

Growing Up in New Zealand

A longitudinal study of New Zealand children
and their families



Transition
to school
2018



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Further information on *Growing Up in New Zealand* is available at www.growingup.co.nz

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Foreword

The *Growing Up in New Zealand (GUINZ)* study is well on its way to tracking the lives of a sample of New Zealand's young people during their first 21 years. This report is based on the first six of those years. We also learn about their parents and the households and neighbourhoods in which they are growing up.

We know that *GUINZ* has particular strengths and that its findings should inform policy development in New Zealand. *GUINZ* raises issues about how we can better support families who move often to stay in touch with key touch-points like doctors and early childhood education, and how we can better support families during periods of leave, stress and financial pressure.

This report, *Transition to school*, is the final *GUINZ* report produced jointly by Superu and the University of Auckland. With the impending disestablishment of Superu, responsibility for managing the government funding of the study has been transferred to the Ministry of Social Development (MSD).

Since 2013, when Superu started managing Crown funding for the study, we have learned a huge amount about children growing up in New Zealand today. We know that:

- Our families are ethnically diverse: a third of children are born to at least one parent who did not grow up in New Zealand and where at least one parent is multilingual.
- Almost half of all families are living in rental accommodation when their child is born, and many families move frequently.
- Although current guidelines recommend exclusive breastfeeding for six months, most newborns are exclusively breastfed for only four months.
- Nearly one in three newborns lives in a house with a smoker.
- The number of children living with a single parent increases as the children grow older, with a greater proportion of Māori children living in single-parent households compared with other ethnic groups.
- By age two, 92 percent of children are fully immunised.
- By age four, 97 percent of children spend time away from their parent, such as in early childhood education or organised home-based care. Most mothers feel that their child has the pre-reading or writing skills to start school.
- Fourteen percent of the children were classified as overweight or obese.

We are also learning more about today's parents:

- People are having children later, and 40 percent of pregnancies are unplanned.
- Most mothers make changes to their diet, most frequently avoiding alcohol, caffeine and raw or highly processed foods, but a considerable number continue to eat these items and consume alcohol during their pregnancies.
- Family finances can be complex: by the time a baby's born, nearly one in five families are receiving income from four or more sources. And mothers on leave from work tend to use a combination of maternity leave, annual leave and unpaid leave.
- One in five mothers experience depressive symptoms during or after pregnancy, and these are most likely in mothers who are young or facing high levels of financial or relationship stress.

The biggest risk factors for children? A lack of support from wider family, greater parental stress, their family not feeling part of the community, being born to young or single mothers, and living in private rental accommodation. The findings provide plenty of food for thought – and hopefully action – for those developing social policies, programmes and services for families.

Information from the study is already being used by the Ministry of Health, for example, to plan health resourcing and by Auckland Council's Southern Initiative to help minimise risks for children in high deprivation areas of South Auckland.

It's amazing to think that these incredible youngsters are now at school. For most, this transition has been a positive experience, and their parents are generally happy with the impact school is having on their children.

We know that healthy families are at the heart of a healthy society. Families give their members a sense of identity and belonging; they care, nurture and support their members; they provide socialisation and guidance; and they manage the family's emotional and material resources. Being part of a family is the most significant socialising influence in a person's early life. Given that childhood disadvantage strongly predicts negative adult life outcomes, it's critically important that we understand how our children are impacted by the modern world in which we live.

This study will continue to develop and grow, as will the body of data the study produces, for the benefit of us all.

On behalf of Superu, I would like to thank the children from the study and their families for sharing their

experiences with us, and the faculty and staff at the University of Auckland's Centre for Longitudinal research – He Ara ki Mua, for their hard work collecting the data for this study.

We wish you well for the future challenges that this very important endeavour will undoubtedly bring, and its effects on the standard of living for children from all of New Zealand's cultures and communities in the future.



Len Cook
Families Commissioner and Chair of the Superu Board

Acknowledgements

Growing Up in New Zealand is indebted to the continued commitment of all the children and families taking part in the study. Fitting an ongoing involvement with *Growing Up in New Zealand* into your busy lives is a significant undertaking; we acknowledge your trust and recognise our responsibility to safeguard the time and information you have shared with us.

The authors of this report are members of the *Growing Up in New Zealand* team: the Research Director (Associate Professor Susan Morton), Associate Director (Professor Cameron Grant), Senior Research Fellow (Dr Sarah Berry), Research Fellows (Dr Caroline Walker, Dr Kien Ly, Dr Emma Marks, Dr Lisa Underwood), Research Assistant (Sinead Wilson), Biostatisticians (Harrison Kim, Catherine Choi), Pacific Advisor (Jacinta Fa'alili-Fidow), Named Investigator (Dr Kane Meissel) and Data Analytics Manager (Avinesh Pillai). The authors also acknowledge that the content of this report is informed by experts in the specific research domains and themes (see pages 24 and 26, and also Figure 1, and appendix 1) for *Growing Up in New Zealand*.

This data collection wave was the first to utilise an online questionnaire design, therefore we specifically acknowledge the work of Peter Tricker (Information Systems Manager), Rina Prasad (Lead Data Manager) and Dr Kien Ly (Research Fellow) whose extra efforts did not go unnoticed.

Furthermore, this report would not be possible without the efforts of all those involved in the wider *Growing Up in New Zealand* team, particularly our interviewers who have collected the invaluable information on which this report is based. We acknowledge specifically Annette Gohns (General Manager), Pandora Carlyon (Senior Communications Advisor), Janine Kendall (Communications Manager) and Cherie Lovell (Field Operations Manager). At an agency level, we would like to thank specifically Beth Ferguson from the Ministry of Education, Kathleen Logan from the Office of the Children's Commissioner, and Ella Myftari, Sankar Ramasamy and Hugh Webb from Superu for their extensive feedback on this report.

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Growing Up in New Zealand acknowledges the ongoing support and advice provided by the Vice-Chancellor of the University of Auckland and the Chief Executive of Auckland UniServices Limited, as well as the advisory and governance groups of the study including the Policy Forum (chaired by Vasantha Krishnan), our Expert Scientific Advisory Group (chaired by Professor Carlos Camargo Jr), our Kaitiaki Group (chaired by Dr Te Kani Kingi) and our Data Access Committee (chaired by Distinguished Professor Jane Harding). Further information about the *Growing Up in New Zealand* team, its expert advisory group, governance and the design of this longitudinal study is available on our website: www.growingup.co.nz.

Study Director's foreword



On behalf of the *Growing Up in New Zealand* study team, I'm pleased to introduce the *Transition to school* report.

What follows is a summary of mother-reported information about the nature and impact of the transition to formal schooling for the *Growing Up in New Zealand* cohort children. It contains information gathered during the 72 Month Data Collection Wave (DCW) and continues *Growing Up*'s collection of longitudinal data to document the developmental trajectories of children growing up in New Zealand today.

The transition to formal schooling is a significant milestone in the lives of New Zealand's young children. *Transition to school* adds value to the body of knowledge we've already gathered during the before birth and preschool periods, and also lays the platform for later data collection waves as the children transition to adolescence and into adulthood. The information gathered during the 72 month DCW will therefore complement the data to be collected from the children themselves at the next planned face-to-face contact: the Eight Year Data Collection Wave. This will represent an exciting milestone when, for the first time in the study,

information will be gathered directly from the children. Hearing their voices will give us new insights we've not previously been privileged to.

We look forward to continuing this journey with our cohort children and their families, and we thank them for their continued engagement in this important study and their willingness to share their information with the team for the benefit of others.

**Associate Professor
Susan Morton**

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REPORT SNAPSHOT

Choosing a school

- Trusted friends & the school prospectus or website: the most common sources of advice for parents choosing a school.
- 96% of mothers rated educational resources as the most important factor for choosing a school, followed by a 'good reputation' (92%).

Being at school

Of the children:

99%

were attending primary school by age six

85%

were attending a state primary school and **26%** had experienced a Modern Learning Environment* in their first year of school

10%

were in classes of 15 children or less and around **6%** in classes of 30+ students. The most common class size was 20-25 children

12%

had moved school at least once before they were six. **25%** of mothers also reported their child had had at least one change in classroom teacher

24%

attended after school care, **8%** attended before school care

51%

had experienced the Milk for Schools programme and **10%** of children had experienced a breakfast club

More than **3/4**

lived within five kilometers of their school but only a quarter of children used active forms of transport such as walking, biking or scootering. **68%** travelled to/from school by car.

88%

were regularly involved in some way with their children's school

Of the mothers:



More than **2/3** were satisfied the current school was meeting their child's needs across key areas

Getting ready for school

Of the children:

- 98% had completed a B4SC by the time they were at school
- 98% had attended ECE in the six months before starting school

Of the mothers:

- 97% of mothers had actively engaged in transition activities with their child, e.g. school visits
- 76% felt their child was ready for school, 68% said their child was happy to go to school and 64% said their child was excited about going to school



76%



ready

68%



happy

64%



excited

Adjusting to school

- "Fitting in socially" and "making friends": mothers' main concerns for their children starting school
- Less than a month: the time it took most children and mothers to adjust to school
- 70% of mothers and 72% of children had no difficulty when starting school

20%

of mothers were still experiencing difficulties more than six months after their children started school



NB: The information contained in the above infographic, and the remainder of this report, is based on a Data Collection Wave participation rate of 84% (of all mothers of the 6853 cohort children).

* Refer 'The Modern Learning Environment': Section 5, page 67 of this Transition to school report.

Executive summary

Growing Up in New Zealand is a longitudinal study that provides a contemporary, population-relevant picture of what it's like to be a child growing up in New Zealand in the 21st century. Since 2008 *Growing Up in New Zealand* has followed the development of nearly 7,000 New Zealand children and their families.

The study has been explicitly designed to provide evidence, gathered via a variety of data collection modalities, that can underpin policy and decision-making to positively benefit all New Zealand children, their families and whānau, optimising their life long development and wellbeing.

The 72 Month Data Collection Wave

The 72 Month Data Collection Wave (DCW) was the first time *Growing Up in New Zealand* had utilised an online electronic questionnaire as the primary mode of data collection. This mode was utilised for several reasons: firstly because parents had requested that their information be collected electronically for the study (an expressed preference compared with face-to-face); secondly, an online electronic DCW was predicted to be a cost-efficient way of engaging with an established longitudinal cohort; and thirdly, the cohort children themselves are digital natives, living in environments that increasingly lend themselves to electronic data collections. The *Growing Up* team was therefore keen to trial online electronic methods of gathering information during this data collection wave.

While the final participation rate for mothers in this DCW was relatively high overall (84% of all mothers of the 6853 cohort children), it was markedly lower overall than completion rates achieved in prior face-to-face data collection waves (more than 90%).

More importantly in terms of utilising the information collected in this DCW, there was significant bias in the mothers who *did not* participate. Non-participant mothers (16% of all mothers) were more likely to have been teenagers when their cohort child was born, lived in areas of high deprivation during their child's preschool period, not completed any formal educational qualifications, and be more likely to identify as either Māori, Pacific or Asian than as New Zealand European.

Overall the utility of an electronic questionnaire, even within an established longitudinal cohort, was found to have some limitations as well as some strengths in terms of efficiency. Self-completion without any reminders was insufficient on its own to provide adequate coverage of the cohort mothers. The required number of reminders and assistance from interviewers to reach 84 percent of the cohort meant the electronic DCW mode was not as cost-efficient as had been predicted. Further, the bias in the final group of mothers who provided information means the statistics presented in this report should be viewed within that context. In particular information from mothers of some of the most vulnerable members of the cohort is currently missing at this key transition point. However it is expected it will be possible to update this missing information when the children take part in the next face-to-face DCW during 2017 and 2018.

The sections below provide an overview of some of the **main findings** from this 72 month data collection from the mothers of the cohort. The statistics mainly refer to the cohort of mothers who completed the DCW rather than all mothers (if not otherwise stated).

Before School Check

The Before School Check (B4SC) is a free health and development check available to all four year olds in New Zealand. The overarching aim of the B4SC is to screen for any developmental concerns that could affect a child's ability to get the most out of school, and to follow up if a potential problem is detected.

For the group of 5704 mothers (84% of cohort children's mothers) who completed the 72 Month DCW, 98 percent reported that their child had completed their Before School Check by the time they were at school.

Overall, mothers reported that more than one in four of the children (27%) had developmental concerns raised as a result of their B4SC check. Most children had only one area of concern raised (73%), but 15 percent had two concerns raised and, for more than one in ten children (11%), three or more areas of concern were raised at their B4SC.

The most common areas of concern identified were hearing (11%) and vision (9%), with speech concerns raised for six percent of the children. Behavioural concerns and learning difficulties, as well as oral health concerns, were raised for three percent of the children in each of these areas.

Approximately one in five of all the cohort children represented in this wave received referrals to additional services as a result of concerns raised at their B4SC. The proportion of referrals to additional services in relation to the specific area of concern varied considerably. Around three quarters of vision and hearing concerns resulted in referral to an additional service, while only one in five height or weight-related concerns were referred, according to maternal reporting. Intermediate to this were reported referrals for oral health and speech or language difficulties (approximately half of the children with these concerns were referred). Approximately one third of behavioural or learning difficulty concerns resulted in a reported referral to additional services.

Further assessment of this potential gap between concerns raised and referrals, as well as assessment of any follow-up, will be carried out to determine the impact of these routine checks and referrals on children's wellbeing and development. This will be facilitated by linkage to routine health and education data and future direct observation of the children themselves.

