

Sistema Aotearoa outcome evaluation


Final report

17 December 2015

Prepared for: Ministry for Culture and Heritage and Auckland
Philharmonia Orchestra



Judy Oakden Consultancy • Research Evaluation Consultancy
The Knowledge Institute • Julian King & Associates



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1 Executive Summary

1. Sistema Aotearoa is a pilot programme based on the El Sistema model, initiated in Venezuela in 1975. It offers children and young people from low socio-economic backgrounds an opportunity to learn an instrument and become part of an orchestra.
2. Through group-based musical pedagogy it also aims to improve educational and social outcomes for the participants, their families and the wider community. Emphasis is placed on building high levels of organisation, co-operation, commitment and trust among participants, as well as with parents, caregivers, school based staff members and the broader community. As the primary funder of the pilot, the government is interested in the extent to which Sistema Aotearoa has been a vehicle for social transformation by achieving these broader objectives.
3. Sistema Aotearoa has been in operation since April 2011 and its delivery is supported by the Auckland Philharmonia Orchestra (APO). There are currently around 300 children aged 6-11 years enrolled in the core Sistema programme. These children, drawn mainly from seven partnering primary schools serving decile 1 communities in Otara, attend the programme two or three times a week after school and in the school holidays.
4. Sistema Aotearoa operates on open access model and students are not pre-selected or auditioned. Interviews with partner schools suggest that the students participating in Sistema are a relatively representative cross section of the student body from the school. The drop-off rate from year to year is less than a third and more than half the students typically stay in the programme for three years or more.
5. Additional programmes delivered by Sistema Aotearoa are:
 - Puoro Pōtiki: In-school courses –around 300 children per annum
 - Puoru Pirere: Pre-schoolers groups – 280 children in 2015.

Over the past five years over 1600 primary school students have received music tuition through Sistema Aotearoa's programme delivery.

6. This evaluation focuses on the outcomes experienced by the primary school children regularly attending Sistema Aotearoa after school and in the holidays who began the programme in 2011, 2012 and 2013. This report presents the findings of an evaluation that set out to answer the following two questions:
 - In what ways, and to what extent is Sistema contributing to outcomes of value (educational, relational and social) for children?
 - In what ways, and to what extent is Sistema contributing to outcomes of value for aiga/whānau?

7. Data for the evaluation was collected using a combination of case studies with aiga/whānau and children. This included one-to-one interviews with aiga/whānau, children and a group interview with Sistema tutors and senior staff. These interviews were combined with quantitative analysis of educational achievement collected by some participating schools.
8. Five 'success case' case studies were completed with participating children and their aiga/whānau. Findings from these case studies identified a range of positive outcomes for both children and their aiga/whānau that Sistema Aotearoa appears to be contributing to in a range of ways. These outcomes are summarised below.
9. Child outcomes
 - Increased confidence
 - Increased perseverance and self-discipline
 - A vision for the future
 - Connection to, and competency in, orchestral music¹
 - Supported sense of belonging and contribution to their own culture
10. Aiga/whānau outcomes
 - Increased purpose and direction.
 - Celebration of child(ren)'s achievement.
 - Improved aiga/whānau relationships and dynamics.
 - Reinforced positive parenting and aiga/whānau values.
 - Demonstrating aiga/whānau resilience.
11. These outcomes confirm the emerging outcomes identified in the 2012 Sistema Aotearoa evaluation. This evaluation has further deepened the understanding of what outcomes participating children and their aiga/whānau are experiencing.
12. Several factors were identified from the case studies as contributing to the success of case study children and their aiga/whānau. These factors focused on aspects of the programme that encourage children and their aiga/whānau to engage in the programme and then continue to deepen their engagement. These factors are:
 - Aiga/whānau engagement and enthusiasm are critical
 - Sistema Aotearoa is free

¹ In this report we talk about Sistema Aotearoa being an orchestral music programme. However, Sistema Aotearoa also focuses on more genres of music than just classical (eg, classical, polynesian/maori, bluegrass, celtic, eastern european folk). In this report, when we talk about orchestral music we are typically referring to the full range of music types that are present in Sistema Aotearoa programme.

- Initial and continued engagement typically needs a family driver
 - Sistema Aotearoa provides opportunities for celebration of achievements
 - Sistema Aotearoa is high profile and high status.
13. Educational achievement data was gathered from four out of seven of the Sistema Aotearoa partner schools. Data was collected for students from the 2011, 2012 and 2013 Sistema Aotearoa intakes who are still with the programme in 2015. Overall Teacher Judgements (OTJs) for reading and mathematics from 2013 and 2014 were collected and analysed for these students as a marker of educational achievement.
 14. The educational analysis identified that students participating in Sistema Aotearoa have a significantly higher educational achievement in both reading and mathematics than those not participating in the programme.
 15. We know that factors such as gender, parental involvement and support, as well as positive and strong relationships with school teachers influence educational achievement (Biddulph et al 2003; Alton-Lee 2003).
 16. Our evidence suggests that the programme appears to play a role in the levels of involvement parents have in their children's learning. We found the case study children succeeding and flourishing in the programme with considerable support from their parents and wider aiga/whānau. In addition, partner schools reported that parents of Sistema Aotearoa students are more likely to engage with school staff.
 17. Partner schools also reported that many of the Sistema Aotearoa children have positive relationships with school teachers and other staff. Schools suggested that they considered this was linked to the strong relationships students develop with the Sistema Aotearoa tutors. So, it seems plausible that Sistema Aotearoa may be a mechanism through which key factors that influence educational achievement are improved.
 18. However, whilst we know that the educational achievement of Sistema Aotearoa students is higher than other students in the partner schools, it is more challenging to understand the contribution that participation in Sistema Aotearoa had on these results. It is possible that factors other than Sistema Aotearoa participation may also be influencing educational achievement. For example, although parents can often be a driving force to enrol in the programme, typically continuation in the programme is more child-driven. Therefore it is possible that the motivated and committed higher achievers are more likely to continue to participate.
 19. It is clear from the case studies that these children and their aiga/whānau have been on a substantial journey that is characterised by a range of positive changes. Sistema Aotearoa has become a large part of the lives of participating case study children and their aiga/whānau. It was also clear that the aiga/whānau value the programme enough to create systems and structures to integrate the commitment required for participation in Sistema Aotearoa into their often busy and complex lives.

20. The evidence in this evaluation suggests that for participating children, the development of confidence and leadership; perseverance and self-discipline; connection with, and competency in orchestral music; and vision for the future are outcomes that Sistema Aotearoa directly contributes to.
21. The evidence in this evaluation indicates that Sistema Aotearoa is likely to be contributing to the achievement of positive outcomes in many areas, not only for participating children but also for their wider aiga/whānau.

Background

22. Sistema Aotearoa is based on the El Sistema model, initiated in Venezuela in 1975. It offers children and young people from low socio-economic backgrounds an opportunity to learn an instrument and become part of an orchestra.
23. The programme has been described as distinctive from traditional means of instrumental music instruction (such as private tuition) because the programme is immersive with intense programme sessions both in terms of frequency and duration. The programme also builds from collective teaching methods and group-based learning and emphasises the ensemble, as opposed to one-on-one music tuition.
24. The programme is also framed as a child and community development programme, as opposed to a musical training programme. Consequently, emphasis is placed on the involvement and engagement of participants' parents and caregivers, school-based staff members and the broader community. Sistema aims to build high levels of organisation, cooperation, commitment and trust among young participants, in a place they can feel safe and challenged.
25. Sistema Aotearoa has been in operation since April 2011 and its delivery is supported by the Auckland Philharmonia Orchestra (APO). There are currently around 240 children, aged 6 to 12 years attending two to three times a week after school and in the school holidays. Students from seven decile 1 partner primary schools in Otara make up the annual intakes. However, children from 14 different primary and intermediate schools are represented because once a child is enrolled they continue in the programme if they wish, regardless of the school they attend.

Purpose and scope of the report

26. The purpose of this report is to discuss the outcomes that children and their aiga/whānau are achieving in the Sistema Aotearoa programme.
27. An earlier scoping report outlined the scope of the evaluation after the Theory of Change for Sistema Aotearoa was developed in December 2014. This evaluation scoping report posed the Key Evaluation Questions (KEQs) that have framed the scope of this report.

- In what ways, and to what extent is Sistema contributing to outcomes of value (educational, relational and social) for children?
 - In what ways, and to what extent is Sistema contributing to outcomes of value for aiga/whānau?
28. It is important to note that there are likely to be programme outcomes that sit outside of the scope of the KEQs. For example, we did not examine the outcome of the programme on the community. This evaluation focused on children and their aiga/whānau for pragmatic and logistical reasons.

Evaluation-specific methodology

29. This section presents the methods that were used in this evaluation to answer the key evaluation question.

Case studies

30. Case study is a research design that involves an intensive study of one or more cases rather than an extensive study of many (Simons, 2009), and typically also involves the use of multiple sources of evidence – often a combination of quantitative and qualitative data. The case studies in this evaluation have focused, in depth, on a relatively small set of children and families.
31. In order to get the maximum benefit of a small number of cases, an adapted success case approach (Brinkerhoff, 2003), using appreciative inquiry (Preskill & Catsambas, 2006), was used.
32. It has been well documented (Brinkerhoff, 2003) that it is possible to learn a considerable amount about a programme by focusing on either cases of success or failure – ie, the more extreme cases. These more extreme cases throw up unique findings and lessons that can be applied to more typical aspects of a programme or service.
33. The purpose of this kind of more in-depth investigation is to gain insights into what kind of conditions might be necessary for others to succeed, or on the other end of the spectrum, perhaps better understand the conditions that lead to some failing. The adapted success case study approach used in this evaluation set out to document the essence of the Sistema Aotearoa experience for the young people in five aiga/whānau. These young people were considered successful students, based on a number of positive or success criteria (further discussed below).
34. A significant proportion of the families involved in the case studies are Pacific families, so, it was important that the methodology took particular account of Pacific values and principles. It is considered impolite in Pacific cultures to talk in negative ways about a service or programme that is being received; it is culturally appropriate to respond in positive ways about any service or programme experience (P. Sauni, personal

communication, May 13, 2015). Therefore, an approach, such as the success case method, that focuses on those young people who are succeeding is more likely to generate responses that are both culturally valid and more accurate.

35. Similarly, appreciative inquiry is designed to help people identify their achievements, strengths, resilience, adaptiveness and energy through story telling. It aims to create a development pathway that is based on what is good, rather than what is not. Like the success case approach, appreciative inquiry is not uncritical, rather the focus is on those elements of a situation that an individual, or programme or funder might want to work with, in order to move forwards (Elliot, 1999).
36. The adapted case study approach used in this evaluation purposively focused on those children and their families who had exhibited a number of positive or success criteria. The criteria used for the selection/short-listing of cases identified the interpretation of success that was used in this evaluation. These included:
 - being particularly impacted by the programme (in a positive way)
 - being very active in the programme, that is, regularly attending week days and holiday programmes
 - having developed musically over the time involved, possibly excelled musically
 - having a lot of fun, enjoying and demonstrating that they're involved
 - having also developed in other social and behavioural ways such as demonstrating increased personal and relational responsibility, improved self efficacy, increased leadership, role modelling etc
 - that the aiga/whānau demonstrates engagement/commitment.

Data collection

37. Interviews were completed with five aiga/whānau and their children (seven children in total) who were taken from a short-list of students. The short list of 12 was compiled by the Sistema Aotearoa Programme Manager who developed the list in consultation with the partner schools and the Sistema Aotearoa tutors.
38. Principals and lead teachers at three partner schools were asked to put forward three names of students who they thought had been particularly impacted by involvement in Sistema Aotearoa. In addition, a group of six Sistema Aotearoa tutors were asked the same question, but also to consider musical progress as part of the journey.
39. Reassuringly, similar names appeared from different sources and a short list of the 12 Sistema Aotearoa students (from eight aiga/whānau) who appeared most frequently was submitted to the evaluation team. The

evaluation team was also provided with a brief reason for why each student was placed on the short list.

40. The evaluation team then chose five case study aiga/whānau to provide a range of genders, ages/intakes, schools and number of siblings participating in the programme.
41. The interview with the case study aiga/whānau was framed as a talanoa (Vailoeti, 2006). Using a talanoa framing means that time was spent prior to the talanoa finding out as much as one could about the participants, then during the set up of interviews through phone calls, meeting and greeting/introductions there was a mental process of locating the aiga in the cultural and genealogical context by exchanging information and contexts with the aiga.
42. Talanoa refers to 'having conversations without concealment.' This establishes trust and enables confidence to build while processing the evaluation and conversation. As acceptance builds through establishing this relationship with the aiga/whānau, the aiga feel comfortable to share their stories about their experiences with Sistema Aotearoa.
43. The talanoa framing of interviews was supported culturally by having a Pacific evaluator leading the process with aiga/whānau, complemented by a Māori evaluator. Four of the five aiga/whānau were of Pacific Island ethnic background, one of these were of mixed Māori and Pacific Island ethnic backgrounds, and one whānau was Māori.
44. In addition to the interviews with the aiga/whānau and children, a further focus group was completed with some Sistema Aotearoa programme staff. This focus group discussed their perspectives on outcomes for children in general in the programme and also for the specific case studies.
45. A further source of data were interviews with a school lead teacher about specific case studies. One lead teacher, who knows three case study children well, was interviewed to provide a long term school perspective on their change. Three of the case study children (from two aiga/whānau) had changed out of Sistema Aotearoa partner schools while they had been in the programme. Therefore, it was challenging to obtain interviews with more lead teachers.

