

# Health Promoting Schools

## Impact on Targeted Student Outcomes

### Analysis Report

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# Executive Summary

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Health Promoting Schools (or HPS) is a school community focused national service funded by the Ministry of Health in New Zealand. This service has been designed to help schools assess and address the health and wellbeing requirements of their students to advance student learning and achievement outcomes.

The purpose of this analysis was to assess the impact that the Health Promoting Schools (HPS) approach was having in New Zealand schools on the targeted student outcomes of attendance, transience, suspensions, stand-downs, and achievement.

To model the impact of the HPS approach on these outcome variables, the following indicators were used: HPS facilitator performance, HPS health and wellbeing rubric performance, degree of school involvement in the HPS service, school engagement and relationship with whānau, Educational Review Office (ERO) cycle category, and school decile.

Results showed that, with the exception of transience (due to missing data), these student outcomes were positively impacted by a school's involvement in the HPS service. Specifically, structural models showed that a proportion of the gains made by schools in these outcomes could be predicted by a school's successful implementation of the HPS approach.

Multivariate modelling also showed the impact of leadership within schools as being strongly correlated with the degree of success gained by a school's involvement in the HPS approach. For example, results showed that the effect of the approach was enhanced by leaders who performed strongly on establishing equity and excellence across their school.

Across all of the school outcomes, the strongest predictor was the degree to which schools successfully established educationally powerful connections and relationships with parents and whānau. This finding clearly suggests that the development of these relationships is critical to the effectiveness of the HPS approach on students.

The role of the HPS facilitator was also seen as being a significant predictor of a school's successful implementation of the HPS approach, particularly in relation to improvements in attendance, stand-downs and suspensions.

Amongst the various tools and data used to measure impact, school performance on the HPS health and wellbeing rubric was shown to be a powerful tool to measure the impact of the HPS service. The tool provides HPS facilitators and schools with a framework to clearly evaluate current practices, and establish a systematic approach to improving the health and wellbeing of students. This rubric was found to be a psychometrically valid and reliable measure of a school's health and wellbeing capabilities.

# Introduction

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The HPS service is a school community health and wellbeing development framework and approach that fosters collaborative relationship building and engagement. HPS is a process that seeks to improve the health and educational outcomes for students. St. Leger (1999) states that the prime purpose of HPS is to achieve educational goals through addressing health issues within an educational framework.

HPS facilitates and supports school communities (leaders, teachers, students, parents and whānau and others in the community) to work together to better understand, evaluate, and activate the unique health and wellbeing needs of their students, and ensure they are aligned with the vision, values, goals, and priorities of their school.

As a national service to schools, HPS has been promoted as being an effective mechanism to ensure the right combination of health and social services are sought and utilised by schools. As such, HPS acts as an enabler for schools to provide effective and timely responses to the ever-changing health and wellbeing circumstances of student's in their schools.

The development of the New Zealand HPS approach was guided by the World Health Organization (WHO) Health Promoting Schools framework, which was founded on the principles of the Ottawa Charter for Health Promotion (1986). In their Global School Health Initiative paper, the WHO define HPS as one “that constantly strengthens its capacity as a healthy setting for living, learning and working” (WHO, 1986).

The HPS National Leadership and Co-ordination Service (Cognition Education Limited), in conjunction with the Ministry of Health and the health and education sectors, developed the HPS service approach with the aim to measurably improve the health and wellbeing of New Zealand school communities. The Ministry of Health provides HPS to schools as a free service. It is not a mandatory requirement for schools to make use of the service, rather schools can choose to take part. At the end of 2016, a total of 1,518 schools – 60% of all schools – were participating in the service across New Zealand (see Appendix 1).

The approach seeks to support all aspects relating to hauora - physical, mental, emotional, social, and spiritual wellbeing. To achieve this, trained HPS facilitators, from District Health Boards throughout New Zealand, support schools to establish connections between the different groups in a school community: child, whānau/family, education, health and social service organisations. In line with the holistic school community approach, the HPS framework and tools enable these groups to work together to make a positive impact on communities' health and wellbeing. Ideally, schools include health and wellbeing into their planning and review processes, teaching strategies, curriculum, and assessment activities.

The New Zealand HPS approach was guided by St Leger's (1999) observation that “the health sector had largely ignored the vast literature on school organisation and improvement, teaching and learning practices, professional development, and innovation and dissemination...schools are complex places and the way forward in school health requires more sophisticated theoretical models which are based on both health and educational frameworks” (pg. 65). The New Zealand HPS approach and theory for improvement was therefore based on sound evidence from both the health and education sector on how to improve health, wellbeing, and education outcomes in school communities. As an outcome of

improving the health and wellbeing of students, the approach seeks to have measurable positive impact on student outcomes, specifically, learning behaviours and achievement.

Previous research has found that different aspects of students learning and performance have benefited from improvements in their health and wellbeing (see Appendix 2). Building on this research, this analysis was aimed at assessing the impact of the HPS approach on the targeted student outcomes of increased attendance and achievement, and decreased transience, suspensions, and stand-downs.

# Methodology

The purpose of this analysis was to establish the relationships between the various areas of the HPS approach on positive student behaviours and academic achievement of students. Using various multivariate modelling techniques, data was analysed and tested in relation to its structure (Structural Equation Modelling: SEM). Using a Partial Least Squares (PLS) SEM approach, the degree and direction of the correlations between factors was tested across all the variables. Data from the following areas were modelled to determine the degree of impact that they have, as separate constructs and collectively, on the student outcomes.

HPS areas and school-based constructs (independent variables):

- Quality/performance of the HPS facilitator
- Performance on (and completion of) the HPS health and wellbeing rubric
- School decile
- HPS level of inquiry
- Level of involvement in HPS (non-HPS, non-HPS with health promotion/wellbeing focus)
- Whānau engagement with schools
- Educational Review Office (ERO) cycle category

Student target outcomes - positive student behaviours and academic outcomes (dependent variables):

- Attendance
- Truancy
- Stand-downs
- Suspensions
- Achievement

## Sample

The student outcome data in the analysis ranged over 2013 to 2016. As many of the HPS schools with complete longitudinal data sets covered the primary and intermediate years (years 1 – 9), the analysis was focused on these school years (see Figure 1).

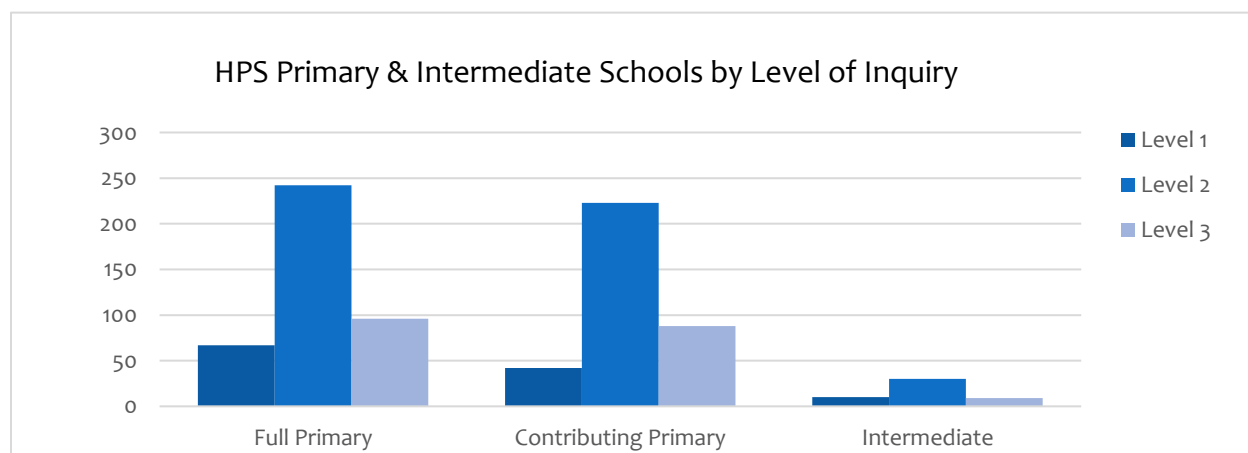


Figure 1. The distribution of schools' inquiry levels on the HPS rubric by school type.