From a longitudinal perspective, it is also interesting to compare the measures made as part of the 54 Month *Growing Up in New Zealand* Data Collection Wave with the type and frequency of concerns and referrals reported from the B4SC by the children's mothers at the 72 Month DCW. Of those children identified either as overweight or obese at the 54 Month DCW (n = 648) only seven percent (n = 41) had a concern about their weight and/or height raised at their B4SC. For those children identified as obese only (n=209) at the 54 Month DCW there was a slightly greater rate of concerns raised at the B4SC (13%, n=27). These differences will be investigated in more detail utilising linkage to the B4SC routine health information for the cohort.

Transitioning from early childhood education to school

Moving from an Early Childhood Education (ECE) environment to a primary school environment represents a significant transition for children, with most ECE environments differing greatly from primary school environments. Understanding how to enable a positive transition for all children is a key focus of the longitudinal data collection process.

At 54 months, 97 percent of the child cohort were attending some form of ECE, up from 59 percent at two years of age.

Mothers who completed the 72 Month DCW reported that 98 percent of their children had attended Early Childhood Education during the six months prior to starting school, with the majority attending centre-based ECE (81%). This figure of 98 percent attendance aligns to the Ministry targets for ECE participation for New Zealand children at four years of age.

Approximately two thirds of mothers reported that they were aware of an existing relationship between their own child's ECE and their child's primary school, e.g. regular ECE-organised visits to school or provision of a portfolio from ECE to the school.

In addition, almost all mothers (97%) reported that they had actively engaged in transition activities with their child including visiting the school or the particular class before their child started school. Mothers also commonly reported that if their child was feeling excited or happy about starting school this helped to ease the transition to school, as did a sense that the child themselves was "school ready" (as reported by their mother). This was the case for over two-thirds of the cohort children.

Mothers' main concerns for their children beginning school tended to relate to whether their child would fit in "socially" and "make friends" as much as to whether they would enjoy the experience of school and/or manage academically.

Challenges were usually time-limited. In general most children and mothers adjusted to the new school routine and transition in less than a month. However 20 percent of mothers were still experiencing difficulties more than six months after their children transitioned to formal schooling. Children tended to take slightly longer than their mothers to overcome any challenges associated with the transition to school.

One of the most common reasons given by mothers for why issues were resolved related to the school environment itself and, in particular, that the mother had had a chance to engage - and was happy - with their child's classroom teacher.

Being at school

By the time the *Growing Up in New Zealand* children were six years old their mothers reported that almost all their children (99%, n = 5683) were attending primary school.

The majority of the children were at a state primary school (85%, n = 4762), with a small group of children being home schooled (approximately 1%).

The most common sources of advice sought regarding school choice for parents were evenly spread between advice from trusted friends (50%) and advice from the school prospectus or website (50%). Of note is that less than half of all mothers used Education Review Office reports and the primary school staff as sources of information to help determine school choice.

In terms of making choices about schools for their children, mothers reported that the most important characteristics of the school environment for them were firstly that the school could provide good educational resources (important for 96%) and secondly that the school had a "good reputation" (92% reported this). Other factors that rated highly in terms of parental choice were the way the school engaged in their local community (89%) and the school's perceived ability to cater for individual children's needs (87%). Awareness of an anti-bullying policy at the school also rated highly (85%).

Slightly less important but still reported by over 60 percent of all mothers were the school's location in terms of ease of access from the children's homes (79%) and small class size at the school (70%). Living within the school zone rated least highly in this group but remained important for well over half of the mothers (62%). For approximately half of the mothers it was also important that they had already experienced the school through older siblings or friends' children attending the same school, or that the school philosophy aligned with their own values or cultural practices.

Whether the school was single-sex or offered teaching in languages other than English was important for approximately one-third of parents in each case. However there were some differences in the relative importance of these aspects of the school environment according to mothers' and children's ethnic identities. Offering tuition in languages other than English was considerably more important for

mothers who identified as either Māori, Pacific, Asian, MELAA or Other compared with New Zealand European mothers (with odds four to seven times greater for this to be important).

Reports utilising National Standards were far less important to mothers, with only one in six citing this as an important source of advice in terms of school choice.

Over three-quarters (77%) of the cohort children lived within five kilometres of their school. One in four of all children regularly used forms of active transport such as walking, biking, or scootering to travel to and from school, but the majority travelled to and from school by car (68%).

The most common class size experienced in the first year of school was between 20 and 25 children. However more than ten percent of the children were in classes of 15 children or less and approximately six percent were in classes of more than 30 students.

Larger class sizes were common for children experiencing Modern Learning Environments (MLEs), which were officially introduced in New Zealand schools in 2010 as part of medium term (five to ten year) Ministry of Education property and funding plans.

Overall, one quarter of the cohort children (26%) was reported to have experienced an MLE in their first year of school (during the period 2014-2016), and the likelihood of experiencing this did not differ by school type in general, except in the case of Te Kura Kaupapa Māori where experiencing an MLE was more likely for children (31% had experienced an MLE in that environment).

Moving house has been a common feature of the lives of this cohort of children during their pre-school years (only one in three had not experienced residential mobility). In their first year of school mothers reported that 12 percent of the children had moved school at least once (before they were six).

The most common reason for a school move was a residential move (61% of school movers). The next most common reason was because of better opportunities at another school, followed by changes in either parental work or a relationship change. These latter reasons accounted for between ten and 14 percent of school moves in each case.

The likelihood of experiencing a school move was significantly greater for children who identified as Māori, Pacific or Asian compared with NZ European, and for children born to younger mothers (less than 30 years of age).

One in four mothers (25%) reported that their child had experienced at least one change of classroom teacher within their school, and one in ten reported two or more changes. The likelihood of experiencing a change in the child's classroom teacher was greater for children who lived in areas of high deprivation compared with those in lower deprivation areas.

Almost one in four children in the cohort attended after school care (24%), with almost half of these children attending every day after school. Fewer children attended before school care regularly (8% of the children), with three percent of the cohort regularly attending both before and after school care. Understanding how this before and after school care impacts on academic, social and emotional wellbeing will be a key goal in utilising the cohort information as the children continue their educational journey.

Parents and school

Parental aspirations and expectations for their children's educational success have been associated with children's educational outcomes in previous work. In this DCW we asked the mothers to report how satisfied they were with the schools their children were attending when they were six and how they felt their children's needs were or were not being met soon after the transition from pre-school to school.

In terms of satisfaction with the effect the current school was having on their child's educational, social, emotional, cultural and physical needs – nine out of ten mothers reported they were satisfied for each of these individual areas. Two-thirds of all mothers felt their children's needs were being met across all these areas.

Mother's satisfaction regarding the capacity of their current school to meet each of their child's educational, learning, social, emotional, and physical needs tended to be higher for children who had the same teacher throughout the school year. Additionally, parental satisfaction in general tended to decrease as class size increased (75% satisfaction for class sizes less than ten compared with 60% reported for classes greater than 30).

Mothers of children who were experiencing an MLE reported slightly higher levels of overall satisfaction with their schools capacity to meet their child's needs compared with those who were not in an MLE. In particular they were more satisfied with the way the MLE contributed to their children developing numeracy skills and independence.

Parental involvement in their children's school took many forms, but was high overall (88% reported some form of regular involvement). However parental involvement was less common for younger mothers, those living in the most deprived areas, and for mothers of children who identified as non-NZ European.

Future directions

The self-reported information from the mothers described in this report will be complemented by the information collected from the children themselves at the next face-to face DCW. Additionally, linkage to administrative datasets will enhance the utility of the information collected as the children transitioned to formal schooling. Already linkage has been undertaken with the B4SC data for the cohort, and parental consent has been obtained from almost all of the cohort to link to routine education data. The integration of the parent-reported information with the routine datasets will allow further important research and policy relevant issues to be addressed.

For example, the *Growing Up in New Zealand* cohort mothers reported high levels of satisfaction and involvement with their child's school when their children were six. This is encouraging given the association between parental involvement and academic achievement throughout formal education. As sources of information are collated, this association can be further explored in the contemporary New Zealand context. Given the reported association between class size, teacher changes and MLE with parental satisfaction in the first year of formal schooling, a further area of interest is how the classroom experience affects parental satisfaction and achievement over time.

Utilising the longitudinal and routine information we will also explore how the differences in parental involvement observed with maternal age, ethnicity and area level in the first year of school translate to differences in academic achievement for the children themselves. The context specific information will be used to understand how we can mitigate the impact of differential parent involvement, and also provide valuable information to inform innovative strategies to reduce the gaps seen in school readiness, engagement with formal education, and with academic aspirations and achievement across all children growing up in New Zealand today.

Where to next?

In 2017, *Growing Up in New Zealand's* Eight Year Data Collection Wave began. Along with information from the mothers, this DCW is also gathering information directly from the children themselves for the first time – a process that is expected to continue throughout 2018. Taken together, the Eight Year and 72 Month maternal-reported information will describe this key transition in the cohort children's lives and add value to the existing longitudinal data collected during the preschool period. It will also provide the foundation for gathering further information from the cohort as they transition to adolescence.

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Glossary

Term or Acronym	Definition or translation
B4SC	Before School Check
CAPI	Computer Assisted Personal Interview/s
CATI	Computer Assisted Telephone Interview
DCW	Data Collection Wave
DHB	District Health Board
ECE	Early Childhood Education
Growing Up	<i>Growing Up in New Zealand</i>
GUiNZ	<i>Growing Up in New Zealand</i>
IDI	Integrated Data Infrastructure
MELAA	Middle Eastern, Latin, American, African
MLE	Modern Learning Environment
MoE	Ministry of Education
MoH	Ministry of Health
MSD	Ministry of Social Development
NIR	National Immunisation Register
WCTO	Well Child Tamariki Ora
54M DCW	54 Month Data Collection Wave
72M DCW	72 Month Data Collection Wave
8Y DCW	Eight Year Data Collection Wave

Note: Mother was defined as a primary caregiver who could be the biological mother, adoptive mother, foster mother, stepmother, grandmother, aunt, biological father, adoptive father, foster father, stepfather or grandfather.

Growing Up in New Zealand



Study overview

Growing Up in New Zealand is a longitudinal study that provides a contemporary, population-relevant picture of what it's like to be a child growing up in New Zealand in the 21st century. Since 2008 *Growing Up in New Zealand* has followed the development of nearly 7,000 New Zealand children and their families.

The study has been explicitly designed to provide evidence, gathered via a variety of data collection modalities, that can underpin policy and decision-making to positively benefit all New Zealand children, their families and whānau, optimising their life long development and wellbeing.

Context: The Growing Up in New Zealand cohort

Growing Up in New Zealand recruited children to be part of this longitudinal study via their pregnant mothers. Inclusion criteria included that expectant mums had an Expected Delivery Date between 25 January 2009 and 25 March 2010 and they needed to reside in the greater Auckland, Counties Manukau or Waikato District Health Board areas at the time of their pregnancy. The resulting cohort of 6853 children is of sufficient size and adequate explanatory power to understand what shapes developmental trajectories over time across all contemporary New Zealand births and, importantly, what shapes development within Māori and Pacific subgroups. It provides information to help uncover what leads to inequalities in outcomes for these children. Following recruitment the cohort has been shown to be broadly generalisable to all contemporary New Zealand births (Morton et al., 2013).

The features of the study, as well as the recruitment and retention of the *Growing Up in New Zealand* cohort and key findings from the previous antenatal, nine month, two year and four year data collection waves, are available via the study website: www.growingup.co.nz.

Conceptual framework

Growing Up in New Zealand, with its longitudinal design, is multidisciplinary in nature and includes a translational dimension; it explicitly collects information from the same group of children and their families over time to align to the current policy context and to inform future policy development. This study builds on the demonstrated value and lessons learnt from earlier New Zealand longitudinal studies but, importantly, reflects the key scientific and many demographic changes that have occurred since these studies began in the 1970s.

The conceptual framework for *Growing Up in New Zealand* takes a life-course approach to child development. It seeks to facilitate an understanding of the dynamic interactions between children and their environments across a broad range of influences, from their immediate family environments to their wider societal context, over time (Figure 1). The information collected from the cohort families from before birth is centred on the child as the participant. The model incorporates the notion that all children's development begins before they are born (intergenerational) and that each life-course outcome is the result of a complex interplay between the individual's biology and their environment.