Analysis

46. A high level thematic analysis was carried out on the interview notes to understand key themes for outcomes for the children and their aiga/whānau.
47. These themes were critically and extensively discussed by the evaluation team, which included Pacific and Māori evaluator perspectives. A summary of key themes and findings were then presented to two of the partner schools, Sistema Aotearoa programme staff and funders of the programme for comment. Verbal and written feedback from these presentations were integrated into the findings in this report.

Educational achievement data

48. This section presents the methods used for the collection and analysis of the educational achievement data.

Communication with partner schools

49. Communication with schools was by phone, email or in person. Initially emails were sent out asking partner schools to participate. Then schools were followed up by phone. Eventually, six out of the seven schools that contribute to Sistema Aotearoa were contacted.
50. Of the six partner schools contacted, one school declined to participate but the other schools agreed to contribute data to the educational achievement component of this evaluation.
51. Most data were gathered onsite, typically with an offsite representative from the educational management database software company who extracted the information from the database. One school elected to send through the data rather than have someone attend onsite and access their database.

Data collected

52. Early scoping with two Sistema Aotearoa partner schools identified that low decile schools in particular were experiencing significant data fatigue, that experience many requests for data from a range of people, with each request requiring precious time and resources to complete. Therefore a simple and practical approach that minimised participant load was required for this component of the evaluation. For a discussion of how this simple and practical approach was different from the approach outlined in the evaluation scoping document see the 'Limitations' section later in the report.
53. Given that different schools use different assessment tools, the standardised Overall Teacher Judgement (OTJ) was used as the basis for this analysis. The OTJ is used as the basis for National Standards monitoring and reporting; therefore all schools are required to report OTJ ratings².
54. The OTJ is a judgement about a student's progress and achievement based on a range of assessment tools. The OTJ reflects a wider

² No single source of information can accurately summarise a student's achievement or progress. A range of approaches is necessary in order to compile a comprehensive picture of the areas of progress, areas requiring attention, and what a student's progress looks like.

An OTJ draws on and applies the evidence gathered up to a particular point in time in order to make a judgment about a student's progress and achievement. Using a range of approaches allows the student to participate throughout the assessment process, building their assessment capability. Evidence may be gathered through the following three ways:

- Conversing with the student to find out what they know, understand and can do.
- Observing the process a student uses.
- Gathering results from formal assessments, including standardised tools.

appreciation of educational achievement compared to a single standardised test.

55. Using the OTJ also enabled us to combine data sets from each school into a larger data set to provide a more robust comparison group.
56. OTJs were collected for students in the 2011, 2012 and 2013 intakes of Sistema Aotearoa who were still in the programme as of September 2015.
57. Data from 2013 and 2014 were collected for reading and mathematics. The 2013 and 2014 judgements were identified as a more reliable and valid source of data because they had been better moderated between schools. In addition, Whilst some 2012 OTJs were available, not all schools completed OTJs in 2012.
58. Writing OTJs were not collected, because reading and mathematics OTJs were identified by one of the Sistema Aotearoa partner schools as more reliable and objective measures of educational achievement compared with writing OTJs. The explanation given by the school was that reading and mathematics assessments are typically more objective, a child can read the book/do the equation or they cannot. In contrast, perspectives about quality of writing can vary between teachers. This variability is now improved by robust moderation, but in the earlier years of OTJ's the moderation was not as reliable.
59. For ethical reasons the OTJ's were extracted in an aggregate report rather than on an individual basis. However, the data set represents two years of academic achievement for roughly the same set of students. Data was collected for 82 students from 2013 and 87 students from 2014. This represents 66% (2013 results) and 70% (2014 results) of the students from the 2011, 2012 and 2013 intakes who are still in Sistema Aotearoa.
60. The difference between the number of students whose data was available in 2013 and 2014 is likely to be because students moved schools between 2013 and 2014 or their data was not recorded properly in the school database. Table 1 below presents the numbers of students whose data was analysed by year and Sistema Aotearoa intake.

Table 1: Number of students included in analysis

Intake	Number participating in 2015	2013 educational data analysed	2014 educational data analysed
2011	43	30	27
2012	39	26	34
2013	42	26	26
TOTALS	124	82 (66%)	87 (70%)

61. In the initial evaluation scoping plan, attendance data was to be examined to understand whether attendance at school is linked with participation in Sistema Aotearoa. Whilst this data was collected from schools, it was not

able to be analysed because of the limitations inherent in the attendance report and the publicly available attendance data. See the final paragraphs of the limitations section for more detail.

Analysis

62. The comparison used for the analysis was the publicly available OTJ ratings by school and year level, which are available from the Ministry of Education (MoE).
63. Data taken from the partner schools were compared with the publicly available National Standards data to provide information about the educational achievement of the students not in the programme. Sistema Aotearoa student data was subtracted from the publicly available school level data to obtain a non-Sistema Aotearoa student data group for comparison. For example, if the MoE data indicated that 15 of the Year 3 students in a school achieved 'above' standard and data extracted from the school indicated that 5 of the Year 3 students in Sistema Aotearoa achieved 'above' standard, then we assumed that 10 students in the non-Sistema Aotearoa group were achieving 'above' standard.
64. After identifying the educational achievement of the students not in Sistema Aotearoa, a basic comparison was completed to identify any differences in the educational achievement of the Sistema Aotearoa students, compared with the non-Sistema Aotearoa students. Analysis was completed for each Sistema Aotearoa intake separately as well as combining the three intakes. Achievement in mathematics and reading were analysed separately.
65. Chi-square tests³ were used to identify whether there was a statistically significant difference in achievement in mathematics and reading. The chi-square test was only able to be completed for all intakes combined rather than each individual intake because the numbers at each intake were too small.
66. The data and analysis were moderated by an educational achievement expert⁴.

Sense-making

67. Several sense-making sessions were held after all data had been collected and analysed. Sense-making sessions are structured and facilitated discussions about the findings. Sense-making places the findings in context to understand what the data is telling us, and in the case of this

³ A chi-squared (X^2) test is a statistical method assessing the correlation / goodness of fit between a set of observed values and those that are theoretically expected.

⁴ Michael Absolum, the director of Evaluation Associates, was the educational achievement expert. He has held positions as a teacher, a psychologist, and with the education review office. For the last 15 years he has consulted to schools and the wider education system. He is a thought leader in assessment for learning. He is the author of 'Clarity in the Classroom' which is recognised by teachers as the best New Zealand text on assessment for learning.

evaluation are also used to identify what other things may be influencing the findings.

68. Sense-making sessions were held with four school principals and lead teachers, representing the two partner schools who contributed the majority of students to the programme. These schools contributed approximately 55% of all students in the 2011, 2012 and 2013 intakes who are still participating in Sistema Aotearoa in 2015.
69. In addition, a sense-making session was held with the Sistema Aotearoa Programme Manager, representatives from the Sistema Aotearoa steering group, Creative NZ, Ministry for Culture and Heritage and the Ministry of Youth Development.

2 Limitations

70. There are several significant limitations of the data sets which influence the conclusions that we are able to make in this evaluation.

Case study analysis

Limited number of case studies

71. The evaluation completed five case studies. Whilst the cases completed were rich sources of data, more case studies may have created a more detailed picture of the outcomes that children and their aiga/whānau achieve while participating in Sistema Aotearoa. In particular, with more case studies this evaluation research would have been able to capture the experiences of a wider group of children and families, who may not have travelled as far as the success case aiga/whānau.

Success cases only

72. We decided to use an adapted success case methodology for this evaluation for two reasons. First, there was limited resource and therefore limited capacity to do case studies so we focused on success cases only.
73. Secondly, because it is likely that a significant proportion of the participants involved in the case studies will be Pacific, it is important that the methodology takes account of Pacific values and principles. It is considered impolite in Pacific cultures to talk in negative ways about a service or programme that is being received. It is culturally appropriate to respond in positive ways about any service or programme experience. Therefore, an approach, such as the success case method, that focuses on those young people who are succeeding is more likely to generate responses that are more accurate and culturally valid.

Selection criteria

74. The adapted success case methodology used in this evaluation defined a set of specific criteria for the aspects of success we wanted to explore. The criteria were based on the Sistema Aotearoa Theory of Change that was developed in December 2014 (see next section).
75. Given that the aspects of success that are investigated in this evaluation were defined in advance, it is likely that there are children in the programme who are succeeding that do not exhibit the defined criteria. In fact, the Sistema Aotearoa programme staff have indicated that this is the case. Therefore, further research could examine a fuller spectrum of what success in the programme looks like and explore the different characteristics and contributing factors that have supported a variety of successes.

76. In particular, one of our criteria was high levels of aiga/whānau support. This was because the Sistema Aotearoa Theory of Change specifies that aiga/whānau participation and engagement is an important programme activity. Understanding the impact of aiga/whānau involvement was an important part of this evaluation. Therefore, the case study aiga/whānau we spoke with typified supportive and engaged aiga/whānau and this has influenced the ways in which we have found that Sistema Aotearoa contributes to success.

Educational achievement analysis

No baseline data

77. The data set collected for this evaluation does not include a baseline achievement profile for students before they started Sistema Aotearoa. The OTJ's were identified as the best measure of academic achievement to use when combining schools. However, OTJ's were only introduced in 2012 which limited our ability to collect a baseline data set.
78. OTJ's are a teacher's overall assessment of achievement based on the results of multiple assessment tools. Therefore there is an element of subjectivity to the result, but in 2013 and 2014 the moderation of the results was much more consistent across schools compared with 2012 (the first year).
79. This means that we are unable to confidently identify the achievement profile of Sistema Aotearoa students before they start the programme. Therefore, it is possible that the difference we have identified is because the higher achieving students are more likely to stay engaged with the programme.

Only two years of data

80. Ideally, to better understand the educational achievement of students in Sistema Aotearoa, we would have preferred to have been able to collect more than two years worth of data. The data set only includes two years of data because OTJ's were not as reliable in 2012 (the first year they were introduced). This is one of the factors that limits our ability to draw stronger conclusions about the educational achievement of Sistema students over time.
81. Looking at the data over two years provides a small indication of change over time, but further data would need to be added to this analysis as it became available to strengthen the findings.

Aggregate level data

82. The data collected for the evaluation were aggregate data at the school level, which were then combined into the data set for all schools. Whilst aggregate data and analysis are a valid way to identify high level

differences, it has meant that our ability to identify where the difference is occurring is very limited.

83. For a better analysis in the future, ideally researchers would be able to access individual student level data. This would enable them to understand change and educational achievement profiles at the individual student level (including those who have dropped out) rather than the aggregate school/programme level analysis.

Not all schools/students represented

84. Whilst we have more than two-thirds of the Sistema Aotearoa students included in this analysis, these only come from four of the seven Sistema Aotearoa partner schools. Data was collected from a fifth school, but we were unable to integrate it into the analysis because the usually publicly available data we needed for comparison was not available for all year levels.
85. A brief review of the educational achievement of the schools not included in the analysis suggests that the achievement profiles of the schools not included are relatively similar to the schools we have collected. But ideally we would have been able to access data for all Sistema Aotearoa partner schools.
86. It is not realistic to expect that we would have been able to collect data from all students. There are many reasons why data would not have been available even if we had been able to access the data in all schools. For example, students moving between schools and database anomalies mean that data is not available. Therefore, as with any statistical analysis we have had to take into consideration the sample size that we achieved.

No data for students who have dropped out of Sistema Aotearoa

87. The data in this analysis is based on the students from the 2011, 2012 and 2013 Sistema Aotearoa intakes that are still involved in the programme as of September 2015. Another data set, which would have been more challenging to access but would have complemented the analysis, is the educational achievement of students that were enrolled in Sistema Aotearoa and who have subsequently dropped out.
88. For this to complement our current analysis, the data analysis would need to be at the individual level to understand educational achievement before and after the student dropped out of Sistema Aotearoa.
89. Had this data been available we would have been able to understand whether students who are higher achievers are more likely to stay in the programme and vice versa. This is another area that could be pursued in future research.