To assess impact, only schools that were at Levels 1, 2, and 3 of the HPS inquiry cycle were included in the final dataset of HPS schools ( $n = 807$ ). Of this total, there were 492 schools that had more than 35% Maori and/or Pasifika students on their roll.

In addition to the HPS sample, two comparison samples were established. One sample consisted of schools who were not participating in the HPS approach ( $n = 920$ ), with the other sample consisting of schools that were participating in Health Promotion initiatives but were not under the HPS framework ( $n = 412$ ). School variables were matched in this sample to ensure a robust representative sample of non-HPS schools.

Statistically, the large sizes of the both the HPS school sample and the two non-HPS comparison samples permitted the SEM technique to be robustly applied.

## Measures and Data

The following outlines the various measures and datasets that were used to assess the effectiveness of the HPS approach<sup>1</sup>.

### ERO Cycle Category

The Educational Review Office (ERO) conducts internal and external evaluations on school performance against specific and wide-ranging criteria (ERO, 2011). The results of these evaluations provide evidence on what is working in schools and for students (e.g., approaches, processes, improvement and accelerated student achievement), which can be used to determine and influence policies, and promote better educational practice. An outcome indicator of a school's performance is represented by the ERO cycle. The differentiated cycle categories are<sup>2</sup>:

- The 1-2 year return category describes those schools working with ERO to develop a self-review capacity so that they can develop strategies to focus on and improve student achievement
- The 3 year return category describes those schools that have established effective processes for student engagement, progress, and achievement
- The 4-5 year return category describes those schools who can consistently demonstrate sustained student engagement, progress, and achievement.

### HPS Health and Wellbeing Rubric

The HPS health and wellbeing rubric<sup>3</sup> is an evaluation tool that provides a framework to assess the current policies, procedures and practises of a school that have been identified to contribute to improvements in educational, health and wellbeing outcomes in school communities.

The rubric consists of four levels of inquiry, across six domain indicators. The levels of inquiry (or HPS Inquiry Cycle) are aligned with the ERO learner-focused evaluation processes recommended for internal evaluations. The domain indicators are based on the ERO school evaluation process indicators.

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<sup>1</sup> See Appendix 3 for a comprehensive breakdown of the codes and derived variables used for this analysis.

<sup>2</sup> ERO's National Evaluation Approach Performance – school reviews 2015-2016.

<sup>3</sup> Referred to as the HPS rubric in the report.



The rubric has been developed to allow a wide range of school performance and capability assessments conducted by ERO to be aligned with indicators specifically focused on school health and wellbeing. The tool can be used to give an indication of progress over time that a school is making on each domain.

The levels of inquiry are:

**Emergent:** Indicates that the school is yet to question and examine their data, requires an HPS facilitator to notice. At this level, there is a high level of support needed from the HPS facilitator.

**Level 1:** Indicates an early involvement in the approach with schools *noticing and investigating* their performance against the rubrics outcome and process indicators. At this level, there is a high level of support needed from the HPS facilitator.

**Level 2:** Indicates that schools have developed their inquiry capability to being able to collaborate sense-making with the school community to take the appropriate actions. At level 2 there is a medium level of supported needed from the HPS facilitator.

**Level 3:** Indicates that schools have processes and procedures that are embedded within the schools' practices, strategic plans and policies. Schools at this level of inquiry only require a low level of support from HPS facilitators.

School leadership, independent of the HPS facilitators, score school performance on each of the domains, against each of the levels of inquiry. This structure aids in differentiating the progress that schools have made based on the evidence of change being reflected in the school community.

The domain indicators are:

1. Student achievement and progress
2. Stewardship
3. Leadership for equity and excellence
4. Educationally powerful connections and relationships
5. Responsive curriculum, effective teaching, and opportunity to learn
6. Professional capability and collective capacity.

## HPS Schools Survey

The HPS Schools Survey is an annual survey that is completed by the school leadership of schools participating in the HPS approach. The survey has been designed to gather feedback on various aspects of the HPS approach and service, specifically, tools and resources, workshops, and the quality of the facilitator. On the latter, specific items in the survey ask school leaders to give feedback on the perceived quality of communication, support and advice provided by their school's HPS facilitator.

## HPS Database

The HPS database collects, analyses and produces regular reports on the inputs, outputs activities and outcomes achieved by schools receiving the HPS service.

## Ministry of Education data

Student learning behaviour and academic achievement data was supplied by the Ministry of Education. The student learning behaviour data showed rates of attendance, stand-downs, transience, and suspensions for each school over the past four years (2013 to 2016). The student achievement data consisted of National Standards performance in reading, mathematics, and writing. Achievement results for each school were disaggregated to *well below or below*, *at or above*, and the overall subject percentage for each year.

## Data Analysis

To examine the differences between the three samples, data was analysed using the following school-based demographic variables: school type, decile, proportion of Maori and Pasifika students and ERO cycle category. Propensity score matching was used as a statistical method to match the comparison groups to the HPS sample as closely as possible on the range of variables outlined above. Where schools could not be matched identically, as close a match as possible was sought.

The next phase of analysis consisted of conducting various Analysis of Variance (ANOVA) and independent *t*-tests to determine the changes over for the longitudinal data, and the correlations between each of the variables. To determine the specifics surrounding which groups differ from each other, and based on tests of homogeneity of variances, either Tukey HSD (equal variances) or Games-Howell (unequal variances) post hoc multiple comparisons tests were applied. The school-based variables were also examined to ascertain their possible mediating or moderating effects on the outcome variables.

Analyses were conducted to identify the constructs and sub-constructs being measured within each the measures. In particular, exploratory factor analysis (EFA) was used to investigate the number of relationships among the interval-level variables represented by the levels of inquiry used in the HPS rubric, and the responses to the HPS Schools Survey.

## Structural Equation Modelling (SEM)

SEM is a comprehensive approach to testing hypotheses about the predictive relationships between variables (see Figure 2). The data in this analysis was tested using the structural equation model-based PLS methodology for two reasons. First, given the uniqueness of the New Zealand HPS approach, there is currently not a well-developed research theory to justify a pure linear structural relationship. Second, PLS is the most appropriate method where the primary purpose of the analysis is concerned with the prediction of dependent variables (Fornell & Bookstein, 1982; Fornell & Larcker, 1981; Garthwaite, 1994).

This technique, measures the statistical ‘fit’ between the empirical data that has been collected from the HPS measures and student outcome data. Pre-specified directional relationships between the key areas from each measure were examined and tested. The results from this allowed the modelling of directional relationships between the model areas (Ablers, 2010).

