers think all students can do well, and that teachers treat each other with respect.

Students disagree that teachers make learning interesting.

200 — Students disagree that they are taught to manage their feelings, or what to say or do if students are hassling or bullying them.

Students disagree that teachers provide good role models, treat students fairly, care about how students feel, or praise students for helping each other out.

175 — Students disagree that they are taught to think about others' feelings, or taught that it's OK to be different from other students. Students also disagree that teachers will always take action if someone is being hit or bullied, or think that all students can do well.

150 — Students disagree that teachers treat each other with respect.

125 — Students disagree that they are taught what behaviours are acceptable and what behaviours are not.

100 —

Pro-social student culture and strategies

wbs

400 —

375 —
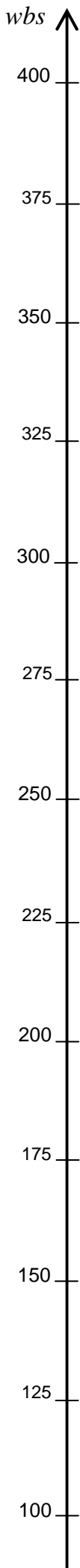
350 — Students strongly agree that they treat each other with respect, and are good at listening to each others' views and ideas.

325 — Students strongly agree that they include others who are being left out or ignored, and always stand up for others if someone is hassling them. They also strongly agree that they are able say how they feel if they need to, and treat other students with respect.

There is strong agreement that students know how to ask a teacher or other students for help if they are having a problem with another student.

300 — Students strongly agree that they can stand up for themselves in a calm way, and that if other students are hassling them, they know how to ignore them or walk away.

Students strongly agree that they look after new students at school.

275 — Students agree that they treat each other with respect, and agree that they include other students who are being left out or ignored.

250 — Students agree that they are good at listening to each others' views and ideas, and that they treat teachers with respect. They agree that they can say how they are feeling when they need to and can stand up for themselves in a calm way.

Students agree that they always stand up for others who are being hassled. If they are having a problem with another student, they agree that they feel they can ask for a teacher's help, and know how to ask other students for help.

225 — Students agree that if other students are hassling them they know how to ignore it or walk away. They also agree that they look after new students at school.

200 — There is disagreement that students always stand up for those who are being hassled, that students include others who are being left out, and that students treat each other with respect.

Students disagree that they can say how they are feeling when they need to, or that they feel they can ask a teacher for help if they are having a problem with another student.

175 — There is disagreement that students treat teachers with respect.

Students disagree that they are good at listening to each others' views and ideas.

Students disagree that if they have a problem with another student, they know how to ask other students for help, and they also disagree that they can stand up for themselves in a calm way.

150 — Students disagree that if other students are hassling them they know how to ignore them or walk away.

Students disagree that new students are looked after by others.

125 —

400 —

375 —

350 —

325 —
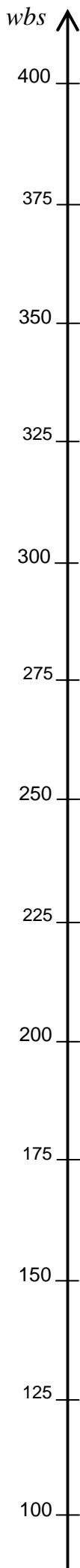
300 — Students report a high incidence (weekly or daily basis) of other students telling lies and/or spreading rumours about them. They also report instances of other students using cell phones or the internet to be mean or spread rumours about them.

Students report a high incidence of name calling and hurtful teasing. They also report (with varying degrees of frequency) that other students take or break their belongings.

275 — Students report that there are incidences of being called 'gay' as a put down, and being hassled or put down by other students because they learn in a different way or because they come from a particular culture or family background.

Students also report instances of sexual insults, and/or being touched in ways that make them feel uncomfortable.

Students report a high incidence of threats and force being used against them. They also report a high incidence of being hit, pushed or hurt on purpose.

250 — Students report a high incidence of other students leaving them out, or ignoring them on purpose.

Students often experience other students telling lies or spreading rumours about them.

Students also report that being bullied by other students is common.

Students report occasional instances of threats and force being used against them.

225 — Name calling, put downs, and malicious teasing are reported as common occurrences.

Other occasional aggressive behaviours experienced by students include being hit, pushed, or hurt on purpose; having lies and/or rumours spread about them; being bullied by other students; and being ignored or left out on purpose.

200 — Students report some instances (monthly) of being put down, called names, or teased.

They also report very occasional instances of lies and rumours being spread about them by other students.