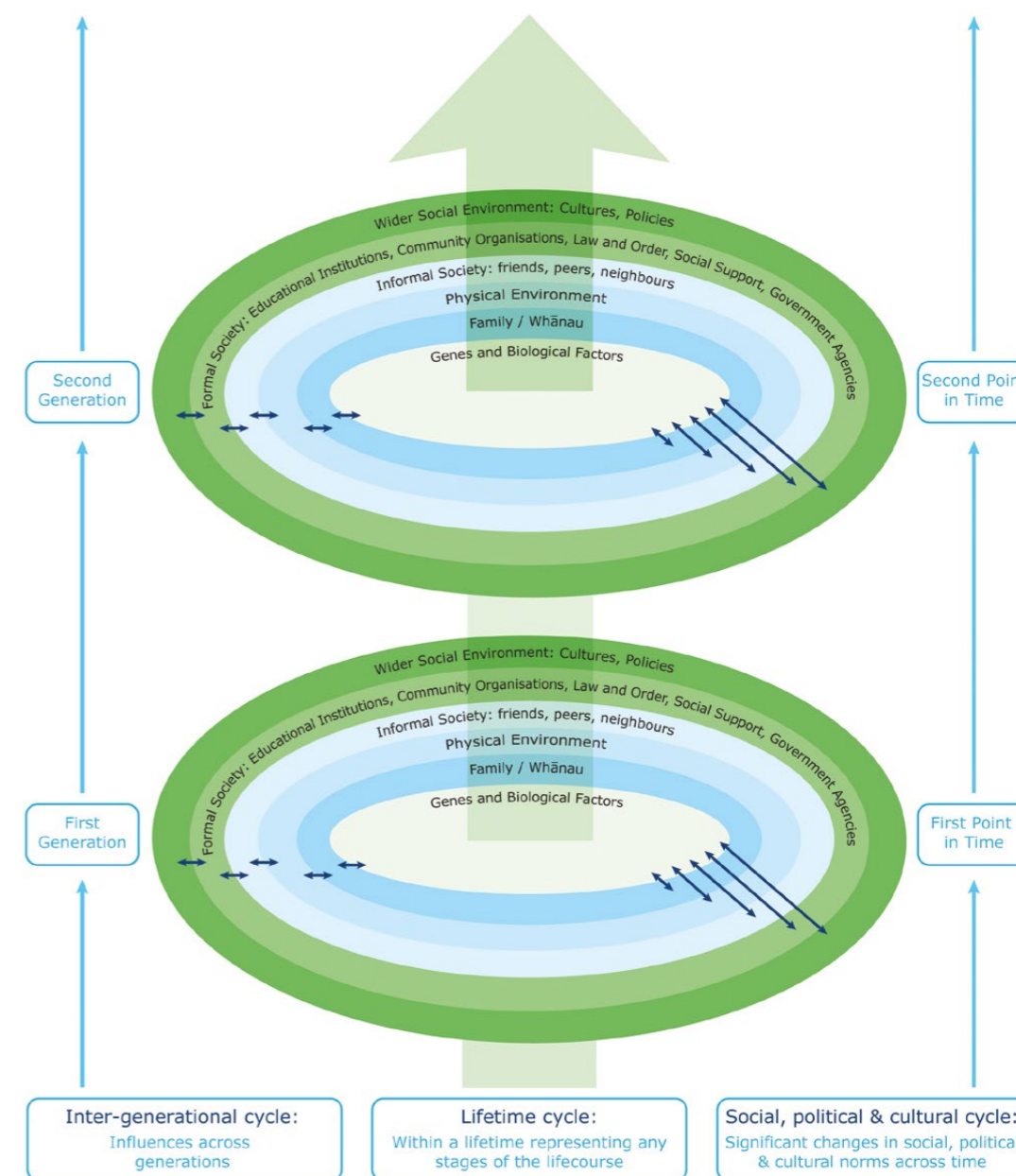


Figure 1: Conceptual framework for understanding child development in *Growing Up in New Zealand*

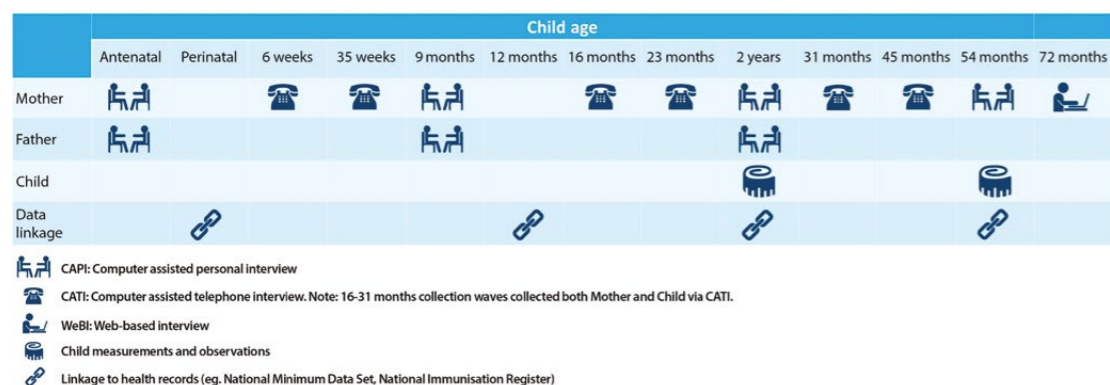


Figure 2: Longitudinal Data Collection Waves

Data Collection Waves

The timing of Data collection Waves (DCWs), and what is measured (from whom and how (see Figure 2), are all planned according to the study’s conceptual framework, overarching objectives and multidisciplinary research questions (Appendix 1). Each specific DCW provides a snapshot of information at one point in time and is designed to describe the developmental trajectories of contemporary New Zealand children. Longitudinal data enables us to explore why we see particular outcomes and what shapes these outcomes for all New Zealand children. It is now well recognised that trajectories of early life development from before birth and in the first thousand days of life are critical to the ongoing health, wellbeing and resilience of children and their families throughout their lives. To understand how this important period shapes wellbeing in the context of 21st century New Zealand, four main Data Collection Waves have already been conducted within the first five years of the children’s lives, including one prior to the child’s birth. To capture age specific data and maintain cohort engagement in between these main face-to-face Data Collection Waves, interim data have been collected primarily through telephone interviews. In this latest Data Collection Wave when the children were approximately six years of age (72 months), an online electronic questionnaire was used for the first time in place of a telephone based interview.

Each *Growing Up in New Zealand* Data Collection Wave seeks age-appropriate information across six inter-connected domains: family and whānau, societal context and neighbourhood, education, health and wellbeing, psychological and cognitive development, and culture and identity. In particular, age specific Data Collection Waves are designed to provide information to address the overarching longitudinal research questions and objectives. Attention is given to ensuring the methods used to collect domain-specific evidence acknowledge the unique New Zealand population and environmental context, particularly the opportunity *Growing Up in New Zealand* presents to examine the factors that contribute to the wellbeing of Māori tamariki.

Face-to-face interviews

Face-to-face interviews were conducted as Computer Assisted Personal Interviews (CAPI):

- The Antenatal Data Collection Wave (2009-2010) with the pregnant mother-to-be (most often in the last trimester of her pregnancy) and with her partner (ninety-nine percent of whom were reported to be the biological father). This DCW was primarily designed to collect the background characteristics of the parents and the family of the cohort children before birth. It also provided a unique opportunity to understand parental postnatal intentions for themselves and their children (including: breastfeeding, immunisation, return to work and parental leave).

- The Nine Month Data Collection Wave with the child’s mother and her partner (2010- 2011) was an important opportunity to engage with the child and their family in infancy. We collected information about several postnatal issues (highlighted above) in order to determine what had shaped wellbeing and development for children during their earliest months of life.
- The Two Year Data Collection Wave with the child’s mother and her partner (2011- 2012) collected information on how the children were faring at the end of their first thousand days of life and what had either enabled or hindered their development during that time. It was the first DCW to involve direct observations and developmental and anthropometric assessments of the children themselves, as well as parental report regarding their development and wider environment.
- The Four Year Data Collection Wave with the child’s mother (2014-2015) was a key DCW marking the end of the preschool period for the cohort children and occurring prior to their engagement with the more formal primary school educational environment. It also coincided with the timing of routine developmental assessments being undertaken by the Ministry of Health as part of assessing school readiness. This DCW included direct observations and developmental and anthropometric assessments of the children at four-and-a-half years old (54 months of age) and, for the first time, biological sampling.

Telephone interviews

Telephone interviews have been conducted as Computer Assisted Telephone Interviews (CATI). These have primarily occurred between main face-to-face data collections to both augment the information obtained in the homes of the children, and also to assist with tracking and tracing the families in preparation for each major Data Collection Wave. To date, they have been undertaken when the children were approximately six weeks, 35 weeks, 16 months, 23 months, 31 months and 45 and 53 months old. Information collected via CATI at these times updates information about who is in the household where the child is primarily living, identifying the key caregiver who will provide parental and child proxy information. The information at 53 months and the 54 month self-reported information was particularly salient in terms of deducing who to invite to engage in the 72 month electronic DCW.

Online questionnaire

For the 72 Month Data Collection Wave an online questionnaire was trialled. This consisted of a set of questions designed for the mothers to self-complete using a suitable electronic device (laptop, phone etc.). This modality was used for the first time for the 72 Month Data Collection Wave. The process of questionnaire content and development, invitation to participate, participation and completion rates are described further in Section 2 of this report.

Data linkage

In addition to direct collection of information from parents and the cohort children, linkage to routine data was an explicitly designed feature of the longitudinal data collection from the study’s outset. Such linkage can reduce participant burden and also enhance the scientific and policy utility of the self-reported and direct observational information. This linkage pre-dated the introduction of the Integrated Data Infrastructure (IDI) in the New Zealand context, but there are important implications for further linkage and enhanced utility of the longitudinal information as a result of this. Parental consent is ethically required for linkage to routine datasets in the context of the *Growing Up in New Zealand* study and consents to do so are incrementally updated at each Data Collection Wave according to scientific and policy information required and the age of the cohort children. To date the following consent for linkage has been obtained:

- Consent for linkage to routinely collected perinatal health records was undertaken during the Antenatal DCW in 2009-10, with more than ninety percent of mothers of cohort children successfully linked to routine perinatal records by the end of 2012. Linkage to perinatal health records provided valuable information about the latter stages of the mother’s pregnancy, birth records for the children

and information about their immediate neonatal outcomes. Perinatal records were obtained from a variety of sources including District Health Boards, satellite hospitals, birth centres and midwife cooperatives (Morton et al., 2015, Morton et al., 2012). The data was merged to form a perinatal dataset which is part of the infancy dataset (DCW1).

- Parental consent for linkage to health records in the first year of the cohort children's lives was also obtained at the Antenatal interview and updated at the 54 Month interview to extend consent to information about immunisations, hospitalisations and primary health care for the first seven years of the children's lives. This information is being collated and merged with the longitudinal information.
- Parental consent for linkage to routine education data up to the age of seven years was also obtained from ninety-seven percent of the cohort at the 54 Month face-to-face interview.

The focus of this report

This report is a baseline descriptive report from the electronic Data Collection Wave undertaken by the mothers of the cohort children when they were approximately 72 months of age. The 72 Month Data Collection Wave questions were designed in tandem with planning for the constructs to be measured at the next face-to-face Data Collection Wave, and also in the context of the longitudinal plan to understand the children's development at key transition points in their lives. The next face-to-face interview was originally planned for when the children were seven years of age to collect information about their wellbeing and development after they had entered formal schooling, but was delayed until the children were eight years old. The Eight Year DCW is currently in the field (2017-2018).

It is important to note at the outset that because this Data Collection Wave was conducted electronically, there is significant bias in the maternal voices captured, despite every effort to include all cohort families in this process. The extent and nature of the bias is detailed in Section 2, and should be considered as important context for the information presented in this report. The 72 Month data collected represents the mothers' self-reported view of the children's transition to school and their own experience of this. Information about the children's own views regarding their transition to school, as well as linkage to routine educational data, will augment the information available from this maternal report when the Eight Year Data Collection Wave is completed.

The questions asked of mothers in the 72 Month electronic questionnaire were primarily designed to better understand what contributes to contemporary New Zealand children being ready for school and what enables them to engage in education from the time they enter that environment, usually between 60 and 72 months of age. Importantly, the questions focus on the concept of school readiness, which can be understood in different ways according to scientific or policy endeavour. For this report, we consider the UNICEF (2006) categorisation of school readiness into three key dimensions: the ready child, the ready school, and the ready family. We acknowledge that school readiness sits within the child's cultural context and within existing policy frameworks. For example, social policies, such as employment and parental leave policies, have previously been linked to positive child outcomes, and are interconnected with school readiness (Kamerman et al., 2003, Minujin et al., 2005). At an aspirational level, achieving equity in school readiness is important, though not usually possible. Measures of school readiness have been associated with educational achievement, school completion, lifelong learning and success in adulthood (Rouse et al., 2005). Children who are deemed "ready to learn" when they enter school have also been reported to be more likely to be employed when they are adults (Rouse et al., 2005). At a broader societal level, ensuring children are ready for school can promote the development of economic productivity and human capital (Delamonica and Komarecki, 2006).

The 72 Month Data Collection Wave questions sought information to provide context specific indicators of school readiness, enabling an assessment of how school readiness might impact child development.

The ready child: focusing on children's learning and development

The concept of the 'ready child' describes a child who has appropriately developed skills and competencies within three distinct domains: learned behaviours (such as knowing colours and shapes, counting numbers, saying letters of the alphabet); attitude and emotional competence (such as following instructions, self-concept, self-management of behaviour, interest in learning); and physical development (such as fine and gross motor skills, sitting still for appropriate periods of time). At the 54 Month Data Collection Wave nine out of ten mothers in the cohort reported that they thought their child would be socially ready to transition to school and six in ten mothers reported they felt confident their child had the reading and writing skills needed to start school. In the 72 Month Data Collection Wave mothers have reported on how they thought the transition to school went for themselves and their child, and what specific areas were challenging (see Section 3).

The ready school: focusing on the school environment

The 'ready school' is a high-quality, safe and inclusive learning environment that offers appropriate levels of instruction, creates continuity between the child's early learning environment and school, and seeks to link school with the child's broader environment. A ready school helps to support a smooth transition into primary school for children and their families, and promotes learning for all children (Pianta and Kraft-Sayre, 2003). In the 72 Month Data Collection Wave mothers have reported on how satisfied they are with the effect that school had on their child's educational and social development (see Section 7).

The ready family: focusing on parental perceptions and involvement



The 'ready family' includes a combination of supportive parenting, stimulating home environments and supportive family relationships. For most children, the primary context for developing skills and behavioural regulation is their family environment. Parenting beliefs, attitudes and practices are some of the most prominent family characteristics linked with school readiness (Delamonica and Komarecki, 2006). Parents play an important role in determining their child's school readiness, fostering social development, choosing a school for their child to attend and deciding when to start their child at school (Belfield and Garcia (2014). Furthermore, a rich home learning environment (e.g. singing, reading books, telling stories and playing games) is an important characteristic of a ready family (Delamonica and Komarecki, 2006). In the 72 Month Data Collection Wave, mothers have also reported on if and how they are involved in their child's school.