## Model Estimations

The Ministry of Education dataset provided the rates of attendance, transience, stand-downs, suspensions, and National Standards achievement data (2013-2016). The AVE internal consistency measure is like Cronbach's alpha as a measure of internal consistency except it presumes, a priori, that each indicator of a construct contributes equally (i.e., the loadings are set to be the same).

Cronbach's alpha assumes parallel measures and represents a lower bound of composite reliability (Chin, 1998; Fornell & Larcker, 1981). The AVE measure, is unaffected by differing scale lengths, is more general than Cronbach's alpha, but the interpretation of the values obtained is similar and the guidelines offered by Nunnally and Bernstein (1994) can be adopted. All reliability measures were above the recommended level of .70, indicating adequate internal consistency (Fornell & Bookstein, 1982; Nunnally & Bernstein, 1994). The AVE were also above the minimum threshold of .50 (Chin, 1998; Fornell & Larcker, 1981) and ranged from .62 to .78 (see Table 1). When AVE is greater than .50, the variance shared with a construct and its measures is greater than the error. This level was achieved for all of the model areas.

Convergent validity is demonstrated when items load highly (loading  $>.50$ ) on their associated factors. Individual reflective measures are considered to be reliable if they correlate more than .70 with the construct they intend to measure. In the early stages of scale development, loading of .50 or .60 is considered acceptable if there are additional indicators in the block for comparative purposes (Chin, 1998). Table 1 shows most of the loadings were above .70 for the eight constructs.

Discriminant validity was assessed using two methods. First, by examining the cross-loadings of the constructs and the measures and, second, by comparing the square root of the AVE for each construct with the correlation between the construct and other constructs in the model (Chin, 1998; Fornell & Larcker, 1981). All constructs in the estimated model fulfilled the condition of discriminant validity.

Overall, the measurement model results provided support for the reliability, convergent, and discriminant validities of the measures used in the study.

## Missing data

The decision of how to handle missing data lies in establishing the mechanism and data patterns, and missing value approach. As the cases with the missing patterns matrix indicated, while there was no obvious systematic pattern to the missing data, conditions for complete randomness (i.e., missing completely at random: MCAR) could not be assumed. As such, Little and Rubin's (2002) definition of missing at random (MAR), was used as a more appropriate classification for this data. MAR exists when, given two variables, A and B, the probability of the response depends on A, but not on B (Allison, 2001). For example, if the likelihood that a school does not provide a full set of HPS rubric data is not related to their other schools-based demographics, such as decile or school type, then the missing data is most reasonably classified as MAR. The most common method for handling such data is to adopt an ad hoc listwise deletion approach (Howell, 2007). This approach was used in this study. This meant that if missing data existed on any one of the variables used, the entire case was removed from further analysis.

# Results

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The following results represent analysis that was conducted to compare HPS schools to the two non-HPS school samples. Preliminary analysis did not show a statistically significant difference in the targeted student outcomes when the two non-HPS school samples were compared individually for the ANOVA analysis presented below. Given this, results are reported here in relation to the findings comparing HPS schools sample and non-HPS schools sample, where both comparison sample have been aggregated into the one sample.

The repeated measures ANOVA with a Greenhouse-Geisser correction was conducted to assess whether there were differences between the average attendance rates of the HPS and non-HPS schools. Results indicated that the attendance rates for HPS schools were higher than those from matched non-HPS schools,  $F(1.98, 36.94) = 39.88, p < .005, R^2 = .92, \eta^2 = .75$ . The HPS approach had a positive impact on student rates of attendance. Polynomial contrasts indicated, in support of this, there was a significant linear trend,  $F(1, 1598) = 26.53, p < 0.001, \eta^2 = .87$ . A repeated MANOVA was conducted to assess if there were differences between HPS schools with different ERO cycles that performed well on the HPS rubric over the last two years (2015 and 2016), and have had an effective HPS facilitator. A significant difference was found, Wilk's  $\Lambda = .724, F(49, 206, 574) = 3.78, p = .004$ , indicating that this linear combination of variables was the most significant.

The same statistical techniques were applied to both stand-down and suspension rates. Findings from the repeated measures ANOVA showed that there were differences between the two samples in relation to rates of stand-downs and suspensions. Comparing the two samples, results indicated that HPS schools had lower rates of stand-downs and suspensions than those from the matched non-HPS schools,  $F(6.38, 105.77) = 157.22, p < .005, R^2 = 0.92, \eta^2 = .74$ . Polynomial contrasts indicated, in support of this, there was a significant linear trend,  $F(1, 1598) = 64.21, p < 0.005, \eta^2 = .47$ . A repeated MANOVA was conducted to assess if there were differences between HPS schools with different ERO cycles that performed well on the HPS rubric over the last two years (2015 and 2016), and have had an effective HPS facilitator. A significant difference was found, Wilk's  $\Lambda = .967, F(64, 245, 696) = 48.43, p = .002$ , indicating that this linear combination of approach variables was the most significant, where ERO school cycles were 3 years and 4 years.

A doubly multivariate analysis was conducted to assess if there was a difference in the amount of change in average reading results over 2015-2016. Significant multivariate effects were found for the main effects group,  $F(2, 874) = 1020, p = .001$  and time  $F(2, 874) = 914, p < .001$ , as well as for the main interactions between group and time,  $F(2, 874) = 799, p < .001$ . This interaction effect indicates that the difference between the HPS and non-HPS schools on the linear combination of the assessment changes over the two year period.

Follow-up ANOVAs revealed that the significant change between the groups was only for National Standards in reading, and across the 2015 to 2016 period  $F(2, 874) = 464, p < .001$ , and that ERO cycles of 3 years and 4 years were most significant. These results showed that HPS schools' National Standards results in reading were statistically higher on average than reading performance from non-HPS schools. There were no significant results for mathematics or writing.

Across all these results, school decile was not shown to be a statistically significant variable, nor was the whether the school consisted of greater than 35% Maori or Pasifika students.

## Results of Structural Equation Modelling

Based on the multivariate results the following modelling was conducted on the data.

Given that PLS makes no distributional assumptions in its parameter estimation procedure, traditional parameter-based techniques for significance testing and model evaluation are considered to be less appropriate (Chin, 1998).

PLS has as its primary objective the minimization of error (or equivalently the maximization of variance explained) across all constructs. One consequence of this difference in objectives is that no proper overall goodness-of-fit measures exist for PLS. Consistent with the distribution free, predictive approach of PLS (Wold, 1985), the structural model was evaluated using the R-squared for the dependent constructs, the Stone-Geisser  $Q^2$  test (Geisser, 1975; Stone, 1974) for predictive relevance, and the size, t statistics, and significance level of the structural path coefficients. The t statistics were estimated using the bootstrap resampling procedure (100 resamples). The results of the structural model are summarized in the following tables (see Table 1 and Table 2).

**Table 1:** Structural model results showing the predictive impact of HPS approach on rates school attendance.

Predictive impact	Path Coefficient	Observed t value	Significance level
Effect on rates of school attendance ( $R^2 = .79$ )			
- Quality/performance of the HPS facilitator	+ .69	+ 7.60	***
- Performance on (and completion of) the HPS health and wellbeing rubric	+ .72	+ 4.93	***
- School decile	+ .21	+ 4.77	**
- HPS level of inquiry (2 and 3)	+ .63	+ 6.32	***
- Whānau engagement with schools	+ .81	+ 2.03	**
- Educational Review Office (ERO) cycle category	+ .52	+ 4.55	***

\*\*\*  $p < .01$ , \*\*  $p < .05$

**Table 2:** Structural model results showing the predictive impact of HPS approach on rates of stand-downs and suspensions.