175 — Students say they are never hit, pushed, or hurt on purpose, and are never bullied by other students.
Students report very occasional instances of name-calling and/or teasing.

150 — Students say they never experience being left out or ignored on purpose; nor do they experience other students telling lies or spreading rumours about them. They do not experience put downs, name calling or hurtful teasing.

125 —

100 —

PART C: The School Self-Review Tool

9   Introduction

The School Self-Review Tool (SSRT) is designed to provide a school leadership and teacher perspective regarding the extent to which a safe and caring climate is modelled through different aspects of school practice. The SSRT is designed to be completed by a school self-review team made up of school leaders and teachers. It is supported by a Teacher Survey containing a sub-set of the SSRT items. The Teacher Survey provides the self-review team with data from all teaching staff, which can then be used to complete the SSRT.

Unlike the Student Survey, the SSRT and associated teacher survey do not report results on a measurement scale.

10 Framing the SSRT

Table 13 shows the arrangement of items within the SSRT and the teacher survey.

Table 13 **The arrangement of items for the SSRT and teacher survey**

Main aspect	SSRT sub-aspects	Number of items (SSRT)	Number of items (teacher survey)	Type of scale*
School-wide climate and practices	Collaborative school	12	8	Agreement
	Caring school	7	7	Agreement
	Student leadership valued	10	10	Agreement
	Safe policies	9	9	Agreement
	Safe school	13	13	Agreement
	Social support for students	7	5	Agreement
	Respect for culture	7	7	Agreement
Teaching and learning	Caring teaching	11	11	Agreement
	Caring learning	14	14	Agreement
	Effective professional learning	8	8	Agreement
Community partnerships	Home-school partnerships	13	13	Agreement
	School-community connections	6	NA	Agreement
Pro-social student culture and strategies	Pro-social student culture	6	6	Agreement
	Students' social strategies	5	5	Agreement
Aggressive student culture	Aggressive student culture	12	12	Frequency
TOTAL		**140**	**128**	

* The scales used for the SSRT and teacher survey are the same as the student scales. The agreement scale categories are: strongly disagree; disagree; agree; strongly agree. The frequency scale categories are: never or hardly ever; 1 or 2 times a year; 1 or 2 times a month; 1 or 2 times a week; almost every day.

11 Analysis

Thirty-six of the schools involved in the national trial of the Student Survey tool also completed the SSRT process. Feedback from schools regarding the experience was generally positive. The SSRT national trial data were entered into a database and used to examine item performance. Discrimination indices were calculated and showed that items were performing appropriately. Because of the relatively low number of schools involved in the trial, national reference profiles have not been developed. This information will be made available at a later date once a large enough sample of schools have used the Wellbeing@School website to collect and store data.

12 Scoring the SSRT

Raw item scores are used to score and report results on the SSRT and teacher survey. Each item that makes use of an agreement scale is scored from 1 to 4, indicating strongly disagree, disagree, agree, and strongly agree, respectively. Negatively expressed statements are reverse scored. The items from the aggressive student culture aspect use a five-point frequency scale ranging from "never/hardly ever", which is scored as 1, to "almost every day", which is scored as 5. For this aspect, low scores indicate a lower frequency of aggressive behaviours and high scores indicate a high frequency.

PART D: Concluding comments

This manual outlines how the Wellbeing@School Student Survey is the product of an extensive process of development, trialling and psychometric analysis. The SSRT is the product of a similar development process.

As the Wellbeing@School database grows over time, more data will be available to supplement the national reference sample. As a result we will be able to produce refined reference data for the Student Survey. We will also be able to explore the properties of the SSRT and teacher survey with a view to developing some form of national reference profiles for these tools.

References

Boyd, S. (2010). *Creating a safe school climate that promotes caring and deters bullying: Tool development paper.* Unpublished report for NZCER, Wellington.

Boyd, S. (2011). *Wellbeing@School: Building a safe and caring school climate that deters bullying: Overview paper.* Wellington: NZCER.

Boyd, S., & Barwick, H. (2011). *Wellbeing at School: Building a safe and caring school climate that deters bullying.* Wellington: Crown Copyright.

Masters, G. (1982). A Rasch model for partial credit scoring. *Psychometrika*, *42*(2), 149–174.

Rasch, G. (1980). *Probabilistic models for some intelligence and attainment tests (revised).* Chicago, IL: University of Chicago Press. [Original work published in 1960.]

Willis, G. (2005). *Cognitive interviewing: A tool for improving questionnaire design.* Thousand Oaks, CA: Sage Publications.