

Stress and wellbeing among New Zealand principals

Report to the New Zealand Principals' Federation

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Summary

This report for the NZ Principals' Federation focuses on stress among New Zealand principals in state and state-integrated schools, and the factors associated with it. It uses their mid-2005 *Principals' Hauora-Wellbeing* electronic survey. The response rate for the survey was 61 percent of all New Zealand principals in these schools (n=1,523). Responses were representative of the national profile of schools in terms of socioeconomic decile and location. Primary principals were over-represented, and secondary principals, those of U7 and above schools, and kura kaupapa Māori principals, under-represented.

Forty percent of the respondents described their current stress level as high or extremely high. Stress levels were higher for principals who were women or Māori or not NZ European. There were no marked differences related to school characteristics. Stress levels were associated with many aspects of wellbeing and health, and with aspects of the role and workload of principals.

While principals appeared healthier on the whole than the general population (using age-weighted comparisons), with fewer risk behaviours, they exercised less. Less than a third followed the guidelines for good health in terms of physical activity of having at least three 30-minute periods of fitness activity a week. Just over half thought they would have difficulty running the length of a football field.

Lack of time may be the main reason why principals do not get enough exercise. Ninety percent worked 50 hours or more a week, and 42 percent worked 60 hours or more. Just under half experienced constant tiredness, and half reported problems with sleep.

Many principals experience some frustration, impatience or anger. However, 70 percent were optimistic about their life and job as a school principal. Most thought that their staff and board of trustees valued the work they did as a principal.

Notwithstanding long hours and stress from their role, the majority of principals do get great satisfaction from their work. Thirty-six percent strongly agreed with the statement *Your job gives you great satisfaction*, and 49 percent agreed with it. Ten percent felt neutral about this statement, and only 4 percent disagreed with it.

The main stressors for principals stemmed from balancing the teaching and managing aspects of their role, paperwork, and workload. Most principals thought they spent more time on management rather than leadership. These role-related pressures were felt more keenly by principals in small or rural schools.

The lack of time to focus on teaching and learning, and Ministry of Education initiatives, paperwork and other system demands were identified as having a high impact for over half the principals.

The next set of stressors for many principals included resourcing needs and ERO reviews, which had high impact for around 40 percent of the principals.

Principals of small schools, and rural schools, and also those whose rolls were fluctuating or declining, and to a lesser extent those of low socioeconomic decile schools, were more likely to find aspects of their role stressful.

However, most of the variance in principals' well-being can be accounted for by workload and role balance, not school or individual characteristics. Other main contributing factors to well-being were support from education sector organisations and government agencies, stressors from parents, stressors from staff, the principal's fitness level, and their participation in principal networks.

1. Introduction

The New Zealand Principals' Federation (NZPF) designed and hosted an on-line survey, the *Principals' Hauora-Wellbeing Survey*, and sent emailed invitations to participate to principals of all state and state-integrated schools in New Zealand in mid 2005. Some of the overall findings were then publically released. NZCER was asked to undertake further analysis with a focus on stress and the factors associated with it. The comprehensive nature of the survey meant that this analysis could include overall health status and perceptions of workload and work environment, as well as personal and school characteristics.

We start the report with an outline of the relationship between personal and school characteristics (e.g. whether more experienced principals were more likely to be found in urban schools), and an outline of stress levels in relation to personal, school, and other characteristics, and an outline of the sources of stress identified by principals. Next, we look at the relations between stress and health, and make some comparisons between the principals' health and physical activity levels, and the general population. Then we look more closely at the sources of stress, and see whether these varied according to personal or school characteristics, and overall stress and health levels. Next, we look at support and networking. Finally, we compare the relative importance of the variables that contribute most markedly to the well-being of principals, to gain understanding of what can be done to support their well-being, and ameliorate stress.

Approach to the data analysis

There were 1,523 responses that were sufficiently complete for use in the data analysis. This is a response rate of 61 percent. Primary principals are over-represented in the survey responses (92 percent c.f. 81 percent on the 2004 Ministry of Education school statistics), with under-representation from secondary principals (4 percent c.f. 13 percent), and correspondingly, U7 size schools and above (5 percent c.f. 10 percent), and kura kaupapa Māori principals (1 percent c.f. 3 percent). The responses are representative in terms of socioeconomic decile, and appear to be representative in terms of location.¹

The analysis of the relationships between stress and other factors that is reported in sections 2–5 this report is based mainly on chi-square tests of association.

¹ The categories used in the NZPF survey differ somewhat from those used in the Ministry of Education schools database.

There were strong inter-relationships between the health variables, including stress, and between the variables measuring various aspects of the principal's role. In the final section, we model the relationship between well-being and these different aspects so that we can compare them in terms of their influence on well-being. More detail is given on the chi square tests and this model in the Appendix.

Personal & school characteristics of principals responding to the survey

In this section, we focus on the relationship between personal and school characteristics, that is, what differences were there in the type of individual principal working in the different types of school?

Gender

Overall, 45 percent of the respondents were female. Smaller (U1 and U2) schools were more likely to have female principals (64 percent were female), while all larger schools were more likely to have male principals (72 percent of U7 and above principals were male, for example). Principals of schools in provincial cities or large rural towns were more likely to be male (65 percent), and those in the rural areas to be female (53 percent).

Secondary schools were more likely to have male principals (72 percent were male), and kura were more likely to have female principals (73 percent were female). Just over half the principals of other schools were male.

Male principals were more likely to be at schools with a stable roll (61 percent of principals at these schools were male), and female principals were more likely to be at schools where the roll fluctuated (62 percent).²

Ethnicity

Most principals responding were NZ European (88 percent). Eight percent of the respondents gave their ethnicity as Māori. Just less than one percent reported they were Pacific peoples, and 4 percent noted other ethnicities. We report on the Māori principals separately, and report all Pacific peoples and those of other ethnicities as "Other". Māori principals were more likely to work in smaller schools, those with low decile, and those in rural areas. Eighty-six percent of Māori principals worked in U1–U4 schools, particularly in area schools and kura. Sixty-eight percent of Māori principals worked in decile 1–4 schools, and 62 percent worked in small towns, or rural areas.

² Overall, 31 percent of the principals responding said their school roll over the last two years had been stable, 22 percent that it had declined, 34 percent that it had risen, and 13 percent that it had fluctuated.

Age

Most of the respondents were between 45 and 64 years old, and all were over 25; 22 percent were under 45, and one percent were over 65. Younger principals tended to work in smaller U1–U2 schools (33 percent of the principals were under 45), and older principals tended to work in larger schools (88 percent of U5 and above principals were 45 years or older); and correspondingly older principals tended to be over-represented in city schools (83 percent of those working in large or provincial city schools were 45 years or older), and younger principals in rural schools (29 percent of principals of schools in small rural towns and areas were less than 45 years old). Age however made less of a difference than gender and ethnicity in terms of the distribution of principals.

Experience

Most of the respondents had been a principal for at least five years. Thirteen percent had been a principal for under five years, a fifth had between two and five years' experience, just over a half had between 5 and 20 years' experience, and 15 percent had been a principal for more than 20 years. The distribution of more and less experienced principals is similar to that of younger and older principals: over 40 percent of those with under five years' experience worked in U1 or U2 schools while over half of those with 20 years or more experience worked in U5 or larger schools. Principals with more than 20 years experience were more likely to be in primary schools (96 percent of principals with 20 or more years' experience worked in primary schools, compared with 87 percent of those with under 5 years' experience), while those with less experience were more likely to be in secondary schools, area schools, or kura. Longer experienced principals were more likely to be in city schools (52 percent of those with more than 20 years' experience were in schools in large or provincial cities), those with less experience to be in a rural school (46 percent of those with under 2 years' experience were in rural schools).

Twenty-seven percent of the principals have been involved in the First Time Principals' programme. This is a voluntary programme funded by the Ministry of Education for first-time principals that has been available since 2002.³

Qualifications

Principals with teaching certificates or diplomas were more likely to be in smaller, often rural, and mainly primary schools; those with post-graduate qualifications to be in larger, city, mainly secondary schools.

³ More information about this programme is available on www.firstprincipals.ac.nz. The 2003 programme evaluation (Cameron, Lovett, Baker & Waiti 2004) analyses the gains from this programme in terms of school leadership, and provides useful description of the diversity of previous experience of first time principals; about a third of the evaluation sample "had been appointed to principals' positions without the background to begin their work with confidence" (p. xi).

Sixteen percent of principals reported that they were doing further study.

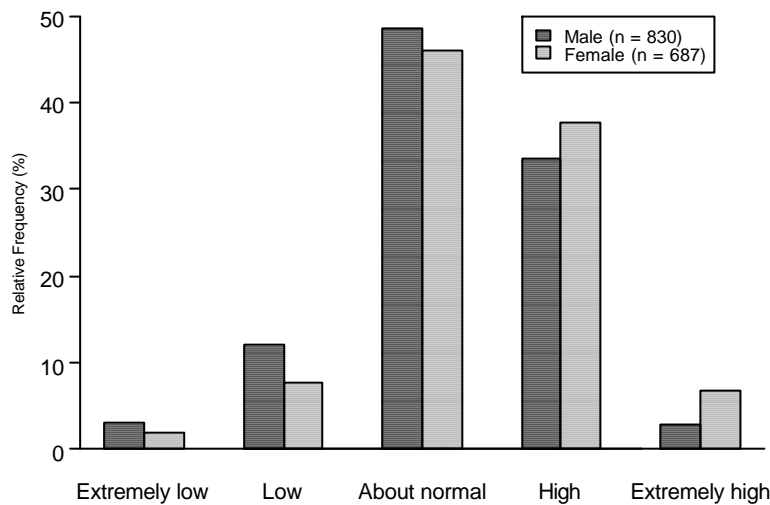
Families

Most principals were married or lived in a permanent relationship (85 percent): and 35 percent of these were also teachers (including 5 percent who were also principals themselves). Eight percent of the principals' partners also worked in schools, though they were not teachers. Thus education was a live part of the home life for a substantial minority of principals. Forty-six percent of the principals also had dependents (both those aged under 20 and elderly) living with them.

2. Stress patterns

Overall, 40 percent of the principals said their stress level over the previous week had been high or extremely high.⁴ Male respondents were less likely to report being stressed – that is, having a high or extremely high stress level (36 percent) than females (44 percent).

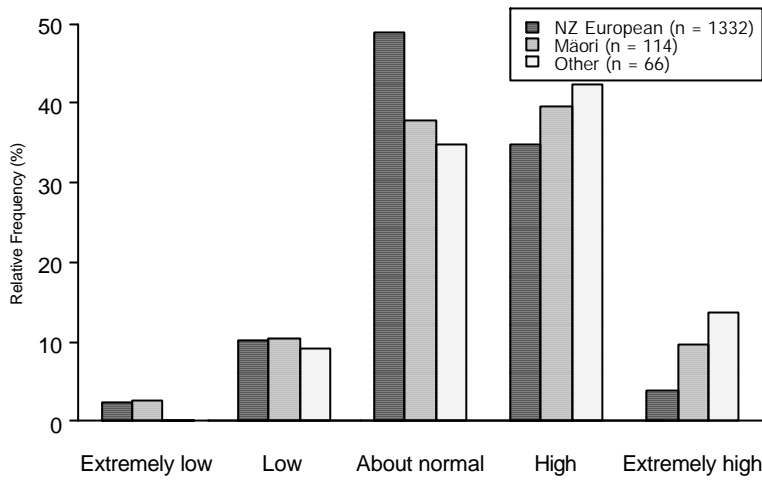
Figure 1 Stress levels reported by respondents in the previous week, by gender



Māori and other ethnicities were more likely to report being stressed (49 and 56 percent, respectively) than NZ Europeans (38 percent).

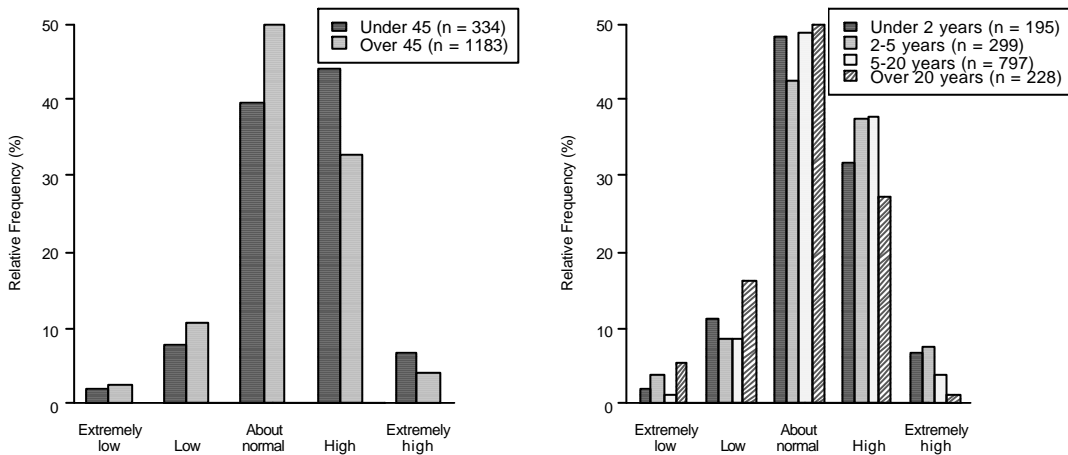
⁴ The large Bristol *Stress and Health at Work* study found around 20 percent of their sample reported high or extremely high levels of stress at work. Teachers (presumably including principals), nurses, and managers had the greatest proportion of high stress among occupations (Smith, Brice, Collins, Matthews & McNamara 2000) A 2000 study of New Zealand GPs found a self-reported level of stress of over 50 percent (Dowell, Coster & Maffey 2002). This was related to 'increasing burdens of administration and paperwork' (as well as erosion of income, which does not apply to principals). As with principals, GPs also showed satisfaction with their job overall.

Figure 2 Stress levels reported by respondents in the previous week, by ethnicity



Younger respondents, aged under 45 years, were more likely to report being stressed (51 percent), see Figure 3 below. Thirty-eight percent of those who had been a principal for less than two years reported being stressed, as did 45 percent of those who had between 2 and 5 years' experience, 41 percent of those with 5 and 20 years' experience, and 29 percent of those who had more than 20 years' experience.

Figure 3 Stress levels reported by respondents in the previous week, by age (on the left) and length of experience (on the right)



There were no marked differences in reported stress level by school size, type, decile, or location. It was also largely unrelated to changes in school roll, though 22 percent of those who reported their stress levels as extremely high had fluctuating rolls, compared with 13 percent overall.

Stress was associated with many health and wellbeing variables. Those who reported high or extremely high levels of stress were more likely than others to have poor general health, have trouble sleeping, to be tired, depressed, easily angered, to have experienced a measure of frustration in their job, to be relatively unhappy, to have felt impatient, to seldom feel optimistic, to have felt tense, to be over- or under-weight, to use antacids more than once a week, to take medication for tiredness, sleep problems, headaches, other pain, skin conditions, depression, sleep problems, anxiety, to be taking two or more of the listed medications, to not exercise, to be unfit (have difficulty running the length of a football field), to hardly ever get exercise (those who reported themselves less stressed were more likely to ensure that they always exercised several times a week), and to not have quality socializing outside of the work environment.

Not associated with stress were: the number of days at home because of health in the last month; cigarette use; the quantity of alcohol consumed; medication for cholesterol control, menopause, arthritis, heart conditions, blood pressure control, diabetes, osteoporosis, weight loss, or other conditions; highest tertiary qualification; living arrangements; the *number* of dependents in the household, and the number of domestic and support activities of the 15 listed⁵ that they took part in that week.

High or extremely high stress levels were also associated with job satisfaction (the greater the stress, the less the satisfaction), a poor outcome of the school's last ERO review, greater concern about the possibility of being involved in a Network review, a poor relationship with the Board of Trustees, dealing more often with students with behavioural problems, having been part of the First Time Principals Programme (probably more to do with their length of experience than the programme itself), levels of stress in relation to the 25 sources of stress which are discussed further below, having a high percentage of their work orientated to management rather than leadership, working longer hours, perceiving that they had so much work to do they never seemed to get on top of it, having their work as a principal not valued by the staff, or not valued by the Board and community, not networking with other principals, and feeling poorly supported by the NZPF, NZ School Trustees' Association, or the Ministry of Education.