Attendance data analysis was not possible

90. Attendance data was collected for the Sistema Aotearoa students from the 2011, 2012 and 2013 intake. However, this data was not able to be analysed for two reasons.
91. First, the report extracted from the student management database was not detailed enough to enable us to undertake a meaningful analysis.
92. Secondly, the publicly available comparison data was not categorised in such a way to make the comparison meaningful. In the publicly available data the attendance rate was given for decile (which included students from Years 1-13), or for year level (which included all deciles). Neither of these were valid comparison groups for the data that we were able to collect.
93. Had schools been comfortable providing attendance data for both Sistema and non-Sistema students this would have provided us with data that we could compare and analyse. But as already discussed, schools were reluctant to provide data for students not involved in the programme.

3 Sistema Aotearoa Theory of Change

94. This section presents the Sistema Aotearoa Theory of Change that was created in December 2014 as part of the scoping for this evaluation.

Overview of the Theory of Change

95. A theory of change demonstrates the path of a programme or initiative from the core components through to the desired outcomes. It describes the intended change(s) that a programme or initiative is working towards, as well as the steps that are anticipated along the journey. Theories of change also depict the underlying assumptions, values and principles of a programme or initiative.
96. The Sistema Aotearoa Theory of Change (TOC) diagram is shown below. The underlying assumptions of Sistema Aotearoa programme are that it will provide some durable benefits to the children who participate, aiga/whānau and the teachers/tutors. It is also expected that Sistema Aotearoa will influence the broader contexts of aiga/whānau, education and community sectors.
97. Figure 1 below outlines the assumptions of the programme operation (green ovals). It then presents the activities (orange circles), the high level outcomes for each stakeholder (green box) and then finally the overarching vision of the programme (above the green box).

Figure 1: Sistema Aotearoa Theory of Change



98. Table 2 and Table 3 below identifies the specific outcomes for children and aiga/whānau that were identified as part of the initial Theory of Change.

Table 2: Sistema Aotearoa outcomes for children

Outcome area	Specific outcomes
Educational outcomes	<ul style="list-style-type: none"> Improved achievement (literacy, numeracy and other curriculum objectives) Improved development of the key competencies (thinking; using language, symbols and texts; managing self; relating to others; and participating and contributing) Improved attendance and behaviour at school Increased ability to concentrate Improved ability to be attentive and responsive in learning environments
Relational outcomes	<ul style="list-style-type: none"> Improved adaptability to teaching styles and approaches outside of Sistema Aotearoa More open to different relationships of learning New skills in relating to adults and peers Increased ability to work together
Musical outcomes	<ul style="list-style-type: none"> Increased musicianship Increased competence on instrument/s Increased confidence in performing Sistema Aotearoa participants contribute to the musical life of New Zealand
Social outcomes	<ul style="list-style-type: none"> Increased self-esteem and self-efficacy Children exhibit and work towards long-term aspirations Increased self-awareness of personal / cultural identity and belonging Children exhibiting leadership and taking responsibility Children being reliable Children contributing to their families, churches, schools and their communities

Table 3: Sistema Aotearoa outcomes for aiga/whānau

Outcomes for aiga/whānau
Improved social cohesion between different cultures – negative cultural divisions are broken down
Celebration of achievements of young people
Aiga/whānau experience new learning in the following areas leading to improved aiga/whānau dynamics <ul style="list-style-type: none"> Enhancing parenting competence Encouraging and supporting their children's aspirations New skills and approaches to relating to their children and other adults including developing strategies and learning new ways of communicating.
Increased appreciation of orchestral music including increased attendance at performances (including other professional and community performances)
Aiga/whānau continue to have faith in (and therefore commit and contribute to) the Sistema Aotearoa programme

99. A Theory of Change should be a living document and be developed and refined further as a programme progresses. Therefore, it is suggested that Sistema Aotearoa, APO, MCH and CNZ review the Theory of Change. From this evaluation several areas were identified by the evaluators where the outcomes could be refined/redefined to make them better suited to the Sistema Aotearoa children and their aiga/whānau.
100. Firstly, it is noted that the current Sistema Aotearoa Theory of Change was written without input from the aiga/whānau and children themselves. Therefore we suggest that before making any changes to this suite of outcomes that the aiga/whānau and children in Sistema Aotearoa are consulted about the outcomes they hope and expect to achieve while participating in Sistema Aotearoa. This will ensure future outcomes in the Theory of Change accurately reflect the population that is participating so intensively in the programme.
101. Comments about the Theory of Change that have arisen from this research are as follows:

Outcomes for children

102. For the most part, the outcomes that were listed in the Theory of Change are the ones that were identified in the case studies (see findings section later in this report). However, the evaluators identified that one of the social outcomes needs to be reframed slightly to accomplish a truer reflection of the outcomes that children are achieving. The evaluators propose that the social outcome (see Table 2, page 21) about “increased self-awareness of personal/cultural identity and belonging” is changed to: “Contributes to a reinforcement of self awareness and personal/cultural identity and belonging”. This change is suggested because it will more accurately reflect the personal/cultural strength and belonging that the children already have.

Outcomes for aiga/whānau

103. Similarly, it was identified during this evaluation research that the outcome for aiga/whānau that is about ‘aiga/whānau experiencing new learning’ (see Table 3, page 21) does not, as it is currently worded, sufficiently acknowledge what aiga/whānau already know, value and practice.
104. Therefore, it is suggested that the entire outcome be reworded to become: ‘Contributes to reinforced positive aiga/whānau values and behaviours to support aiga/whānau cohesion and resilience’.

4 Findings in summary

105. Sistema Aotearoa has become a large part of the lives of all the aiga/whānau we spoke with. Aiga/whānau feel strongly that Sistema has contributed to a number of outcomes and changes for their children and their aiga/whānau. Our evidence suggests that there is likely to be a link between these changes and participation in Sistema Aotearoa. However, the causal relationship between the two has not been established in this evaluation⁵.
106. However, our evidence suggests that Sistema Aotearoa is creating an opportunity for the expression of valued outcomes and changes that aiga/whānau themselves want to achieve and are striving towards. As a fairly constant positive influence, over a number of years, in many young peoples' lives, aiga/whānau suggest that Sistema is playing an important role in supporting positive outcomes and change, amidst an environment that may have some negative influences. For example, an aiga/whānau was concerned about their child being influenced by gang culture as he gets older.
107. The outcomes for children and aiga/whānau that were evidenced in this evaluation are summarised in Table 4 and Table 5 below.

⁵ Establishing a causal relationship between musical education and academic performance is very difficult due to the many other opportunities and activities in which children participate, as well as the characteristics of their families, home environments and personalities. Not surprisingly, there are very few studies that have attempted to do so. See Costa-Giomi, E. (2012). Music Instruction and Children's Intellectual Development: The Educational Context of Music Participation Eugenia pp339-in *Music, Health and Wellbeing*, MacDonald, R., Kreutz, G., & Mitchell, L. (eds) Oxford University Press, New York.

Table 4: Summary of outcomes for children evidenced⁶ in the evaluation

Outcome	Brief description
Increased confidence	<ul style="list-style-type: none"> All case study children have increased their confidence while participating in Sistema Aotearoa. All case study children have increased their confidence both musically (for example, performing) as well as in other areas of their lives (for example improved self-esteem).
Increased perseverance and self-discipline	<ul style="list-style-type: none"> All case study aiga/whānau identified increased perseverance in their children. Sistema Aotearoa tutors report that perseverance (i.e. sticking to a task even if they can't do it) and teaching students how to break tasks down to make them achievable is an important skill learnt in Sistema Aotearoa. Increased self-discipline was reported, that is, children are able to self-manage their jobs and responsibilities and be organised.
A vision for the future	<ul style="list-style-type: none"> All case study children had clear aspirations for what they hoped to achieve in Sistema Aotearoa and muscially beyond the programme.
Connection to, and competency in, orchestral music	<ul style="list-style-type: none"> All case study children reported a connection to the music that was beyond just 'playing an instrument'. All case study children increased their musical skills, even those who typically have to work harder at learning and practising their instruments.
Supported sense of belonging and contribution to their own culture	<ul style="list-style-type: none"> The skills and confidence that case study children have gained from Sistema Aotearoa have contributed to their participating more in existing local cultural contexts and events. Performing at local cultural events is a way for the children to reinforce their sense of belonging and contribution within their own culture.

⁶ The vast majority of these outcomes were based on findings from the case studies, ie, they are qualitatively sourced.

Table 5: Summary of aiga/whānau outcomes evidenced in the evaluation data

Outcome	Brief description
Increased purpose and direction	<ul style="list-style-type: none"> Parents and caregivers also have aspirations and vision for their child's/children's involvement in the Sistema Aotearoa programme and beyond. Aiga/whānau create systems and structures to integrate the commitment required for participation in Sistema Aotearoa into their everyday lives because they believe it is valuable to them and their child/ren.
Celebration of children's achievement and supporting their aspirations	<ul style="list-style-type: none"> All aiga/whānau we spoke to were immensely proud of what their children achieve in Sistema Aotearoa, both within the programme and performances outside of the programme. Even though some aiga/whānau reported feeling looked down upon at Town Hall performances, they still attend because they are so committed to celebrating the achievements of their child/ren.
Improved aiga/whānau relationships and dynamics	<ul style="list-style-type: none"> Several case study aiga/whānau have experienced substantial shifts in family relationships and dynamics. For example, spending more time together, less fighting, older siblings helping and mentoring younger siblings. In addition, the Sistema Aotearoa students have more voice and influence in their families.
Reinforced positive parenting and aiga/whānau values	<ul style="list-style-type: none"> Sistema Aotearoa provides a vehicle to help reinforce positive parenting (for example positive communication, family values). Parents know that the programme helps to reinforce the positive values they are trying to teach at home. Parents appreciated knowing that respectful values and behaviours were consistent at Sistema Aotearoa and at home.
Demonstrating aiga/whānau resilience	<ul style="list-style-type: none"> Collectively, the positive changes experienced by the case study children and their aiga have demonstrated aiga/whānau resilience⁷. Case study aiga/whānau demonstrated strength and cohesiveness in their descriptions of how they work together to support their child/ren to succeed in Sistema Aotearoa. Some aiga/whānau now have the motivation to pursue their own goals for learning and development (for example learning instruments, gaining qualifications).

⁷ Resilience is the continuing growth and articulation of capacities, knowledge, insight, and virtues derived through meeting the demands and challenges of one's world, however chastening (Saleebey, as cited in Siataga, 2010)

5 Case study findings

108. This section discusses the key themes that arose from the case studies. First the themes for the outcomes for participating children are discussed followed by the themes for outcomes for aiga/whānau. Finally we unpack the aspects of the Sistema Aotearoa programme that appear to contribute to the achievement of these outcomes.
109. Child development is a complex area. In any child's life there are many complementary and/or conflicting factors that influence child development, for example, school influences, other social programmes, family dynamics etc. Therefore, as with any small scale retrospective study there are limitations to what we can conclude about the programme. Yet, the adapted success case methodology provides a robust method to identify what outcomes are present when children and their aiga/whānau are engaging well with the Sistema Aotearoa programme and succeeding.
110. What we can say from this evaluation is that each outcome discussed in this report was identified by the vast majority of participants and that Sistema Aotearoa was considered to be a driving influence in children's lives and those of their aiga/whānau. In addition, each outcome we discuss in this section occurred after a child started with the programme. Whilst some parents were unable to say whether some of the changes (or other changes) would have happened for their child anyway, other parents believed that Sistema Aotearoa was the principle source of the positive outcomes we discuss in this section.

Outcomes for children

111. This section describes the outcomes identified in the case studies. They align with the outcomes that were shown to be emerging in the 2012 evaluation. However, this evaluation presents a much deeper exploration of the outcomes and how they are being realised in the children.

Growth in confidence

112. The ages between 6 and 10 are characterised by significant developmental shifts in confidence and self-awareness, which are linked to feelings of competence as children acquire skills and experiences (Eccles, 1999). Therefore, for most children it is expected that if they are encouraged and supported positively by adults during this time that there will be increases in their confidence and ability to interact with peer and elders. While this is the experience of the Sistema children in the case studies, the growth in confidence reported by the Sistema children, their aiga/whānau, Sistema tutors and schools appears to be larger than might be expected.
113. One of the areas of confidence growth that stood out was for performing at church, family events and at school. This growth in confidence for

performing at local events was greatly appreciated by the aiga/whānau and the partner schools we spoke with as an opportunity to showcase the talents and abilities of their children.

114. Furthermore, we found evidence of increased confidence amongst some case study children to explore and initiate activities and opportunities with their music. For example some case study children arranged their own groups to play either at schools and church and organise practise groups without tutor knowledge or input.
115. Our evidence suggests that participating in Sistema Aotearoa is enhancing children's participation in important cultural events such as church and family events. Given the importance of these events in Pacific culture, it is likely that these children would have contributed to these events regardless of their participation in Sistema Aotearoa. However, children in Sistema Aotearoa, because of their confidence and musical skills, are able to contribute in unique and special ways to these events which make them 'stand out from the crowd'.
116. Performing at community and at aiga/whānau events was described as providing an opportunity for aiga/whānau and other community members to experience pride in the achievements of their children. This pride that aiga/whānau feel in their child's achievement was identified as a key influencing factor for ongoing engagement with the programme. Children also reported a sense of pride in their performances, which seemed in turn, to encourage more growth in confidence.