The content of this report – a roadmap

This high level descriptive report details the cohort children's experiences around the time they started school, from the perspective of their mothers. It highlights the factors that mothers believe have contributed to their child's readiness for the school environment.

Section 2 of this report describes the subset of mothers who participated in this electronic Data Collection Wave. Although eighty-four percent of the cohort completed this Data Collection Wave, it is important to note that there is significant bias in the maternal voices captured in this report.

Section 3 describes maternal reports about the Before School Check (B4SC), the twelfth core contact as part of the free Well Child Tamariki Ora programme that takes place throughout the preschool period (2015, October 8, retrieved from <https://www.health.govt.nz/your-health/pregnancy-and-kids/services-and-support-you-and-your-child/well-child-tamariki-ora-visits/about-b4-school-check>). Again, it is important to note the bias in the mothers reporting in this Data Collection Wave when interpreting the B4SC data presented in this report.

Section 4 describes the transition from Early Childhood Education (ECE) to primary school. This includes a description of the types of ECE children were attending and the mothers' perspective of how the transition to school was for them and for their child.

Section 5 describes the types of school the cohort children were attending at six years of age, factors mothers thought were important when initially choosing a school for their child, sources of advice they consulted about school choice, use of before and after school care and modes of transport and distance between home and school. It also describes the maternal perceptions of the school learning environment. Mothers reported on their child's class size, teacher changes experienced, whether their child had experienced a Modern Learning Environment (MLE) and if their child had experienced specific programmes such as Milk for Schools and Breakfast Club. Early measures of school transience (defined for *Growing Up in New Zealand* as any school changes in the first year of primary school) are also described.

Section 6 describes the mothers' satisfaction with their child's school and their involvement with their child's school when their children are six years of age. It also describes how satisfaction was associated with the school learning environment.

The 72 Month Data Collection Wave



Key components of this Data Collection Wave

- The 72 Month Data Collection Wave was the first time *Growing Up in New Zealand* utilised an electronic questionnaire as the primary mode of data collection.
- The final participation rate was high (84%) for this data collection mode, with 5709 of the 6760 mothers in the initial birth cohort completing the questionnaire. However, this was lower overall than rates achieved in prior face-to-face Data Collection Waves (all greater than 90%).
- Ninety-six percent of the initial birth cohort were invited to participate in the Data Collection Wave, with 77 percent of those mothers self-completing the questionnaire electronically.
- Additional data collection modes were employed to augment participation at additional cost (via telephone or home interviews), with an additional 11 percent of mothers completing the questionnaire with assistance from an interviewer.
- Over half of mothers (58%) completed the electronic questionnaire using a desktop computer, one third used a smartphone, and the remaining used a tablet.
- The 16 percent of mothers in the initial birth cohort who did not provide any information regarding their children as part of the 72 Month Data Collection Wave were significantly socioeconomically biased in comparison to those who did. In particular, non-participants were more likely to have been teenage mothers, lived in areas of high deprivation during their child's preschool period, have no formal educational qualifications, and identify themselves mainly with an ethnicity other than New Zealand European.

The 72 Month Data Collection Wave was the first *Growing Up in New Zealand* online questionnaire developed and designed to be self-completed by mothers of the cohort children. Previously, major data collections have been undertaken using either computer-assisted face-to-face or computer-assisted telephone interviews. The move to a self-completed online questionnaire was a response to: more readily available online questionnaire software; a large proportion (84%, $n = 5214$) of *Growing Up in New Zealand* parents indicating their willingness to participate in an online data collection about their child when asked specifically about their preference; a desire to make data collection as cost-efficient as possible; and a need to engage with the cohort as soon possible after their children had transitioned to formal schooling.

This section describes the process for developing the online questionnaire for the mothers, as well as overall participation and completion rates.

Questionnaire design and participation

The electronic questionnaire was designed in parallel with the next face-to-face interview planned for the parents and the children themselves (originally scheduled for when the children were seven years old, but now being undertaken at age eight). As such the questionnaire was designed to update the longitudinal information collected from the children and their families in the preschool period and to begin documenting the process of school transition through the mothers' self-report, providing a segue into the information to be collected from both the children themselves at eight, and from linkage to routine educational information. The respondents for the 72 Month ('Starting School') questionnaire were the mothers¹ of the children in the *Growing Up in New Zealand* cohort.

¹ 'Mother' was defined as a primary caregiver of the cohort child and included biological mother, adoptive mother, foster mother, stepmother, grandmother, aunt, biological father, adoptive father, foster father, stepfather, grandfather.

Invitation to participate

The initial *Growing Up in New Zealand* birth cohort consisted of 6760 mothers and 6853 children. In each data collection wave, a number of participants choose to opt out, have passed away or cannot be contacted. A total of 6504 mothers were invited to take part in the electronic questionnaire based on prior information collected about whether they were still actively engaged in the longitudinal data collection (Figure 3). The majority of the mothers (97%, $n = 6334$) were invited to participate by email while the remainder (3%, $n = 170$), who did not have an email address, were invited by text message and/or phone call. During the data collection period (August 2015 to June 2016), mothers were invited to complete the online questionnaire in four cycles, based on the quarterly birthdays of their cohort children to align data collection as closely as possible to when the children were exactly 72 months of age. Invitations to participate were followed up with reminder emails, text messages, and phone calls if the questionnaires were not completed within a defined time period. In order to improve the participation rate, small incentives were offered in the latter stages of the data collection period.

Fifteen percent of participants (998 of the 6504 who were invited to participate) completed the questionnaire without any reminders required. A similar number (18%, $n = 1143$) completed the questionnaire after a single electronic reminder. The majority of participants (64%, $n = 4193$) completed the questionnaire after receiving three or more reminders (a mixture of email, text and/or phone call).

Questionnaires were administered by telephone or face-to-face interview for those who were unable to complete the web-based questionnaire (11%, $n = 717$). Reasons for completing the questionnaire in this way included: not having an email address, not knowing how to use the electronic survey, or preferring a face-to-face or telephone interview.

Completion of the online questionnaire

One potential disadvantage of online self-complete surveys is that participants can determine whether they complete all the questions or not. In face-to-face interviews it is more difficult for participants to end interviews and responses prematurely. In this case, of the 5722 mothers who opened the questionnaire link themselves or responded to the survey via phone or face-to-face assistance, only 13 (< 0.2%) did not proceed past the first question. For those who started the questionnaire, 5639 (99%) completed the full questionnaire and only 70 (1%) partially completed the questionnaire. This rate is potentially higher than in a one-off electronic survey and may reflect the established relationship with the mothers of the cohort children over time and their commitment to providing information. Therefore the overall number of mothers who provided responses (beyond opening alone), was 5709 (the denominator for analyses) (Figure 3).

At each Data Collection Wave participants may choose to participate, skip or opt out of the study. If a participant chooses to skip a Data Collection Wave they remain eligible to be contacted to participate in future Data Collection Waves. The skip rate for this data collection wave was 12 percent ($n = 775$). The attrition or opt out rate (i.e. participants who have specifically indicated they no longer wish to participate in the study) was less than one percent ($n = 44$). Although the skip rate was higher than in previous Data Collection Waves (7% at 54 Months ($n=462$), 5% at two years ($n=366$)), the opt out rate was lower (1% at 54 months and 1% at 2 years). The cumulative 'loss to follow-up' (i.e. participants who could not be contacted) at the 72 Month Data Collection Wave was 21 participants, similar to the 54 Month Data Collection Wave (also 21).

The majority of mothers who responded to the online questionnaire did so on a desktop computer ($n = 3320$, 58%), one third used a cell phone ($n = 1864$, 33%) and less than one in ten used a tablet device ($n = 538$, 9%).

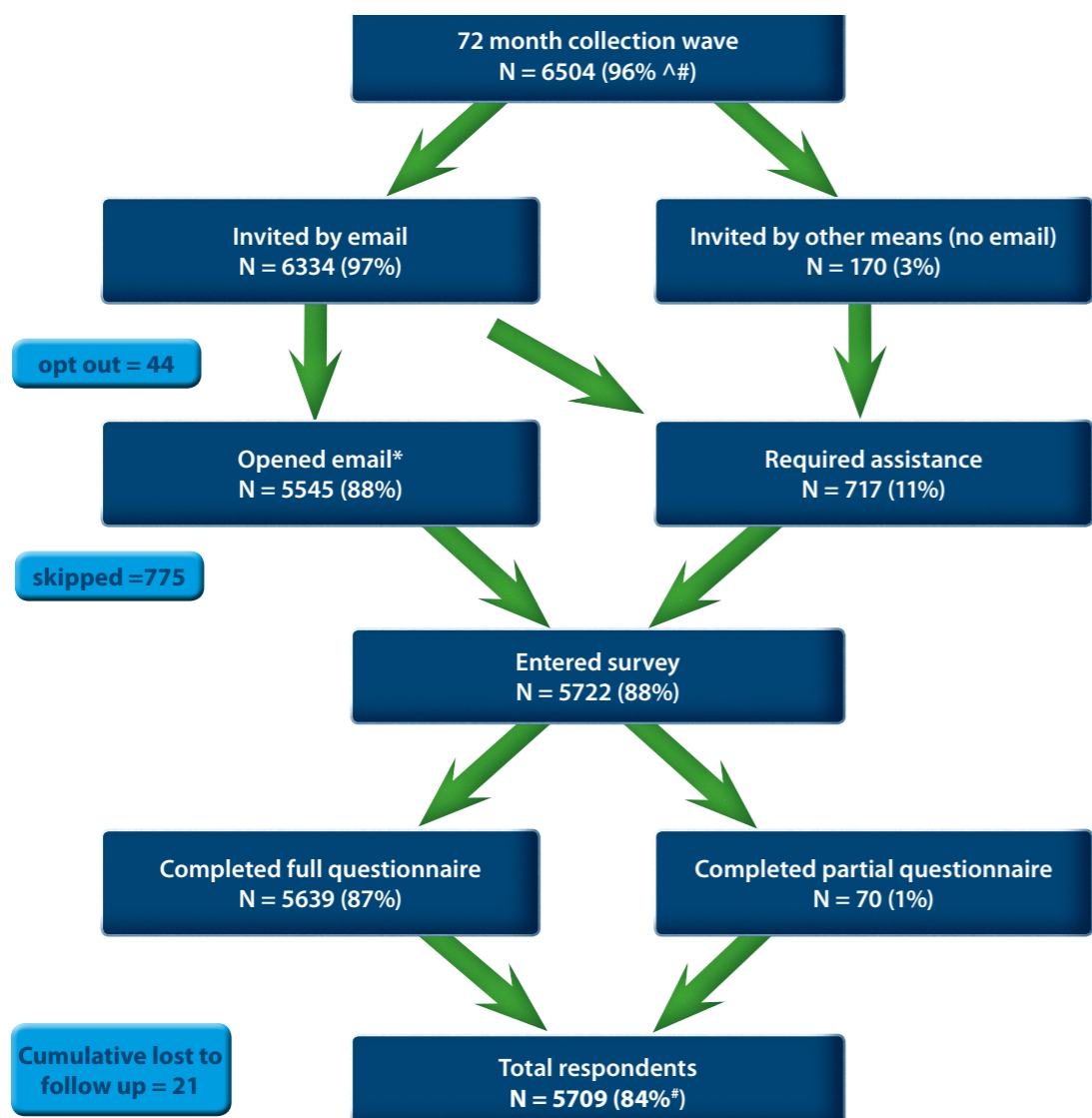


Figure 3: Child cohort retention from antenatal to 72 Month Data Collection Wave

* Email open rate is approximate as not all email clients reported this. Individuals may open an email and click on the survey link (entering survey) or they may simply ignore the invitation link.

^ Percentage of total mothers in the birth cohort. There are 6760 mothers and 6853 children in the birth cohort.

^ Mothers who opted out or could not be contacted were excluded from the invitation in this DCW.

Skipped refers to a mother (reporting on child) who has been unable to provide information at a specific data collection point, but still intends to complete subsequent data collection waves.

Loss to follow-up refers to a participant who could not be contacted at this specific data collection wave.

Opt out refers to a participant who has specifically indicated that they no longer wish to participate in the study; where this is a mother, their participant child or children are therefore opted out.

Cohort retention and characteristics of mothers who took part

Maximising overall participation, as well as limiting attrition bias (the risk of imbalanced results due to loss of study participants), is important at every Data Collection Wave to maximise the completeness of the longitudinal information and its utility to inform policy-related initiatives for all contemporary children and their families.

The 72 Month questionnaires were completed by 5709 mothers of the *Growing Up in New Zealand* cohort children, 84 percent of the mothers of the baseline child cohort (n = 6760 mothers and 6853 children, including multiple births). The characteristics of mothers who participated in the 72 Month Data Collection Wave, compared with those who did not, are detailed in Table 1. Compared with those mothers who did participate, those who didn't were more likely to be younger (p < 0.001), have fewer educational qualifications (p < 0.001) and identify with an ethnicity other than New Zealand European, as was their cohort child (both p < 0.001). They were also more likely to live in areas of high deprivation (p < 0.001).