Sources of stress

The principals were asked to select which of 25 aspects of the job caused them the highest level of stress in their job⁶, and then to rate all of these aspects separately on a one to six scale for their

⁵ These were: preparing a meal, grocery shopping, laundry, ironing, paying bills, fixing things around the home, cleaning the home, working outside around the home, car maintenance/cleaning, planning family life activities, getting children ready for bed, taking children/spouse to the doctor, spending quality time with children, spending quality time with partner/spouse, spending quality time for self.

⁶ The survey did not ask principals to identify any causes of stress in their personal lives.

impact for them as a source of stress, with one being breaking point and six being no impact at all. The first question gives some sense of what loomed largest for principals at the time they answered the survey; the second compares different sources of stress.

Forty-two percent of the principals found the range of their job, or work without a direct association with teaching, to be the sources of stress that stood out most for them. These are the first three items in Table 1.

Table 1 **Source of principals' highest stress levels**

Source of stress	Percentage of respondents (<i>n</i> = 1520)
Multi-tasking nature of the job	17
Ministry initiatives, paperwork and other system demands	13
Lack of time to focus on teaching and learning	12
Behavioural/violence problem pupils	8
Staff competency	7
Resourcing needs	6
ERO reviews	5
Interpersonal conflicts at school	5
Staff resistance to change	4
Aggressive behaviour from parents	4
Compliances	3

The sources of stress that were mentioned by under three percent of the principals as their single highest cause of stress, in decreasing order, were: employment issues in relation to staff, parental expectations, poorly performing senior management, Board of Trustees involvement in management of school, Board of Trustees competence, critical incidents, lack of ICT support, complaints management, finding competent relievers, network review, employment issues in relation to the principal and Board, occupational and safety regulations, child protection issues, and low teacher/staff morale. We shall see that these could still get high ratings in terms of their impact on principals.

There were some differences associated with school and personal characteristics. These largely reflect the distribution of principals: more younger, female, and with less experience in smaller and rural schools, who were more likely to be teaching principals, and experience more difficulty with the width of their role.

A quarter of U1 or U2 school principals, the teaching principals, singled out the multi-tasking nature of the job and a lack of time to focus on teaching and learning (15 percent). More U3–U6 school principals mentioned resourcing needs (9 percent), and U7 and above school principals, ERO reviews (9 percent).

Rural school principals were also more likely to single out the multi-tasking nature of the job, lack of time to focus on teaching and learning (15 percent), and Ministry initiatives & paperwork etc. Town school principals were more likely to mention staff competency (13 percent), resourcing needs (8 percent), but were less likely to mention the multi-tasking nature of the job (14 percent) or Ministry initiatives & paperwork etc (9 percent).

Decile 1–2 school principals mentioned staff competency (11 percent); decile 9–10 school principals put more weight on parental expectations (7 percent), and 22 percent said the multitasking nature of the job was most stressful.

Women were slightly more likely than men to rate lack of time to focus on teaching and learning (15 percent) as their highest source of stress.

Younger principals (aged 25–44 years) were more likely to mention staff competency (11 percent), but less likely to mention Ministry initiatives, paperwork and other system demands (9 percent).

Similarly, principals with under two years' experience mentioned lack of time to focus on teaching and learning more, and Ministry initiatives, paperwork and other system demands less (15 and 9 percent, respectively). They also made less mention of behavioural/violence problem pupils (5 percent). Those with over 20 years' experience were more likely to mention Ministry initiatives, paperwork and other system demands (19 percent), or ERO reviews (9 percent).

Those who reported low or very low levels of stress were more likely to mention Ministry initiatives, paperwork and other system demands (18 percent), or interpersonal conflicts at school (8 percent).

Impact of sources of stress

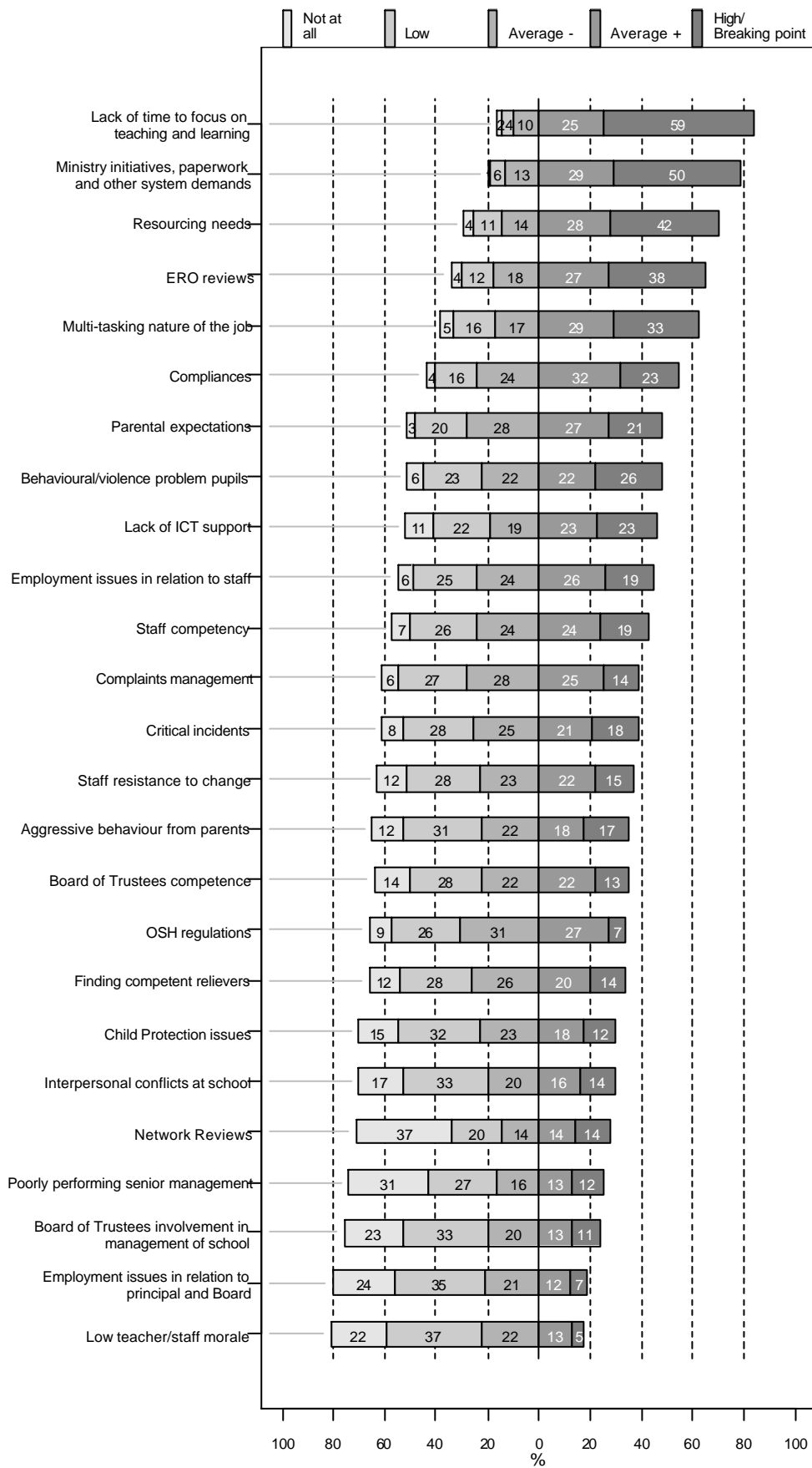
Figure 1 shows the extent to which principals thought these individual sources of stress impacted on them. The 25 sources fall into a number of groups.

Two sources of stress had higher than average impact for most of the principals: lack of time to focus on teaching and learning, and Ministry of Education initiatives, paperwork and other system demands. These stem from the very nature of the principal's role in self-managing schools, which has more of a management weight than previously, and the positioning of individual schools in relation to national systems. The next group also relate to that role, including accountability for public money. They include resourcing needs, ERO reviews, the multi-tasking nature of the job, and compliances. They were identified as having above average impact for between 55 to 70 percent of the principals.

The next group of sources of stress were more related to individual school communities and handling individuals. They included parental expectations, behavioural/violence problem pupils, staff employment issues, and staff competency, and were rated as having more than average impact on principals by between 39 to 48 percent. The other issues had average or more impact

for between 18 to 37 percent of the principals, with low teacher/staff morale and employment issues between principal and Board having the least impact in terms of stress.

Figure 4 Impact of sources of stress



The inter-relationships between measures of stress and other variables are discussed in detail in the sections that follow: the inter-relationships with other health variables in section 3, *Health*, and those with variables to do with work in section 4, *Workload, role, and relationships*. Section 5 looks at sources of support and networking. Section 6 builds on the detailed picture developed through sections 3-5 to see which aspects are most important in understanding what matters in terms of principals' well-being.

3. Health

The NZPF survey asked many questions about the physical and mental health of the respondents, associated risk and protective factors, as well as their happiness and stress levels.

We have several measures of the principals' physical health: a summary statement of their state of health, their level of fitness, their amount of physical activity and the regularity of it; their level of tiredness; time off work because of health; being overweight; use of tobacco, coffee or alcohol; self-medication for indigestion, tiredness, or pain; medication for cholesterol control, menopause, skin conditions, arthritis, heart conditions, blood pressure control, diabetes, osteoporosis, or weight loss.

We also have several measures of their mental health: their ability to sleep well; their emotional state; feelings of anger; frustration; happiness; impatience; optimism; tension; self-medication for sleep problems or headache; medication for depression or anxiety; and overall stress level.

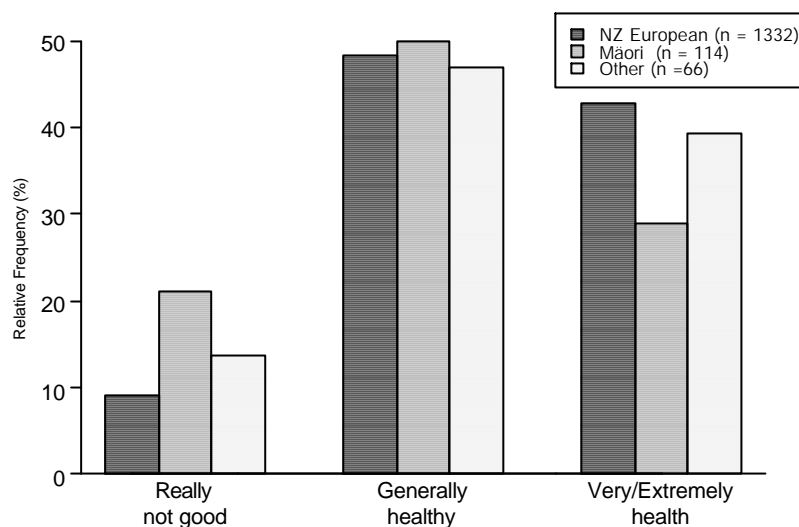
We have some measures of their "social health": how often they had quality socializing time with others in a non-work-related situation; their living arrangements; their personal relationships; whether they had dependents and how many.

We look first at their general state of health, then at experiences of tiredness, exercise, and socializing time.

Health

Principals were generally in good health. Only 10 percent said their present state of health was really not good. The percentages for males and females giving these responses were approximately equal. Māori were twice as likely to describe their state of health as "Really not good" (21 percent) as NZ Europeans (9 percent). Age was not significantly related to the respondents' general state of health, nor was health significantly related to the length of time as a principal.

Figure 5 Self-reported health status of respondents, by ethnicity



There were associations between health and type of school. Principals of area schools were most likely to rate their health as really not good (22 percent), as did 20 percent of kura principals. Secondary principals were most likely to say they were very or exceptionally healthy (50 percent, c.f. 40 percent of primary principals and 27 percent of kura principals). There were linear trends showing that health status tended to be better in larger schools (increasing from 37 percent of U1-U2 principals saying they were very or exceptionally healthy, to 55 percent of those in U7 + schools).

Seventy-six percent of the principals responding had had no time away from school because of illness in the last (winter) month. Time at home for illness was generally short: 10 percent had been at home for illness for one day, and 6 percent for two days.

Happiness

Sixty-two percent of the principals said they were generally happy with their job and life (5 percent totally, and 57 percent, generally most of the time). Thirty-two percent rated their happiness at “about a 50/50 call”. Only 5 percent were unhappy more than they were happy, and less than 1 percent were totally unhappy.

Happiness was not associated with gender, ethnic or age group, nor the length of experience as a principal. Principals of U1 or U2 schools were less likely to report being happy (55 percent), compared with principals of U7 and above schools (75 percent: the percentages for U3 or U4 schools and U4 or U5 schools were 61 and 68, respectively), and correspondingly principals of rural schools were less likely to be happy (55 percent) than those in town or city schools (both 65 percent).

Emotions

Many principals experienced some frustration, impatience, or anger over the previous week: 51 percent reported frustration at '50/50' or more, 30 percent impatience at '50/50' or more, and 68 percent, one or more experiences of anger. Thirty-two percent said they felt quite tense or very tense over the past week. Just under half (48 percent) said they were reasonably happy but quite worried at times, and 8 percent were quite worried most of the time, and 2 percent were depressed. However, 70 percent were optimistic about their life and job as a school principal.

Tiredness

Seventeen percent of the respondents reported that they were absolutely worn out or had a constant feeling of tiredness that affected their performance during the previous week. A further 29 percent said they were constantly tired, but that this had not affected their performance. Fifty percent said they had no problems with tiredness, though they had some level of it, and 5 percent had no experiences of tiredness over the previous week.

Twenty-two percent of the principals from U1 or U2 schools, the teaching principals, reported their performance was affected by tiredness, compared with 13 percent of those from U5 or U6 schools; tiredness did rise again in the largest schools (19 percent for principals of U7 or above schools). Given the relationship between size and location of schools, there was also an association between tiredness and location, with principals of city schools more likely report no problems with tiredness (57 percent) than those of town or rural schools (53 and 50 percent, respectively).

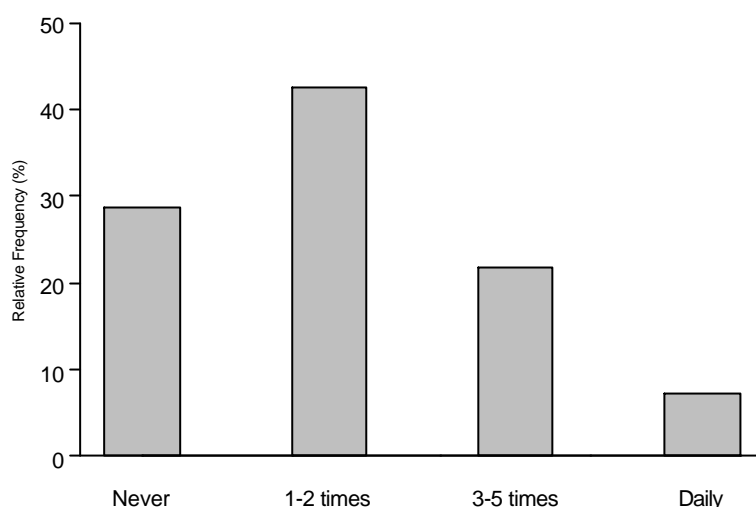
Physical activity and fitness

The respondents' reported levels of physical activity, and intended levels of physical activity were associated with their reported levels of fitness.

Physical activity

Most of the principals were not following the current guidelines for physical activity, which usually recommend at least 30 minutes of fitness activity 3-5 times a week. The next figure combines principals' answers to a question of how often they had exercised for at least 30 minutes in the past week, with answers to a question about how often they had exercised in a gym for at least 30 minutes over that time. Only 31 percent got at least 30 minutes of fitness activity in the past week.

Figure 6 **Regularity of exercise for at least 30 minutes at a time; combined results for going to a gym and exercising independently**



School size and decile were largely unrelated to whether principals took regular exercise. Principals of isolated rural schools were more likely to say they had never exercised in the past week (45 percent, compared with 30 percent overall), as were those of schools whose roll had fluctuated in the last two years (38 percent, compared with 28 percent of those whose roll had risen).

Women were somewhat more likely to say they had taken no exercise in the last week (35 percent compared with 27 percent of men), as were Māori principals (47 percent). Principals with less than two years experience were also more likely to take no exercise in comparison to those who had served 20 or more years (36 percent compared with 21 percent).