*"He plays with confidence when he knows the music well...
when he practises and plays well you can see the lift in him,
the confidence in him."*

Caregiver

*"I've gained confidence at the concerts, I like them, I get to
play in front of a big audience, play around different people,
my family watching."*

Sistema Aotearoa student

117. For some students, the confidence gained through Sistema Aotearoa has been remarkable. In two case studies, aiga/whānau described their children at the start of the programme being very timid and shy, not speaking very much nor putting themselves forward. Three or four years later, these children are speaking confidently to their peers and adults in a range of contexts as well as helping younger children as they learn new instruments.
118. Evidence from aiga/whānau, schools and Sistema Aotearoa tutors indicates that Sistema Aotearoa children are demonstrating leadership in the programme and other contexts (which may be linked to growth in confidence). An example of this is the higher proportion of Sistema children reported in two schools who were taking on leadership roles in school (i.e. road patrol, classroom runners, bell monitors).

Increased perseverance and self-discipline

119. Similar to growth in confidence, a reasonable assumption would be that most children, as they get older are likely to increase their ability to persevere and become more self-disciplined. Again, the case study data suggests increases in these dimensions beyond what might be normally expected. The feedback suggests that Sistema Aotearoa provides young children with regular and sustained opportunities to practice and apply perseverance and self-discipline skills, which may help explain the extent of the shifts being observed and described.
120. For example, when learning a new and difficult piece, children are shown how the work can be broken down into manageable parts. Notation they are already familiar with is identified, building confidence while requisite new skills are repeatedly practiced. In a supportive environment they are encouraged to practice, in small segments, the parts of tune, with each other until they master the whole piece.
121. Sistema Aotearoa tutors reported that early on, several of the case study children struggled with learning new instruments and techniques and would stop engaging if they couldn't do something. The tutors work hard on breaking tasks down to ensure that each student gradually increases their skills until they can perform the task. Tutors report that those case study children who previously struggled now have a greater ability to persevere; they are now happy to keep trying until they get it right.
122. Feedback from school personnel believe this 'can do it' attitude is an important skill and can be transferred to other contexts and areas in the children's lives. For example, one child has worked on developing the skills to participate more fully in sport at school since being a part of Sistema Aotearoa. Prior to Sistema Aotearoa involvement, this child was not confident enough to fully participate.
123. The most frequently talked about example of children's self-discipline by aiga/whānau, Sistema Aotearoa tutors and schools was children's ability to self manage the things they need to do to participate successfully in the programme. For example, children must demonstrate that they are able to look after an instrument before they are given one to take home, and once they have these instruments at home, they must take care of them in their homes and at school. Turning up and participating in the programme with their instruments and music several times a week, and practising are other key disciplines that most of the children also demonstrate a commitment to.

"[Sistema] Helps us be organised"

Sistema Aotearoa student

124. To varying degrees all the case study children appear to have experienced increases in their self-discipline whilst participating in Sistema Aotearoa. One case study child was reported by the aiga/whānau as being the 'organiser', working hard to ensure that specific family members were

lined up and available to provide transport to Sistema Aotearoa. Other aiga/whānau reported increased self-discipline through activities such as keeping their room tidier or looking after their instrument.

125. Finally, it should be acknowledged more generally of all Sistema Aotearoa participants that staying in the programme for multiple years is evidence of a high level of commitment, perseverance and self-discipline. Sistema Aotearoa is a very intensive programme, requiring high levels of commitment from the child as well as the aiga/whānau. Yet, the drop off for this programme seems relatively low. Research about drop off rates for intensive musical programmes was nonexistent. The closest research we could find was about drop off rates for basic music tuition programmes, which indicated that a drop off rate of 47% after 3 years for an intensive, voluntary programme is lower than might usually be expected (Costa-Giomi (2012)⁸.

Table 6: Drop off rate for the 2011, 2012 and 2013 intakes

	Drop off after 1 year	Drop off after 2 years	Drop off after 3 years
2011 intake (96 students)	19%	39%	47%
2012 intake (102 students)	22%	48%	55%
2013 intake (61 students)	2%	21%	36%
Over all 3 years intakes (259 students)	16%	38%	47%

A vision for the future

126. In line with children developing self-discipline and perseverance we noted that case study children had clear aspirations about what they hoped to achieve in the programme and beyond. They typically had clear aims to move up to the next instrument or become musicians or music teachers as adults.

"[I want to] Travel around the world, help people play, encourage people, help them join."

Sistema Aotearoa student

127. The high profile of Sistema Aotearoa including related media coverage contributed to the feeling of status that children associated with doing well at Sistema Aotearoa. More often than not, the families also shared this vision, but this will be discussed later in the next section.

⁸ In two US based studies (Costa-Giomi, 2012), the dropout rates for students in middle school after three years for piano and band instruments, orchestra and choir programmes was 75%.

Connection with, and competency in orchestral music

128. The children we spoke to had very clearly developed a love of and connection with orchestral music. The children described having an emotional connection with the music and described the music as 'soothing' and 'gentle'. To them, what they were doing was more than just playing an instrument; they were creating music that they could feel.

"The best thing I've got out of Sistema is experiences – playing music and getting the feeling out of it... my family like how I play, the songs are gentle, I like that type of music."

Sistema Aotearoa student

"I don't see Sistema as just music I see it as food for the soul, and that's what I saw in (child). It fed his/her soul to the point where s/he is hungry for more. And I haven't seen that in any child before."

Caregiver

129. This emotional connection to the music has strengthened the case study children's enthusiasm for, and commitment to, the programme. Interestingly, in some case studies, this enthusiasm has rekindled interest and motivation amongst other aiga/whānau members to pick up/return to instruments and find enjoyment in playing again.
130. Some case study children have developed a strong love of music in many forms and expressed a desire to learn and explore other forms of music and other instruments. One child had a strong desire and motivation to learn more about the traditional music and instruments of their culture.
131. Everyone we spoke to about the case study children reported that most of the children have well developed musical skills. They are typically able to play multiple instruments confidently and were focused on learning and improving their musical skills on their instruments. Even those children who had a less innate talent for music were still able to develop their musical skills with support from Sistema Aotearoa tutors and their aiga/whānau.
132. Tutors agree that the Sistema students (including, but not limited to the case study children) are very talented in playing their instruments and have learnt some particularly challenging orchestral pieces. Sistema Aotearoa has most likely had a significant influence on the musical ability of the case study children, particularly in relation to orchestral instruments and arrangements.
133. We noticed from the case study interviews that all the aiga/whānau were either musically talented themselves or placed a high value on music. Music is a large part of the lives of these children, and it is likely that music (more traditional as well as church-based music) has always been part of their lives, even before starting with Sistema Aotearoa. However,

Sistema Aotearoa has supported the children to learn and succeed at playing technically challenging musical instruments in an orchestral setting. The extent to which music (of varying kinds) is part of the lives of participating families and children may be something worth exploring in future research.

Supports sense of belonging and contribution to their own culture(s).

134. The original Theory of Change indicated that one of the desired outcomes of Sistema Aotearoa was 'to support children to increase their sense of awareness and belonging to their culture'. The feedback from aiga/whānau would suggest that this outcome, as currently expressed, doesn't capture sufficiently well what is occurring for children. The data from the case studies and discussions with aiga/whānau would suggest that rather than 'increasing awareness and belonging', Sistema Aotearoa is 'reinforcing children's sense of cultural belonging in their own community'.
135. It is widely known that music is a key part of Pacific Island culture and is present in most cultural occasions and contexts. We found that the case study children, because of their increased musical skills and access to instruments and confidence gained through Sistema Aotearoa, are more able to contribute to cultural occasions and contexts in their own communities, outside of Sistema Aotearoa. This participation reinforces their sense of cultural belonging. In other words, these children already have a sense of belonging within their aiga/whānau and community; however, their ability to perform musically in cultural events, occasions and contexts reinforces this belonging.

"I've seen her grow, she actually sang a song at church that even shocked me and dad. She wanted to try and utilise what she learnt in Sistema. She would only hum [before], now she sings words."

Caregiver

136. Although music is an important part of aiga/whānau lives, access to opportunities to learn a musical instrument such as a violin or cello are limited due in major part to the associated costs. Having several years of access to Sistema Aotearoa is highly valued by all the aiga/whānau; they treasure the opportunity that their children have been given. And the value of their children's musical skills becomes even more apparent to them, when the children are able to confidently participate in family and cultural events.
137. With the exception of the Tongan culture, orchestral music typically falls outside of what these children (and their aiga/whānau) see as 'their culture'. For the Tongan aiga we spoke to, learning orchestral instruments was highly valued and seen as a high status activity and therefore was already encouraged and celebrated. We learned from the other case study children and their aiga/whānau that through participation in Sistema Aotearoa they are all gaining an appreciation for Western orchestral

musical culture that they otherwise would not have had the opportunity to do.

138. We did not explore deeply how aiga/whānau appreciation of Western orchestral music culture was being expressed or integrated within their own lives, cultures and practices, although it was clear in some aiga/whānau that the instruments were being played together as a family. However, it was intimated that Sistema Aotearoa children and aiga/whānau may be integrating Western orchestral music into aspects of their own lives and Pacific cultures. For example, the children are performing and playing the Western orchestral music they are learning at Sistema Aotearoa at their cultural events, making them their own.
139. It was alluded to in the case study interviews that students themselves would be more able to integrate aspects of their own culture into Sistema Aotearoa as the programme develops. For example, more Pacific Island music is played within Sistema Aotearoa and/or older students are starting to write their own arrangements for pieces of music that are more culturally relevant.
140. We believe that it would be worth exploring in future research and evaluations the extent to which the children are bringing their Pacific cultures into the programme. In addition, future research could explore ways that children might be integrating and applying the skills acquired and developed through orchestral music-making into their own lives and cultures outside of Sistema.

Outcomes for aiga/whānau

141. All the aiga/whānau we spoke with had experienced substantial change since their child/ren started Sistema Aotearoa. In the 2012 evaluation, the main outcome parents reported was feeling pride in their child's achievement. Now, three years on, the aiga/whānau are experiencing a wider range of outcomes. Aiga/whānau have integrated Sistema Aotearoa into their already complex everyday lives because they value the programme and the outcomes they and their child/ren have experienced.

Increased purpose and direction

142. Most of the case study aiga/whānau started their children in Sistema Aotearoa because music was important to them and/or they believed in the self-discipline that learning music would provide their child/ren and/or because the programme was free. Now, parents and caregivers have developed aspirations and visions for their child/ren's involvement in the Sistema Aotearoa programme and beyond.
143. We have already discussed that for participating children Sistema Aotearoa is more than just learning an instrument. Similarly, for the aiga/whānau Sistema Aotearoa has become more than just a music programme. For the case study aiga/whānau, involvement in Sistema Aotearoa has increased their purpose and direction.

144. This purpose and direction was expressed in multiple ways within aiga/whānau such as increased purpose and direction for financial management, positive family interaction and musical learning. For some it created a new context for aiga/whānau to spend time together, for others it created new ways for aiga/whānau members to engage with and support their child/ren. Other examples are caregivers picking up instruments they have not played in a while, or learning new instruments and developing their financial management skills and budgeting.

145. Another area of increased purpose and direction is that case study aiga/whānau have created systems and structures to integrate the commitment required for participation in Sistema Aotearoa into their everyday lives. This is because they believe it is valuable to them and their child/ren. This may not seem a big deal, but to these aiga/whānau participation in Sistema Aotearoa is integrated into their lives as much as participation in church or sports. Aiga/whānau support their children to be involved in these more traditional, culturally important activities, but now they are also supporting their children to be involved in Sistema Aotearoa. This suggests that Sistema Aotearoa is valued in their lives as much as things that are more traditionally valued in Pacific culture.

"We learnt to have short term money goals to make sure there is a finance there when [s/he] needs to be somewhere."

Caregiver

"In future maybe my whole family play."

Caregiver

146. In several cases, the determination and achievement of the child participating in Sistema Aotearoa encouraged other aiga/whānau members to make changes to their lives such as stopping drinking, picking up an instrument again and completing training/qualifications. So for these aiga/whānau, the child's success in Sistema Aotearoa started a ripple effect of positive change within the aiga. A possible mechanism for this that the aiga/whānau mentioned is that seeing the child perform made the other aiga/whānau members aware of how much they could achieve so they became determined to make some positive changes to their lives.

Celebration of child/ren's achievements and supporting their aspirations

147. A finding of the previous evaluation is that aiga/whānau very much celebrated their child/ren's achievements. The aiga/whānau we interviewed still proudly celebrate the child/ren's participation in performances for Sistema Aotearoa and also in other community and cultural events.