Predictive impact	Path Coefficient	Observed t value	Significance level
Effect on stand-downs and suspensions ( $R^2 = .65$ )			
- Quality/performance of the HPS facilitator	+ .61	+ 19.60	**
- Performance on (and completion of) the HPS health and wellbeing rubric	+ .69	+ 9.93	***
- School decile	+ .18	+ 11.77	**
- HPS level of inquiry (2 and 3)	+ .67	+ 8.48	***
- Whānau engagement with schools	+ .81	+ 14.52	**
- Educational Review Office (ERO) cycle category	+ .42	+ 6.43	***

\*\*\*  $p < .01$ , \*\*  $p < .05$

**Table 3:** Structural model results showing the predictive impact of HPS areas on student academic outcomes in reading.

Predictive impact	Path Coefficient	Observed t value	Significance level
Effect on academic outcomes in reading ( $R^2 = .54$ )			
- Quality/performance of the HPS facilitator	+ .45	+3.67	**
- Performance on (and completion of) the HPS health and wellbeing rubric	+ .69	+ 8.42	***
- School decile	+ .12	+ .67	*
- HPS level of inquiry (2 and 3)	+ .54	+ 6.22	**
- Whānau engagement with schools	+ .91	+ 11.79	**
- Educational Review Office (ERO) cycle category	+ .70	+ 7.44	***

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$

## R<sup>2</sup> for Dependent Constructs

The results show that the structural model explains 60% of the variance in the attendance construct and 42% percent of the variance in the stand-downs and suspensions constructs. The percentage of variance explained for these primary dependent variables were greater than 10 percent, implying satisfactory and substantive value and predictive power of the PLS model (Falk & Miller, 1992).

## The Stone-Geisser Q<sup>2</sup> Test

In addition to examining the R<sup>2</sup>, the PLS model is also evaluated by looking at the Q<sup>2</sup> for predictive relevance for the model constructs. Q<sup>2</sup> is a measure of how well the observed values are reproduced by the model and its parameter estimates. Q<sup>2</sup> is estimated using a blindfolding procedure that omits a part of the data for a block of indicators during parameter estimation (Chin, 1998). The omitted part is then estimated using the estimated parameters, and the procedure is repeated until every data point has been omitted and estimated. A redundancy Q<sup>2</sup> is obtained if prediction of the omitted data points is made by constructs that are predictors of the blindfolded construct in the PLS model (Veniak, Midgley, & Devinney, 1998). Q<sup>2</sup> greater than zero implies that the model has predictive relevance, whereas Q<sup>2</sup> less than zero suggests that the model lacks predictive relevance. Using omission distances of 9 and 12 produced identical results, indicating that the model estimates are very stable. Further, the communality Q<sup>2</sup> was greater than zero for all constructs.

Looking at the redundancy Q<sup>2</sup>, both positive student behaviours (i.e., attendance, stand-downs and suspensions) and academic (reading) outcomes have positive redundancy Q<sup>2</sup> values (Henseler & Sarstedt, 2013). Overall, the estimated model has good communality Q<sup>2</sup> for the model measures and good predictive relevance for the outcome constructs of student behaviours (i.e., attendance, stand-downs and suspensions) and academic outcomes in reading.

## Structural Path Coefficients

Coefficients results showed that, on average, 60% (2015-2016) of the gains seen in HPS schools' attendance rates, are attributable to (or explained by) the impact of the HPS approach. By comparison, non-HPS schools, when matched on the school-based variables, showed only the ERO cycle accounting for a small positive gain in attendance.

Results also showed that on average, 42% (2015-2016) of the decreases seen in HPS schools' stand-down and suspensions rates, are attributable to (or explained by) the impact of the HPS approach. By comparison, non-HPS schools, when matched on the school-based variables, showed only the ERO cycle accounting for a small-moderate positive decrease in stand-down and suspension rates.

There was a moderate-strong direct relationship between HPS schools' and their achievement in reading performance (R<sup>2</sup> = .54). The largest impact of the HPS approach was seen in the degree of whānau engagement with schools (path coefficient = .80), followed by performance on the HPS rubric (path coefficient = .69). Together with the MANOVA results, this indicated that the HPS schools were outperforming non-HPS school in the reading achievement.



Post-hoc modelling showed that two specific rubric areas were predicting the positive student outcomes. These areas were: *leadership for equity and excellence* (path coefficient = .71), and *educationally powerful connections and relationships* (path coefficient = .69). Analysis showed that two specific areas measured by the HPS Schools Survey were the predictors of positive student outcomes. First, effective facilitators were reported as having established a relationship of trust with the schools (path coefficient = .81), second, they provided continuous communication and support to schools (path coefficient = .75).

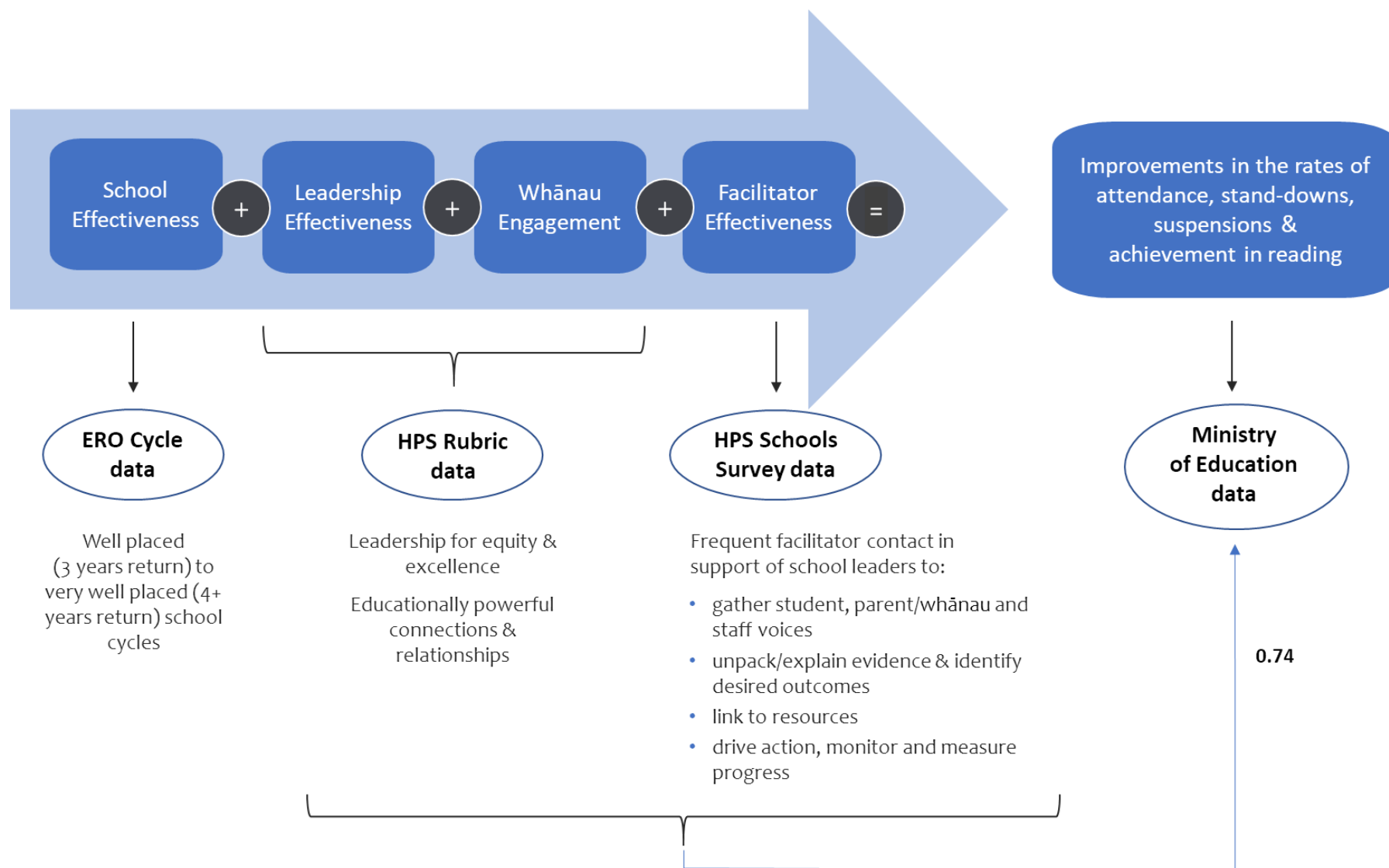
Based on these results, the following hypothesised measurement model was constructed based on the following combination of HPS areas (see Figure 2). Specifically, ERO school cycles (3 years and 4 years) and HPS Rubric (indicators and inquiry levels), and HPS Schools Survey (focus on strong facilitator performance<sup>4</sup>) were predictive of improvements in the rates of attendance, stand-downs, suspensions and reading achievement data (path coefficient = .74,  $p < .05$ ).