Regular exercise was associated with:

- general health levels (58 percent of those who said their health was really not good never exercised compared with around 20 percent of those who were very or exceptionally healthy);
- Stress levels (55 percent of those with extremely high stress levels said they never exercised, decreasing to 21 percent of those with extremely low stress levels);
- Difficulty running the length of a football field (60 percent of those who said they would have a lot of difficulty never exercised, as did 37 percent of those who said they would have some difficulty, and 16 percent of those who said they would no have difficulty);
- There were similar trends of association with getting regular exercise and levels of tiredness, and general happiness.
- Those who did less than 5 of the 15 domestic and support activities asked about were also more likely to take no exercise (40 percent, compared with 22 percent of those who did between 11 to 15).

Only 16 percent said they made time to exercise several times a week, no matter what. Another 33 percent said they tried to exercise several times a week, but sometimes missed it, and 37 percent said they got some exercise from time to time, but not on a regular schedule. Fourteen percent said they hardly ever exercised.

How often the respondents tried to exercise was not associated with age. Males were more likely than females to always exercise several times a week (18 percent c.f. 12 percent).

Fitness

Forty-nine percent of the principals thought they would have no difficulty running the length of a football field. Thirty-four percent thought they would have some difficulty, and 16 percent, a lot of difficulty doing this.

A pattern similar to that of general health shows for fitness. It was associated with school size, type, and roll changes.

- 20 percent of principals from U1 or U2 schools would have a lot of difficulty and 45 percent would have none, compared with seven percent of U7 and above principals who would have a lot of difficulty and 61 percent who would have none (reported levels of fitness increased with increase in school size);
- 35 percent of area school principals would have a lot of difficulty and 39 percent would have none, 10 percent of secondary principals would have a lot of difficulty and 48 percent would have none, and 33 percent of those from kura would have a lot of difficulty and 27 percent would have none; and
- 13 percent of principals from schools with a stable roll would have a lot of difficulty, compared with 27 percent of those from schools with a fluctuating roll.
- Around two thirds of male principals felt they would have no difficulty running the length of the football field, compared with only a third of the females.
- Fifteen percent of NZ European principals felt they would have a lot of difficulty, compared with 32 percent of Māori principals, and 26 percent of those from other ethnicities.
- Sixty-two percent of principals aged under 45 years felt they would have no difficulty, but only 46 percent of those over 45 years felt this.

A social life

A third of the respondents reported that in the previous week they had not had any quality socializing time with other people in a non-work-related situation. Sixty-four percent had had a few occasions of such time, and three percent reported that they had a lot.

Those in smaller U1 or U2 schools had no quality socializing time (41 percent had none), compared with those in bigger schools 26 percent of those in U5 or above schools); and associated with school size is location, as 37 percent of those in town or rural schools had no quality socializing time, compared with 29 percent of those in city schools. There were no statistically significant differences in socializing by gender, age, or length of experience, but there was an association with ethnicity, with 32 percent of NZ European principals reporting no socializing, compared with 48 percent of Māori and 39 percent of other principals.

Associations between stress, health and happiness

Stress and happiness were significantly correlated with all of the measures of psychological health (all but one of the measures of Kendall's tau-B⁷ were 0.23 or more, with the highest 0.58). The weakest correlation of 0.18 was between feelings of anger in the last week and level of tiredness. All the associations are positive in the sense that each of the measures was recorded so that a high score was "good" (good health, low stress, no frustration, etc.), and a low score was "bad" (high stress, poor health, frequent anger, etc.).

Most strongly correlated with stress were: having felt tense (0.58), emotional state (0.57), frustration in relation to their job (0.53), general happiness in life (0.48), and level of tiredness (0.45).

Most strongly correlated with happiness were emotional state (0.55), frustration in relation to their job (0.54), general optimism (0.53), having felt tense (0.47), and stress.

The association between general state of health and the measures of mental health is not as strong. It is strongest with emotional state (0.35), tiredness (0.34), general happiness (0.33), stress (0.32), and frustration in relation to their job (0.31).

Associations with other measures of health

The associations between general state of health and the other physical, mental and social health measures were marked, and in the expected direction. For instance, those who indicated a relatively poor state of health were more likely than others to have trouble sleeping, to be tired, depressed, easily angered, to have experienced a measure of frustration in their job, to be relatively unhappy, to have felt impatient, to seldom feel optimistic, to have felt tense, to have had

⁷ Kendall's tau-B is a measure of association that is more applicable to Likert-scale variables, like the ones measured here, than Pearson's product-moment correlation coefficient (the "usual" measure of correlation). Values of Kendall's tau-B can be interpreted much like other correlation coefficients, with values of 0.2–0.5 indicating weak to moderate correlations, those 0.5–0.7 indicating moderate correlations.

one or more days at home in the last month because of their health, to be over- or under-weight, to use alcohol most days, and then to drink more heavily, to use antacids more than once a week, to take medication for tiredness, sleep problems, headaches, other pain, cholesterol control, skin conditions, depression, heart conditions, blood pressure control, sleep problems, diabetes, osteoporosis, anxiety, or any other condition not named, to be taking two or more of the listed medications, to be stressed, to not exercise, to be unfit (have difficulty running the length of a football field), to hardly ever get exercise practice (those who reported themselves to be healthy were more likely to ensure that they always exercised several times a week), to not have quality socializing outside of the work environment, and to have taken part in only one to five of the 15 activities listed (those who reported themselves to be healthy were more likely to have done 11–15 of the activities listed).

Listing all the responses that *were* associated with general state of health makes it difficult to detect what was *not* associated. We therefore list the questions that were *not* associated with health, and happiness.

Not associated with perceived *general health* were cigarette use; coffee consumption; taking medication for menopause, arthritis, or weight loss; going to a gym; highest tertiary qualification; living arrangements; personal relationships (single, in a casual relationship, in a permanent relationship); the presence or number of dependents in the household.

Not associated with *general happiness* in the last week were the number of days at home because of health in the last month; cigarette use; the quantity of alcohol consumed (but those who were unhappy were more likely to consume alcohol most days); coffee consumption; medication for cholesterol control, menopause, arthritis, diabetes, osteoporosis, weight loss, or other conditions; going to a gym; the presence or number of dependents in the household.

Health issues and medication

We look now at the rate of medication (raw percentages) of respondents reporting possible physical or mental health problems. Most of the principals experiencing some problems did not take medication or herbal remedies for them.

Half of the respondents reported sleep problems that involved both getting to sleep and waking during the night. Of these 723 respondents with sleep problems, 13 percent reported taking medication or herbal remedy for sleep problems, 20 percent took any remedy for sleep problems at least once a week, and 24 percent reported taking any remedy for tiredness at least once a week.

Forty-five percent of the respondents reported being always tired, with 11 percent of the 689 tired respondents taking medication for sleep problems, 17 percent using any remedy for tiredness at least once a week, and 15 percent taking any remedy for tiredness at least once a week.

Ten percent of the respondents reported being depressed or mostly worried (two percent reported being depressed), and 10 percent of these people reported taking medication for depression.

Overall, two percent of the respondents said they were easily angered, but eight percent of those on medication for depression did so. In a similar way, those on depression medication were more likely to experience more frustration, impatience, and tension than others.

Three percent of the respondents were on medication for anxiety, and these people were more likely to be depressed, feel anger, frustration, or tension than others.

The respondents who reported taking antacids more than once a week were more likely to also report being depressed or worried, be easily angered, experience frustration, be impatient, or feel tense. Those taking any medication for a headache had a similar profile, as did those taking medication for other pain, but the association with anger was weaker for those with other pain.

Being overweight is considered a risk factor for several chronic diseases. Those who described themselves as being overweight were more likely to take medication for cholesterol control, heart conditions, blood pressure control, diabetes, and weight loss.

There were significant associations between some of the forms of medication: between that for cholesterol control and heart condition; for cholesterol control and blood pressure control; for cholesterol control and diabetes; for depression and sleep problems; and for depression and anxiety.

How does principals' health compare with the general population?

We compared as far as is possible the results from this survey with those from the New Zealand Health Survey (NZHS) (Ministry of Health, 2004), to see if principals stand out in any way.

The prevalence of chronic disease, and risk and protection factors tend to depend on age, ethnicity, gender, and degree of socio-economic deprivation (Ministry of Health, 2004). The responses for the NZHS were weighted so that the subgroups in the population are accurately represented. That sample could then be regarded as having the same constituency as the population of people aged 15 or more. Compared with the population at large the principals who responded to the NZPF survey:

- are older (all were over 25, and the proportion over 45 years was 78 percent, compared with 34 percent in the population)
- more are male (55 percent, compared with 49 percent of people aged at least 15 years in the population)
- fewer are NZ Māori (8 percent, compared with 12 percent of people aged at least 15 years in the population)
- have higher educational and income levels (both of these are associated with health status).

We therefore need to be careful when attempting comparisons with the NZHS results. The reasons for this include:

- We cannot compare “raw” percentages of incidence, as the age structure of the two samples is very different. We can compare age-standardised rates, where the rate quoted is the rate that would have been obtained had the sample age-specific rates been observed in a population with a standard age structure. The NZHS report gives all the incidence rates as the direct method of standardization using the WHO World Population as the standard population, and we have used the same methodology to compare the rates.
- The questions asked in the two surveys were not the same, but many were sufficiently similar to make broad comparisons.
- The NZHS asked whether the respondents had been diagnosed with various chronic diseases (high blood pressure, heart condition, diabetes), and then if they were taking medication. The report gives the incidence rate of the disease, and the conditional rate of medication (the percentage of those with the disease who take medication). Our questionnaire only asked the second question. From the data supplied in the NZHS report we can roughly approximate the equivalent rate (the population rate of medication) for our survey.
- For several diseases and risk factors we would expect that the responding principals would have lower than average rates, because of their ethnic mix and socio-economic status.
- Comparisons of general and mental health are difficult, given how different the questions were. In the NZHS all self-reported health was measured as the total score on eight scales (physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional, mental health). However, we can compare broad trends in the general health, vitality, and mental health scales with those in response to our questions, by gender, age, and ethnicity.

Raw percentages for the prevalence of risk factors and chronic disease for the NZPF survey and the NZHS are given in Table 2. Nearly a fifth of the NZPF survey respondents are currently taking *blood pressure* medication (raw percentage), which is probably about the same rate as in the population (comparing age-standardised rates). Males and females are approximately equally likely to be taking blood pressure medication (raw percentages in NZPF survey; age-standardised rates in NZHS). The situation for *cholesterol control* medication shows some differences: males in the NZPF sample were more likely to be taking the medication than females, yet in the NZHS there were no significant differences between the genders.

Table 2 Comparison between NZHS and NZPF survey: raw and age-standardised rates of the prevalence (percent) of risk factors and chronic disease

	Raw percentage, NZPF survey			Age-standardised rate, NZPF survey			Age-standardised rate, NZHS		
	Male (n = 830)	Female (n = 686)	Total (n = 1517)	Male	Female	Total	Male	Female	Total
Taking blood pressure medication	17	18	17	– ^a	–	11	–	–	12
Taking cholesterol control medication	15	8	12	– ^a	–	6	–	–	6
Physical activity	33	28	31	34	24	31	78	70	73
Sedentary activity	27	34	30	33	31	30	14	11	13
Overweight or obese	46	51	48	52	48	50	41	28	35
Alcohol use ^b	75	63	70	65	49	60	89	80	84
Potentially hazardous drinking patterns ^c	11	8	10	15	10	12	27	11	17
Daily cigarette use	5	7	6	4	5	5	24	23	23
Heart disease	5	7	6	3	1	2	7	5	– ^d
Diabetes	3	2	3	2	2	2	3	3	– ^d
Arthritis	7	6	7	6	4	5	7	8	– ^d
Osteoporosis	< 1	1	1	< 1	1	1	2	< 1	– ^d
Mental disorders ^e	5	7	6	3	9	7	2	3	2

^a There was no significant difference between the prevalence in males and females, so only the overall prevalence for taking medication was quoted in the NZHS report.

^b The NZHS recorded *any* alcohol use in the past year; the NZPF survey did not give the option of *no* alcohol use, so the NZPF survey results above reflects use of alcohol at least once a week, whereas the NZHS results include those with less frequent use.

^c The NZHS used a 10-item scale, the Alcohol Use Disorders Identification Test (AUDIT), to determine these patterns. The NZPF survey used a 4-point scale (1–2 glasses; 2–6 glasses; More than a few; Have enough that I have a problem). Respondents who selected “More than a few” may or may not have a hazardous drinking pattern, so we report only on those who selected “Have enough that I have a problem”, but this may be an underestimate of the prevalence.

^d The NZHS reported the prevalence for taking medication for males and females separately, and not the total.

^e The NZHS reported prevalence of depressive disorder, bipolar disorder and schizophrenia, and did not record the prevalence of medication for the disorders. The NZPF survey respondents indicated if they were taking medication for anxiety or depression. The percentages quoted here need to be interpreted with caution, as they are most likely not accurately measuring prevalence of the same disorders. The rates quoted from the NZPF survey are *prevalence rates* for depression or anxiety medication, while those for the NZHS are the *prevalence rates* for depression.

Physical activity tends to decrease with age, and sedentary activity to increase, and the rates indicated in the NZPF survey (combining those who exercise on their own or in a gym for at least 30 minutes at a time, at least three times a week for physical activity, and those who reported never exercising for at least 30 minutes at a time for sedentary activity) is certainly about half that

measured in the NZHS for physical activity and double that measured in the NZHS for sedentary activity (comparing age-standardised rates).

The respondents to the NZPF survey were more likely to report that they were overweight than were those sampled in the NZHS. However in the NZHS, the measure was the BMI⁸, based on physical measurement, rather than a self-report, so it is difficult to say whether the NZPF sample are really more overweight than those in the NZHS or not, particularly as in the NZHS males were more likely to be overweight than females, but in the NZPF survey more women perceived that they were overweight.

Alcohol use and potentially hazardous drinking patterns were also difficult to compare directly. However the indications are that the NZPF survey respondents are probably more moderate in their alcohol use than the general population, with males more likely to drink, and to drink more, than women in both surveys.

The NZPF respondents have a much lower rate of cigarette smoking than the general population (their rate is about a fifth of the population's).

They also have a lower rate of taking medication for heart disease (more common among men than women in the sample), diabetes, arthritis, and osteoporosis. Their rate of taking medication for depression or anxiety would appear to be higher than the depression rate in the population. What is certain is that the rates for females are higher than those for males (the gender difference is in the rate of taking medication for anxiety, rather than for depression).

Summary

While health levels were generally high for principals, there were some situations which were linked to poorer levels of general health, tiredness, fitness, happiness and socializing. Those who may be more vulnerable in terms of maintaining well-being were more likely to come from small schools, in rural areas, and be principals of area schools or kura kaupapa Māori. Fitness and getting exercise seemed to be harder for principals of these schools, and because principals of these schools are more likely to be female and Māori, for those two groups.

The main health area of concern for principals is their lack of regular exercise.

⁸ Body mass index, calculated by dividing weight in kilograms by the square of height in metres.

4. Role, workload, and school relationships

The principals were asked many questions about their work: about the school (size, decile, type, location, any roll changes, ERO reviews), about how they find aspects of the work (job satisfaction, what they find most stressful, how many hours they work, their workload, the balance between leadership and management in their job), interpersonal relationships (with the Board of Trustees, students with behaviour problems, staff), their level of attendance at conferences or meetings (NZPF, Regional Principals' Association, local Principals' Association meetings, informal discussions with other principals), and the level of support they receive (from NZPF, NZEI, NZST, the Ministry of Education, the Advisory Service).

In this section, we look now at the associations between these work-related responses and personal and school characteristics, and key measures of mental and physical health.⁹ We also look at the response to the question about how often in the previous week the principals had quality socializing time with other people in a non-work-related situation. The response to this question can be taken as a very crude measure of the extent to which the respondents are gregarious, outgoing, and enjoy the company of other people. This variable does show associations with questions about aspects of the principals' jobs where good interpersonal relationships are a key component, which supports this interpretation.

Workload, role, and rewards

Here we look at the number of hours worked, balance between leadership and management, perceptions of the workload, stress caused by the multitasking nature of the job and lack of time to focus on teaching and learning, and job satisfaction and whether others value the work that the principal does.