"Proud of them joining... what's behind us taking them to all these things is to give them a chance to explore, and choose what they want to do."

Caregiver

148. The pride they feel in their child/ren's achievement in the Town Hall performances is increased by the high profile nature of the Sistema Aotearoa performances. The fact that their child/ren play at the Town Hall, and that some appear in newspapers or on television contributes to the overall sense of pride that aiga/whānau feel.
149. The pride they feel and the realisation that their children are talented and skilled musicians has contributed to aiga/whānau becoming more supportive of their child's aspirations for the future. Several of the case study children expressed an interest in pursuing orchestral music as a career or further developing their musical skills. As an example, some aiga/whānau are choosing secondary schools for their children based on the musical curriculum and musical opportunities that are offered.

Improved aiga/whānau relationships and dynamics

150. Without exception, the aiga/whānau we interviewed had complex and busy lives. Yet they had integrated the commitment required to participate in Sistema Aotearoa into their busy and complex schedules. It was clear from the case studies that aiga/whānau believe strongly in the programme and believe it is having a positive influence on their lives and lives of their child/ren.

My whole timetable is around him/her, including my other kids' times, sport and music, we're all going around (child). It's okay we make it work, if I can't take him/her Mum will take him/her.

Caregiver

151. This evaluation suggests that creating the conditions for successful participation in Sistema has required significant aiga/whānau involvement as well. The quote above could be interpreted that participation in Sistema Aotearoa possibly displaces other positive activities for siblings. But this was not what we saw evidence of in the case studies, although we acknowledge that this could be happening in some aiga/whānau. Typically, for the case study aiga/whānau, participation in Sistema Aotearoa meant fitting Sistema Aotearoa in among the many other things going on, because it is something that aiga/whānau believe is valuable/important for the child's or family's future.
152. One of the areas where Sistema Aotearoa seems to be positively influencing aiga/whānau is supporting them to maintain and/or improve their aiga/whānau relationships and dynamics. There were two aspects to this that we saw evidence of. First, aiga/whānau members are relating more positively towards one another and secondly, they are working together better and helping each other more.

"Sistema changes them at home... they used to fight together a lot.. music is soothing at Sistema... has helped with (child's) behaviour"

Caregiver

153. Similar to the other outcomes for aiga/whānau, Sistema Aotearoa is likely to be a contributing and reinforcing factor for positive change in family relationships. The programme has created a consistent channel for aiga/whānau over a long period of time that supports the expression of improved relationships and dynamics.
154. The increase in positive relationships seem to have been assisted and encouraged by having something positive that aiga/whānau can contribute to and celebrate. In several of the case studies the aiga/whānau rallied together to support the child/ren to attend and succeed in Sistema Aotearoa. We identified several instances of aiga/whānau working together quite closely as a cohesive unit to provide transport for their child/ren to attend Sistema Aotearoa and the performances and to help with their practices.
155. In the case study aiga/whānau, the increasingly positive relationship has rippled out from the parent/child relationship into more positive relationships in the whole aiga/whānau. One aiga in particular is now spending significantly more time together playing music and doing other family based activities because of their involvement in Sistema Aotearoa. For other aiga/whānau, older siblings have taken on more of a mentoring role with their younger siblings, helping them to learn and improve their playing of instruments at Sistema Aotearoa. In one aiga/whānau, an older sibling (not in Sistema Aotearoa) was also being taught an instrument with help from a parent.
156. The aiga/whānau we talked to have created a collective impact of sorts as they work together to create the conditions required to support their child/ren to succeed musically as well as in other areas. Some aiga/whānau are motivated to work together because they recognise in Sistema Aotearoa a programme that mirrors and reinforces the family, cultural and social values that are important to them. Other aiga/whānau are motivated to support their children because they have noticed the benefits for their child/ren outside of musical development. Still other aiga/whānau are so proud of what their child/ren achieve that they become committed to helping them achieve more.
157. The ongoing motivation and commitment of the child/ren and their parents creates a platform for Sistema Aotearoa to be a contributing force towards more positive aiga/whānau dynamics. As the child/ren are supported by their parents to achieve, both the child/ren and their parents are motivated to continue and share their enthusiasm and aspirations with more aiga/whānau members.

158. Feedback from school personnel noted that parents/caregivers are becoming more “enabled” and creating better relationships with school teachers and principals because of the Sistema Aotearoa programme.

“It creates a sort of ‘ice-breaker’ which opens up a place for families to talk to principals.”

School principal

Reinforced positive parenting and aiga/whānau values

159. Many of the aiga/whānau in the case studies talked about their strong family values as an important part of what they wanted to instil in their children. Several reflected on the fact that Sistema Aotearoa provides a vehicle to help reinforce some of these (for example, positive communication, respect, good manners, hard work). Parents appreciate Sistema Aotearoa because it helps to reinforce the important family values such as caring, participation and leadership that they believe in.

“Working hard so the kids will follow my example.”

Caregiver

“I just feel it’s my obligation to do this...don’t want to lose those values, want to keep those values alive in your children to see them grow up and be good leaders. ”

Caregiver

160. In part, the Sistema Aotearoa programme contributes to this process by supporting engagement, participation and positive values and behaviours (e.g. politeness, respect etc) within children. This reinforces aiga/whānau values and positive behaviour that are practiced at home and also provides role models for the child/ren outside of their home.

Demonstrating aiga/whānau resilience

161. For all the aiga/whānau we spoke with, Sistema Aotearoa has been a journey; a journey of sacrifice and perseverance as well as increasing aiga/whānau cohesion and resilience to support their child to succeed in the programme. Aiga/whānau shared a range of experiences demonstrating the perseverance and commitment that has been needed to continue to support their children’s success.
162. Challenging experiences such as the feelings of being looked down on when attending Sistema performances or giving up drinking to spend more time with their family are just some of the experiences that demonstrate the courage these aiga/whānau have shown.
163. Even sharing these challenging stories with us as strangers demonstrates the confidence and courage of the aiga/whānau to be comfortable in uncomfortable situations.

164. Sistema Aotearoa has operated as a medium through which positive aiga/whānau change could be reinforced and supported. The successes aiga/whānau have experienced through their child/ren's participation in Sistema appear to encourage them to continue supporting the programme and subsequently aiga/whānau growth.

Factors that appear to contribute success

165. We did not deeply explore the particular characteristics of Sistema Aotearoa that contribute to the achievement of outcomes. We did have a general discussion with aiga/whānau about whether Sistema Aotearoa has contributed to the changes they had identified. This was a difficult question for the aiga/whānau to answer, requiring a lot of reflection and thought about what things would be like without Sistema in their lives. This section presents the themes that arose from the general discussion with aiga/whānau.

166. It goes without saying that both child and family change and development is complex and dynamic with many factors and components combining together to create change. All case study participants believed that Sistema Aotearoa had positively influenced their lives and had helped create positive change in their child/ren and their aiga/whānau.

"Sistema actually saved (child). It's put his/her feet back on solid ground. S/He's been on so much medication – I've never seen him/her so organised, bubbly and happy."

Caregiver

"Sistema is a part of his/her change... without Sistema s/he wouldn't be doing music"

Caregiver

167. The achievement of some of the outcomes discussed in this report is likely to have been because Sistema Aotearoa is a multi-year, intensive programme that encourages parental engagement. Therefore, the themes discussed here focus on aspects of the programme that encourage children and their aiga/whānau to engage in the programme and then continue to deepen their engagement.
168. The list of factors outlined below in Table 7 are those that were identified by aiga/whānau in the case studies as important for the success of the case study children. Remembering that in this evaluation there were specific criteria that defined our interpretation of success it is likely that there are children who are succeeding in the programme that may have different contributing factors (see limitations section for a more in depth discussion).

Table 7: Factors that appear to contribute to success

Outcome	Brief description
Aiga/whānau engagement and enthusiasm are critical	<ul style="list-style-type: none"> In the case study aiga/whānau, significant amounts of aiga/whānau support and commitment are required for children to participate and succeed in Sistema Aotearoa. This support was evident in how they integrated Sistema Aotearoa commitments into their busy lives. Given the level of support required, it is likely that aiga/whānau engagement and enthusiasm for the programme influences child success.
Sistema Aotearoa is free	<ul style="list-style-type: none"> Aiga/whānau we spoke with valued music and wanted their children to learn music. For the families, a free programme such as Sistema Aotearoa provided a feasible alternative for aiga/whānau to private musical tuition. Had Sistema Aotearoa not been free there is likely to have been less uptake initially. However, now that case study aiga/whānau see the value of Sistema Aotearoa beyond musical tuition they are committed to the programme and prioritise budgeting for the expenses that are incurred through participation e.g. transport. Schools also agreed, saying that aiga/whānau are more likely to engage with a free programme saying that even a small cost may discourage participation, particularly early take up of the programme.
Initial and continued engagement typically needs a family driver	<ul style="list-style-type: none"> Not all case study children required a family driver to enrol and then engage in the programme. However for most children, particularly in the early years of involvement, a family driver encouraging children to enrol and persevere with the programme was key to them staying engaged. Another important source of encouragement are the schools, some of which provide high levels of support to make it easier for children to participate. For example, providing transport to venues and events. In terms of the level of engagement in the programme, practise at home can be important in developing musical competency. We acknowledge that for some children it is not possible to have an instrument at home and these children are able to practise at Otara Music and Arts Centre. However, for the children in the success case studies we found evidence that without a parental driver for practice they may have stopped practising and then subsequently even dropped out.
Sistema Aotearoa provides opportunities for celebration of achievements	<ul style="list-style-type: none"> The nature of Sistema Aotearoa and how it encourages children to perform both as part of and outside the programme provides opportunities for aiga/whānau to celebrate the achievements of their child/ren. These opportunities also create instances where aiga/whānau realise how much their children have achieved and how talented they are. Performances at community events in particular showcase talents and reinforce engagement in the programme for the children and aiga/whānau.
Sistema Aotearoa is high profile and high status	<ul style="list-style-type: none"> High profile media coverage of concerts (both in the community and the Town Hall) reinforces feelings of pride that children and aiga/whānau feel about their achievement in the programme and therefore encourages them to continue. For Tongan aiga/whānau engaging in orchestral music is a high status activity therefore they are supportive of continued engagement of the programme because of this status. Interestingly, several parents and caregivers were encouraging their children to continue in the programme because they had the impression that a career in orchestral music was a reliable and lucrative career option.

Factors that could further enhance success and involvement

- 169. This evaluation also identified other factors in the case study analysis that could further enhance success and involvement.
- 170. One such factor that could further enhance child success and aiga/whānau engagement with the programme is a more structured approach to parental involvement in the programme at the organisational level.
- 171. Parents and caregivers reported they they were well informed of the logistics of participating in the programme. For example when concerts were being held and what they had to do to attend.
- 172. However, there seemed to be a lack of communication/awareness about higher level organisational aspects of Sistema Aotearoa. For example many of the aiga/whānau were very concerned about what would happen to their children when they left primary school as many assumed the Sistema Aotearoa programme would stop for their children. They asked the evaluators what was happening with the programme as they were not sure themselves.
- 173. Given the commitment and enthusiasm exhibited by aiga/whānau towards the programme it seems there is an opportunity for Sistema Aotearoa to engage aiga/whānau representatives in their organisational structures.
- 174. This engagement would encourage aiga/whānau ownership for the future of Sistema Aotearoa and ensure that the programme continues to develop and grow to meet the needs of participating aiga/whānau. As mentioned in the previous evaluation, an area of improvement would be involving aiga/whānau more in strategic decision making processes. This would enable aiga/whānau and their participating children to contribute their ideas for what a culturally relevant and meaningful programme would look like.
- 175. Further, increased aiga/whānau involvement aligns with the Theory of Change which suggests that aiga/whānau involvement and participation is one of the key activities in the success of the programme. For example, a parent/child advisory committee could be established to comment on programme planning and implementation decisions.

6 Educational achievement findings

176. This section presents the findings for the educational achievement component of this evaluation. Increased educational achievement was one set of educational outcomes that were outlined in the Sistema Aotearoa Theory of Change.
177. Research (Costa-Glomi, 2012) has demonstrated that there is a link between short-term educational achievement gain and participating in music lessons and programmes. However, this research has also clearly demonstrated confounding variables such as home environment, personal characteristics, socio-economic status and selective participation (that is, the more confident, intelligent and engaged children are more likely to participate). In addition, research on long-term benefits of music on cognitive ability and intelligence is contradictory and inconclusive.
178. We acknowledge that there are many aspects of a child's educational experience that reflect on and influence their achievement. For example, concentration, motivation, critical thinking, problem solving and engagement. Some of these other aspects of educational achievement are discussed earlier in this report (in the outcomes section).
179. The educational achievement findings presented here are based on the Overall Teacher Judgement (OTJ) ratings, collected as part of National Standards. Two years (2013 and 2014) of OTJ ratings for reading and mathematics from four out of seven partner schools that contribute to Sistema Aotearoa were collected and analysed. Comparison data, for all students by year level, was sourced from the Ministry of Education for these schools.
180. Educational achievement for non-Sistema students in the analysis was identified by subtracting the number of Sistema students from the total number of students at each OTJ rating level.
181. Data were collected for three intakes of Sistema Aotearoa students – those who began the programme in 2011, 2012 and 2013 – who are still participating in the programme in 2015. In total there are 124 students who started the programme in 2011, 2012 and 2013 who are still participating in 2015.