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<sup>4</sup> Of note, findings from a previous evaluation on the Schools Survey conducted by Cognition Education (2016), where high performing facilitators were correlated with schools' success on HPS rubric outcomes.



**Figure 2.** The PLS SEM model showing the areas that were most predictive of positive student outcomes in an HPS school.



# Recommendations

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Given the predictive power of the HPS rubric tool it is recommended that the rubric is used as a self-evaluative tool by schools at least one a year. Missing data analysis did show that some schools had only completed the rubric once over the past few years. The rubric's strength as both a diagnostic tool for health and wellbeing assessment and an ongoing self-evaluative tool should be fully utilised by the approach and schools.

Full psychometric analysis should be conducted on the HPS rubric to ensure strong construct validity and reliability is associated with this tool. This analysis would allow for the identification of any cross-validation of factors, and potentially redundant rubric areas. For example, given the strong correlation between leadership for equity and excellence and educationally powerful connections and relationships, there may be reasonable justification for additional areas in the rubric to expand on these prevalent areas.

Similarly, psychometric analysis of the HPS Schools Survey would be of benefit given the findings of this evaluation. The significant predictive relationship between the quality and performance of the HPS facilitator suggests additional items would be useful in gathering more specific information.

There is the need to ascertain why only reading performance appears to be improved by involvement in the HPS approach, with writing and mathematics showing no significant differences when compared with non-HPS schools. This result should prompt further investigation as it is not clear why there were not comparative gains made against the National Standards in these other two curriculum areas.

The comparative results showed that HPS schools who were participating in health promotion initiatives (i.e., with health and wellbeing priorities only) did not have the impact on student outcomes as defined in this analysis. In fact, findings showed that there were little, if any, differences in student outcomes between these schools and non-HPS schools. Therefore, it is recommended that the HPS approach should be adopted as an over-arching framework to support the implementation of the health promotion initiatives.

Further, the results from this analysis have strongly indicated the positive impact that the HPS approach has on student learning behaviours and academic performance in reading. Given the significant health and wellbeing issues of teenagers, it is strongly recommended that the uptake of the HPS service is actively targeted towards secondary schools.

# Conclusions

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Schools that are participating in the HPS service have seen increased positive outcomes for students when compared to schools not participating in the HPS service.

HPS schools with 3 years or more between ERO cycles, that had performed well on the HPS rubric over the last two years (2015-2016) and had an effective HPS facilitator were found to have had improved student attendance rates. Analysis showed on average, when these factors were combined, 60% of the gains seen in HPS school attendance rates could be predicted by the impact of the HPS approach. By comparison, non HPS schools, when matched on the same variables, showed only the ERO cycle accounting for a small positive gain in attendance.

Similarly, the HPS approach was shown to help schools reduce the number of students being stood-down or suspended from school. HPS schools that performed well on the HPS rubric over the last two years (2015-2016) and had at least 3 years between ERO cycles showed on average, that 42% of the decreases in stand-downs and suspensions could be predicted by the impact of the HPS approach. In comparison, non HPS schools, when matched on the same variables, showed only the ERO cycle accounting for a small reduction in stand-downs and suspensions.

Results strongly indicated that students who attended schools that had at least 3 years between ERO cycles and were receiving the HPS service, showed significant improvements in their learning and performance in reading over the previous two years (2015-2016). On average, 29% of the improvements seen in reading performance at Health Promoting Schools could be predicted by the impact of the HPS approach.

The PLS structural modelling showed that when, school effectiveness, leadership effectiveness, whānau engagement, and HPS facilitator effectiveness are combined, schools see positive student outcomes in attendance, stand-downs and suspensions, and achievement in reading. School effectiveness was strongest where ERO cycles were occurring at least 3 years apart.

There was a strong relationship between successful student outcomes and effective school leadership. School leaders who had created an environment where there was a strong emphasis on equity and excellence across their school, and had developed educationally powerful connections and relationships with students, parents and whānau had a large positive impact on positive student outcomes.

Essential to the findings outlined here was the need of an effective HPS facilitator, as measured by the HPS Schools Survey. The survey results found that the degree of support and communication given by the HPS facilitator to schools strongly predicted the overall successfulness of an HPS school. Facilitators had the greatest impact where they supported schools to collect staff, student and parent/whānau voices, and explained findings and identified desirable outcomes. Further, effective facilitators linked schools to specific resources that were appropriate to meet their school community requirements. High performing facilitators were found to be effective at supporting schools to implement the actions required, and measure and monitor their progress.

In conclusion, this analysis showed that the HPS approach to health and wellbeing significantly contributed to the positive student outcomes experienced by schools.

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# Appendix 1

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## HPS schools as at November 2016

HPS status detail	Total schools
0: Emergent – HPS prompt to notice	214
1: Noticing and investigating	82
2: Collaborative sense-making and action	589
3: Whanau agency, monitoring and evaluating	339
Communication	294
TOTAL HPS schools	1,518
Percent of New Zealand schools receiving HPS service	60%

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## Appendix 2

### Literature Review Summary

Relationship between learning behaviours and student achievement				
Year	Name and other details	Variables considered	Methodology incl. sample size and duration	Correlation and/or predictor/ Results
2010	Michael A. Gottfried, Wharton Business School. <a href="#">Available here</a>	Student attendance and relationship to student achievement.	Philadelphia, USA. Longitudinal (1996-2001) individual level, n=86,000 students in kindergarten through grade 8. An instrumental variables strategy is utilised. This uses a two-stage least squares format, in which there are two separate regression equations for each stage. Stage one is necessary because unobserved, time-variant influences are affecting both independent and dependent variables. The results would yield biased estimates. Here a one-year lagged GPA score serves as a proxy for individual student fixed effects. However, there may also be unobservable factors that are time-variant, and the use of implementing fixed effects would not necessarily remedy this problem. Stage two employed an instrumental variable - in this case geographic distance from school - as the exogenous independent variable, as this is not directly correlated to student achievement, except through its relationship with student attendance.	This study evaluates the hypothesis that the number of days a student is present in school positively affects learning outcomes. This paper confirms that student performance can be influenced by higher levels of attendance.