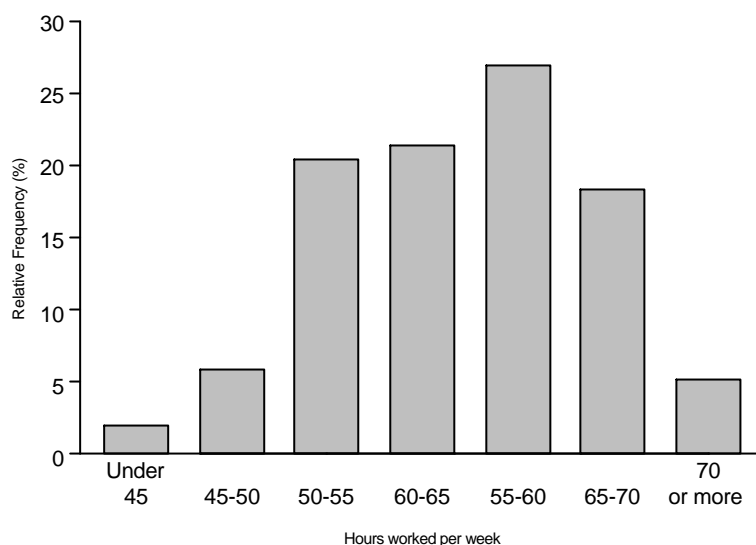
Workload

Hours worked

Few principals worked less than 45 hours a week on average (2 percent).

⁹ We looked at perceptions of stress, general happiness, fitness and health levels, tiredness, socializing time, and the number of domestic/support activities.

Figure 7 Hours worked per week by principals



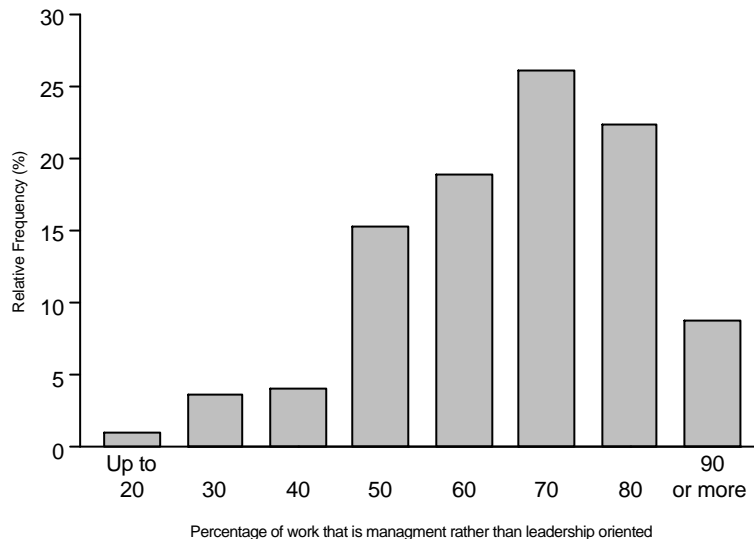
In the description that follows, we take 60 hours a week as a cut-off to measure whether principals were working excessive hours, as according to this measure, 42 percent of the principals were. The average number of hours worked per week was associated with:

- type of school (40 percent of primary principals worked at least 60 hours, 53 of those from kura, 67 percent of those from area schools, and 70 percent of secondary school principals);
- decile (38 percent of decile 1–2 principals, rising to 45 percent of decile 9–10 principals);
- gender (38 percent of males, compared with 49 percent of females);
- experience (50 percent of principals with 2–5 years’ experience, 43 percent of those with less experience or 5–20 years’ experience, and 32 percent of those with over 20 years’ experience);
- qualifications (38 percent of those with teaching certificates, 43 percent of principals with bachelor degrees, and 51 percent of those with post-graduate degrees);
- stress (53 percent of those who reported high or extremely high levels of stress, compared with 36 percent of those who reported low or extremely low levels of stress);
- health (52 percent of those who rated their health as really not good, compared with 38 percent of those who said they were very or exceptionally healthy);
- tiredness (53 percent of those whose performance was affected by tiredness, compared with 38 percent of those who had no problems);
- happiness (51 percent of those who rated themselves as unhappy, compared with 37 percent of those who were happy);
- fitness (54 percent of the least fit, compared with 39 percent of the fittest);
- quality socializing on non-work activity (49 percent of those who did not socialize at all, compared with 32 percent of those who socialized a lot).

Management or leadership?

The principals were asked to indicate the proportion of their work that was management rather than leadership oriented. Only 24 percent indicated that there was at least an even balance, with 50 percent or less of their work oriented to management.

Figure 8 **Perceptions of principals of balance between management and leadership in their work**



We have taken 70 percent as the cut-off to indicate that a large proportion of the principals' work was management not leadership oriented, and overall 57 percent of principals reported a percentage of 70 percent or more. The school and personal differences here are smaller than they were for hours worked. Variables showing some differences were:

- size of school, although the differences were moderate (56 percent of U1 or U2 school principals, 59 percent of U3 or U4 principals, 57 percent of U5 or U6 principals and 51 percent of U7 and above principals)
- location (59 percent of city principals, 55 percent of town principals, and 57 percent of rural).
- male principals were more likely than females to say that more than 70 percent of their work was management oriented (33 percent and 29 percent, respectively);
- qualifications (principals with bachelor degrees (61 percent), compared with those with teaching diplomas or certificates (53 percent) and those with post-graduate degrees (also 53 percent);
- stress (67 percent of those who reported high or extremely high levels of stress compared with 37 percent of those who reported low or extremely low levels of stress);
- fitness (60 percent of those who were less fit compared to 56 percent of those who were more fit, although the association was less strong than with the other variables);
- health (75 percent of those rated their health as really not good) compared with 51 percent of principals who rated themselves as very or exceptionally healthy;

- tiredness (74 percent whose performance was affected by tiredness compared with 51 percent of those for whom it was no problem);
- happiness (76 percent of principals who were unhappy compared with 50 percent of those who were happy); and
- quality of non-work-related socializing (64 percent of those who had none compared with 47 percent of those who had a lot).

Workload

The principals' perceptions of their workload can be gleaned from the extent of their agreement with the statement that *There is so much work to do, I never seem to get on top of it*. Eighty percent of respondents agreed with the statement, so any differences are measured in the differences in the proportion strongly agreeing (39 percent overall). There were associations with:

- school size (49 percent of U1 or U2 principals, 40 percent of U3 or U4 principals, and 32 percent of U5 and above principals), which is not surprising as the U1, U2 and some U3 principals are teaching principals;
- type (40 percent of primary principals, 38 percent of secondary principals, 35 percent of area school principals, and a third of those from kura).
- More females (43 percent) than males (37 percent) strongly agreed;
- those who rated their health as really not good (58 percent) compared with those who stated they were very or extremely healthy (32 percent);
- who reported high or extremely high levels of stress (58 percent) compared with low or extremely low levels (16 percent);
- whose performance was affected by tiredness (67 percent) compared with those with no problems (28 percent);
- were unhappy (69 percent) compared with those who were happy (30 percent);
- those who were least fit (51 percent) compared with those who were most fit (35 percent); and
- those who did not have any quality socializing (47 percent) compared with those who had a lot (24 percent).

Ability to focus on teaching and learning

Fifty-nine percent of the principals described the impact on them of the lack of time to focus on teaching and learning (Figure 1), as high or breaking point. This cause of stress was associated with:

- school size (66 percent of U1 or U2 school principals — the teaching principals — compared with 47 percent of U7 and above principals);
- location (56 of city principals, 73 percent of town principals, and 66 percent of rural principals);
- gender (56 percent of males, compared with 63 percent of females);
- health (75 percent of those who rated their health as really not good, compared with 52 percent rated very or exceptionally healthy);

- stress (74 percent of those with high or extremely high levels of stress, compared with 36 percent of those with low or extremely low levels);
- tiredness (80 percent of those whose performance was affected by tiredness, compared with 51 percent of those who had no problems);
- happiness (81 percent of those who were unhappy, compared with 49 percent of those who were happy);
- fitness (68 percent of the least fit, compared with 58 percent of the most fit);
- quality non-work-related socializing (67 percent of those who had none, compared with 42 percent of those who had a lot); and
- the number of things the individual did around the home (64 percent of those who did between one and five, compared with 55 percent of those who did 11 or more).

Multitasking

A third of the principals reported high or breaking point levels of stress about the multitasking nature of their job (Figure 1). Again, there were associations with:

- school size (41 percent of U1 or U2 principals — the teaching principals — compared with 19 percent of U7 and above principals);
- location (29 percent of city principals, 31 percent of town principals, and 41 percent of rural principals);
- qualifications (35 percent of those with teaching certificates or diplomas, 32 percent of those with bachelors degrees, and 30 percent of those with post-graduate qualifications).
- health (58 percent of those who reported their health was really not good, compared with 24 percent of those who were very or exceptionally healthy);
- stress (47 percent of those who reported high or extremely high levels of stress, compared with 9 percent of those with low or extremely low levels);
- tiredness (55 percent of those whose performance was affected by tiredness, compared with 23 percent of those who reported no problems);
- happiness (58 percent of those who were unhappy, compared with 24 percent of those who were happy);
- fitness (41 percent of those least fit, compared with 31 percent of the most fit);
- quality socializing (38 percent of those who had none, compared with 21 percent of those who had a lot).

We have seen that the principals are largely working excessive hours, the majority see that a major part of their work is management, only a fifth see a chance to get on top of their work, a majority experience high stress levels from their inability to focus on teaching and learning, and a third because of the multi-tasking nature of the job. The school characteristics associated with the number of hours worked are somewhat different from those associated with the role itself. Area and secondary principals were more likely to work excessive hours; those in small or rural schools more likely to feel they cannot get on top of their work, and to see it as having too many different demands. Women were more likely to be working longer, feel they could not get on top of their

work, or get the balance right in terms of focusing on teaching and learning. This may be related to there being higher proportions of women in small or rural schools.

Associations between their responses to these questions and others, such as principals' overall stress levels, mental and physical health, including fitness, and the number of tasks they carry out in and around the house indicate that they might not have a good work-life balance. Do they, nonetheless, perceive that there are rewards in their job?

Rewards

Job satisfaction

Notwithstanding long hours and stress from their role, the majority of principals do get great satisfaction from their work. Thirty-six percent strongly agreed with the statement *Your job gives you great satisfaction*, and 49 percent agreed with it. Ten percent felt neutral about this statement, and only 4 percent disagreed with it.

Looking at differences in the proportions strongly agreeing that their job gives them great satisfaction, we find associations with:

- school size (27 percent of U1 or U2 principals, 37 percent of U3 or U4 principals, 41 percent of U5 or U6 principals, and 55 percent of U7 and above principals);
- location (41 percent of city principals, 34 percent of town principals, and 30 percent of rural principals);
- roll change (41 percent of those whose roll was stable, 39 percent of those whose roll has risen, and about 30 percent of those whose roll has declined or fluctuated);
- qualifications (34 percent of those with teaching certificates or diplomas, 36 percent of those with bachelor degrees, and 43 percent of those with post-graduate degrees);
- health (16 percent of those who reported their health was really not good strongly agreed, compared with 45 percent of those who said they were very or exceptionally healthy);
- stress (25 percent of those with high or extremely high levels of stress, compared with 68 percent of those with low or extremely low levels);
- tiredness (20 percent of those whose performance was affected by tiredness, compared with 43 percent of those who had no problems);
- happiness (11 percent of those who were unhappy, compared with 44 percent of those who were happy and 90 percent of those who were very happy — or 48 percent overall of those reporting either level of happiness);
- fitness (28 percent of the least fit, compared with 41 percent of the most fit); and
- quality non-work-related socializing (32 percent of those who had none, compared with 61 percent of those with a lot).

Being valued

The principals were asked two questions about whether the work they did was valued: by staff, and by the Board and community. The responses to these questions showed no statistically significant associations with roll size, decile, type, or location, nor with the principals' age, ethnicity, qualifications, or length of experience. They did show associations with roll change, and some of the health measures.

Three quarters of the respondents thought that their work was valued by the staff most of the time or always, and the comparisons are made with this percentage. There were associations with:

- roll change (79 percent of those from schools where the roll was stable, compared with 69 percent from those where it had declined);
- health (58 percent of those who rated their health as really not good, compared with 81 percent of those who said they were very or exceptionally healthy);
- stress (67 percent of those who reported high or extremely high levels of stress, compared with 86 percent of those who reported low or extremely low levels);
- tiredness (65 percent of those whose performance was affected by tiredness, compared with 80 percent of those who reported no problems);
- happiness (58 percent of those who reported they were unhappy, compared with 81 percent of those who reported they were happy); and
- quality non-work-related socializing (71 percent of those who had none, compared with 85 percent of those who had a lot).

Seventy percent of the respondents thought that their work was valued by the Board and community most of the time or always, and the comparisons are made with this percentage. There were associations with

- roll change (74 percent of those from schools where the roll was stable, compared with 63 percent from those where it had declined);
- health (50 percent of those who rated their health as really not good, compared with 78 percent of those who said they were very or exceptionally healthy);
- stress (60 percent of those who reported high or extremely high levels of stress, compared with 82 percent of those who reported low or extremely low levels);
- tiredness (59 percent of those whose performance was affected by tiredness, compared with 77 percent of those who reported no problems);
- happiness (53 percent of those who reported they were unhappy, compared with 78 percent of those who reported they were happy); and
- quality non-work-related socializing (64 percent of those who had none, compared with 74 percent of those who had a lot).

Overall job satisfaction was related to school size and location – as were views on workload and its composition. However, it was not related to individual characteristics. Other than roll change, school or individual characteristics were not related to principals' sense of being valued.

Resources

Resourcing needs

Forty-two percent of principals reported high or breaking point levels of stress about resourcing needs and 15 percent reported low or no stress levels. Reporting high levels of stress about resourcing was associated with:

- school size (highest stress from U5–U6 principals, 52 percent; lowest from U1–U2 principals, 35 percent);
- type of school (lowest stress from principals of area schools, 30 percent; highest stress from secondary school principals, 58 percent);
- location (46 percent of city principals, compared with 35 percent of rural principals);
- general health (49 percent of those who reported they were really not healthy, compared with 36 percent of the very or exceptionally healthy);
- stress (48 percent of the principals who reported high or extremely high levels of stress, compared with 23 percent of those who reported low or extremely low levels); and
- tiredness (50 percent of those whose performance was affected by tiredness, compared with 36 percent of those who reported no problems with tiredness);
- happiness showed a less marked association (44 of the unhappy principals, compared with 39 percent of the happy principals).

Lack of ICT support

Nearly a quarter of principals reported high or breaking point levels of stress about lack of ICT support, and a third reported no or low stress. This source of stress was associated with:

- school size (27 percent of U1 or U2 school principals, compared with 11 percent of U7 or above principals);
- location (20 percent of city principals, 25 percent of town principals and 29 percent of rural principals). These associations may partly explain why stress about having no ICT support was also associated with:
- gender (a relatively weak association, but 22 percent of males, compared with 26 percent of females); and
- ethnicity (32 percent of Māori principals, compared with 23 percent of NZ European). There were also associations with

- experience as a principal (27 percent of those with under two years' experience reported low or no levels of stress, compared with 34 percent of those with 20 or more years' experience).
- general health (29 percent of principals reporting their health was really not good, compared with 19 percent of those reporting they were very or exceptionally healthy);
- stress (30 percent of principals with high or extremely high levels of stress, compared with 13 percent of those with low or extremely low levels);
- tiredness (33 percent of those whose performance was affected by tiredness, compared with 20 percent of those reporting no problems);
- happiness (33 percent of the unhappy principals, compared with 19 percent of the happy ones);
- fitness (29 percent of the least fit principals reported low or no levels of stress in relation to ICT support, compared with 40 percent of the most fit principals); and
- quality socializing, non-work-related (29 percent of principals who did not socialize reported low or no levels of stress in relation to ICT support, compared with 47 percent of those who socialized a lot).

Unlike workload, school resourcing as a whole was most keenly felt as a source of stress by secondary principals, in larger schools in urban areas. This is consistent with the tensions expressed by secondary principals in NZCER's recent report from its school funding study (Wylie & King 2005).