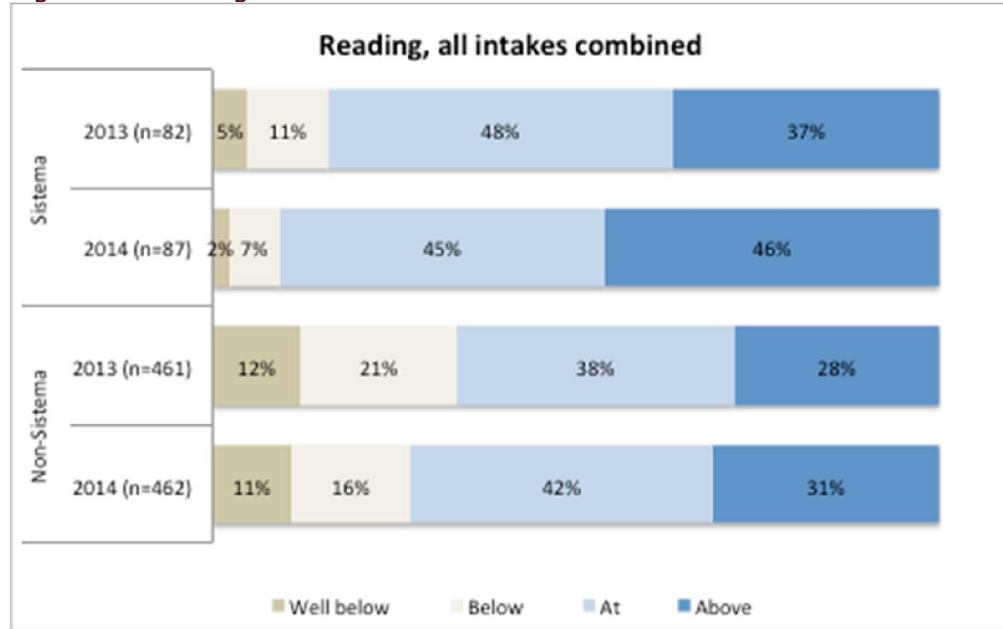
Table 8: Number of students included in analysis

Intake	Number participating in 2015	2013 educational data analysed	2014 educational data analysed
2011	43	26	26
2012	39	26	34
2013	42	30	27
TOTALS	124	82 (66%)	87 (70%)

Achievement in reading

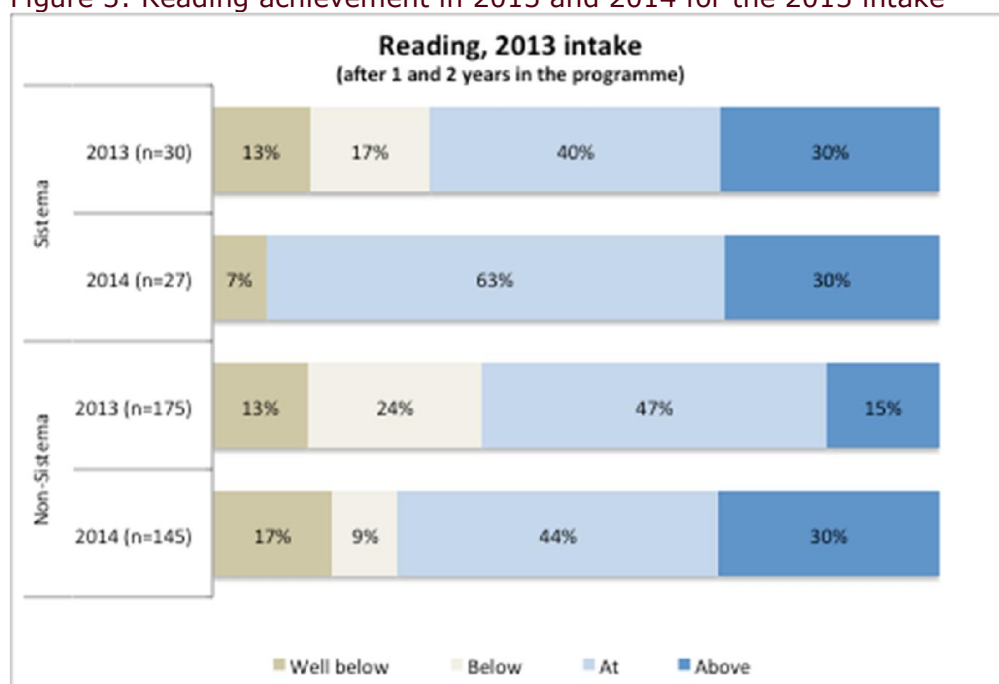
182. Our analysis identified that there was a statistically significant difference in OTJ scores for reading ($p < 0.02$) between children involved in Sistema Aotearoa and children not participating in Sistema Aotearoa.

Figure 2: Reading achievement in 2013 and 2014 – all intakes combined



183. When broken down into programme intake year this pattern seems to remain, suggesting that there is difference in all years rather than one year skewing the results. However, the low numbers of data in each intake group make further statistical analysis problematic at this detailed level. Therefore any patterns of difference in the intake level analysis need to be interpreted with caution.
184. The graphs for individual intakes (ie, Figure 3, Figure 4, and Figure 5) report two consecutive years of data from approximately the same students (ie, students who are still participating in the programme in 2015). There are small variations because of students moving between schools or database errors. But the following graphs largely represent the profile of reading OTJs for the same students in 2013 and 2014.

Figure 3: Reading achievement in 2013 and 2014 for the 2013 intake



185. Of note in this graph is the reading achievement profile of the students in their first year of engagement with Sistema. From this basic comparison, it appears that the reading achievement of students when they start with Sistema (70 percent achieving 'at' or 'above' standard) is relatively comparable to the reading profile of non-Sistema students (62 percent achieving 'at' or 'above' standard). Yet, in their second year of the programme the reading achievement profile of the students involved in Sistema is substantially different to the non-Sistema students (93 percent achieving 'at' or 'above' in Sistema compared with 74 percent in the non-Sistema group).

Figure 4: Reading achievement in 2013 and 2014 for the 2012 intake

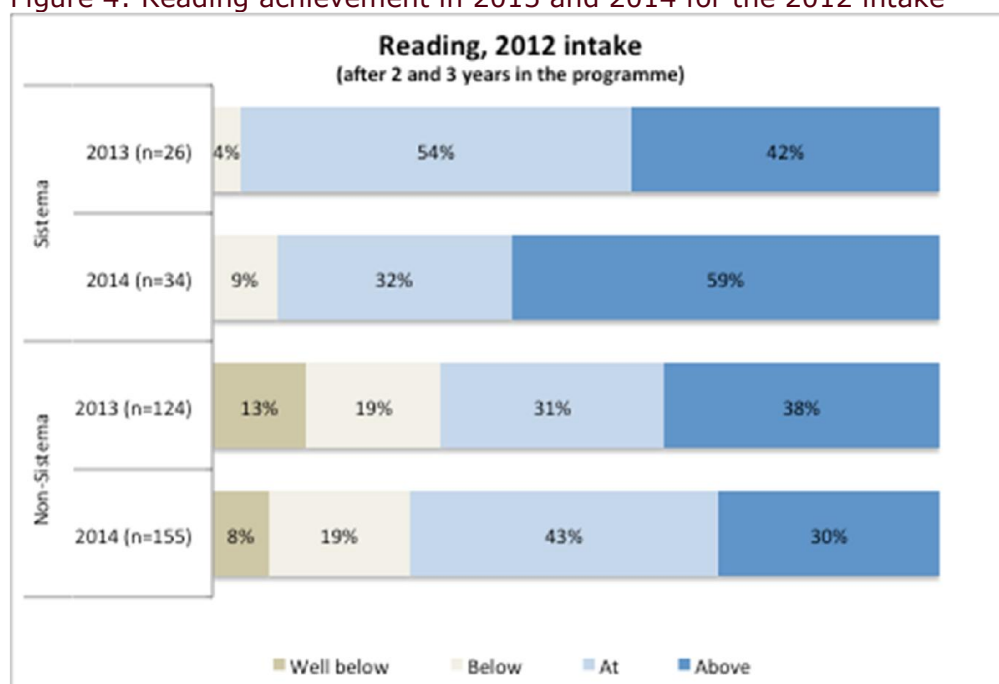
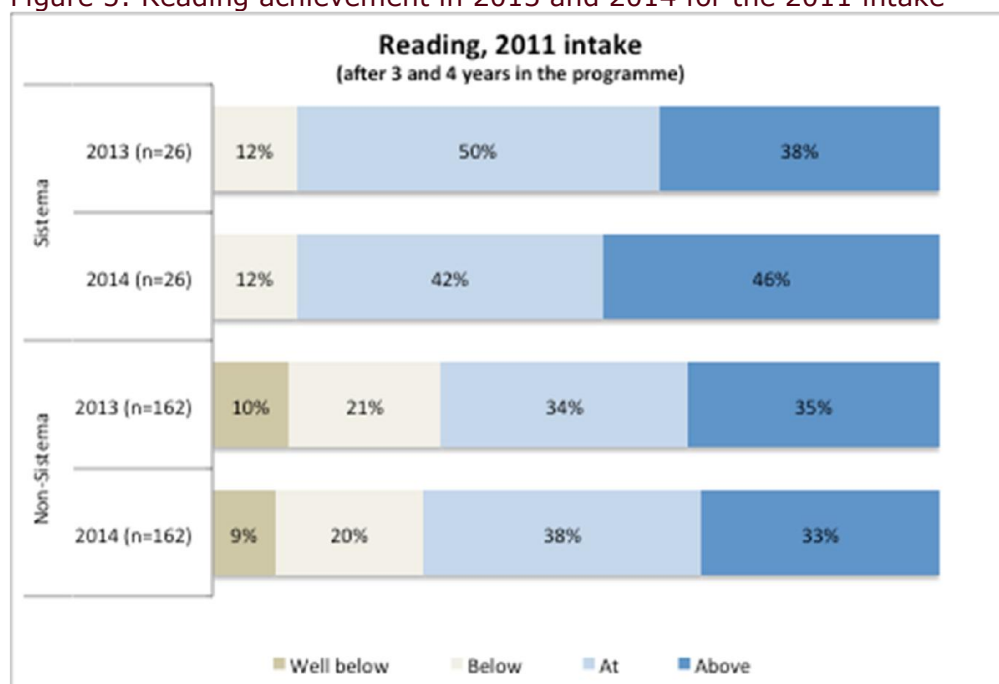


Figure 5: Reading achievement in 2013 and 2014 for the 2011 intake

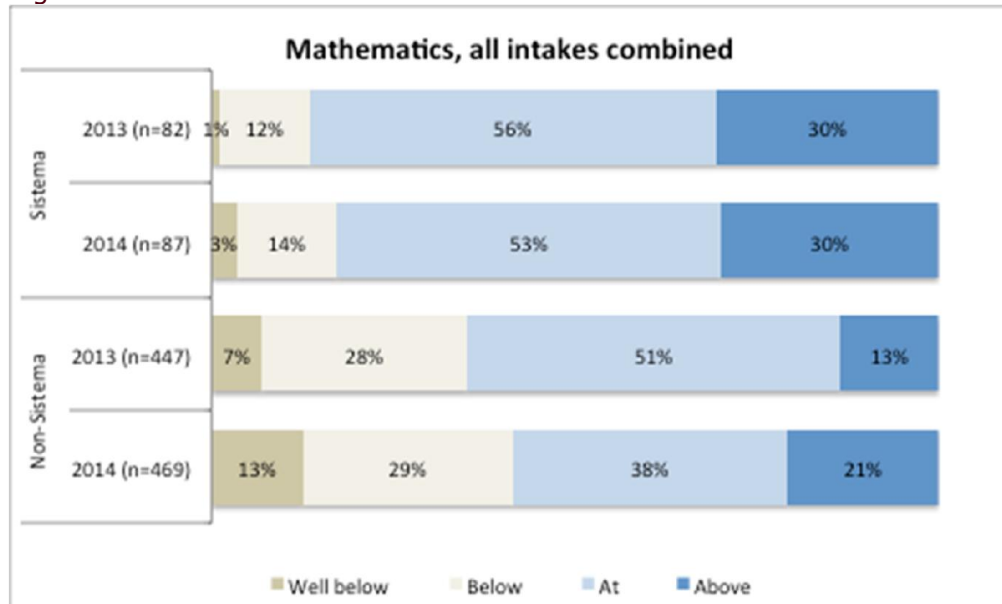


186. There is less movement in reading achievement between 2013 and 2014 in the results of the 2012 and 2011 intakes. There is a pattern that the proportion of students in Sistema achieving 'above' standard has increased from 2013 to 2014 in both these intakes, compared with a reduction in the proportion of students achieving 'above' standard in the non-Sistema students. This is a promising pattern, but once again because of the small numbers this needs to be interpreted with caution and further research is needed to investigate this pattern.