<p><b>2010</b></p>	<p>School attendance and retention of Indigenous Australian students Nola Purdie and Sarah Buckley. <a href="#">Available here</a></p>	<p>Assumes attendance affects student educational achievement. Paper provides information on the different approaches that have been used to improve attendance and/or retention.</p>	<p>Australia. Report notes that attendance data is not consistently measured between schools or across states and territories.</p>	<p>Divides programmes into: Scholarships, financial support and support structures; Sanctions (also used in NZ), ‘Hooks’, incentives and rewards, Cultural relevance, Systems-based initiatives and School-based initiatives. Interestingly, most programmes had not been monitored and evaluated (Some such as 'Sanctions' were noted as having evaluation ongoing). <i>"In our exploration of the attendance and retention literature, one fact was overwhelmingly evident—there is very little high-quality evaluation literature."</i> It is unfortunate that the literature cannot provide clearer guidance about what works in promoting better attendance and retention for Indigenous Australian students. In the absence of rigorous evaluation literature, the strategies that Bourke et al. (2000) and Boulden (2006) suggested provide a sound starting point. They are in accord with what educational research does tell us about highly effective practices for continuous improvement in learning for all students, including highly effective teaching practices, supported and driven by aligned school and system policies and practices (Barber &amp; Mourshed 2007; Hattie 2003); and deep knowledge, targeted teaching, and continuous monitoring (Masters 2009). <b>Also of note: "A common feature of successful educational programs, however, was that of a creative collaboration, which builds bridges between public agencies and the community, often by engaging parents or community-based organisations."</b></p>
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<p><b>2013</b></p>	<p>Student attendance and educational outcomes: Every day counts. Kirsten Hancock et al. <a href="#">Available here</a></p>	<p>Attendance and educational outcomes</p>	<p>Western Australia Department of Education administrative data (2.4 million records for over 415,000 individual students), 2008-12. Analysed a set of key characteristics that describe schools and students and examined attendance and absence using three main measures: attendance rate; authorised absence rate; and unauthorised absence rate. Used NAPLAN scores in the numeracy, reading and writing domains to assess student achievement. NAPLAN tests are administered every year throughout Australia to students in Years 3, 5, 7 and 9.</p>	<p>(1) In all analyses, average academic achievement on NAPLAN tests declined with any absence from school and continued to decline as absence rates increased. The nature of the relationship between absence from school and achievement, across all sub-groups of students strongly suggests that every day of attendance in school contributes towards a child's learning, and that academic outcomes are enhanced by maximising attendance in school. There is no "safe" threshold. The effects of absence also accumulate over time. Absence from school is related to academic achievement in numeracy, reading and writing not only in the current year, but in future years as well.</p> <p>(2) Unequivocal finding that relative disadvantage was associated with poorer attendance, from the very beginning of formal schooling. Students in schools with a lower Socio-Economic Index (SEI), Aboriginal students, students who were highly mobile and those whose parents had lower levels of education and occupational status, all had lower levels of attendance, on average. These attendance gaps were established early (by at least Year 1), and are influenced by factors and events prior to school entry. These patterns were observed repeatedly, across all indicators of disadvantage and using different types of analysis (e.g. both cross-sectional and longitudinal).</p>
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<p><b>2013</b></p>	<p>The Correlation Between School Attendance and Student Achievement Bruce Laws. <a href="#">Available here</a></p>	<p>Attendance and educational outcomes</p>	<p>Review of articles pertaining to correlation between attendance and achievement, and procedures used in NZ schools to improve attendance. Author also uses data from his own and other schools (3 schools in total over two years so very small) that show a correlation between attendance rates and the number of students who are involved in school support programmes that are put in place to help support and raise student achievement.</p>	<p>Considers two overseas studies that indicate school absence undermines student achievement. This gap gets larger over time, and it is also suggested that "even a child with good attendance suffers a small loss academically when the school has a high absentee rate, suggesting that excessive absences across the board can undermine the quality of instruction for all students." There is no indication what other factors might be at work here. It confirms that student attendance is a statistically significant predictor of performance. The second study showed that at all levels there was a correlation between the attendance rate and the performance rate of students. The 9th Grade results showed the greatest variance indicating that poor attendance can widen the achievement gap as student's progress through the school.</p>
<p><b>2013</b></p>	<p>The Negative Effects of Student Mobility: Mobility as a Predictor, Mobility as a Mediator Jimmy Scherrer. <a href="#">Available here</a></p>	<p>This study is driven by four concerns pertaining to student mobility: school connectedness, social capital, unintended consequences of accountability systems (ie By not including mobile students in accountability measures, teachers have the perverse incentive to give a disproportionate amount of energy to the students who will "count"), and peer group externalities.</p>	<p>Two analyses are discussed. The first (n=7,600 students) uses a multi-level analysis to investigate the relationship between student mobility and reading achievement of students. The second (aggregated data on 21 elementary schools from a medium-sized urban district located in the northeast of the United States) analysis uses aggregate school-level data to investigate if student mobility mediates the relationship between a school's socioeconomic status and its academic achievement levels.</p>	<p>Study 1: 75 percent of the true between-school variance in reading achievement is accounted for by Mean SES. In addition, mobility is negatively and statistically related to school reading achievement. We can expect, on average, mobile students' reading achievement to be 2–3 points lower than that of their stable peers. The negative effect of mobility persists even as a school's mean SES increases. Study 2: Indicated that SES indeed acts as a mediator in the relationship between a school's SES and its academic achievement. These results suggest that certain circumstances associated with being of low-SES might cause a school's students to be mobile, and that a school's achievement is dependent upon the percentage of its students who are stable. The finding that the negative effect of mobility persists despite increased SES is consistent with Hancock et al, 2017 (below).</p>