Systemic administration, compliance, and accountability

Ministry initiatives, paperwork and other system demands

Stress levels around Ministry initiatives, paperwork and other system demands were high, second-highest overall, with half of the principals reporting high or "breaking point" levels of stress, and only seven percent reporting low or no levels of stress. There were no associations with decile, location, gender, ethnicity, age, experience, or qualifications. There were associations with

- size of school (57 of U1 or U2 principals, compared with about 48 percent of all other principals),
- type (38 percent of secondary school principals, 73 percent of those from kura, and just of half of primary and area school principals);
- roll change (45 percent of principals from schools with a roll that declined, about half from those with a stable or rising roll, and 57 percent of those with a fluctuating roll);
- general health (62 percent of those whose general health was really not good, compared with 44 percent of those who were very or exceptionally healthy);
- stress (61 percent of those with high or extremely high levels of stress, compared with 33 percent of those with low or extremely low levels of stress);
- tiredness (67 percent of those whose tiredness affected their performance, compared with 43 percent of those who had no problems with tiredness);

- happiness (63 percent of unhappy individuals, compared with 43 percent of happy individuals);
- fitness (60 percent of those who were unfit, compared with 48 percent of those who were relatively fit);
- spending quality time socializing (57 percent of those who did not socialize at all, compared with 47 percent of those who socialized a lot).

ERO Reviews

Forty-two percent said their last ERO review was generally good, and 49 percent that theirs was excellent. Eight percent of respondents reported that their school's last ERO review identified serious concerns, or some real problems. The outcome of the ERO review was associated with:

- size of school (14 percent of U1 or U2 schools had a review indicating serious concerns or some real problems, compared with four percent of U7 and above schools);
- decile (10 percent of decile 1–4 schools had reviews indicating serious concerns or some real problems, compared with five percent of decile 7–10 schools — the outcomes for deciles 1–2 and 3–4 were both 10 percent, and for deciles 7–8 and 9–10 were both five percent);
- roll change (47 percent of schools with rolls that had risen or were stable had excellent reviews, as did 46 percent of schools with rolls that declined and 42 percent of those with rolls that fluctuated).
- There were indications of association with gender and ethnicity, that may be mainly explained by the characteristics of the schools receiving poorer reviews than much else;
- stress (43 percent of those who reported high or extremely high levels of stress received an excellent review, compared with 60 percent of those who reported low or extremely low levels of stress).
- tiredness (40 percent of those who reported that their performance was affected by tiredness received an excellent review, compared with 52 percent of those who reported no problems with tiredness); and
- happiness (35 percent of those who reported being unhappy received an excellent review, compared with 53 percent of those who reported being happy).

Thirty-eight percent of principals reported high or breaking point levels of stress associated with ERO reviews, and 16 percent reported low or no stress. The amount of stress was related to:

- school size (40 percent of U1–U2 school principals, compared with 36 percent of U7 and above principals);
- school type (30 percent of area school principals, a third of those from kura, and 38 and 39 percent of secondary and primary principals, respectively);
- decile (46 percent of decile 1–2 school principals, compared with 34 percent decile 9–10 principals);

- the result of the last ERO review (62 percent of those whose school's last ERO review identified concerns, compared with 44 percent of those whose last review was generally good, and 30 percent of those whose last review was excellent);
- age (about 30 percent of principals under 44 and also those 65 or older, compared with 40 percent of those aged 45–64 years);
- qualifications (43 percent of principals with TTCs or teaching diplomas, compared with 35 percent of those with bachelors degrees and 34 percent of those with post-graduate degrees).
- general health (50 percent of those whose health was rated really not good, compared with 32 percent of those who were very or exceptionally healthy);
- stress (49 percent of those who reported high or extremely high levels of stress, compared with 21 percent of those reporting low or extremely low levels);
- tiredness (46 percent of those whose performance was affected by tiredness, compared with 34 percent of those who reported no problems with tiredness);
- happiness (50 percent of those who reported they were unhappy, compared with 33 percent of those who said they were happy).

Network reviews

The aim of Network Reviews is to determine what changes need to be made to the delivery of education in an area, usually in terms of the number of schools in the area. The outcomes of such a review will mean that there may be fewer schools in the area in the future, through closures or mergers, or more schools in areas of anticipated population growth, or different types of schools (Ministry of Education, 2004).

Ten percent of schools ($n = 159$) had been involved in a Network Review in the last two years. Given the purpose of the review, there is the expected association between having been reviewed and:

- school size (13 percent of U1–U4 principals, compared with six percent of U5 and above principals);
- roll change (14 percent of those who described their roll as having risen, seven percent who described their roll as stable, 12 percent who said their roll had declined, and seven percent who said their roll fluctuated);
- location (only two percent of principals from large cities; around 14 percent of those in provincial cities or town, and 19 percent of those from isolated rural areas).
- Gender and age showed an association with school size and location, and therefore being involved in a review was slightly more likely for female principals, or younger principals.
- There were no other associations.

Concern about being involved in a Network Review was not that great: 11 percent of respondents were very concerned, and 59 percent were not concerned. A fifth of those who had been in a network review in the last two years were very concerned about the possibility that their school

would be involved in another one, compared with a tenth of those who had not been involved in such a review.

Lack of concern depended on

- school roll (35 percent of U1 or U2 principals, 56 percent of U3 or U4 principals, and 81 percent of U5 and above principals);
- location (71 percent of those from city schools, 56 percent of those from town schools and 43 percent of those from rural schools);
- roll change (72 percent of those from schools with rolls that had risen, 62 percent of those from schools with stable rolls, 50 percent of those from schools with fluctuating rolls, and 42 percent of those whose rolls had declined). There were also associations with
- gender (63 percent of male principals, compared with 56 percent of females);
- age (53 percent of principals aged under 45 years, compared with 61 percent of those aged over 45 years);
- experience (the percentage increased with increasing experience from 48 percent of those with under two years' experience to 69 percent of those with over 20 years' experience);
- qualifications (56 percent of those with teaching certificates or diplomas, compared with 69 percent of those with post-graduate degrees).
- general health (56 percent of those whose health is really not good, compared with 63 percent of those who reported they were very or exceptionally healthy);
- stress (43 of those who reported having extremely high or high levels of stress, compared with 60 percent of those who reported low or extremely low levels);
- tiredness (52 percent of those whose performance was affected by tiredness, compared with 62 percent of those who reported no problems with tiredness); and
- happiness (43 of those who reported being unhappy, compared with 61 percent of those who were happy).

Fourteen percent of the principals reported high or breaking point levels of stress about network reviews, and 57 percent reported low or no stress about it. Differences in stress levels can be seen more easily by looking at the proportion with low stress (a high percentage is "good"). There were associations with

- school size (43 percent of U1 or U2 principals, compared with 71 percent of U5 and above principals);
- decile (decile 3–4 school principals were most concerned, 50 percent; those from decile 9–10 schools were least concerned, 69 percent);
- location (65 percent of city school principals, 53 percent of town principals, and 48 percent of rural principals);
- roll change (63 percent of those from schools where the roll has risen, 60 percent where the roll is stable, and 49 percent from those where the roll has declined or fluctuated);
- involvement in network reviews over last 2 years (53 percent of those who had been, compared with 9 percent of those who had not);

- high level of concern that school would be involved in a network review (49 percent compared with 14 percent of those who were somewhat concerned, and 6 percent of those who had no concern);
- experience (48 percent of those with under 2 years' experience, compared with 61 percent of those with over 20 years' experience);
- qualifications (52 percent of those with teaching certificates or diplomas, 58 percent of those with bachelor degrees, and 65 percent of those with post-graduate degrees).
- general health (58 percent of those who reported their health as really not good, compared with 62 percent of those who reported they were very or extremely healthy);
- stress (52 percent of those who reported high or extremely high levels of stress, compared with 66 percent of those who reported low or extremely low levels); and
- tiredness (53 percent of those whose performance was affected by tiredness, compared with 60 percent of those who reported no problems).

Compliances

Overall, 23 percent of respondents rated stress about compliances as high or breaking-point, and 20 percent rated their stress as low or not at all. There was no statistically significant association with school characteristics (decile, etc), fitness, age, ethnicity, or qualifications. Stress levels around compliances were associated with:

- gender (27 percent of males, compared with 19 percent of women);
- length of experience as a principal (15 percent of those with under 2 years' experience, compared with 32 percent of principals with 20 or more years' experience);
- general health, where healthier individuals tended to report lower stress levels related to compliance (16 percent of those whose health was really, compared with 25 percent of those who were very or exceptionally healthy);
- stress (32 percent of those with high or extremely high levels of stress, compared with 10 percent of those with low or extremely low levels of stress);
- tiredness (33 percent of those whose performance was affected by tiredness, compared with 19 percent of those who reported no problems with tiredness);
- happiness (28 percent of unhappy individuals, compared with 20 percent of happy individuals).

OSH regulations

OSH regulations caused high or breaking-point levels of stress for seven percent of the respondents, and above average levels for 27 percent, but low or no stress for 35 percent of the respondents. This cause of stress was associated with

- size of school (37 percent of U1 or U2 school principals reported low or no stress, compared with 31 percent of U7 and above principals; there was a corresponding increase in high stress from 8 to 17 percent, respectively);

- location (31 percent of city principals, 35 percent of town principals, and 38 percent of rural principals reported low or no levels of stress about OSH regulations);
- experience (42 percent of principals with over 20 years' experience find OSH regulations above averagely stressful, and 30 percent of principals with under 5 years' experience found it so);
- general health, with the healthy individuals tending to be less stressed than others (33 percent of those very or exceptionally healthy had low or no stress, compared with 28 percent of those whose health was really not good);
- stress levels, with most stressed individuals finding this aspect of their work stressful (40 percent of those with high or extremely high stress levels found it more than averagely stressful, compared with 23 percent of those with low or extremely low stress levels);
- tiredness, with tired individuals finding this a more stressful aspect of their job (44 percent of those absolutely worn out or whose performance was affected by tiredness found these regulations more than averagely stressful, compared with 34 percent of those who had no problems with tiredness); and
- fitness, with the more fit individuals tending to find it less stressful (37 percent of the fit principals found it of low or no stress, compared with 30 percent of the unfit principals).

Interpersonal relationships

Many of the questions asked were about the principals' relationships with others; the Board of Trustees, students, parents, staff, and the consequences of the actions of people. Some of the questions are about the extent of stress caused by the interaction described, (Figure 1), and some are about the nature of the relationship or the frequency of an interaction. We look now for associations between responses to these questions, and the characteristics of the principals.

Students

Behavioural problems

The principals were asked to indicate how often they had to deal with children with severe behavioural problems. Overall, 17 percent of the principals said that they did this at least once a day, 27 percent said at least once a week, 11 percent at least once a fortnight, 17 percent at least once a month, and 28 percent said it was something they rarely did. The response to this question was associated with:

- school size (14 percent of U1 or U2 school principals dealt with these once a day, compared with 21 percent of U7 and above schools);
- type (24 percent of area school principals, no principals from kura: 42 percent of secondary school principals have weekly issues, compared with 27 percent overall);
- decile (28 percent of principals from decile 1-2 schools dealt with children with severe behavioural problems at least once a day, compared with 5 percent from decile 9-10 schools);

the drop in frequency across decile groups was not even: 28 percent, 25 percent, 16 percent, 10 percent, and 5 percent);

- location (20 percent of city school principals, 17 percent of those from town schools, and 12 percent of those from country schools);
- health (23 percent of the principals who said their health was really not good did this daily, compared with 14 percent of those said they were very or exceptionally healthy);
- stress (21 percent of those with high or extremely high stress, compared with 11 percent of those with low or extremely low stress), and
- happiness (28 percent of those who were not happy did this daily, compared with 15 percent of those who were happy);

Stress about violent pupils or those with behaviour problems was moderate: overall just over a quarter reported high or breaking point levels of stress (a slightly higher proportion than were dealing with the issues daily), and almost the same proportion reported low or no stress. We measure the effect of the association by comparing proportions reporting low or no levels of stress (a high percentage is “good”). Low or no levels of stress about dealing with violent students or those with behaviour problems were associated with:

- school size (38 percent of U1 or U2 school principals, compared with 25 percent of both U3 or U4 school principals, and U7 and above);
- decile (16 percent of decile 1–2 school principals, 18 percent of decile 3–5 school principals, compared with 44 percent of decile 9–10 school principals);
- location (about 27 percent of city or town principals, compared with 37 percent of rural principals);
- gender (28 percent of males and 32 percent of females);
- experience (38 percent of those with under two years’ experience, compared with 27 percent of those with over five years’ experience);
- health (28 percent of those whose health was really not good, compared with 34 percent of those who were very or exceptionally healthy);
- stress (24 percent of those with high or extremely high levels of stress, compared with 44 percent of those with low or extremely low levels); and
- tiredness (26 percent of those whose performance was affected by tiredness, compared with 33 percent of those who had no problems).

Stress about violent pupils or those with behaviour problems was strongly associated with how often the principal had to deal with such problems. Two-thirds of those who dealt with students with behavioural problems reported high or breaking-point levels of stress, and three percent reported low or no stress. Of those who rarely dealt with such students, three percent reported high or breaking-point levels of stress, and 73 percent reported low or no stress. The Kendall’s tau-B measure of association between the variables was 0.57.

Child protection issues

Overall, 47 percent of respondents reported low or no levels of stress about child protection issues, and 12 percent reported high or breaking-point levels of stress. The comparisons are made using the low stress levels. These issues were associated with

- school size (62 percent of U1 or U2 school principals, compared with 42 percent of U3–U6 school principals, and 40 percent of U7 and above school principals);
- type (47 and 48 percent of primary and secondary school principals, respectively, compared with 53 and 59 percent of kura and area school principals, respectively);
- decile (30 percent of decile 1–2 school principals, compared with 68 percent of decile 9–10 school principals);
- location (about 41 percent of city and town principals, compared with 63 percent of rural school principals);
- gender (44 percent of males and 51 percent of women);
- age (59 percent of younger principals, those under 45 years, compared with 46 percent of those 45 years or older);
- experience (57 percent of those with under 2 years' experience, compared with 41 percent of those with 20 years or more).
- health (40 percent of those who reported their health was really not good, compared with 56 percent of those who were very or exceptionally healthy);
- stress (40 percent of those who had high or very high stress levels, compared with 61 percent of those whose levels were low or very low); and
- tiredness (38 percent of those whose performance was affected, compared with 51 percent of those with no problems).

Staff

All the questions about relations with staff are about levels of stress. They are discussed from the most stressful to the least stressful. Levels of stress arising from relations with staff were generally low.

Employment issues

Employment issues in relation to staff were a source of high or breaking point stress for 19 percent of the respondents. There were associations between this source of stress and

- decile (28 percent of decile 1–2 school principals, 17 or 18 percent of all others);
- roll change (16 percent of principals from schools with a stable roll, compared with 23 or 24 percent of those from schools where the roll fluctuated or declined, respectively);
- location (about 22 percent of city or town school principals, compared with 14 percent of rural principals);
- gender (17 percent of males and 22 percent of females);
- ethnicity (18 percent of NZ European principals, compared with 37 percent of Māori principals);

- age (24 percent of those under 45 years, compared with 18 percent of those over 45 years);
- qualifications (17 percent of those with teaching certificates or diplomas, 20 percent of those with bachelor degrees, and 22 percent of those with post-graduate degrees).
- health (29 percent of those whose health was really not good, compared with 16 percent of those who were very or exceptionally healthy);
- stress (30 percent of those with high or extremely high stress levels, compared with eight percent of those with low or extremely low levels);
- tiredness (27 percent of those whose performance was affected by tiredness, compared with 16 percent of those reporting no problems);
- happiness (38 percent of those who were unhappy, compared with 15 percent of those who were happy); and
- fitness (25 percent of the least fit, compared with 18 percent of the most fit).