Table 1: Characteristics of participants in the 72 Month Data Collection Wave

	Participated in 72M		Did not participate		Full cohort	p-value
	Total n = 5709		Total n = 1051		Total n = 6760	
	n	%	n	%	n	
Maternal age group¹						< 0.001
< 20 years	201	63	118	37	319	
20 - 29 years	2054	79	554	21	2608	
30 - 39 years	3155	90	347	10	3502	
40+ years	253	89	32	11	285	
Missing information	46	100	0	0	46	
Maternal ethnicity²						< 0.001
European	3840	92	328	8	4168	
Māori	954	78	269	22	1223	
Pacific People	767	68	364	32	1131	
Asian	846	78	232	22	1078	
MELAA/ Other/ NZ	251	83	53	17	304	
Missing information	51	94	3	6	54	
Maternal Education						< 0.001
None	310	66	158	34	468	
Secondary qualification	1227	77	370	23	1597	
Diploma or Trade Certificate	1714	84	333	16	2047	
Bachelor degree	1407	92	121	8	1528	
Higher degree	993	94	62	6	1055	
Missing information	58	89	7	11	65	
NZDep2013 group (54M)						< 0.001
Low (deciles 1 – 3)	1697	97	60	3	1757	
Medium (deciles 4 – 7)	1966	95	101	5	2067	
High (deciles 8 – 10)	1654	87	257	13	1911	
Missing information	392	38	633	62	1025	
Child ethnicity³						< 0.001
NZ European	3907	95	201	5	4108	
Māori	1346	90	153	10	1499	
Pacific People	1034	83	215	17	1249	
Asian	916	90	105	10	1021	
MELAA/ Other/ NZ	1016	92	87	8	1103	
Missing information	130	19	562	81	692	

1 Maternal age was collected at the antenatal period.

2 Self-prioritised Maternal ethnicity data was created from the antenatal interview. Since participants could choose more than one ethnicity, the sum of all the percentages is greater than 100%. MELAA: Middle Eastern, Latin American, African.

3 Child ethnicity data is prioritised and as reported by mothers at the 54 Month Data Collection Wave.

The participation rates (84%) achieved in the 72 Month Data Collection Wave demonstrate the capacity of collecting data using an online questionnaire within a well-established longitudinal cohort, where engagement and retention has been very high. Despite this, it is very important to note that the more vulnerable children and families (Māori, Pacific and lower socioeconomic status, as described in previous *Growing Up in New Zealand* reports) are proportionately under-represented in the information gained from this electronic Data Collection Wave. The descriptive information is therefore likely to under-represent the challenges faced by the most vulnerable children as they transition into formal schooling.

Overall the *Growing Up in New Zealand* child cohort is generalisable to the New Zealand child population. This, combined with the study's high retention rates, over time has ensured the longitudinal information gathered is relevant to inform policy and decision-making. The data also provides detailed information about children who are otherwise under-represented in routine administrative datasets. This electronic data collection method is more limited in its generalisability than previous face-to-face data collections, and also represents only the mothers' self-report. Capturing the child's view and engaging with the full cohort themselves at age eight will enable the longitudinal information to be updated, and the influence of different preschool experiences to be understood across the diverse child population, as well as within important child sub-groups, such as Māori and/or Pacific and those who have experienced cumulative exposure to vulnerable environments throughout their earliest years.

Future directions

The low overall drop-out rate during the preschool Data Collection Waves (approximately 3%, (n=252) of the 6853 baseline child cohort) illustrates the commitment and willingness of the cohort participants to contribute their time and information to this New Zealand study.

The 72 Month Data Collection Wave has seen the development of online and self-completed questionnaires within the *Growing Up in New Zealand* study. Although a useful tool, this type of Data Collection Wave can make it more challenging to engage with, and collect information from, the most vulnerable children and their families, as seen in the lower response rates among such families compared with their participation in face-to-face and phone interviews.

Therefore, when interpreting results from this report it is important to note that this Data Collection Wave does not represent the full cohort diversity. However, it is heartening to note that the mothers who did participate overwhelmingly completed the full electronic questionnaire, which potentially also speaks to the utility of this mode of data collection within an existing longitudinal study framework. It is expected that it will be possible to update this missing information when the children take part themselves in the next face to face Data Collection Wave, taking place in 2017 and 2018.

Looking ahead to future Data Collection Waves, we will continue to develop innovative data collection methods and utilise electronic modes of data collection, including interactive applications, so as to capture longitudinal information, with a particular focus on capturing the full diversity of the children's voices and stories.

Before school check



Experiences and uptake of the free preschool health and development check

Key findings

- Of those mothers who completed this Data Collection Wave (n=5704), 98 percent reported that their child had completed the Before School Check.
- Of those mothers who completed the 54 Month face-to-face Data Collection Wave and consented to linkage, 96 percent had completed their Before school check.
- Children who had not completed the Before School Check were more likely to identify as Māori or Pacific and live in areas of high deprivation.
- The most common service providers used for the Before School Checks were medical/health centres and GP practices (n = 3172, 57%), followed by Plunket centres (n = 2083, 38%).
- The most common concerns raised at the B4SC related to hearing or vision (one in ten children).
- 253 children had previously been identified as obese by the *Growing Up in New Zealand* team at the 54 Month Data Collection Wave. Of that number, only 13% (n=27) had concerns raised about their weight at their B4SC (as reported by their mothers).

The Before School Check (B4SC) is a free health and development check available to all four year olds in New Zealand. It is the twelfth core contact as part of the free Well Child Tamariki Ora (WCTO) programme that takes place during the preschool period. The B4SC is undertaken by trained health professionals in a number of healthcare-related settings. The overarching aim of the B4SC is to screen for any health, behavioural, social or developmental concerns that could affect a child's ability to get the most out of school, and to follow up if a potential problem is detected. The B4SC includes:

- A child health questionnaire;
- Hearing and vision screening;
- Height, weight and body mass index assessment;
- Behavioural and development questions using the Strengths and Difficulties questionnaire (SDQ) and Parental Evaluation of Development Status (PEDS) tools; and
- Oral health screening.

In this section, we describe mother-reported experiences of the B4SC for their cohort child. We include mother reported information about the service provider where their child's B4SC was completed, what concerns were raised (if any), and whether referrals for further assessment or support were made. It is important to note that these self-reported data should be interpreted within the context of the mothers who participated in the 72 Month Data Collection Wave (See Section 2).

The information obtained from the 72 Month Data Collection Wave (Table 1) reflects a bias that is very similar to identified gaps in B4SC coverage for the current New Zealand child population. In particular it

has been reported that Māori and Pacific children are significantly less likely to complete the B4SC than New Zealand European children (Litmus, 2013).

It will be possible to address these limitations and reduce this bias in the *Growing Up in New Zealand* longitudinal information once the eight year face-to-face interviews are completed with the children themselves and their parents, according to previous face-to-face completion rates. The maternal-report and child information will also benefit from triangulation with linkage to routine educational data, for which consent is being updated. Integrating self-reported information from *Growing Up in New Zealand* with routine administrative data will also provide important information for assessing the barriers and enablers for families to engage with and access the B4SC.

Before School Check completion

The parent-reported data collected in this electronic 72 Month Data Collection Wave indicate a 98 percent participation rate in the B4SC (n = 5330). However, it is important to note significant differences between the group of participants who completed the 72 Month Data Collection Wave and those who did not (Section 2). Children who miss out on the B4SC may be offered a School New Entrant Check which includes (at a minimum) hearing and vision screening. It is possible that some parents of children who did not attend the full B4SC, reported completion of the School New Entrant Check. Furthermore, although parents might report that their child attended a B4SC, there is evidence that a significant proportion of eligible children are not screened for all components of the B4SC, with inequities in completion particularly among Māori and Pacific children (Litmus, 2013). This suggests there could potentially be a much larger group of children who have not had a comprehensive B4SC prior to starting school. The analyses from the 72 Month Data Collection Wave represents the early phases of understanding this for all children in the *Growing Up in New Zealand* cohort.

Prior work within *Growing Up in New Zealand*, linking information from the face-to-face Data Collection Wave at 54 Months with administratively collected B4SC data, has already provided some detail on the children who are more likely to be missing out on this important developmental check, but who are represented in the longitudinal cohort (Table 2). In particular B4SC information was received from the Ministry of Health on 5619 children, for whom *Growing Up in New Zealand* had consent to link to health data and who were eligible for a B4SC (i.e. the child was in New Zealand between the ages of four and six years). This equates to 91 percent of the cohort that took part in the four year data collection wave (n = 6146). Within this sample, 96 percent of participants (n = 5378) had a B4SC and four percent (n = 241) did not.

Table 2 shows the proportion of children who did not take part in the B4SC according to specific maternal and child characteristics. Rates of non-participation in the B4SC were higher for children of younger mothers, children of mothers without formal secondary school qualifications and for those living in families in areas of high deprivation. Pacific and Māori children in the cohort were also less likely to take part in the B4SC compared with New Zealand European and Asian children. This pattern of non-participation aligns closely to the characteristics of children whose mothers did not take part in the 72 Month Data Collection Wave (Table 1).

Table 2: Proportion of participants who did not take part in the B4SC according to Ministry of Health data

	No B4SC participation (n = 241)		Completed B4SC (total n = 5378)		Total (n = 5619*)	Univariate OR (95% CI)
	n	%	n	%	n	
Maternal age group						
< 30 years	113	5	2180	95	2293	0.74 (0.57 - 0.96)
30+ years	121	4	3159	96	3280	Ref
Maternal Education						
No secondary school qualifications	29	8	318	92	347	0.53 (0.34 - 0.82)
Secondary qualification	66	5	1185	95	1251	0.87 (0.62 - 1.21)
Diploma or Trade Certificate	78	5	1615	95	1693	Ref
Bachelor degree	43	3	1313	97	1356	1.48 (1.01 - 2.16)
Higher degree	18	2	895	98	913	2.40 (1.43 - 4.03)
NZDep2013 group**						
Low (deciles 1 – 3)	53	3	1670	97	1723	1.06 (0.73 - 1.53)
Medium (deciles 4 – 7)	66	3	1962	97	2028	Ref
High (deciles 8 – 10)	119	6	1733	94	1852	0.49 (0.36 - 0.67)
Child ethnicity						
NZ European	74	2	2921	98	2995	Ref
Māori	57	7	762	93	819	0.34 (0.24 - 0.48)
Pacific People	78	10	685	90	763	0.22 (0.16 - 0.31)
Asian	22	3	671	97	693	0.77 (0.48 - 1.25)
MELAA/ Other	<10	2	78	98	78	0.66 (0.20 - 2.14)
New Zealander	<10	<1	179	>99	179	2.27 (0.55 - 9.31)

The denominator used to calculate percentages was the total number of participants in each row group. *The total n is based on those participants who consented to linkage to administrative data at the 54 Month Data Collection Wave and were able to be successfully linked. ** NZDep2013 at the time of the 54 Month Data Collection Wave.

This provides evidence that the information being collected within *Growing Up in New Zealand* can augment that found in routine administrative datasets, particularly for children aged between zero and five years of age. It also suggests that face-to-face interaction with the most vulnerable children and families is key to successfully engaging them. The combination of *Growing Up in New Zealand* data and data from routine data collections may provide a more complete picture to help inform policy evaluation and development relating to child wellbeing.

Before School Check service providers

An important aspect of ensuring all children take part in the B4SC when they are four years old is to identify and remove barriers associated with accessing the B4SC. One potential barrier relates to the provider at which the B4SC is completed. The B4SC can take place in a variety of community, health and education settings and these differ between District Health Boards. Completion of all B4SC components may also require children to attend multiple providers. To understand how the specific B4SC provider may be associated with the check's completion or participation, mothers were asked to report where their child's B4SC had taken place (Table 3). The most common provider was their medical/health centre/GP practice (n = 3172, 57%). For 37 percent of mothers (n = 2083) they reported their child's B4SC was completed with Plunket and for six percent (n = 360) the B4SC was completed with another Well Child Tamariki Ora provider (such as a community health worker). The vision and hearing components of the B4SC were completed at preschools/Early Childhood Education (ECE) or Care Centres for 2550 (46%) and 2646 (48%) of children respectively. For three in five children (60%, n = 347), the B4SC was completed at more than one provider. Of these, 636 (12%) completed their B4SC at two providers, and approximately two in five (41%, n = 2198) completed their B4SC at three providers.

Table 3: Service providers where components of the B4SC were completed

	n	%
Medical/ health centre/ GP practice	3172	57
Plunket	2083	37
Another Well Child Tamariki Ora provider	360	6
Vision screening tested at preschool/ECE/care centre	2550	46
Hearing screening tested at preschool/ECE/care centre	2646	48
Vision tested at medical/health centre/GP practice	733	13
Hearing tested at our medical/health centre/GP practice	672	12
Knew about the B4SC but it was not completed	108	2
Didn't know about the B4SC and it was not completed	27	<1
None of these	85	2

The denominator used for percentages was the total number of participants answering each question. *Participants were asked to select all items that applied to them. Multiple responses means totals add to more than 100%

Concerns identified during Before School Checks

According to mother report, almost three quarters of children (73%, n = 3864) had no concerns raised as a result of their B4SC. There was more than a quarter (27%, n = 1398) of cohort children for whom at least one concern was raised. Most often these children had one concern raised (73%, n = 1024). About 15 percent (n = 216) had two concerns raised, but for more than one in ten children (11%, n = 156) three or more areas of concern were raised at their B4SC. The most common area of concern identified was hearing (n = 600, 11%). Vision was raised as a possible area of concern for almost one in ten children (9%, n = 479), and speech was a possible area of concern for 293 children (6%). Other areas of concern raised included: behaviour concerns (3%, n = 170); learning difficulties (3%, n = 143); and oral health/dental issues (3%, n = 143). A small percentage of children (1%) were identified with possible movement/mobility issues (n = 51) or growth/physical development issues (n = 49) or another non-specified issue (n = 65).