2013	<p>Do Children Who Move Home and School Frequently Have Poorer Educational Outcomes in Their Early Years at School? An Anonymised Cohort Study Hutchings et al. <a href="#">Available here</a></p>	<p>Frequent mobility and link to poor educational attainment.</p>	<p>Cohort analysis of 121,422 children. Cohort was children who were born within Wales between 1 September 1995 and 31 August 2001 (6 academic school years) for whom educational data were available at age 6–7. Binary regression modeling was used to examine residential moves within the three time periods: 0 – ,1 year; 1 – ,4 years and 4 – ,6 years. School moves were examined from age 4 to age 6.</p>	<p>Children who moved home frequently were more likely not to achieve in formal assessments compared with children not moving. Adjusted odds ratios were significant for 3 or more moves within the time period 1–4 years and for any number of residential moves within the time period 4–6 years. There was a dose response relationship, with increased odds ratios with increased frequency of residential moves (2 or more moves at 4–,6 years, adjusted odds ratio 1.16 (1.03, 1.29). The most marked effect was seen with frequent school moves where 2 or more moves resulted in an adjusted odds ratio of 2.33 (1.82, 2.98).</p>
2014	<p>Attendance in primary school: factors and consequences Daraganova et al. <a href="#">Available here</a></p>	<p>The report aims to understand attendance patterns in primary school by considering external factors; and the effects of students’ low attendance on their academic achievement (numeracy and reading) in primary school.</p>	<p>Report uses data from Growing Up in Australia: the Longitudinal Study of Australian Children (N=12,838). This report utilises only one cohort LSAC data, and also individual achievement scores from NAPLAN. Absences were reported by parents. Study analysed (1) the associations between academic achievement in numeracy and reading, as measured by NAPLAN testing, and the most recent prior measure of non-attendance, and (2) the associations between academic achievement in numeracy and reading and the previous two prior measures of non-attendance.</p>	<p>Family and parenting factors were more important for children in the early primary school years and became less important as they grew older; Previous rates of school attendance became more influential over time, implying that the absenteeism process is increasingly self-sustaining; and children with higher levels of school readiness at 4–5 years were less likely to be absent early on, and school readiness continued to be significantly associated with absenteeism six years later when children were 10–11 years old. In broad terms:</p> <ul style="list-style-type: none"> <li>• Higher levels of school non-attendance were associated with lower levels of numeracy, particularly in the early primary school years.</li> <li>• Higher levels of school non-attendance were not associated with lower reading skills for children in primary school.</li> </ul> <p>(Note this is a 100 page report that tested 7 models so the information presented here is minimal)</p>

2016	<p>Assessing the effect of school days and absences on test score performance Aucejo and Romano. <a href="#">Working paper here</a></p>	<p>Relative effect of reducing absences relative to increasing the number of school days on test score performance.</p>	<p>Compares efforts to increase length of school year in the US with competing policies such as reducing absenteeism. Uses North Carolina Dept. of Education dataset 2006-10 33, grades 3–5. N=1.3M The dataset makes it possible to track the progress of an individual student over their educational careers and link students to their teachers 35 and school in each year, provided they stay within the universe of North Carolina public schools.</p>	<p>The authors' preferred specification indicates that extending the school calendar by ten days would increase math and reading test scores by 1.7% and an insignificant 0.8% of a standard deviation, respectively, while a similar reduction in absences would lead to an increase of 5.5% in math and of 2.9% in reading scores. The authors performed of robustness checks including utilizing flu data to instrument for absences, family-year fixed effects, distinguishing between excused and unexcused absences, and controlling for a contemporaneous measure of student disengagement. Results are robust to these alternative specifications. In addition, findings indicate considerable heterogeneity across student ability, suggesting that targeting absenteeism among low performing students could aid in narrowing current gaps in performance.</p>
2016	<p>Factors related to early childhood literacy: An Exploratory Study Robert Vagi, Arizona State University. <a href="#">Available here</a></p>	<p>Factors that affect whether or not a child learns to read and write by the third grade.</p>	<p>One-off cross-section analysis (2013-14 school year). Large dataset from Arizona Department of Education, the Arizona Department of Health, First Things First and Head Start. n=758 schools. A wide variety of variables were tested. Examined relationships between school-, district-, health-, and family-related factors in two separate analyses. The first analysis examines schools in relation to school districts and primary care areas. The second examines schools in relation to school districts and First Things First regions. In each of these analyses, the outcome of interest is the percentage of students passing the AIMS reading test in the 3rd grade in 2014 at the school-level. Only schools with all of the relevant data were included in the analysis (i.e. schools with masked data were excluded).</p>	<p>Looking at the grand mean centered analysis, four coefficients were statistically significant at <math>p &lt; .05</math>. These were whether or not a school was a charter school, the percentage of students in poverty, third grade attendance rates, and the schoolwide chronic absence rate. With regard to the attendance rates, a 1% increase in attendance rate is associated with an average increase of 1.5% of students passing AIMS reading. Finally, the coefficient for chronic absence rate indicates that a 1% increase in chronic absenteeism is associated with a .3% decrease in the number of students passing AIMS reading. Analysis shows that third grade attendance rates and chronic absenteeism are strongly related to third grade reading scores even after controlling for poverty.</p>

2016	Stand-downs, suspensions, exclusions and expulsions from school Ministry of Education, New Zealand. <a href="#">Available here</a>	Monitoring report on suspensions etc. data in NZ schools 2001-2015.	Min Ed data across all schools, 2001-2015. Presentation of data broken down by type (suspension, stand-down etc.), quintile, ethnicity, age, gender and by behaviour type.	Suspensions etc. have fallen steadily since 2001. For drug-related and smoking/alcohol behaviours, the rate of suspensions etc. has plummeted. Focus on achieving target of 85% of 18-year olds achieving NCEA Level 2 or an equivalent qualification has focused attention on suspensions, which are predominantly a secondary school issue. The monitoring report notes: "Research emphasises the importance of proactive partnerships with parents and a strategy focused on both achievement and behaviour. Approaches that are focused only on disciplinary or pastoral responses have been found to be ineffective for positive outcomes." (p3)
2016	Transient Students Ministry of Education, New Zealand. <a href="#">Available here</a>	New Zealand transience data monitoring report. Brief findings of relationship between transience and NCEA results.	Methodology not clear from publication. Brief findings and graph do not discuss any confounding issues that might impact on students' lower pass rates at NCEA level 2.	Students who have moved school twice or more across Year 9 to Year 11 are less than half as likely to achieve NCEA Level 2 or above by the time they leave school compared to those who have not moved school. Students who have not moved school from Year 9 to Year 11 achieve NCEA Level 2 or above at a rate of 82% by the time they leave school, compared to those who have moved school twice or more who achieve NCEA Level 2 or above at a rate of 35%. The report notes (not referenced) that "a recent study found that school movement had an even stronger effect on educational success than residential movement."

<p><b>2017</b></p>	<p>Associations between school absence and academic achievement: Do socioeconomics matter? DOI: 10.1002/berj.3267 Hancock et al.</p>	<p>Attendance, achievement, socioeconomic background.</p>	<p>Enrolment, absence and achievement records of 89,365 Year 5, 7 and 9 students attending government schools in Western Australian between 2008 and 2012. Multivariate multi-level modelling methods were used to estimate numeracy, writing and reading outcomes based on school absence, and interactions between levels of absence and school socioeconomic index (SEI), prior achievement, gender, ethnicity, language background, parent education and occupation status. The main limitation of the study is that the data do not include the 33% of students in Western Australia who attend non-government schools. This is a more pronounced issue in later school years, as non-government schools take up an increasing share of the student population.</p>	<p>For numeracy and reading achievement outcomes, higher levels of absence and lower achievement were more strongly associated for previously high achieving students. For writing achievement, this association was smaller for previously high-achieving students. The authors note the previous literature on this topic has also been inconsistent. The broader narrative of student absences has mainly focused on absence being a problem for disadvantaged students or for disadvantaged schools. While our findings were consistent with some of these findings, our results showed that the effects of absence on achievement appear to be larger for students attending more advantaged schools, and students with higher levels of prior achievement. Thus, while disadvantaged schools should rightfully aim to reduce absences, given that these schools on average have higher rates of absence and lower achievement scores, these results show that high-achieving students or those attending more advantaged schools are not 'immune' to the effects of absence, and that absence is therefore an important issue for all students and all schools, irrespective of social background.</p>
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Assessments of effectiveness of the Health Promoting Schools (HPS) framework to improve the health and wellbeing of students and their academic achievement				
Year	Name and other details	Variables considered	Methodology incl sample size and duration	Correlation and/or predictor/ Results
1999	St Leger, L.H. Health Education Research Theory and Practice The opportunities and effectiveness of the health promoting primary school in improving child health-a review of the claims and evidence, Vol no.1.	Not applicable.		The health sector has largely ignored the vast literature on school organisation and improvement, teaching and learning practices, professional development, and innovation and dissemination. Schools are complex places and the way forward in school health requires more sophisticated theoretical models which are based on both health and educational frameworks.
2004	Mintzberg, H Managers not MBAs Berret-Koehler Publishers San Francisco.	Not applicable.		Essentially HPS is a process that seeks to change (improve) the health and educational outcomes for students. St Leger explains that the prime purpose of HPS is “achieving educational goals through addressing health issues within an educational framework.”
2013	Bradley, BJ, Greene, A.  Do Health and Education Agencies in the United States Share Responsibility for Academic Achievement and Health? A Review of 25 Years of Evidence About the Relationship of Adolescents’ Academic Achievement and Health Behaviors.	Review of original research published in peer-reviewed journals between 1985 and 2010 to synthesize evidence about the association of adolescent health-risk behaviors and academic achievement.	122 articles were included that used at least one variable for health-risk behaviors and also for academic achievement.	The results of this review of 25 years of research published in peer-reviewed journals provide clear evidence of the extent to which health-risk behaviors and academic achievement are interrelated and have long-term consequences for youth, adults, and society. These results could be used to inform coercion led by national leaders in health and education to address “educationally relevant health disparities”. In Healthy People 2020, there is an objective that would have reciprocal effects and could serve as the basis for the initial focus of interagency coercion. [Note this was focused on adolescents and risky behaviour rather than general health and wellbeing.]