Staff competence

Staff competence were also a source of high or breaking point stress for 19 percent of the respondents. There were associations between this source of stress and

- size (23 percent of U3 or U4 school principals reported high levels, compared with 13 percent of U7 and above principals);
- type (about 18 percent of primary and secondary principals, 30 percent of area school principals, and 40 percent of kura principals);
- decile (29 percent of decile 1-2 school principals, compared with 12 percent of decile 9-10 school principals);
- location (17 percent of city and rural schools, 27 percent of principals from town schools);
- roll change (17 percent of principals from schools with rising rolls, compared with 25 percent of principals from schools with falling rolls);
- gender (18 percent of males and 21 percent of females);
- ethnicity (17 percent of NZ European principals, compared with 34 percent of NZ Māori principals);
- age (27 percent of those under 45 years, compared with 17 percent of those over 45 years);
- experience (24 percent of those with under 2 years' experience, compared with 17 percent of those with over 20 years' experience).
- health (25 percent of those whose health was really not good, compared with 18 percent of those who were very or exceptionally healthy);
- stress (25 percent of those with high or extremely high stress levels, compared with nine percent of those with low or extremely low levels);
- tiredness (22 percent of those whose performance was affected by tiredness, compared with 18 percent of those reporting no problems); and
- happiness (31 percent of those who were unhappy, compared with 16 percent of those who were happy).

Staff resistance to change

Staff resistance to change was not a major source of stress, with 40 percent of the respondents reporting low or no stress (used for comparisons), and 15 percent reporting high or breaking-point stress. There were associations with

- size (53 percent of those in U1 or U2 schools, compared with 27 percent of those in U7 and above schools);
- type (about 40 percent of primary and kura principals, 35 percent of area school principals, and 18 percent of secondary school principals);
- roll change (36 percent of principals from schools where the roll has risen, compared with 46 percent of those from schools where it fluctuated);
- location (35 percent of city principals, 38 percent of town principals, and 50 percent of rural principals);
- gender (37 percent of males and 43 percent of females);
- qualifications (45 percent of those with teaching certificates or diplomas, 37 percent of those with bachelors degrees, and 34 percent of those with post-graduate degrees), consistent with the fact that this was nominated as the most important stressor by a larger proportion of principals with post-graduate degrees;
- health (28 percent of those whose health was reported as really not good, compared with 45 percent who were very or exceptionally healthy);
- stress (35 percent of those with high or extremely high levels of stress, compared with 52 percent of those with low or extremely low levels of stress);
- tiredness (37 percent of those whose performance was affected by tiredness, compared with 42 percent who reported no problems); and
- happiness (24 percent of those who were unhappy, compared with 43 percent of those who were happy).

Interpersonal conflicts

Interpersonal conflicts at school no doubt includes more than just those with or amongst the staff, but is probably mainly concerned with conflicts between staff members. This was not a major source of stress, with 49 percent of the respondents reporting low or not at all levels of stress (used for comparisons) and 14 percent reporting high or breaking-point levels. There were associations between low or no levels of stress from interpersonal conflicts for

- school size (60 percent of U1 or U2 school principals, compared with 45 percent of all others);
- type (59 percent of area school principals, 13 percent of those from kura, and 50 and 42 percent of those from primary and secondary schools, respectively);
- roll change (46 percent of those from schools where the roll declined, compared with 53 percent from those where it fluctuated);
- location (about 46 percent of city and town school principals, compared with 58 percent of rural school principals);
- age (39 percent of those under 45 years, compared with 52 percent of those over 45 years);

- health (34 percent of those who reported their health was really not good, compared with 57 percent of those who were very or exceptionally healthy);
- stress (43 percent of those who reported high or extremely high levels of stress, compared with 70 percent of those reporting low or extremely low levels);
- tiredness (39 percent of those whose performance was affected by tiredness, compared with 53 percent of those reporting no problems); and
- happiness (41 percent of those who were unhappy, compared with 54 percent of those who were happy).

Finding competent relievers

Finding competent relievers caused high stress for 14 percent of the principals (used for comparisons), and low or no stress for 40 percent. This was associated with:

- School size (17percent of principals in U1 or U2 schools had high or breaking point levels of stress about finding competent relievers, but none of those in U7 or above schools did);
- School type (13 percent of primary, 26 percent of area schools, 5 percent of secondary schools, and 60 percent of kura principals);
- Decile (26 percent of decile 1 or 2 principals, compared with four percent of decile 9 or 10 principals);
- Location (9 percent city principals, 16 percent town principals, 19 percent rural principals)
- Slightly more female principals (16 percent, compared with 12 percent of males), and for Māori (35 percent) than NZ European (12 percent) principals. These findings are probably more associated with the fact that female and Māori principals are over-represented among the principals of smaller, and rural schools, which would have more difficulty finding relievers.
- general health (18 percent of those whose health was really not good, compared with 11 percent of those who were very or exceptionally healthy);
- stress (18 percent of stressed principals, compared with 5 percent of unstressed principals);
- tiredness (22 percent of those whose performance was affected by tiredness reported high levels of stress, compared with 11 percent of those who had no problems with tiredness);
- happiness (20 percent of unhappy principals, compared with 11 percent of happy principals); and
- quality non-work-related socializing (18 percent of those who did not socialize reported high levels of stress, compared with 13 percent of those who socialized a lot).

There were no associations with fitness, age, experience, or qualifications.

Poorly performing senior management

Fifty-eight percent of respondents rating their stress levels low or not at all in relation to poorly performing senior management, and 12 percent reporting high or breaking-point levels of stress. Low or no stress levels were associated with

- school roll (73 percent of U1 or U2 principals who probably do not really have senior management, compared with 47 percent of U3 or U4 principals);
- location (53 percent of city or town school principals, compared with 72 percent of rural principals);
- health (48 percent of those who rated their health as really not good, compared with 62 percent of those who were very or exceptionally healthy);
- stress (52 percent of those who reported high or extremely high levels of stress, compared with 74 percent of those who reported low or very low levels);
- happiness (55 percent of those who were unhappy, compared with 60 percent of those who were happy); and
- fitness (53 percent of those who were least fit, compared with 61 percent of those who were most fit).

Low staff morale

Low staff morale was a minor cause of stress — at least, 59 percent of the principals rated it as causing low or no stress (used for comparisons) and only five percent rated it as causing high or breaking-point levels. Low or no stress levels were associated with

- size (53 percent of U1 or U2 school principals, compared with 27 percent of U7 and above principals);
- location (about 56 percent of city or town school principals, 66 percent of rural school principals);
- health (39 percent of those who rated their health as really not good, compared with 68 percent who said they were very or exceptionally healthy);
- stress (48 percent of those with high or extremely high levels of stress, compared with 76 percent of those with low or extremely low levels);
- tiredness (46 percent of those whose performance was affected by tiredness, compared with 64 percent of those who had no problems);
- happiness (28 percent of those who were unhappy, compared with 65 percent of those who were happy);
- fitness (52 percent of the least fit, compared with 60 percent of the most fit); and
- quality non-work-related socializing (54 percent of those who had none, compared with 68 percent of those who had a lot).

Board of Trustees

The principals were asked to describe their relationship with their Board of Trustees and to rate their stress in relation to three aspects of the Board: competence, employment issues, and involvement in management of the school (Figure 1). The board of trustees was not a major stressor for the principals.

Relationship with the Board

The description of their relationship with their Board of Trustees was on a six-point scale from “A good professional relationship” to “It’s almost like a war zone”. Just over a third said it was a good professional relationship. Fifty-nine percent said it was ‘happy, relaxed, but I do most of the work’. Six percent indicated a negative relationship.

In terms of whether the relationship was described as good and professional, there were associations with

- school roll (26 percent of U1 or U2 schools, compared with 52 percent of U7 and above principals);
- type (13 percent of kura, 30 percent of area school, and 34 percent of primary, 40 percent of secondary principals);
- decile (20 percent of decile 1-2 school principals, compared with 45 percent of decile 9-10 school principals);
- roll change (39 percent of those from schools where the roll has risen, compared with 25 percent of those from schools where it fluctuated);
- experience (28 percent of those with 2-5 years’ experience, compared with 41 percent of those with over 20 years’ experience).
- health (31 percent of those who gave their health as being really not good, compared with 37 percent of those who said they were very or exceptionally healthy);
- stress (28 percent of those who reported high or extremely high levels of stress, compared with 45 percent of those who reported low or extremely low levels);
- tiredness (27 percent of those whose performance was affected by tiredness, compared with 36 percent of those who reported no problems);
- happiness (25 percent of those who were unhappy, compared with 38 percent of those who were happy);
- fitness (26 percent of the least fit, compared with 36 percent of the most fit); and
- quality non-work-related socializing (28 percent of those who had none, compared with 39 percent of those who had lots).

Competence of the Board

Competence of the Board of Trustees was the source of high or breaking-point stress for 13 percent of principals, and 42 percent of the respondents reported no or low stress about it. There was some association between low or no stress and

- size (46 percent of U1 or U2 school principals, 54 percent of U3 or U4 school principals, and 65 percent of U5 or above school principals);
- decile (31 percent of decile 1-2 school principals, compared with 51 percent of decile 9-10 school principals);
- roll change (29 percent of principals from schools where the roll fluctuated, compared with 47 percent of those from schools where it had risen);
- gender (45 percent of males and 38 percent of females);

- ethnicity (43 percent of NZ Europeans, compared with 30 percent of Māori);
- experience, where the difference shows most clearly in terms of those who found it highly stressful — 18 percent of those with under 2 years' experience compared with 12 percent of those with more than 2 years' experience.
- health (27 percent of those who reported their health as really not good, compared with 51 percent of those who were very or exceptionally healthy);
- stress (32 percent of those who reported high or extremely high levels of stress, compared with 64 percent of those who reported low or extremely low levels);
- tiredness (24 percent of those whose performance was affected by tiredness, compared with 49 percent of those who had no problems);
- happiness (27 percent of those who were unhappy, compared with 48 percent of those who were happy); and
- fitness (30 percent of the least fit, compared with 46 percent of the most fit);

Board involvement in management of the school

Eleven percent reported high/breaking point levels of stress related to board involvement in the management of the school, and 55 percent reported that it caused low or no stress. The latter was associated with

- school roll (46 percent of U1 or U2 school principals, compared with 65 percent of those from U5 or above);
- roll change (59 percent of principals from schools where the roll was stable or had risen, compared with 48 percent of those from a school where it had fluctuated);
- location (59 percent of city school principals, 56 percent of town school principals, and 48 percent of rural school principals);
- gender (58 percent of males, compared with 52 percent of females);
- ethnicity (57 percent of NZ European principals, compared with 41 percent of Māori principals);
- age (46 percent of those under 45 years, compared with 58 percent of those over 45 years);
- experience (47 percent of those with under 2 years' experience, compared with 59 percent of those with over 20 years' experience);
- health (54 percent of those whose health was really not good, compared with 63 percent of those who were very or extremely healthy);
- stress (48 percent of those who reported high or extremely high stress, compared with 76 percent of those who reported low or extremely low stress);
- tiredness (40 percent of those whose performance was affected by tiredness, compared with 61 percent of those who reported no problems); and
- happiness (41 percent of those who were unhappy, compared with 61 percent of those who were happy).

Employment issues

Employment issues between the principal and Board were not considered a particularly stressful issue, with 60 percent of the respondents reporting low or no stress about it (used for comparisons), and seven percent reporting high or breaking-point levels of stress. There was some association with

- type (53 percent of kura principals, about 58 percent of primary and area school principals, and 73 percent of secondary principals);
- roll change (53 percent of principals from schools where the roll has been stable, compared with 48 percent of those from schools where the roll fluctuated);
- ethnicity (61 percent of NZ Europeans, compared with 47 percent of Māori);
- age (52 percent of those under 45 years, compared with 61 percent of those aged over 45 years);
- health (50 percent of those who reported their health to be really not good, compared with 66 percent of those who were very or extremely healthy);
- stress (53 percent of those who had high or extremely high levels of stress, compared with 79 percent of those who had low or extremely low levels);
- tiredness (49 percent of those whose performance was affected by tiredness, compared with 63 percent who reported no problems); and
- happiness (44 percent of those who were unhappy, compared with 64 percent of those who were happy).

Parents

Two of the stressor questions related to parents: parental expectations and aggressive behaviour from parents (Figure 1).

Parental expectations

Stress caused by parental expectations varied markedly between principals. Overall, 21 percent of principals reported high or breaking-point levels. This stress was associated with

- decile (5 percent of decile 1–2 school principals, rising to 43 percent of decile 9–10 parents; the proportions in the decile groups were 5, 13, 21, 26, 43);
- roll change (16 percent of principals from schools where the roll had declined, compared with about 23 percent of all others);
- location (18 percent of principals in town schools, 20 percent of those from city schools, and 28 percent of those from rural schools);
- age (27 percent of those under 44 years, 20 percent of those 45 years or older); experience (stressful for 25 percent of those with 5–20 years' experience, but for about 17 percent of other principals);
- qualifications (19 percent of principals with teaching certificates or diplomas, 23 percent of those with bachelor degrees and 25 percent of those with post-graduate degrees).

- health (30 percent of those who reported their health as really not good, compared with 17 percent of those who said they were very or extremely healthy);
- stress (28 percent of those who reported high or extremely high levels of stress, compared with seven percent of those who reported low or very low levels);
- tiredness (27 percent of those whose performance was affected by tiredness, compared with 18 percent who reported no problems); and
- happiness (27 percent of those who were unhappy, compared with 18 percent of those who were happy).

Aggressive behaviour from parents

Overall, 17 percent of principals reported high or breaking-point levels of stress about aggressive behaviour from parents. This stress was associated with

- school size (16 percent of U3 or U4 school principals, compared with 21 percent of those from U7 and above schools);
- roll change (13 percent of principals from schools where the roll had risen, compared with 26 percent of principals from schools where it fluctuated);
- health (24 percent of those who reported their health as really not good, compared with 13 percent of those who said they were very or extremely healthy);
- stress (22 percent of those who reported high or extremely high levels of stress, compared with nine percent of those who reported low or very low levels);
- tiredness (24 percent of those whose performance was affected by tiredness, compared with 14 percent who reported no problems); and
- happiness (26 percent of those who were unhappy, compared with 14 percent of those who were happy).

Complaints and critical incidents

Complaints management

Associations with other variables and stress caused by complaints management sometimes shows more clearly amongst those reporting high levels of stress (14 percent overall), and sometimes amongst those reporting low or no stress (33 percent overall), and both are used in what follows.

This source of stress was associated with

- school roll (40 percent of U1 or U2 school principals reported *low* levels of stress, compared with 25 percent of U7 and above school principals);
- roll change (12 percent of principals from schools where the roll was stable reported *high* levels of stress, compared with 22 percent of principals from schools where the roll had fluctuated);
- location (12 percent of principals from rural schools, 14 percent of principals from city schools, and 16 percent of principals from town schools reported *high* levels of stress);

- experience (stressful for 17 percent of those with 5–20 years’ experience, but for 10–12 percent of other principals);
- health (24 percent of those who reported their health as really not good, compared with 10 percent of those who said they were very or extremely healthy);
- stress (20 percent of those who reported high or extremely high levels of stress, compared with four percent of those who reported low or very low levels);
- tiredness (20 percent of those whose performance was affected by tiredness, compared with 10 percent who reported no problems); and
- happiness (27 percent of those who were unhappy, compared with 10 percent of those who were happy).

Critical incidents

Overall 36 percent of respondents reported low or no stress about critical incidents, and 18 percent had high or breaking point levels of stress. The associations described are sometimes most clearly seen when comparing *low* levels of stress (the main comparison), and sometimes when comparing *high* levels (used less often, and only where indicated). This stress was associated with:

- school size (50 percent of U1 or U2 principals, compared with 28 percent of U7 and above);
- decile (23 percent of decile 1–2 school principals, compared with 43 percent of decile 7–10 school principals);
- location (31 percent of city or town school principals, compared with 48 percent of rural school principals);
- qualifications (40 percent with teaching diplomas or certificates, 34 percent with bachelors degrees, and 32 percent with post-graduate degrees).
- The association with experience was not particularly clear-cut as there was not a clear gradient across the amounts of experience. It seems that the principals who have under 2 years’ experience reported the lowest levels of stress (44 percent low or none), and those with five to twenty years’ experience reported the most (33 percent low or none);
- stress (23 percent of those with high or extremely high levels of stress, compared with nine percent of those with low or extremely low levels *had high or breaking point levels of stress*);
- health (30 percent of those whose health was really not good, compared with 41 percent of those who were very or exceptionally healthy *had low or no stress*); and
- tiredness (21 percent of those whose performance was affected by tiredness, compared with 17 percent of those who had no problems *had high or breaking point levels of stress*).