Achievement in mathematics

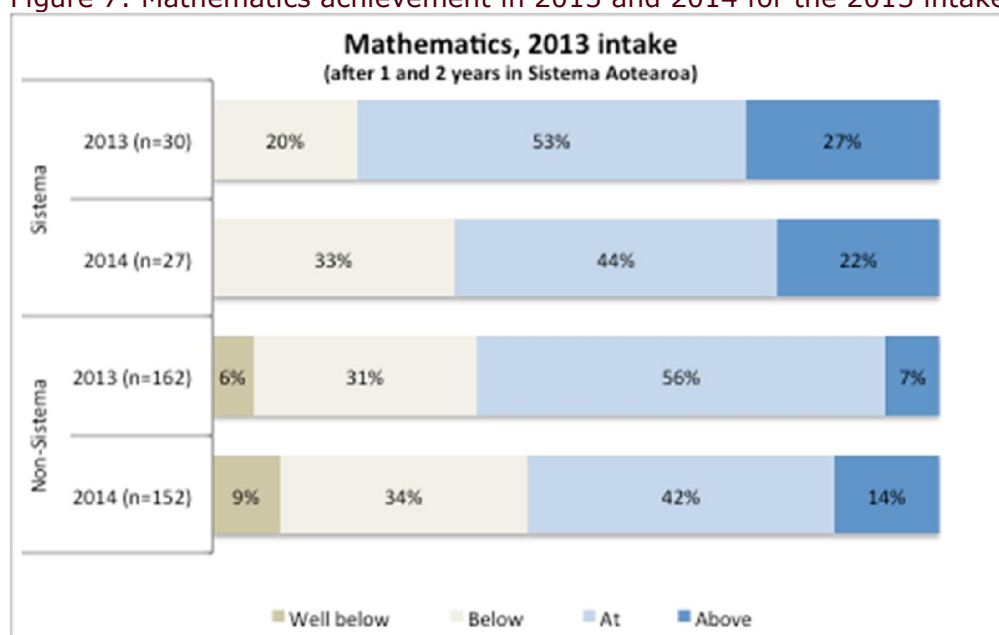
187. Similarly, for mathematics there is also a statistically significant difference ($p < 0.001$) between the OTJ grades for children involved in Sistema Aotearoa compared with children not participating in Sistema Aotearoa.

Figure 6: Mathematics achievement in 2013 and 2014 – all intakes



188. Interestingly, in contrast to the reading achievement, there is very little difference in achievement patterns between the 2013 and 2014 Sistema students. This suggests that Sistema students are maintaining their achievement in maths from year to year, whereas non-Sistema students are experiencing more change in achievement patterns.
189. As with reading, there do seem to be differences in achievement at each year level as well, but this needs to be interpreted with caution.

Figure 7: Mathematics achievement in 2013 and 2014 for the 2013 intake



190. As with the reading analysis, this graph shows the achievement profile of students in their first year in the programme. In contrast to the reading results, the profile of mathematics achievement of Sistema pupils is quite different to that of the non-Sistema students. This suggests that Sistema students are achieving more highly in mathematics when they start the programme.

Figure 8: Mathematics achievement in 2013 and 2014 for the 2012 intake

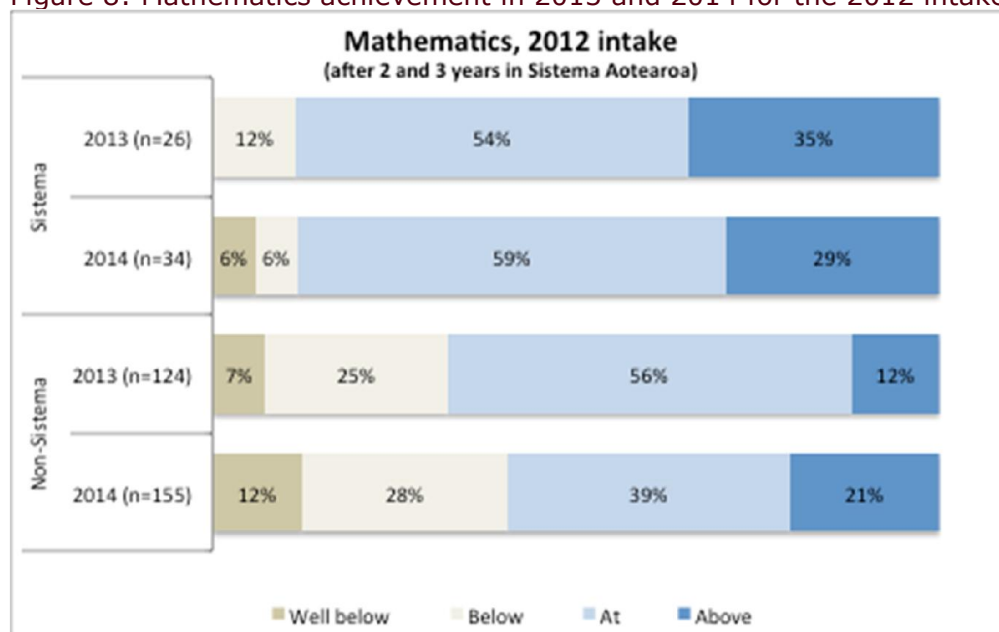
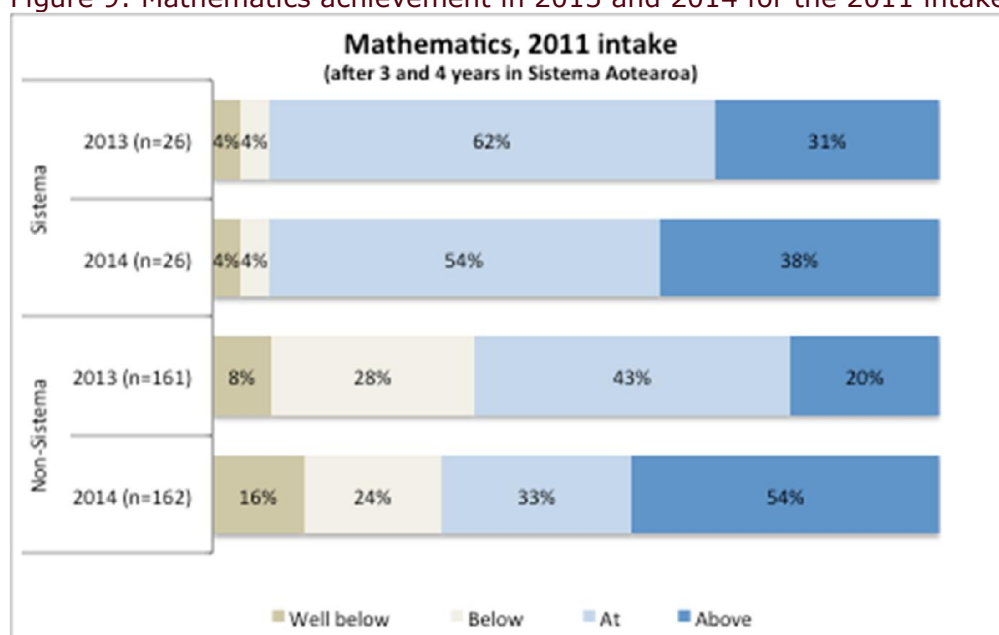


Figure 9: Mathematics achievement in 2013 and 2014 for the 2011 intake



191. Interestingly, in the 2012 and 2013 intake, the pattern of change from 2013 to 2014 in mathematics achievement overall worsens in both the Sistema and the non-Sistema students.

Achievement of Pacific students

192. Sistema Aotearoa students are primarily Pasifika, therefore we compared the collective results of the Sistema Aotearoa students with those of other schools that have a high proportion (over 85 percent) of Pasifika students. This comparison was to understand how the OTJ scores of Sistema Aotearoa students compare to their peers at other schools that are not partner schools for the programme.
193. Figure 10 and Figure 11 below compare the academic achievement of the Sistema Aotearoa students in 2014 for reading and mathematics with five schools that have more than 85 percent Pacific Island students. On average, the schools participating in Sistema Aotearoa have 82 percent of their students identifying as Pacific Islanders.

Figure 10: Reading achievement in Sistema Aotearoa students and other schools with >85 percent Pacific Island students in 2014

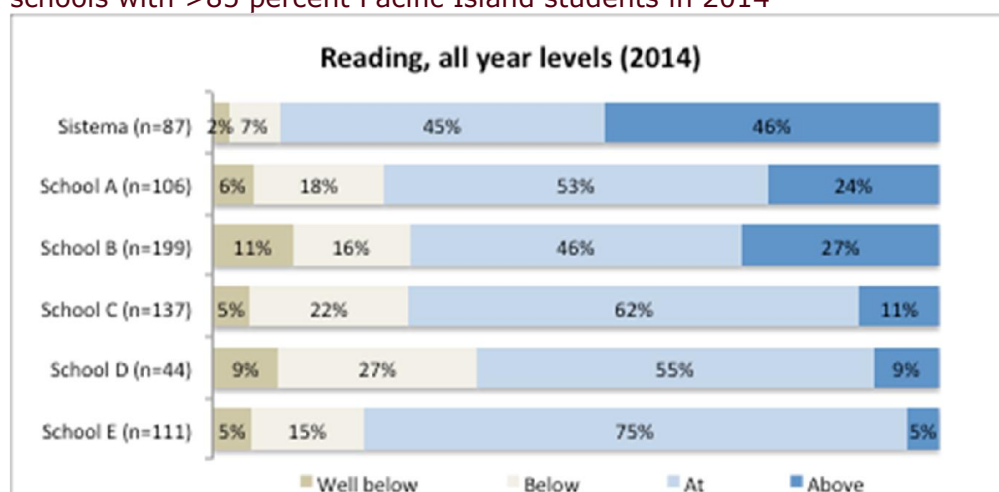
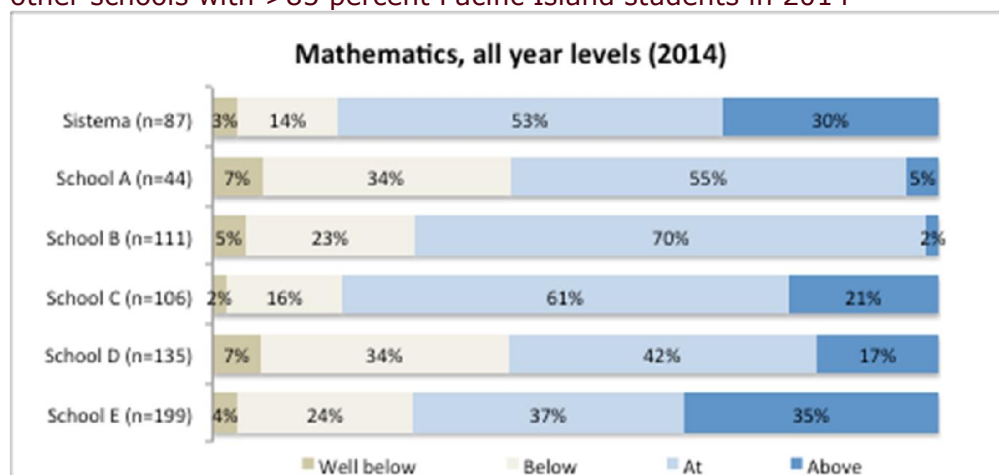


Figure 11: Mathematics achievement in Sistema Aotearoa students and other schools with >85 percent Pacific Island students in 2014



194. The above graphs suggest that the educational achievement of the students in Sistema Aotearoa appears to be higher than student achievement at the other schools, particularly in reading.
195. The proportion of students in Sistema Aotearoa achieving 'at' or 'above' standard is 91 percent for reading (see Figure 10 and 83 percent for mathematics (see Figure 11). In comparison, for reading the next highest achievement in the comparison schools is 80 percent achieving 'at' or 'above' standard.
196. In achievement in mathematics there is much less difference between the Sistema Aotearoa students and the comparison schools (see Figure 11) but Sistema students still have a slightly higher achievement profile. One school (School C) has 82 percent achieving 'at' or 'above' standard (compared with 83 percent in Sistema Aotearoa students) but a lower proportion achieving 'above' standard (21 percent in School C compared with 30 percent in Sistema students). Furthermore, School E has 72 percent of students achieving 'at' or 'above' standard, with 35 percent achieving 'above' standard – which is higher than Sistema Aotearoa.

197. These patterns for higher achievement overall in reading and mathematics also occur for the 2013 OTJ results (not shown). This suggests that the students in Sistema Aotearoa are likely to have higher educational achievement than their peers at other schools with high Pacific Island populations.