<p><b>2014</b></p>	<p>Langford R, Bonell CP, Jones HE, Poulou T, Murphy SM, Waters E, Komro KA, Gibbs LF, Magnus D, Campbell R.</p> <p>The World Health Organization’s Health Promoting Schools framework: a Cochrane systematic review and meta-analysis.</p> <p><a href="#">Available here</a></p>	<p>To assess the effectiveness of the Health Promoting Schools (HPS) framework in improving the health and wellbeing of students and their academic achievement.</p>	<p>Systematic database review.</p>	<p>Study included 67 eligible cluster trials, randomising 1443 schools or districts. This is made up of 1345 schools and 98 districts. The studies tackled a range of health issues: physical activity (4), nutrition (12), physical activity and nutrition combined (18), bullying (7), tobacco (5), alcohol (2), sexual health (2), violence (2), mental health (2), hand-washing (2), multiple risk behaviours (7), cycle-helmet use (1), eating disorders (1), sun protection (1), and oral health (1). The quality of evidence overall was low to moderate as determined by the GRADE approach. The results of this review provide evidence for the effectiveness of some interventions based on the HPS framework for improving certain health outcomes but not others. In addition, few studies included any academic, attendance or school-related outcomes. Given the paucity of data, it is not possible to determine the impact of the HPS approach on academic or attendance or both outcomes.</p>
<p><b>2017</b></p>	<p>WHO Health Promoting School: an effective approach for early action on NCD risk factors.</p> <p><a href="#">Available here</a></p>		<p>An HPS (WHO) is a school that fosters health and learning with all the measures at its disposal; engages health and education officials, teachers, teachers’ unions, students, parents, health providers and community leaders in efforts to make the school a healthy place.</p>	<p>The evidence from systematic reviews in high-income countries shows that the HPS approach can contribute to improving children’s health by reducing the risk factors for NCDs, e.g. by improving body mass index, increasing physical activity, increasing intake of fruit and vegetables and reducing tobacco use.</p>
<p><b>2017</b></p>	<p>HPS approach - a school community development approach.</p> <p><a href="#">Available here</a></p>			<p>The purpose of Health Promoting Schools (HPS) is to improve equity, whānau wellbeing, and educational outcomes through evidence-informed practice. As a school community-driven process, HPS does not prescribe the health and wellbeing issues the school is to address.</p>



# Appendix 3

## Data dictionary

### HPS target status:

Variable name	Definition and notes	Code
<b>Original dataset</b>		
HPS target status	Whether or not an HPS target school	0 = not an HPS target school 1 = HPS target school

### HPS Level of Inquiry:

Variable name	Definition and notes	Code
HPS Status detail	The stage a school is at with regards to its identified or yet to be identified health and wellbeing/rubric/equity issue.	0 = Emergent - HPS Prompt to notice 1 = Noticing and investigating 2 = Collaborative sense-making and action 3 = Whānau agency, monitoring and evaluating 4 = Neither (no interaction) 5 = Communication (emails only)

### Grouping of HPS outcomes:

Variable name	Definition and notes	Code
<b>Original dataset</b>		
HPS (outcomes)	The changes perceived to be because of the health and wellbeing intervention. These include noticing (1-3); starting to action (4-7); changes in behaviour (8-10); and improved outcomes (11-15).	1= Increased knowledge/awareness about the focus dimension 2= A shift in attitudes about the focus dimension 3= Gained /improved/ new skills/tools to address the focus dimension 4= New practices adopted that had an impact on the focus dimension 5= School policies changed and adopted 6= Positive changes in the school physical environment 7= Positive changes in the school cultural, social and spiritual environment 8= Increase in student and whānau agency 9= A positive changes in circumstance/(s) in the school community

		10= Changes in the behaviour of groups within the school and/or school community 11= Improved student and or families/whānau health and wellbeing 12= Increase in student attendance 13= Increase in student retention 14= Increase in student engagement 15= Increase in student achievement
<b>Derived variable</b>		
Outcome	The level of outcomes achieved.	0 = No outcomes 1 = Other 2 = Noticing 3 = Starting to action 4 = Changes in behaviour 5 = Improved outcomes

### School type:

Variable name	Definition and notes	Code
School	Type of school, including suppressed data and whether schools were not on the list of HPS schools (e.g., closed or newly opened schools).	1 = Composite (Year 1-10) 2 = Composite (Year 1-15) 3 = Contributing 4 = Correspondence school 5 = Full Primary 6 = Intermediate 7 = Restricted composite (Year 7-10) 8 = Secondary (Year 11-15) 9 = Secondary (Year 7-10) 10 = Secondary (Year 7-15) 11 = Secondary (Year 9-15) 12 = Special School 13 = Teen Parent Unit 88 = Suppressed 99 = #N/A

### Health and wellbeing priority:

Variable name	Definition and notes	Code
Health and wellbeing priority	Health and wellbeing priority identified by the school.	1 = Alcohol workshop for staff and students 2 = Appendix 9: Earthquake recovery 3 = Appendix 9: Injury Prevention 4 = Appendix 9: WHANAUNGATANGA 5 = Body care and physical safety 6 = Community voice

		<p>7 = Enabling a safe environment and infrastructure</p> <p>8 = Food and nutrition</p> <p>9 = Improving the physical environment in school</p> <p>10 = Mental health</p> <p>11 = Nutrition and Physical Activity</p> <p>12 = Physical activity</p> <p>13 = Physical health e.g., asthma</p> <p>14 = Sexuality education</p> <p>15 = Staff wellbeing</p> <p>16 = Student achievement</p> <p>17 = Student attendance</p> <p>18 = Student engagement and agency</p> <p>19 = Waste Minimisation</p> <p>20 = Whanau engagement and agency</p> <p>21 = Whare tapa wha for students, staff and community</p>
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