Referrals resulting from Before School Checks

We asked mothers to report whether any referrals to additional services were made as a result of their child's B4SC. Approximately one in five of all the cohort children represented in this DCW (n = 1120) received referrals to additional services. The majority of these children (82%, n = 923) received only one referral, and the remaining children received two or more referrals. The number of referrals to additional services in relation to the number of concerns raised varied depending on the area of concern (Table 4). Whereas approximately three-quarters of vision (n = 351) and hearing concerns raised (n = 436) occurred in conjunction with a referral to additional services, only around one fifth of concerns (n = 31) about height or weight occurred in conjunction with a referral to additional services, and one third of concerns about behaviour (n = 52) or about learning difficulties (n = 33) occurred in conjunction with a referral to additional services. Just over half of concerns raised about oral or dental health (n = 81), or about speech/ language assessment (n = 150), occurred in conjunction with a referral to additional services.

Table 4: Concerns raised and referrals made at B4SC

Concern	Concern raised (n)	Referral made (n)	Percent of referral made as a proportion of concern raised (%)
Vision	479	351	73
Hearing	600	436	73
Height and/ or weight	146	31	21
Behaviour	170	52	31
Learning needs	143	47	33
Oral health care	143	81	57
Speech and/or language	293	150	51

The denominator used for percentages was the number of participants who had that concern raised.

Overall, the proportion of all concerns and referrals made to additional services was similar across ethnic groups (Table 5). However, for vision, more concerns were raised for Asian children (16%, n = 89) compared with other ethnic groups (p < 0.01). Hearing concerns were more prevalent in Pacific (17%, n = 94) and Māori children (14%, n = 91), compared with other groups (p < 0.001). Concerns for height and/or weight were slightly higher in Pacific (4%, n = 24) and Asian children (6%, n = 34) compared with children of other ethnic groups (p < 0.01).

Table 5: Types of concern raised by child ethnicity (determined in 54M DCW)

Area of concern	European		Māori		Pacific People		Asian		Other*	
	n	%	n	%	n	%	n	%	n	%
Vision	229	8	46	7	53	9	89	16	41	7
Hearing	270	10	91	14	94	17	70	12	52	9
Height and/or weight	65	2	<10	<1	24	4	34	6	<10	6
Behaviour	75	3	10	2	22	4	36	6	21	4
Learning	58	2	19	3	17	3	27	5	14	2
Oral health	37	1	24	4	25	4	37	6	13	2
Speech	152	6	37	6	28	5	34	6	28	5
No concerns were raised	2032	74	468	73	399	71	407	71	429	76
Total respondents	2745		639		559		572		565	

The denominator used for percentages was the total number of participants who responded for each ethnicity. *Other includes Middle Eastern, Latin American, African, non-specified and New Zealander.

Differences in concerns raised and referrals made

There are some plausible reasons why we might expect to see differences in the proportion of concerns raised and referrals made. These include that the concern may have been addressed by the B4SC provider as part of the check itself, or alternatively parents may not have wished a referral to be made. There are, however, potential gaps that may occur because of a shortage of services children can be referred to for specific problems, whether in terms of existing capacity of specialists or other issues such as a lack of any service, which may differ according to DHB and families' place of residence. This gap requires further investigation in terms of following up the cohort children directly as well as linkage to routine data and enquiries about how parents dealt with the information about concerns (asked as part of the Eight Year Data Collection Wave).

It is also interesting to compare the measures made as part of the 54 Month *Growing Up in New Zealand* Data Collection Wave with concerns and referrals from the B4SC. *Growing Up in New Zealand* information is collected by a group of trained interviewers who are all managed via one operations team and project, whereas the B4SC process is administered across DHBs and multiple providers, albeit with existing standard protocols. For example, with respect to concerns and referrals for weight related issues in four year old children, only a small proportion of children identified as overweight or obese at the 54 Month Data Collection Wave had weight and/or height raised as a concern at their B4SC. Specifically, 13 percent (n = 648²) of cohort children in *Growing Up in New Zealand* were found to be either overweight or obese when weighed and measured using a standardised protocol as part of their *Growing Up in New Zealand* face-to-face 54 Month Data Collection Wave (Morton et al., 2017). Of those children identified as overweight or obese at that time (n = 648) only seven percent (n = 41) had a concern about their weight and/or height raised at the B4SC. For those children identified as obese (n=209) at the 54 Month Data Collection Wave there was a slightly greater rate of concerns raised at the B4SC (13%, n=27). These differences are being investigated further utilising the linked datasets.

² The percentage of children identified as overweight or obese at the 54 Month Data Collection Wave who also completed the 72 Month Data Collection Wave

Future directions

Analyses are currently ongoing linking *Growing Up in New Zealand* data with administrative data about the B4SC. The bias in reporting on the B4SC using electronic data collections has been largely overcome through consents to linkage made at face-to-face interviews with participants. Follow up as part of the *Growing Up in New Zealand* Eight Year Data Collection Wave will enable detailed assessment of change that may have occurred as a result of the B4SC, as well as identifying the proportion of children missing from the administratively held B4SC datasets.

Ministry of Health B4SC data provides more detail than we were able to collect using the 72 Month questionnaire (for example: date(s) of B4SC assessment(s) and results of the individual assessments). Correspondingly, *Growing Up in New Zealand* has longitudinal information about the children (and their parents) that is not captured in administratively collected data. Moreover, there are some overlaps in the information collected whereby we have matching data from each source, in addition to measurement of weight and height. For example, the Strengths and Difficulties questionnaire was also used in both the B4SC and the *Growing Up in New Zealand* four year questionnaire. Therefore, we have access to a unique resource of combined data that we can use to explore important questions, including:

- How do mother-reports of their child's B4SC experience compare with routinely collected administrative data, with respect to completion, concerns raised and referrals?
- What are the characteristics of children (and their parents) who do not take part in the B4SC?
- What are the key barriers to and facilitators of access to the B4SC?
- How does routinely recorded B4SC data (such as behaviour and height/weight) compare with standardised *Growing Up in New Zealand* data collection?

The results of these analyses will be useful to guide policy on improving access to the B4SC for the most vulnerable children, ensuring those who are most in need of support receive timely referral/intervention. Additionally, the reliability/accuracy of using administratively collected data to track and research population trends (such as, obesity among young children) will be explored.

Transitioning from early childhood education to school



Key findings

- Almost all children (98%) were reported to have attended Early Childhood Education (ECE) during the six months before starting school, with 81 percent in centre-based ECE (97% reported at 54 months). This represents increases for the cohort since the children were two years old (59%) and nine months old (37%).
- Two thirds of mothers reported awareness of a relationship between their child’s ECE and school, e.g. ECE-organised visits to school, provision of a portfolio from ECE to school.
- Almost all mothers (97%) reported that their child had taken part in at least one form of school transitional activity, such as visiting the school or class before starting at school.
- Over two thirds of mothers reported starting school was a positive experience, with approximately 70 percent of mothers and 72 percent of children having no difficulty when starting school.
- The most commonly reported reasons for ease of transitions were that the child was feeling ready to start school (76%), feeling happy to go to school (68%) and feeling excited about starting school (64%).
- For the one in three mothers and children who did experience difficulty with starting school, most resolved quite quickly. However, approximately one in five mothers were still experiencing difficulty with the transition more than six months after starting school.
- The most commonly reported difficulties for mothers included worrying that their child would not make friends at school (39%) or would not like school (39%).
- The most common difficulties for the children starting school, as reported by their mothers, included the new routine (57%), being separated from family (47%), and adjusting to the new rules (38%).

Moving from an Early Childhood Education (ECE) environment to a primary school environment represents a significant step for children, with most ECE environments differing greatly from primary school in terms of teaching style and structure, and therefore of expectations about how children behave in these environments (Delamonica and Komarecki, 2006). Understanding how to best support a positive transition is a key focus within *Growing Up in New Zealand*. Detailed information was collected in the 72 Month Data Collection Wave about participation in Early Childhood Education the links and relationships between ECE providers and school, and the experience of children and parents when school began.

This section describes ECE participation in the six months prior to starting school as well as the mother reported information about the relationship between their child’s ECE and school. Additionally, it explores the types of transition activities undertaken in preparation for the cohort children starting school and the reported difficulties experienced by mothers themselves and their children during the period of transition from ECE to school.

Early Childhood Education participation

Participation in quality ECE is recognised as an important contributor to school readiness and subsequent school success (Magnuson and Waldfogel, 2005). The New Zealand government has

invested heavily³ in ECE, resulting in a considerable rise in the number of ECE services and qualified teachers, as well as the proportion of children participating in ECE. Previous research has indicated that not all groups of children were benefiting equally from the improvement in ECE coverage, with lower participation rates among Māori, Pasifika and those from low socio-economic families (Education Counts (2017). However, internationally very few studies have investigated the link between ECE and schooling transitions with a representative sample, and whether the factors associated with positive school transitions differ for different socio-demographic groups. Maternal experiences of the relationship between ECE services and schools, uptake of transition services, as well as any difficulties experienced by the mother or child, provide a unique insight into the factors that support successful transitions to school.

Growing Up in New Zealand has previously reported (at 54 months) on the main types of ECE that children attend (Morton et al. (2017). The main types of ECE attended by the children of *Growing Up in New Zealand* in the six months before starting school are summarised in Table 6.

Table 6: Main early childhood education types

Early Childhood Education Grouping	Early Childhood Education types included*	n	%
Centre-based	Playcentre, early learning centres, Montessori, child care centres, kindergartens, crèches, preschools, a’oga amata, Rudolf Steiner	4565	81
Home-based	In their own home, the home of the person providing the education or care, or a home nominated by the parent	743	13
Ngā kōhanga reo	Total immersion te reo whānau programme for mokopuna	161	3
Playgroups	Puna Kōhungahunga, cultural playgroups and community language playgroups	89	1
No ECE attendance	No regular early childhood education and care arrangements just before starting school	109	2

The denominator used for percentages was the total number of participants answering each question. * Ministry of Education, 2014. <https://parents.education.govt.nz/assets/Parents/Documents/Early-Learning/ECE-Choices-Booklet.pdf>

Although centre-based care was the main ECE type for the majority of children regardless of their ethnicity, home-based care was more common among children who identified as New Zealand European (67%, n = 472), than for children who identified as Māori (7%, n = 47), Pacific (5%, n = 38), or Asian (6%, n = 46) (Table 7). Of those children who identified as Māori (n = 659), one in five (20%, n = 132) attended Ngā kōhanga. This attendance is comparable to previously reported statistics which showed that 15 percent of all Māori four year olds attended Te Kōhanga Reo (Ministry of Education, 2014, retrieved from https://www.educationcounts.govt.nz/statistics/archived/ece2/ece-indicators/participation_in_early_childhood_education). Approximately five percent (n = 382) of children attended Playcentre and one percent (n = 102) attended a Pacific Island Early Childhood Centre as their main type of ECE in the six months prior to starting school.

³ Between 2008 and 2015, Government expenditure on ECE rose from \$860 million to almost \$1.63 billion. This is an increase in funding of over 89 percent. Between 2008 and March 2016, the percentage of children starting school who attended ECE rose from 93.6 percent to 96.6 percent. <https://www.education.govt.nz/ministry-of-education/budgets/budget-2016/highlights-budget-2016/>

Table 7: Early childhood education or care type in the six months before starting school by ethnicity

	Centre-based		Home-based		Ngā kōhanga		Playgroups		No early childhood education attendance		Total n
	n	%*	n	%*	n	%*	n	%*	n	%*	
European	2263	80	472	17	<10		51	1.8	38	1.3	2831
Māori	450	68	47	7	132	20	13	2.0	17	2.6	659
Pacific	507	87	38	7	<10		<10		28	4.8	584
Asian	523	90	46	8	<10		<10		<10		579
Other	470	78	104	17	<10		13	2.2	10	1.7	600

*Row percentages (i.e. the percentage choosing each arrangement *within* each ethnicity) are provided

Relationships between main early childhood education and school

To understand how relationships between ECE and primary schools facilitate successful school transition periods for children, we asked mothers to report the kinds of relationships that existed between their child’s ECE and school. Approximately one quarter of mothers (27%, n = 1545) reported their child’s ECE was the closest to the school and/or the ECE that had been attended by the majority of the children at the school. In addition, nearly one quarter (24%, n = 1364) also reported that their child’s ECE provided an organised programme that included at least one visit to and from the school. Approximately one in three mothers (32%, n = 1851) did not report any relationship between their child’s ECE and school (Table 8).

Table 8: Relationship between child’s main childcare provider and their school when they first started

Type of relationship*	n	%
The childcare provider is the closest to the school and/or the most likely place for the children at school to have come from	1545	27
The childcare provider has a programme that involves visit(s) to and from the school	1364	24
The childcare provider prepares a written or digital portfolio for the school	840	15
The childcare provider and school teachers communicate directly	732	13
The childcare provider is on the same site as the school	465	8
The childcare provider and school organise it so that they are working on the same topics or curriculum areas	375	7
Other activities to assist them in transitioning to school	299	5
None of these	1851	32

*Multiple responses allowed so totals add to more than 100%

School transition activities

School transition activities, such as visiting the school prior to starting, are widely documented as helpful strategies for a successful school transition (Dockett et al., 2006, Dunlop and Fabian, 2002) (Hartley et al., 2009; Margetts, 2003a; Peters, 2004). The most common transition activities experienced by the *Growing Up in New Zealand* cohort children are summarised in Table 9. Almost all children visited the school, class or teacher before starting school. Approximately eight in ten children (79%, n = 4482) had one or more visits to the school, three-quarters of children (74%, n = 4185) had one or more visits to their class before they started and almost one fifth (18%, n = 1033) visited the school with their ECE centre. Two thirds of children (66%, n = 3765) met with the teacher before starting school. Information such as a transition folder or a portfolio from the ECE to the school was much less common, with approximately one in five (19%, n = 1104) experiencing this. Almost one in five mothers (18%, n = 1041) said their child initially started school for shorter days, five percent (n = 269) reported they had experienced other activities to assist the school transition. Three percent (n = 171) did not report experiencing any of these transition activities before starting at a particular school.