7 Discussion

198. This section discusses the findings of both the educational and achievement data.
199. It is clear from this evaluation that children and their aiga/whānau who are succeeding in Sistema Aotearoa are on a substantial journey of positive change. In addition, we know that children who are involved in Sistema Aotearoa typically have higher educational achievement.
200. Whilst this evaluation helps us to better understand the outcomes achieved by the case study children and their aiga/whānau, it is more challenging to understand the contribution that participation in Sistema Aotearoa has to these outcomes. It is probable that factors other than Sistema Aotearoa participation may also be influencing the achievement of outcomes. For example, although parents can often be a driving force to enrol in the programme, typically continuation in the programme is more child-driven. Therefore it is possible that the more motivated and committed higher achievers are more likely to continue to participate in the programme.
201. In terms of educational achievement, we also know that other factors such as parental involvement and support, gender and strong relationships with school teachers also influence educational achievement. It is possible that students in Sistema Aotearoa are more likely to experience higher levels of parental support and enhanced school teacher relationships and this has influenced their educational achievement.
202. However, overall this evaluation suggests that Sistema Aotearoa is contributing to creating the conditions needed for children to succeed, i.e., increasing motivation, discipline, family resilience, parental involvement and support etc. But the extent of this contribution is unknown.
203. To check our interpretation of our findings, we shared them with the principals and lead teachers of the two largest partner schools that are involved with Sistema Aotearoa. We probed to gain an understanding of the impact that other factors might have on the outcomes for Sistema Aotearoa children and their aiga/whānau, compared to other children in their schools.
204. Both schools agreed that they too have observed the outcomes that were identified in the case studies, and believe that many of the students in Sistema Aotearoa achieve/experience some, if not all, of these outcomes.
205. Confidence, self-discipline and perseverance, connection with orchestral music and musical ability were the outcomes that schools believed that most students in the programme experienced. Schools were less sure of the outcomes experienced by aiga/whānau, but they agreed participation in Sistema Aotearoa enables celebration of children's achievement and sometimes better engagement with school personnel.

206. One of the limitations of the educational data analysis is that we do not have a baseline set of data and therefore we do not know if the difference is because the higher achievers are more likely to participate in the programme. To address this criticism, in the absence of a more rigorous data set that could reduce this uncertainty, we checked with two partner schools whether they believed that their higher achievers are more likely to participate in the programme.
207. Both schools we spoke with anecdotally report that the students from the 2011, 2012 and 2013 Sistema Aotearoa intakes are a relatively representative sample of students from the school. They suggested that the students entering into Sistema Aotearoa are a cross section of the student body and are not atypical (ie, they are not more motivated, higher achievers etc). The influencing factors we spoke about with principals and lead teachers that were present in equal portions in Sistema students and non-Sistema students include:
- parental support
 - participation in recovery programmes e.g. reading recovery
 - participation in gifted/accelerated learning programmes
 - participation in sports and other extra curricular school activities.
208. The one area where there seemed to be higher representation of Sistema Aotearoa students was leadership. In the Year 4 and 5 students (ie, the 2011 and 2012 intake) there was a higher proportion of students participating in leadership activities and leadership programmes. This was interesting to note because in the case study outcomes, the aiga/whānau identified that leadership was one of the strong aiga/whānau values that they wished to instill in their children. In addition, leadership skills were something that had developed in some of the case study children.
209. One partner school also reported that parental engagement with schools typically increases after their child has enrolled in Sistema Aotearoa. The school believed that participation in the programme acts as an ice-breaker for positive conversations between parents and staff members. As time goes on this develops into a more positive and productive relationship between the school and parents.
210. Another example given to us by the schools is the relationship that Sistema students develop with their Sistema tutors and the lead teacher at school. The school believes that having a strong and positive relationship with the Sistema tutor contributes to a child's enthusiasm for learning and also helps to support improved relationships between school teachers and the student.
211. Another interesting comment from one principal and lead teacher was that some of the difference in educational achievement may be because students who are not achieving well or have low school attendance either do not enrol in the programme, or drop out early on. This is slightly

different framing to the possibility discussed earlier that only students who are higher achievers enrol in the programme.

- 212. A characteristic of students achieving 'below' or 'well below' standard is that they are more likely to be transient and have poorer attendance at school. Students who struggle to attend school have complex needs and as such are possibly less likely to be able to maintain the level of commitment and engagement that is required to participate in Sistema Aotearoa.
- 213. Unfortunately, although we had intended to analyse attendance data of students in the Sistema Aotearoa programme we were unable to do this because of the limited data that schools were willing to provide and the lack of publicly available useful comparison data. As explained in the limitations section, had we been able to source different data from the schools this analysis may have been possible. Therefore, this is something to explore with schools in the future.

Data required for future educational achievement analysis

- 214. As previously mentioned, the data set used in this evaluation has limitations that influence the conclusions that we can make from the findings. Therefore, it is important to note here the kind of data we consider would be required in the future to enable a more robust analysis of educational achievement.
- 215. We believe that the OTJ ratings are the the most appropriate data to use in this context to understand educational achievement in reading and mathematics. This is because they are based on many assessments rather than one individual assessment. Using OTJ ratings also allows comparison between schools, whereas this is more challenging using other norm-referenced assessments. In future we would recommend that OTJ ratings for writing be included to investigate whether there is a difference in writing achievement as well.
- 216. The ideal data set to understand the impact of Sistema Aotearoa on educational achievement would be the educational achievement data for all students tracked over time on an individual basis. This data set would include children still with the programme as well as those who have dropped out. However, it is likely that this data set would be challenging to source for a variety of reasons (for example privacy and logistical issues⁹).

⁹ Schools were reluctant to provide individual level data for student achievement for ethical reasons (ie, permission from parents would need to be sourced and in some schools small numbers would mean students could possibly be identified) and also because it was perceived as more work to gather and then de-identify individual level data. In addition, attempting to track drop outs would require substantial time on site tracking students' records for when they were in the programme and after they had dropped out. The schools we worked with were generally reluctant to commit to several hours of gathering data onsite which would require teacher oversight. Finally, many of the students who have dropped out of Sistema Aotearoa have done so because they

217. In future data collection, we consider it would be ideal to have a baseline for all comparison groups. Given that there is now baseline OTJs for all children beginning the programme in 2014 and 2015, it would theoretically be possible to include a baseline in future evaluations.
218. Similarly, having more than two data points for each intake level would provide a more robust data set. Again, this aspect will resolve in time as OTJ ratings are collected for longer.
219. Finally, detailed attendance data for Sistema and non-Sistema students would be beneficial for future research. To enable a useful analysis of attendance, the attendance of Sistema and non-Sistema students would need to be collected for a substantial period of time and categorised by school year level.

moved school/suburb/country, therefore making them a more challenging group to gather a complete data set for.

8 In conclusion

220. Sistema Aotearoa has become a large part of the lives of participating children and their aiga/whānau. All the case studies demonstrated a significant positive personal and aiga/whānau journey since starting with the programme. It was clear that the aiga/whānau value the programme enough to fully integrate it into their already busy and complex lives.
221. The evaluation found evidence of outcomes for children and aiga/whānau that spanned relational, social, educational and musical areas.
222. We believe our evidence suggests that Sistema Aotearoa is likely to be contributing to the achievement of these outcomes. In particular, our qualitative evidence suggests that for participating children the development of confidence and leadership; perseverance and self-discipline; connection with, and competency in orchestral music; and vision for the future are outcomes to which Sistema Aotearoa contributes.
223. Whilst the evidence suggests there are differences between the educational outcomes of Sistema children and their peers it is not possible for us to attribute these differences to Sistema because of the limitations of the data.. However, Sistema Aotearoa has been a consistent part of the lives of participating children and aiga/whānau for up to three nights a week for between three and five years, so it is likely that the programme has had some influence on the way these children have grown, developed and achieved educationally.
224. For many of the outcomes, it would seem reasonable to conclude that Sistema Aotearoa provides a platform through which burgeoning skills, values and behaviours can be developed, practiced, improved and expressed by children and their aiga/whānau.
225. Achieving the level of retention for such an intensive programme is indicative of aiga/whānau commitment to the programme as well as the commitment of the children themselves. We did find that the case study children have (and need) considerable support from their parents and wider aiga/whānau to remain in the programme, and so the programme appears to play a role in the levels of involvement parents have in their children's education and learning. Schools also reported that many of the Sistema Aotearoa children have positive relationships with teachers and other staff. So, it seems plausible that Sistema Aotearoa may be a mechanism through which key factors that influence educational achievement are improved. Factors that were identified by case studies as being important to children's engagement and retention in the programme include:
- aiga/whānau enthusiasm and ongoing commitment to the programme (including supporting at-home practice)
 - that Sistema Aotearoa is free to attend

- that Sistema Aotearoa provides many opportunities to celebrate achievement and success
- that Sistema Aotearoa has high profile and high status.

226. The evidence in this evaluation indicates that Sistema Aotearoa has helped to support the achievement of positive outcomes in many areas, not only for participating children but also for their wider aiga/whānau. It is fair to say that the true impact of the programme has not yet been realised and that the outcomes will change and develop as participating children grow into their teenage years and beyond.

9 Works cited

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Talanoa with aiga / fanau about Sistema Aotearoa

Prompts for talanoa with aiga and fanau members

This conversation with the case study aiga / fanau is framed as a talanoa. Using a talanoa framing means that time is spent prior to the talanoa finding out as much as we can about the participants, then during the meeting and greeting/introductions there is a mental process of locating the aiga in the cultural and genealogical context by exchanging information and contexts with the aiga. Talanoa refers to 'having conversations without concealment.' This enables trust to begin and confidence to build while processing the evaluation and conversation. As acceptance builds through establishing this relationship with the aiga / fanau, they will feel comfortable to share their stories about their experiences with Sistema Aotearoa. There are prompts in the guide below to help focus the story that is shared, but it is likely that the story may move beyond and around the prompts.

Focus area	Things we want to know about	Key findings
Introduction/ background	General introductions – developing a relationship	
<i>Stories about child / ren in the aiga / fanau</i>	<p><i>Overall prompt</i> Tell us the story of how your child has developed and grown while they have been involved in Sistema Aotearoa?</p> <p><i>Specific prompts / things we want to know about (information about other outcomes is also good)</i></p> <ul style="list-style-type: none"> - Attitude to schooling – motivation, dedication, enjoyment, attendance etc - Behaviour at home – relationships with siblings, aiga / fanau 	

	<ul style="list-style-type: none"> - Working with and relating to other people (peers and authority), relationships with friends. - Self esteem, confidence, leadership, reliability, sense of self, sense of belonging - Contributions to church, community, school - What change are you most proud of? Why are you most proud of this? - What would be different for your child/ren if they weren't involved in Sistema? <p>How much of this change do you think is because of involvement with Sistema Aotearoa</p>	
<i>Stories about the aiga / fanau / family</i>	<p><i>Overall prompt</i></p> <p>Can you tell us a story about how Sistema has positively changed your aiga / fanau / family?</p> <p>AND / OR</p> <p>If we were having a talanoa with your grandmother, what would she be saying about how your family has grown and succeeded since your child / ren started Sistema Aotearoa? What changes would she be most proud of?</p>	

	<p>What is the most significant change that Sistema Aotearoa has helped your family make? Why is this the most significant?</p> <p><i>Specific prompts / other questions about how things may have changed since starting Sistema Aotearoa (not all of these need to be asked, but if possible try and get these covered somewhere in the talanoa)</i></p> <ul style="list-style-type: none"> - Family communication and relationships - Relationship with your child/ ren - Spiritual development - Cultural development - More positive about what you are capable of as a aiga / fanau / family - Leading more productive, positive and happy lives as a aiga / family / fanau - What sacrifices have you made to help your child / ren succeed in Sistema? What adjustments have you made? <p>How much of this change is because of Sistema</p>	
Stories about how the aiga / fanau and family	<p><i>Overall prompt</i></p> <p>Can you tell us a story about how your relationships with Sistema</p>	

<p><i>interact with Sistema, schools and their communities.</i></p>	<p>Aotearoa, local schools, churches and communities have changed since your child / ren started Sistema Aotearoa?</p> <p>What changes are you (would your grandmother be) most proud of? Why are you most proud of these changes?</p> <p>How much of this change is because of Sistema</p>	
<p>What would be different</p>	<p><i>Overall prompt</i> If your child / ren weren't involved in Sistema what would be different about your:</p> <ul style="list-style-type: none"> - child / ren - aiga / fanau / family - community 	

The stories could be framed as a series of ripples starting with the child /ren story and spreading out into the aiga / whānau and then stories about what has changed about interactions and relationships between aiga / whanau and Sistema / communities / schools.

After each talanoa the interviewers should have an audio-taped conversation about their reflections of the talanoa, including a commentary about what they noticed / saw that may have been left unsaid.