Summary

On the whole, we see more consistent associations with particular sources of stress and overall indications of wellbeing, or lack of it, than with particular school characteristics, and even less so with particular individual characteristics. Most of the associations with individual characteristics such as gender are probably related to patterns of distribution, with more women heading small or rural schools.

However, there are trends indicating that principals of small schools, those in rural areas, and those whose school rolls are fluctuating or declining are more vulnerable to finding aspects of their work stressful and less satisfying than others. The aspects that are likely to be more stressful for them relate to the multidimensional nature of the job, particularly tensions around getting a balance between management and leadership, and feeling that they can make teaching and learning their main focus. Network reviews were more likely to be a source of stress for principals in these schools also.

Principals in larger, mainly urban schools have larger teams, and so these aspects of the job are relatively less stressful. However, they were more likely to have to deal with student behavioural problems, and to find these a source of stress. Resourcing needs were also more of a stressor for principals of city schools, and secondary schools.

Low decile school principals were more likely to identify issues with staff, or their Board of Trustees as a source of high stress. High decile school principals were more likely to identify parental expectations as a source of high stress.

We turn next to sources of support for principals in their work.

5. Participation and support

The principals were asked about their participation in the First Time Principals' Programme, their region, sectional or interest conference, the NZPF National Conference, their Regional Principals' Association Conference, and meetings of their local Principals' Association. They were asked how often they had contact with fellow principals, and about the level of support they felt they received from the NZPF, NZEI, NZ School Trustees, Ministry of Education, and Advisory Service.

Participation

First Time Principals' Programme

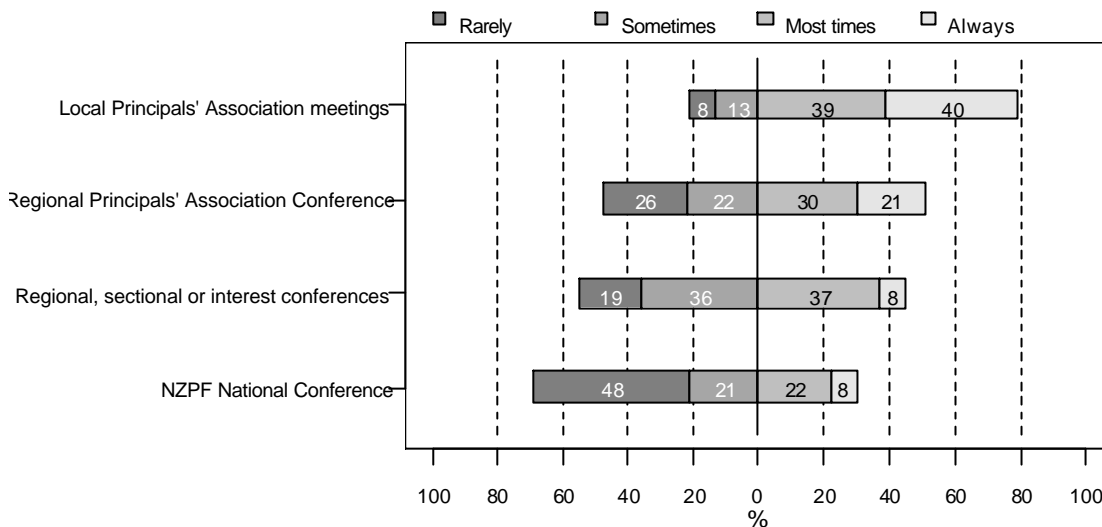
Twenty-eight percent of the respondents were or had been involved in the First Time Principals' Programme. Participation in this programme was associated with:

- size of schools (47 percent of U1 or U2 principals – who are more likely to be first-time principals - had participated, compared with 13 percent of U7 and above principals);
- type, where participation rates were higher among area (30 percent), kura (47 percent) and secondary principals (42 percent);
- location (18 percent of town principals, 20 percent of city principals, and 44 percent of rural principals), again probably reflecting the length of experience of principals in the different locations;
- gender (35 percent of females compared with 21 percent of males), this is probably linked to the with school size, type and location;
- ethnicity, (42 percent of Māori, 49 percent of other, and 25 percent of NZ European);
- age (more of the under-45 principals, 51 percent, than over-45s, 21 percent);
- experience (81 percent of those with under two years' experience, 70 percent of those with two to five years' experience, and five percent of those with over five years' experience had participated).
- There was some indication of an association between participation and stress, with 43 percent of the participants reporting high or breaking-point levels of stress, compared with 38 percent of the other respondents, but there were no statistically significant associations with the other health variables.

Principals' meetings

Overall rates of attendance at the possible conferences or meetings are shown in Figure AA. The national and regional conferences have lower attendance rates than the local meetings. Seventy-nine percent of the principals attended their local principals' association meetings always or most times.

Figure 9 Rates of attendance at conferences or meetings



Meetings of the local Principals' Association

Attendance at meetings of the local Principals' Association was most common, with eight percent attending rarely (used for comparisons), and 40 percent attending always. There were associations with:

- school size (16 percent of U1 or U2 school principals attended rarely, compared with five percent of U5 and above school principals);
- type (60 percent of kura principals, compared with seven to eight percent of all other principals; primary principals were most likely to always attend, 41 percent, compared with about a quarter of secondary or area school principals, and no kura principals);
- roll change (six percent of principals from a school where the roll has risen, compared with 10 percent of those where it had fluctuated; the corresponding proportions of those who always attended were 42 and 28 percent, respectively);
- location (seven percent of those from city schools, compared with 14 percent of those from rural schools);
- ethnicity (seven percent of NZ Europeans, compared with 15 percent of Māori);
- quality non-work-related socializing (36 percent of those who had none, compared with 18 percent of those who had a lot);
- experience (13 percent of those with under two years' experience, compared with seven percent of those with over 5-20 years' experience; proportions always attending increased

from 32 percent of those with under 2 years' experience to 44 percent of those with over 20 years' experience).

Regional Principals' Association Conferences

Attendance at the Regional Principals' Association Conferences was next most common, with 26 percent attending rarely (used for comparisons), 22 percent attending sometimes, 30 percent attending most times, and 21 percent attending always. There were associations with:

- school size (40 percent of U1 or U2 school principals, compared with 19 percent of U5 and above school principals);
- type (17 percent of secondary principals, 25 percent of primary principals, 33 percent of area school principals, and 73 percent of those from kura);
- decile (33 percent of decile 1-2 school principals, decreasing to 20 percent of decile 9-10 school principals);
- roll change (22 percent of principals from a school where the roll has risen, compared with 31 percent of those where it had fluctuated; the corresponding proportions of those who always attended were 24 and 14 percent, respectively);
- location (19 percent of those from city schools, compared with 37 percent of those from rural schools);
- gender (23 percent of males, compared with 29 percent of females);
- ethnicity (24 percent of NZ Europeans, compared with 38 percent of Māori);
- stress (27 percent of those with high or extremely high levels of stress, compared with 22 percent of those with low or extremely low levels; the corresponding rates always attending were 20 and 26 percent, respectively);
- quality non-work-related socializing (56 percent of those who had none, compared with 45 percent of those who had a lot);
- age (33 percent of those aged under 45 years, compared with 24 percent of those over 45);
- experience (41 percent of those with under two years' experience, decreasing to 21 percent of those with over 20 years' experience).

Regional/sectional or interest conferences

Forty-five percent of the principals attended regional/sectional or interest conferences; 19 percent rarely attended (this is the percentage used for comparisons). Rare attendance was associated with:

- school size (26 percent of U1 or U2 school principals rarely attended, compared with 13 percent of U7 and above principals);
- type (19 percent of primary principals, 17 percent of area school principals, five percent of secondary principals, and forty percent of those from kura);

- decile (26 percent of decile 1–2 school principals, compared with about 14 percent of principals from decile 5, 6, 9 or 10 schools — there was not an even increase in participation across decile groups);
- roll change (13 percent of principals from schools where the roll had risen, compared with 25 percent of those from schools where the roll fluctuated);
- quality non-work-related socializing (24 percent of those who had none, compared with 11 percent of those who had lots);
- age (25 percent of those aged under 45, compared with 17 percent of those over 45 years);
- experience (25 percent of those with under two years' experience, compared with compared with 18 percent of those with more experience);
- qualifications (21 percent of those with teaching certificates or diplomas, 19 percent of those with bachelor degrees, and 12 percent of those with post-graduate degrees).
- There were no statistically significant associations with any of the health variables.

NZPF Conference

Overall, 48 percent of respondents attended the national NZPF conference rarely (used for comparisons), 21 percent attended sometimes, 21 percent attended most times, and eight percent attended always. There were associations between rare attendance and:

- school size (74 percent of U1 or U2 school principals, compared with 33 percent of U5 or U6 school principals);
- type (45 percent of primary principals, compared with 80 percent of principals from other types of school);
- decile (51 percent of decile 1–8 school principals, compared with 36 percent of decile 9–10 school principals);
- roll change (41 percent of those from schools where the roll had risen, compared with 55 percent of those from schools where it fluctuated);
- location (36 percent from city schools, 48 percent from town schools, and 71 percent from rural schools); gender (43 percent of males and 55 percent of females);
- ethnicity (46 percent of NZ European principals, 67 percent of Māori, and 59 percent of other principals);
- quality socializing (56 percent of principals who had none, compared with 45 percent of those who had a lot);
- age (57 percent of those under 45 years, compared with 46 percent of those over 45 years);
- experience (72 percent of those with under two years' experience, decreasing to 34 percent of those with over 20 years' experience).
- There was no association with any of the health variables, nor with qualifications.

Support

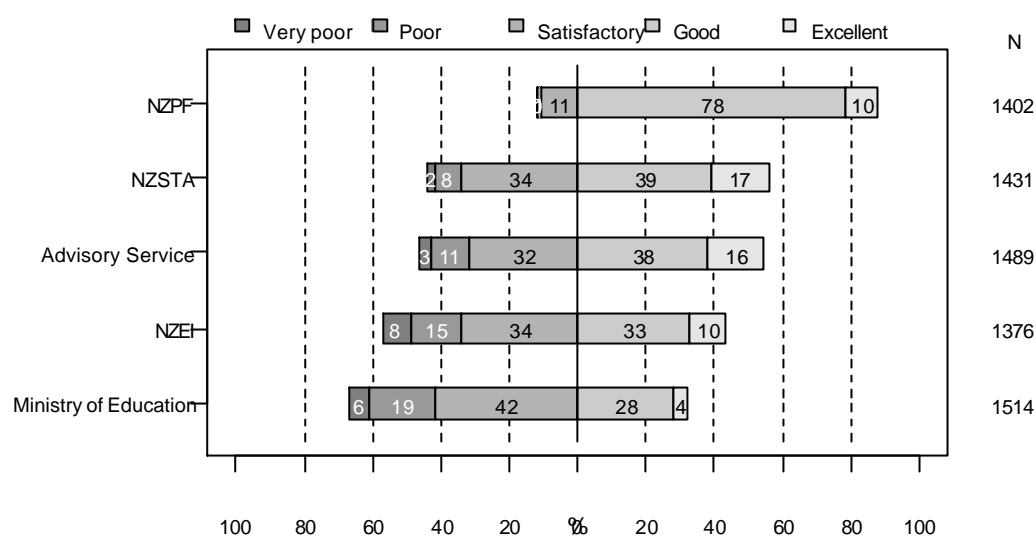
Contact with other principals

The principals were asked how often they contacted other principals for work-related issues including support, or socialized with other principals. Overall, 19 percent of the respondents rarely had contact with other principals, 27 percent did so monthly, 25 percent fortnightly, and 29 percent had weekly contact (used for comparisons). There were associations with:

- school roll (23 percent of U1 or U2 principals, rising to 35 percent of U5 and above principals);
- type (30 percent of primary principals, 15 percent of area school principals, 25 percent of secondary principals, and 20 percent of those from kura);
- roll change (32 percent of those from school where the roll had risen, compared with 22 percent where it had fluctuated);
- ethnicity (31 percent of NZ European principals, 19 percent of Māori principals, and 20 percent of other principals);
- health (19 percent of those who reported their health to be really not good, compared with 35 percent of those who reported they were very or exceptionally healthy);
- tiredness (22 percent of those whose performance was affected by tiredness, compared with 34 percent of those who had no problems);
- happiness (22 percent of those who were not happy, compared with 33 percent of those who were happy);
- stress (24 percent of those who reported high or extremely high levels of stress, compared with 38 percent of those reporting low or extremely low levels);
- fitness (25 percent of those who were least fit, compared with 30 percent of those who were most fit);
- quality non-work-related socializing (22 percent of those who had none, compared with fifty percent of those who had a lot);
- how many things they did around the house (18 percent of those who did between one and five things, compared with 39 percent of those who did more than 10).

The opinions the principals expressed about the level of support they received from various agencies are shown in Figure 9. The valid number of responses to each question are shown on the right of the graph, as only members were supposed to respond to the questions about the NZPF, NZEI, and NZST. However, not all people who could respond did (nine gave no response to the question about the Ministry, and 34 did the same for the question about the Advisory Service). As we could not separate valid non-responses from others, all percentages shown in this graph are calculated from those answering the question.

Figure 10 Ratings of support received by principals



Support from the NZPF

Overall, 88 percent of NZPF members rated the support they received from the NZPF as good or excellent. Perceptions of excellent support were associated with:

- decile, with the highest rating (12 percent) coming from decile 1-2 school principals, 11 percent from decile 3-4 and 9-10 principals, and eight percent from decile 5-8 school principals;
- ethnicity (nine percent of NZ European principals, 14 percent of Māori principals, and eight percent of other principals);
- stress (nine percent of those who reported high or extremely high levels of stress, compared with 13 percent of those who reported low or extremely low levels);
- experience (6 percent of those who have under five years' experience, rising to 15 percent of those who have over 20 years' experience). There were no statistically significant associations with any other health variables.

Support from the NZ School Trustees' Association

Overall, 56 percent of the principals said the support they got from NZSTA was good or excellent. Seventeen percent of NZSTA members gave a rating of excellent for the support they received (used for most comparisons), and 10 percent gave a rating of Poor or Very poor (used for comparisons where indicated). This rating was associated with:

- decile (22 percent of decile 1-2 school principals, dropping to 15 percent of those from decile 7-10 schools);
- gender (12 percent of males and 21 percent of females);
- health (17 percent of those who rated their health as really not good, compared with 21 percent of those who reported they were very or exceptionally healthy);

- happiness (23 percent of the unhappy respondents gave a rating of *poor or very poor*, compared with eight percent of the happy respondents);
- stress (16 percent of those reporting high or extremely high levels of stress, compared with 20 percent of those reporting low or extremely low levels);
- experience (23 percent of those with under two years' experience, decreasing to 11 percent of those with over 20 years' experience).

Support from the Advisory Service

The Advisory Service was given a good or excellent rating by 54 percent of the principals. There was an association between an excellent rating and:

- school roll (23 percent of U1 or U2 school principals, decreasing to 4 percent of those from U7 and above schools);
- locality (13 percent of city school principals, 17 percent of town school principals, and 21 percent of rural school principals);
- gender (12 percent of males and 20 percent of females);
- happiness, where there was a tendency for the less happy people to give poorer ratings, and the more happy people to give better ratings;
- experience (24 percent of those with under two years' experience, decreasing to 11 percent of those with more than 20 years' experience).

Support from NZEI

Overall, 43 percent of NZEI members gave it a good or excellent rating. Twenty-three percent of the members gave the support they received from NZEI as poor or very poor rating, and the comparisons are made with this percentage. There was an association between a poor or very poor rating and:

- school roll (19 percent of U1 or U2 principals, rising to 26 percent of U7 and above principals);
- location (25 percent of those from city schools, compared with 17 percent of other principals; good or excellent ratings were given by 34 percent of city school principals, 38 percent of those from town schools, and 48 percent of those from rural schools);
- health (33 percent of those who rated their health as really not good, compared with 21 percent of those who said they were very or exceptionally healthy);
- happiness (35 percent of those who said they were unhappy, compared with 20 percent of those who were happy);
- qualifications (47 percent of those with teaching diplomas or certificates, 40 percent of those with bachelor degrees, and 39 percent of those with post-graduate degrees gave a rating of *good or excellent*).