Table 9: Transition activities

Transition activity*	n	%
Visit(s) to the school	4482	79
Visit or visits to their class before they started	4185	74
Met with their teacher before they started	3765	66
Met with their teacher soon after they started to see how they were going at school	2774	49
The school/ teacher/ class received information from ECE or care staff (such as a transition folder or portfolio)	1104	19
Attended school for shorter days	1041	18
Their ECE, or childcare visited the school	1033	18
Other activities to assist them transitioning to school	269	5
None of these	171	3

*Participants were asked to select all items that applied to them. Multiple responses so totals add to more than 100%.

Difficulties experienced during transition to school

The transition to school presents significant changes, from less-structured ECE groups to the larger, more structured environment of primary school (Ladd et al., 1997). Although many children and their parents experience a smooth transition to school, some families report difficulties, such as a mother worrying whether their child is ready for school, or the child themselves experiencing difficulties with the new routine, or being separated from their mother or family, when starting school. Margetts (2002) argues that children who experience few difficulties with adjusting during their first year of school are more likely to progress successfully in their future schooling than children who experience ongoing difficulties with the school transition. However, early difficulties do not necessarily lead to poor school experiences or outcomes. In this section we describe the experiences of mothers and children around the time of starting school.

Mothers’ experience of their child’s school transition

Seventy percent (n = 3894) of mothers reported that they experienced a smooth school transition when their *Growing Up in New Zealand* child started school. The reasons attributed to this by the mothers are

summarised in Table 10. Most commonly, mothers felt that their child was ready for school (76%, n = 2957), that their child was happy to go to school (68%, n = 2654), and that their child was excited about starting school (64%, n = 2486). Other important reasons included the child having older siblings or other family members who attended or had attended the school (57%, n = 2214) or that the child had friends, or knew other children at the school (47%, n = 1843), highlighting the importance of familiarity when adjusting to a new school.

Nearly half (46%, n = 1797) of mothers who experienced no difficulties reported that the transition activities they had experienced had helped with their school transition. A commonly identified reason for experiencing no difficulties was how happy the mother was with the teacher (46%, n = 1796).

Table 10: Reasons mothers experienced no difficulties with their child’s transition to school

Reason for no difficulty*	n	%
Felt child was ready for school	2957	76
Felt child was happy to go to school	2654	68
Felt child was excited about going to school	2486	64
Familiar with the environment because brother(s) or sister(s) or other family member attends or has attended the same school	2214	57
Child had friends or other children that he/she knew at the school	1843	47
Well prepared by the transition process/school visits etc.	1797	46
Happy with their teacher	1796	46
Experienced it before with other children	1496	39
Child was used to the ECE or care environment	1308	34
Had time to be involved in getting them into the school when they started	1233	32
Time to prepare him/her	1178	30
Support received from teachers at the school	915	24
Family support	564	15
Support received from ECE or carer	519	13
Familiar with the environment because a family member works at the same school	251	6

*Participants were asked to select all items that applied to them. Multiple responses mean totals add to more than 100%.

The remaining 30 percent (n = 1701) of mothers responded that they found aspects of their child starting school difficult. Of this 30 percent, the majority (n = 1438, 84%) responded that it was only somewhat difficult, 11 percent (n = 181) reported that it was very difficult and five percent (n = 82) reported that it was extremely difficult.

Among mothers who reported experiencing difficulty with their child’s school transition (Table 11), the most common reasons included: being worried their child would not make friends at school (39%, n = 659); that their child would not like school (39%, n = 651); being separated from their child (37%, n = 614); or that the child was their oldest and so the process was new (28%, n = 479). However, even when the child was their youngest, 22 percent (n = 375) still reported difficulties in adjusting to the end of the preschool period. Parents also reported having difficulty with their child starting school because they

worried for their child’s safety at school (20%, n = 341), their child was finding it difficult to settle in to school (19%, n = 323) or they felt their child was not ready for school (19%, n = 322).

Table 11: Reasons mothers experienced difficulties with their child’s transition to school

Difficulty Experienced*	n	%
Worried child would not make friends at school	659	39
Worried child would not like school	651	39
Being separated from child	614	37
Oldest child and the process was new	479	28
Youngest child and the end of the preschool period	375	22
Worried for child’s safety at school	341	20
Child found it difficult to settle in to school	323	19
Worried child was not ready for school	322	19
Child did not want to go to school	143	9
Child had not had a good transition preparation (visits etc.) before they started school	130	8
Other	122	7
Child had/has language difficulties	117	7
Child had/has special needs or disabilities	109	6
Child had/has health difficulties	93	5
Felt they didn’t get any support from the school for this process	79	5
Felt they didn’t have any family support for this process	74	4

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

If the mother reported that they experienced difficulties when the child started school (n = 1701), they were asked how long they had experienced that difficulty for. By the time of the 72 Month Data Collection Wave, seven percent (n = 119) of these mothers were still finding it difficult (approximately one year into starting school), seven percent (n = 111) reported the difficulty lasted more than six months but less than one year, almost one quarter (23%, n = 384) reported the difficulty lasting between one and six months, with more than one in three (35%, n = 582) reporting the difficulty lasted between one week and one month and a further 29 percent (n = 482) experienced difficulties with the transition for less than a week.

Therefore, for almost two in three mothers (64%, n = 1064), the reported difficulties associated with their child transitioning to school were short-lived (less than one month).

What helped to overcome difficulties

Mothers reported overcoming their difficulties in adjusting to their child starting school in a number of ways. Of those mothers (n = 1555) who reported how they overcame the difficulties, the passage of time to adjust (71%, n = 1099) was reported most frequently, followed by the mother stating their child got used to going to school (56%, n = 866), that they could see that their child was happy at school (53%, n = 829), and that talking about school with their child (41%, n = 638) helped overcome the difficulties they experienced with the transition (Table 12).

Table 12: Reasons mothers gave for overcoming difficulties experienced when their child starting school

What helped to overcome the difficulty?*	n	%
Time and getting used to it	1099	71
Child got used to going to school	866	56
Could see they child was happy at school	829	53
Talking about school with child	638	41
Saw that school was good for child	583	37
Child supported by staff at the school	583	37
Support from or talking with child's teacher	581	37
Getting to know child's teacher	571	37
Establishing a routine at drop off and pick up times	474	30
Getting to know the school	433	28
Child supported by other children at the school	428	28
Support from other parents and friends	386	25
Support from family	345	22
The school responded to concerns with a change in practice or procedure	149	10
Other	64	4

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

Children's experience of starting school

Approximately three quarters (73%, n = 4049) of mothers reported that there did not seem to be any difficulties for their *Growing Up in New Zealand* child when they started school. They gave the following reasons for why they thought that was (Table 13).

Approximately three quarters of mothers (76%, n = 3071) said their child was ready for school, their child was happy to go to school (73%, n = 2970) or their child was excited about going to school (72%, n = 2896). Additionally, around half of the mothers reported that there were no difficulties for their child as he/she was familiar with the school environment because their brother(s) or sister(s) or other family member attends or had attended the same school (55%, n = 2243), that their child had friends or other children that he/she knew at the school (53%, n = 2126), that their child was familiar with the school surroundings (50%, n = 2013), or that their child was used to the early childhood education or care environment (50%, n = 2009).

Table 13: Reasons child experienced no difficulties when starting school

Reason for no difficulty*	n	%
Ready for school	3071	76
Happy to go to school	2970	73
Excited about going to school	2896	72
Familiar with environment because siblings or other family member attends/has attended the same school	2243	55
Had friends or other children he/she knew at the school	2126	53
Familiar with school surroundings	2013	50
Used to the ECE or care environment	2009	50
The transition process/school visits etc. prepared child well	1737	43
Their teacher	1576	39
Child finds it easy to make friends and meet new people	1559	39
The support child received from teachers at the school	1381	34
ECE or carer prepared them well	1221	30
Parent had the time to be involved in settling them into the school when they started	1189	29
Parent had the time to prepare him/her	1189	29
Family support the child has	1110	27
Familiar with environment because a family member works at the same school	281	7
Other	19	<1

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

Less than one in three children (27%, n = 1526) were reported by their mother to have experienced difficulty in their transition to school experience. Of these 1526 children, the majority (n = 1306, 86%) found the transition experience somewhat difficult while for the remaining 14% (n = 220) the experience was either very (10%, n = 157) or extremely difficult (4%, n = 63).

For over half of children (57%, n = 867) who were reported by their mother to have experienced difficulty in starting school, this was due to the new routine. Nearly half (47%, n = 722) were reported to have found being separated from their mother and/or other family difficult, almost two in five (38%, n = 584) found the new rules were difficult and one third (32%, n = 495) found that the transition was difficult because of their shyness (Table 14).

Table 14: Types of difficulties experienced by children when starting school

Difficulty experienced*	n	%
New routine	867	57
Being separated from mother and/or other family	722	47
New rules	584	38
Shyness	495	32
Nervousness or anxiety	414	27
Separation from ECE and care arrangement	378	25
Did not know anyone at the school	364	24
School day was too long	292	19
Did not like school	149	10
Language difficulties	106	7
Did not have a good transition preparation (visits etc.) before they started school	98	6
Special needs or disabilities	93	6
Not ready for school	81	5
Other	70	5
Health difficulties	41	3

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

In addition to asking the mothers about the duration of experiencing difficulty with the school transition, mothers also reported the duration of difficulties their child had (or continued to) experienced. For many of the children reported to have experienced difficulty when starting school (n = 1526, 27%), the difficulties resolved within one month, with almost one in ten (9%, n=138) children experiencing difficulty for less than a week and approximately one in three (35%, n=252) children experiencing difficulty for between one week and one month. Approximately one in three (34%, n = 519) experienced difficulty for between one and six months while more than one in ten (12%, n = 189) experienced difficulty for between six months and a year. Approximately one in ten (10%, n = 144) children however were reported to still be experiencing difficulties at the time of the 72 Month Data Collection Wave (approximately a year after starting school).

Similar to the mothers, the passage of time to adjust to school seemed to help the majority of children (83%, n = 1139) overcome the difficulties they experienced. Other important aspects of overcoming difficulties included getting used to the new routine (65%, n = 897), making new friend(s) (65%, n = 891), getting to know their teacher (65%, n = 884) and getting to know the new environment (59%, n = 808.) See Table 15.

Table 15: Reasons child overcame difficulties experienced when starting school

What helped to overcome the difficulty?*	n	%
Time and getting used to it	1139	83
Getting used to the new routine	897	65
Made new friend(s)	891	65
Child's teacher	884	65
Getting to know the new environment	808	59
Talking about school with mother	703	51
Getting to know the rules	661	48
Communication between parent, teacher and child	567	42
Support from staff at the school	512	38
Establishing a routine at drop off and pick up times	493	36
Support from siblings at the same school	364	27
Support from family members (including visits to the school at lunch time)	126	9
Extra support was provided at the school for their needs	126	9
Other	40	3

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

How long difficulties lasted: comparing mothers and children

Around one in three mothers and one in three children experienced difficulty with the transition to school. Within these groups, the difficulties lasted longer for children than for mothers. Almost one third (28%) of those mothers reported overcoming their difficulties within a week of their child starting school, whereas less than one in ten (9%) of the children who experienced difficulties had overcome them within the same period (Figure 4). As a result of these differences in duration, a higher percentage of children were reported to be still experiencing difficulties six or more months after starting school (22%).