Support from Ministry of Education

Thirty-two percent rated their support from the Ministry of Education as good or excellent. Twenty-three percent of the respondents also rated the support from the Ministry of Education as poor or very poor, and the comparisons are mainly made with this percentage, and the exceptions are shown clearly. Poor ratings were associated with:

- school roll (19 percent of U1 or U2 school principals, rising to 32 percent of U7 and above principals);
- location (29 percent of city school principals, 24 percent of those from town schools, and 19 percent of those from rural schools);
- gender (28 percent of males, and 22 percent of females);
- ethnicity (27 percent of NZ European principals, 15 percent of Māori, and 12 percent of other principals);
- health (34 percent of those who rated their health as really not good, compared with 22 percent of those who said they were very or exceptionally healthy);
- tiredness (31 percent of those whose performance was affected by tiredness, compared with 22 percent of those who reported no problems);
- happiness (42 percent of those who reported they were unhappy, compared with 21 percent of those who said they were happy);
- stress (29 percent of those reporting high or extremely high levels of stress, compared with 20 percent of those reporting low or extremely low levels);
- quality non-work-related socializing (30 percent of those who had none, compared with 26 percent of those who had a lot; more clearly seen as 28 percent of those who had none gave ratings of *good or excellent*, compared with 42 percent of those who had a lot); age (41 percent of those under 45 years gave a rating of *good or excellent*, compared with 30 percent of those over 45 years);
- experience (eight percent of those with under two years' experience — 56 percent of this group gave *good or excellent* ratings, 22 percent of those with two to five years' experience, 29 percent of those with five to 20 years' experience, and 32 percent of those with over 20 years' experience — 22 percent of this group gave *good or excellent* ratings).

Summary

We have seen that the principals' participation in formal networking with other principals depends mainly on the characteristics of their school, which probably determine how easy it is to get away to meetings or conferences, and to some extent on their gender, ethnicity, age, length of experience, and how readily they socialise. It was harder for principals of small schools, rural schools, and low decile schools to participate in networks.

Principals of these schools were more likely however to feel supported by outside agencies and organisations: rural and small schools by the advisory service and Ministry of Education; principals of low decile schools by NZPF and NZSTA. Newer principals tended to feel more supported than those with more experience, which may indicate that those who have been

principals for many years may have different expectations as well as needs than the more newly-appointed principals.

Are there associations also between principals' level of participation and perceptions of support?

Attendance at regional, sectional or interest conferences, NZPF National Conference, regional Principals' Association conferences, and local Principals' Association meetings were all associated with perceptions of levels of support from the NZPF. The strongest associations were with the NZPF National Conference, and the local Principals' Association meetings. The associations are not particularly strong, but an idea of their extent can be gained by looking at attendance at the NZPF National Conference: 16 percent of those who reported attending rarely gave a poor or satisfactory rating to the level of support given by NZPF (and 84 percent gave a good or excellent rating), compared with three percent of those who always attended (and 97 percent who gave a good or excellent rating).

Support from the NZEI was associated with levels of participation in regional, sectional, or interest conferences.

Being involved in the First Time Principals' Programme was associated with opinions about the level of support received from the NZST, Ministry of Education, and Advisory Service. In each case, those who were involved in the First Time Principals' Programme were likely to rate the support they received more highly than other respondents. It is, however, difficult to say whether this was because of their participation in the programme, or because of their length of experience as a principal, as on the whole older, and more particularly more experienced principals were likely to give lower support ratings.

Being in regular contact, formal or informal, with other principals, and possibly using that contact to talk through issues was associated with perceptions of levels of support from the NZPF (more frequent contact tended to be associated with higher ratings of support), and with attendance at the three types of conference, and the local Principals' Association meetings. The strength of these associations can be seen, for example, when looking at attendance of regional, sectional, or interest conference: of those who rarely have contact with other principals, 33 percent rarely attend the conferences, and 31 percent attend most times or always, compared with those who have weekly contact with other principals, of whom 13 percent rarely attend conferences, and 55 percent attend most times or always. There was also a weaker association between contact with other principals and perceptions of support from the Ministry of Education.

Different groups of principals can be discerned: those who are well-networked, both formally and informally, and those who appear to stand largely outside.

6. The big picture

In this final chapter, we look at the big picture. We brought together the wide ranging variables discussed in the previous chapters to identify underlying patterns. We defined groups of questions that were answered similarly (typically sets of questions about similar aspects of the principals' lives or jobs) using factor analysis, and we used regression analysis to evaluate the relative importance of these aspects of principals' roles, in terms of their contribution to the well-being of the principals.

The creation of the factors, and the items that went into them, are given in the appendix. The factors were:

Well-being (this includes overall stress levels)
Fitness
Workload and role balance
Stressors related to paperwork, resources, and compliance
Stressors related to staff
Stressors related to students
Stressors related to parents
Relation with board of trustees
Support
Participation
Being valued
Network review

Contributions to principals' well-being

On the whole the principals had relatively good ratings on the well-being scale, but a quarter of them had moderate to low ratings.

The well-being scale had a lowest score of 1.5, and a highest score of 10 (one or more people gave themselves a "perfect score" on all the items in the scale). Half the respondents had scores between 5.75 and 7.33, and the mean score was 6.5.

The model we fitted looked at how much of this variation in well-being could be explained by each of the factors. We also checked to see if any of the variables not used to make scale variables

(general health, school size, type, decile, roll change, outcome of the school's last ERO review), age, gender, experience, or qualifications helped to explain the variation in well-being. Only the outcome of the school's last ERO review did, in conjunction with differences in the relationship with the board of trustees.

We found that 46 percent of the variability in the well-being score was explained by a combination of: workload & role balance, general health, being valued, support, relationship with the Board of Trustees, stressors from parents, fitness, stressors from staff, outcome of the last ERO review, and participation in networks (these are in approximate order of importance).

The other variables did not add significantly to this model. This does not mean that they do not contribute to well-being, but that they not contribute different information about well-being than the variables included in the model. This is because of the associations between these variables and those included in the model. We have aimed to fit a model that accounts for the most variability using the fewest variables.

What does the model tell us about the relative importance of these aspects, when we look at principals as a whole? Table 2 gives the amount by which our 1-10 scale for well-being will increase, for each increase of a point on the workload, being valued, etc. scales. This amount gives an idea of the relative importance of each of the explanatory scales.

Table 3 **Modelled amount of increase in well-being, for each unit increase on other scales**

Explanatory variables	Estimated increase in well-being	Standard Error
Workload & role balance	0.31	0.02
Support	0.09	0.02
Stressors from parents	0.06	0.02
Stressors from staff	0.05	0.02
Fitness	0.05	0.01
Participation in networks	0.03	0.01
<i>Interactions</i>		
Being valued if exceptionally healthy	0.41	0.27
Being valued if very healthy	0.09	0.25
Being valued if generally healthy	0.15	0.25
Being valued if health is really not good	0.06	0.26
Relationship with Board of Trustees if ERO review was excellent	0.05	0.13
Relationship with Board of Trustees if ERO review was generally good	0.05	0.13
Relationship with Board of Trustees if ERO review showed some real problems	0.20	0.14
Relationship with Board of Trustees if ERO review showed serious concerns	0.34	0.14

This model gives an interesting perspective on principals' well-being. It can be most improved by improving their workload and role balance. Feeling supported by outside agencies and organisations is next important. It plays more of a role than their physical fitness, though they need to be fit enough to have the energy, physical and mental, to tackle the multiple challenges of their role. Stressors from parents and staff contribute more to levels of well-being (or lack of them) than stressors from students (which do not add significantly to the model). Participation in principals' networks offers some support for well-being.

The interactions are a little more challenging to understand, and their meaning is not clear. Being valued made the greatest increase in well-being to principals who rated their health as being better. For the principals whose health was really not good, those who were not valued were almost as likely to have a high well-being score as a low one, and those who had a high score for being valued had a similar spread of well-being scores. On average though, the well-being score increased slightly with the being valued score.

How strongly the relationship with the Board of Trustees related to well-being depended on the outcome of the school's most recent ERO review. Where the review showed serious concerns, there was a strong association between the relationship with the Board and well-being, indicating that this relationship becomes more critical where a school faces concerns. Where the review was

more favourable, this relationship was less strong and there were more principals who had a low score for the relationship with the Board and a relatively high score for well-being, or who had a high score for the relationship with the Board and a relatively low score for well-being.

Discussion

Stress can be hard to define (Wilson 2002), since it is difficult to separate it from its effects, and it involves a relationship between pressures and individual responses. Originally, the concept was developed in physiology to refer to responses to demands placed on the human body, and demands that could stimulate as well as threaten. Generally, however, stress is understood and commonly used in terms of negative demand or pressure. Individuals vary in their ability to adjust or live with these demands or pressures.

Wilson (2002) in her overview of research on teacher stress, points to workload (quantity, quality and time pressures) and dealing with people as the prime causes of stress at work. She also mentions 'problematic' change, including lack of support from central government, constant change, lack of information about how change is to be implemented, increased amounts of time on non-teaching (direct teaching), tension related to school inspections, and school mergers.

Work-related stress is now acknowledged in New Zealand's health and safety legislation. The English approach is not based on legislation, but focuses on providing tools for organisations to reduce stress. Seven stressor areas were identified (Mackay, Cousins, Kelly, Lee, & McCaig 2004).

- Demands (including workload, work patterns, and the work environment)
- Control (how much say the person has in the way they do their work)
- Support (which includes the encouragement, sponsorship and resources provided by the organisation, line management and colleagues)
- Relationships at work (which includes promoting positive working practices to avoid conflict and dealing with unacceptable behaviour)
- Role (whether people understand their role within the organisation and whether the organisation ensures that the person does not have conflicting roles)
- Change (how organisational change (large or small) is managed and communicated in the organisation)
- Culture (the way in which organisations demonstrate management commitment and have procedures which are fair and open).

Workload and role emerge from the analysis of this data from principals as key stressors for principals – who are the managers of their organisations. Workload issues are not simply the long hours worked, but the nature of the principal's role. The tension between educational leadership and management or administration implicit in self-managing schools has been evident for some time (Livingstone 1999, Wylie 1997). There is also inherent tension between school self-management, and the reality of also being part of a national system. A study of teacher workload

in English schools (PricewaterhouseCoopers 2001) found that principals had more intensive and greater workloads than other managers and professionals. This study identified the importance of 'finding the right balance between accountability and trust', and of reducing workload 'to ensure sustainable school improvement'.

Principals of small schools, and rural schools, and also those whose rolls were fluctuating or declining, and to a lesser extent those of low socioeconomic decile schools, were more likely to find aspects of their role stressful. Inasmuch as women and Māori principals were more likely to be heading small or rural schools, they were also more likely to identify these sources of stress. The issues facing rural schools have been identified for some time, with a range of different solutions proposed (some more palatable than others to rural communities) (Collins 2004). Questions have also been raised about the different pathways to and through the principalship for women and men (Brooking 2005). In recent years, there has been more attention paid to supporting principals, particularly first-time principals.

The analysis in this report shows that these are not the only principals who experience stress, and who find some aspects of their work stressful. The challenge is now to see if we can find some creative ways to provide more balance in the role of the principal, and to find ways to create common ground between the needs of individual schools and the government agencies that fund, support, and review them.

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Appendix 1: Analysis outline

The chi-square tests used are those calculated by SAS (SAS Institute Inc., 1999–2001). The SAS printout provides three chi-square tests: the Pearson (the “usual” test), likelihood-ratio, and Mantel-Haenszel chi-square tests. The Pearson test can be inflated by very low expected frequencies, but the likelihood-ratio test is not, so we mainly used the likelihood-ratio test results. The Mantel-Haenszel test is useful where both variables are measured on an ordinal scale (like a Likert-type scale, as most of our variables were), as it tests the alternative hypothesis that there is a linear association between the row variable and the column variable, and the test statistic is based on the Pearson correlation coefficient. This is the situation that we in fact have with many of our tests for association. A linear association is one where, for example, respondents with a low level of overall stress tend also to report a low level of stress about resourcing needs, and those with a high level of overall stress report a high level of stress about resourcing needs.

We report associations that had a p -value of less than 0.01 for the likelihood-ratio chi-square test, or where the p -value was between 0.05 and 0.01 on the likelihood-ratio test, and less than 0.01 on the Mantel-Haenszel chi-square test.

Where there were statistically significant associations between variables, we usually illustrate these with comparative percentages. Usually, these percentages differ by about 10 percent, but some that differ by less are also reported in cases where there was a strong linear trend across the table.

Making factors

We used regression, fitting the model in R (R Development Core Team, 2003) to model the relationship between well-being and aspects of principal’s role reported in section 6. For this model, we used principal component analysis with varimax rotation, using SAS (SAS Institute Inc., 1999–2001) and formed a total of 12 scales, as shown below, where the names used to describe the scale, items used to make the scale, and where appropriate, a measure of Cronbach’s alpha¹⁰ for the scale are given.

¹⁰ Cronbach’s alpha is a measure of the reliability of a scale, or a measure of association between the items. The values of alpha are typically between 0 and 1, with values over 0.8 indicating good reliability. Usually, as a guideline, scales with values of 0.7 or more are used.

Well-being (0.88)

- During the past week have you experienced frustration in relation to your job as principal?
- During the past week describe your state of general happiness with job and life
- During the last week describe your emotional state
- During the past week how often have you been feeling tense?
- During the past week how often have you been feeling optimistic about your life and job as a school principal?
- Over the last week, how would you describe your stress level?
- During the past week have you had feelings of impatience?
- Your job gives you great satisfaction¹¹
- During the last week choose the closest correct statement with regards to your level of tiredness

Fitness (0.75)

- During the past week how often have you carried out some other [not at the gym] form of fitness activity for at least 30 minutes at a time?
- During the past week how often have you exercised in a gym for at least 30 minutes?
- Which of the following statements [about regularity of exercise] best describes you?

Stressors related to staff (0.85)

Stress caused by:

- Staff resistance to change
- Interpersonal conflicts at school
- Poorly performing senior management
- Slow teacher/staff morale
- Staff competency
- Employment issues in relation to staff

Stressors related to students (0.76)

Stress caused by behavioural/violence problem pupils

- Dealing with children who have severe behavioural problems at your school is [something you do how often]?
- Stress caused by Child Protection issues
- Stress caused by Critical Incidents

¹¹ This item fitted better here than anywhere else, although it is not strictly speaking a “health” item. It certainly is more strongly associated with the health outcomes than with any other variables.

Stressors related to paperwork, resources, and compliance (0.70)

- Stress caused by Compliances
- Stress caused by OSH regulations
- Stress caused by Ministry initiatives, paperwork and other system demands
- Stress caused by resourcing needs
- Stress caused by lack of ICT support

Workload & role balance (0.66)

- Stress caused by the multi-tasking nature of the job
- There is so much work to do, I never seem to get on top of it
- Stress caused by lack of time to focus on teaching and learning
- What percentage of your work is management rather than leadership orientated?

Stressors related to parents (0.76)

- Stress caused by aggressive behaviour from parents
- Stress caused by parental expectations
- Stress caused by complaints management

Relationship with Board of Trustees (0.78)

- Stress caused by Board of Trustees involvement in management of school
- Which option best describes your relationship with your Board of Trustees?
- Stress caused by Board of Trustees competence
- Stress caused by employment issues in relation to yourself and Board

Support (0.67)

- Level of support from NZEI
- Level of support from Advisory Service
- Level of support from Ministry of Education
- Level of support from NZST
- Level of support from NZPF

Participation (0.67)

Attendance at:

- Other regional, interest or sectional conferences
- Regional Principals' Association conference
- NZPF National Conference
- Meetings of local Principals' Association

and

- How often do you either meet with, ring or contact fellow principals formally/informally to discuss issues, work, coping needs or to socialise?

Being valued

- Do your Board and community value the work that you do as their principal?
- Do your staff (all staff) value the work that you do as their principal?

Network review

- Stress caused by Network Reviews
- How concerned are you about the possibility that your school will be involved in a Network Review?

Scale scores were formed by taking the mean of the items. Where some items on a particular scale were rated 1-5 and others 1-4, say, they were scaled to be on an approximately similar scale before the mean was calculated. The scale score was then converted to a 1-10 scale, where a score of 1 would indicate the worst possible scenario, and a score of 10 the best.