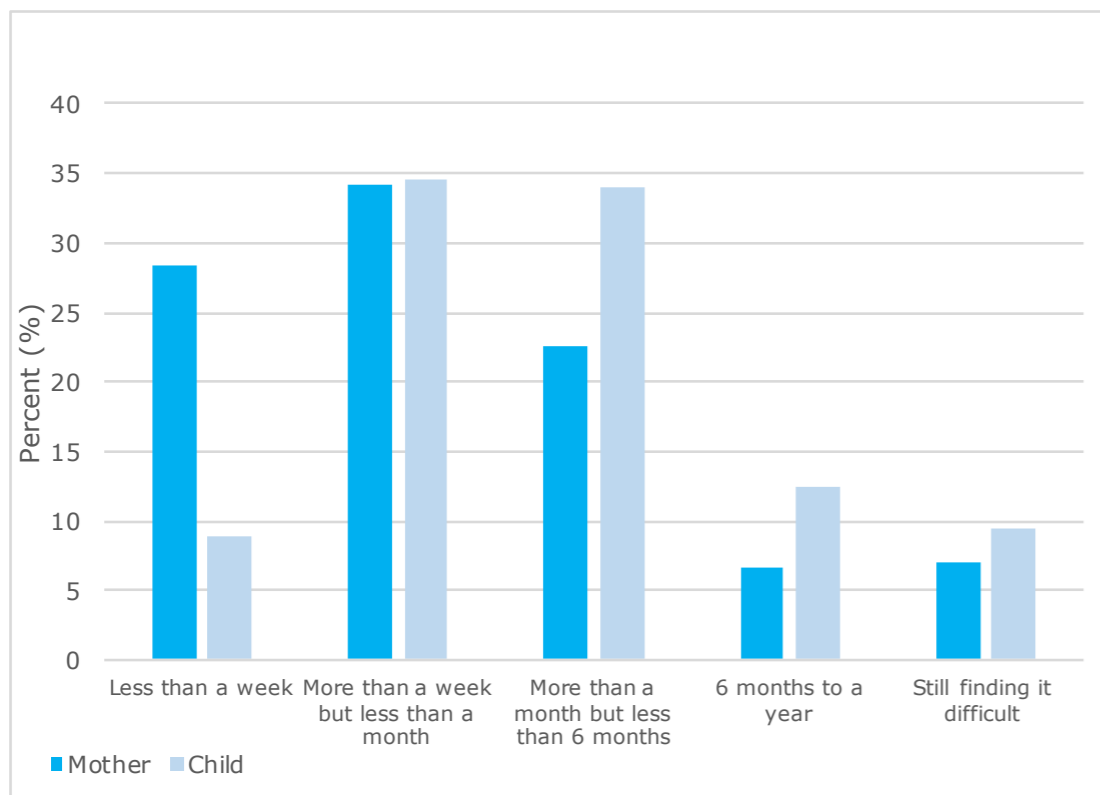


Figure 4: Duration of difficulties experienced by mothers and children

Linking the B4SC and difficulties experienced by mothers and their children during the transition to school

The overarching aim of the B4SC is to screen for any health, behavioural, social or developmental concerns that could affect a child’s ability to get the most out of school, and to follow up if a potential problem is detected. Within the group of children for whom a concern was raised at the B4SC (n = 1383), approximately one in three mothers (34%, n = 464) reported that they experienced difficulties when their child started school, compared with 29 percent (n = 1108) of those children for whom no concern was raised (p < 0.001). Similarly, within the group of children for whom a concern was raised at the B4SC, approximately one in three mothers (n = 466) reported that their child experienced difficulties when they started school, compared with one in four (n=956) of those children for whom no concern was raised⁴. Likewise, a larger proportion of parents reported that their child experienced difficulties when they started school if their child had received a referral to additional services (33%, n = 370), compared with those who did not receive any referrals (26%, n = 1064)⁵.

Future directions

Although most mothers report that their child starting school was a positive experience, approximately one quarter felt the transition to school was challenging for them and/or their child. Among those reporting difficulties, the majority reported that these difficulties stemmed from reasons relating to

adjustment and preparedness, such as making new friends or adjusting to a new routine or rules. This points to the importance of determining the transition activities that support the ready child, as well as the ready family.

Therefore, it is important to understand the reasons why some mothers felt the transition was a positive experience and future analysis of this data will explore what works for these families in their child’s transition to school. Additionally, more research is warranted to identify factors associated with the number and type of difficulties experienced as well as the duration of experiencing these difficulties. More detailed assessments of ECE quality and its impact on school readiness and education outcomes will be addressed in future reports with a full ECE audit. *Growing Up in New Zealand* has detailed information to understand the impact of ECE participation and quality on the transition to school, and this will be important information when the children’s adjustment to school is measured directly at age eight.

This will provide opportunities to examine how the issues reported by the mothers regarding the school transition experience may be linked to child learning and developmental outcomes.

4, 5 Pearson’s chi-square test, p < 0.001

Being at school



Key findings

When the *Growing Up in New Zealand* children were aged six their mothers reported that:

- The most common sources of advice regarding school choice for parents were an even mix of friends (50%) and the school prospectus or website (50%).
- The most important factor for parents when choosing a school for their child was that the school was able to provide good resources (96%).
- Almost all the children (99%, n = 5683) were attending primary school.
- The majority of children (85%, n = 4762) were attending a state primary school.
- Approximately six percent (n = 307) of children participating in the Growing Up in New Zealand study were studying in classrooms with more than 30 children.
- One quarter (n = 1387) of the children had experienced a Modern Learning Environment within their current school.
- One quarter of mothers (25%, n = 1385) reported their child had had at least one change in their classroom teacher and one in ten had experienced two or more changes (10%, n = 530).
- Over half of the children (n = 2754) have experienced the Milk for Schools programme and one in ten children (n = 530) have experienced a breakfast club at school.
- One in four of the cohort children (25%, n = 1408) usually use forms of active transport such as walking, biking, or scootering to travel to and from school.
- One in four children in the cohort attended after school care (24%, n = 1375) compared with only one in twelve attending before school care (8%, n = 468). Of the children attending after school care, almost half (43%, n = 584,) attended every school day.
- Greater than one in ten children (n = 659) moved schools at least once during their first year of primary school.
- Moving schools was more common for children who identified as Māori, Pacific or Asian, and for children living in homes in high deprivation areas.

In New Zealand, children may start primary school from their fifth birthday (60 months) and attending primary school is compulsory from the age of six (72 months). Therefore at the time this Data Collection Wave was undertaken the expectation was that all the cohort children would be engaged in formal education (children aged approximately 72 months when Data Collection Wave was implemented). Making choices around starting school represents a key decision point for families and an important transition for children themselves. At the 72 Month Data Collection Wave we sought information directly from mothers about this choice, including sources of advice and important factors when choosing a school. We also collected information about the types of schools the children were attending, how children travelled to and from school, whether they utilised before and after school care and their mothers perspective of their classroom experiences in terms of class size, number of teachers, classroom resources, Modern Learning Environments and whether children had experienced any change of school during their first 12 months (or less) of engagement in formal education.

Classroom characteristics such as class size, number of teachers and classroom resources contribute to creating a ready school. The interaction of students with their teachers is also an important characteristic of the learning environment. Positive teacher student interactions have been previously associated with gains in literacy and language outcomes (Howe, 2005), with experiences of high quality teacher-child relationships shown to be likely to be more important for children facing social or economic risk (Burchinal et al., 2000, Peisner -Feinberg and Burchinal, 1997, Peisner-Feinberg et al.,

2001). The classroom space itself is an important aspect of education quality, and has a significant effect on children's transition to school.

School choice

Mothers were asked about sources of advice or information they used when choosing a school for their child. The three most commonly reported sources of advice were friends (50%, n = 2799), the school website or prospectus (50%, n = 2765) and Education Review Office reports (43%, n = 2393) (Table 16).

Table 16: Sources of advice or information informing school choice

Sources of advice*	n	%
Friends	2799	50
School website/prospectus	2765	50
Education Review Office reports	2393	43
Primary school staff	2021	36
ECE or care staff	1327	24
National Standards results	905	16
Parents or grandparents	725	13
Sisters, brothers or cousins	654	12
Didn't seek advice or information	487	9
Other child carers (e.g. childminders)	244	4
Other professionals (GPs etc.)	203	4
Social media (e.g. Facebook, Twitter, etc.)	197	4
Other websites	163	3
Parenting websites	141	3
Books, magazines or newspapers	108	2
Social workers or community workers	97	2
TV/radio	33	1
I was unable to find advice or information	<10	<1
Total	5554	100

*Participants were asked to select all items that applied to them. Multiple responses means totals add to more than 100%.

Mothers were asked to describe the factors that were important to them when choosing a school for their child (Table 17). The most commonly reported factor was that the school was able to provide good resources (96%, n = 5352), followed by the school's reputation. More than nine in ten mothers reported that the overall reputation of the school was an important factor when choosing a school (92%, n = 5163).

Table 17: Factors important to mothers when choosing their child's school

Important factors*	n	%
The school is able to provide good resources	5352	96
Overall school reputation	5163	92
The school fosters a strong parent, family, or community involvement	5002	89
The school caters for individual child needs	4828	87
The school has a strong anti-bullying policy	4648	85
The school is easy to access (e.g. within walking distance, accessible by public transport, convenient for other reasons)	4426	79
The school has small class sizes	3920	70
Live within the school zone	3464	62
The school offers a specialised curriculum (e.g. sports, academic extension, music, dance, acting)	3009	54
Same school attended by family/ friends/other known children	2979	53
The school values align with our preferred cultural practices or activities	2966	53
The school caters for special needs	2634	48
The ethnic or cultural mix of the children that attend the school	2500	45
The school values align with our preferred religious practices or activities	2305	42
The school offers before and/or after school care	1879	34
The gender distribution of the school (single-sex or co-educational)	1512	27
The school teaches in a language other than English	1262	23
The school adheres to a particular teaching philosophy (e.g., Montessori, Rudolph Steiner)	1164	21
That it is a different school to that attended by family/friends/other known children	495	9

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

Overall, the factors that were most important to mothers when choosing a school were similar across children's ethnic groups. However, there were some ethnic-specific differences in the way mothers ranked school characteristics⁶.

Compared with mothers of European children, mothers of children identified as non-European were much more likely to place more importance on a school that teaches in a language other than English, with mothers of Māori children placing the strongest relative importance on this (OR = 7.0, 95% CI 5.7 - 8.6, $p < 0.001$). However, teaching in a language other than English was also rated as much more important among mothers of Pacific children (OR = 5.2, 95% CI 4.1 - 6.5, $p < 0.001$), Asian children (OR = 4.2, 95% CI 3.4 - 5.2, $p < 0.001$) and MELAA children (OR = 4.7, 95% CI 2.7 - 8.2, $p < 0.001$).

⁶ A logistic regression model was used to determine if there were ethnic-specific differences in the factors that were important to mothers. The model also included New Zealand area level deprivation group. Results of this model are presented below as odds ratios with 95 percent confidence intervals. The odds ratio is defined as the ratio of the odds for a specific ethnicity (e.g. Asian, Māori, or Pacific) placing importance on a factor compared with the odds for those mothers identified as European placing importance on a factor.

Compared with mothers of European children, mothers of children identified as Asian were much more likely to place importance on a school that offered a specialised curriculum such as sports, academic extension, music, dance, or acting (OR = 4.9, 95% CI 4.0 - 6.2, $p < 0.001$). However, schools with specialised curricula were also rated as more important among mothers of Pacific children (OR = 2.9, 95% CI 2.3 - 3.6, $p < 0.001$), Māori children (OR = 1.5, 95% CI 1.3 - 1.8, $p < 0.001$) and MELAA children (OR = 2.7, 95% CI 1.6 - 4.8, $p < 0.001$) in comparison to mothers of European children.

Compared with mothers of European children, mothers of children who identified as Māori, Pacific, Asian or MELAA were more likely to value a school more highly if it had a particular teaching philosophy such as Montessori or Rudolph Steiner, with mothers of children identified as Asian putting relatively more importance on this (OR = 3.8, 95% CI 3.1 - 4.7, $p < 0.001$). However, schools with a particular teaching philosophy were also rated as more important among mothers of Pacific children (2.3, 95% CI: 1.8 - 2.9, $p < 0.001$), Māori children (1.9, 95% CI: 1.5 - 2.3, $p < 0.001$) and MELAA children (OR: 2.1, 95% CI: 1.1 - 3.7, $p < 0.001$) compared with mothers of European children.

School attendance

At the time of the 72 Month Data Collection Wave, almost all children (99%, $n = 5683$) were attending primary school, which is as expected given the requirements for children in the New Zealand educational context. A small group of the cohort who now reside outside New Zealand completed the 72 Month Data Collection Wave (5%, $n=299$). For the children attending primary school at 72 Months, 94% of the children were attending a New Zealand primary school, one percent ($n = 44$) were home schooled or enrolled in correspondence school, and five percent ($n = 299$) were attending a school outside New Zealand. The information in this section is reported for all the children whose mothers provided information at the 72 Month Data Collection Wave.

School type

There are various school types that are available to children and families and the distribution of these for the cohort is provided here (Table 18). The majority of children were attending a state primary school (85%, $n = 4762$), with the next most common school types being reported by parents as one of either religious schools (7%, $n = 409$), private schools (4%, $n = 218$), state integrated primary schools (3%, $n = 173$), Te Kura Kaupapa Māori (1%, $n = 78$) or bilingual schools (1%, $n = 61$).

Table 18: Types of schools attended

Type of schools	n	%
State school	4762	85
Religious school	409	7
Private school	218	4
State integrated primary school	173	3
Te Kura Kaupapa Māori	78	1
Bilingual school	61	1
Home school	39	1
Charter/partnership school	26	<1
Other school	20	<1
Special needs school	19	<1
International school	18	<1
Correspondence school	10	<1
Prefer not to say/ Don't know	55	<1

Attending Te Kura Kaupapa Māori or a bilingual school was more common for children identified as Māori. Eighty-eight percent (n = 69) of children who were attending Te Kura Kaupapa Māori and 52 percent (n = 32) of children attending a bilingual school identified as Māori. Overall, of the 673 Māori children whose mothers completed the questionnaire, 10 percent (n = 69) were attending Te Kura Kaupapa Māori and five percent (n = 32) were attending a bilingual school.

Less than one percent (n = 41) of the cohort children had not yet started primary school at the time of the 72 month Data Collection Wave. Compared with children who were attending school, those who were not attending school did not differ in child ethnicity, area level deprivation, their mother's age or education level. The most common mother-reported reason for not attending school was their child's age (56%, n = 23). A small number of children (n = 10) were not attending primary school because of specific health, development or social needs.

What children have experienced at their current school

Class Size

In the 72 Month Data Collection Wave mothers were asked about the number of children in their child's class. The distribution of class sizes is shown in Figure 5. The majority of children (70%, n = 3750) were in a class of between 16 and 25 children. Approximately 11 percent of children (n = 599) were in a class of 15 or fewer children. Almost one in five children (19%, n = 997) were in a class of more than 25 children. It should be noted that this does not imply there was only one teacher in the class – many schools use team teaching and Modern Learning Environments typically have larger numbers of children, but with more than one teacher.

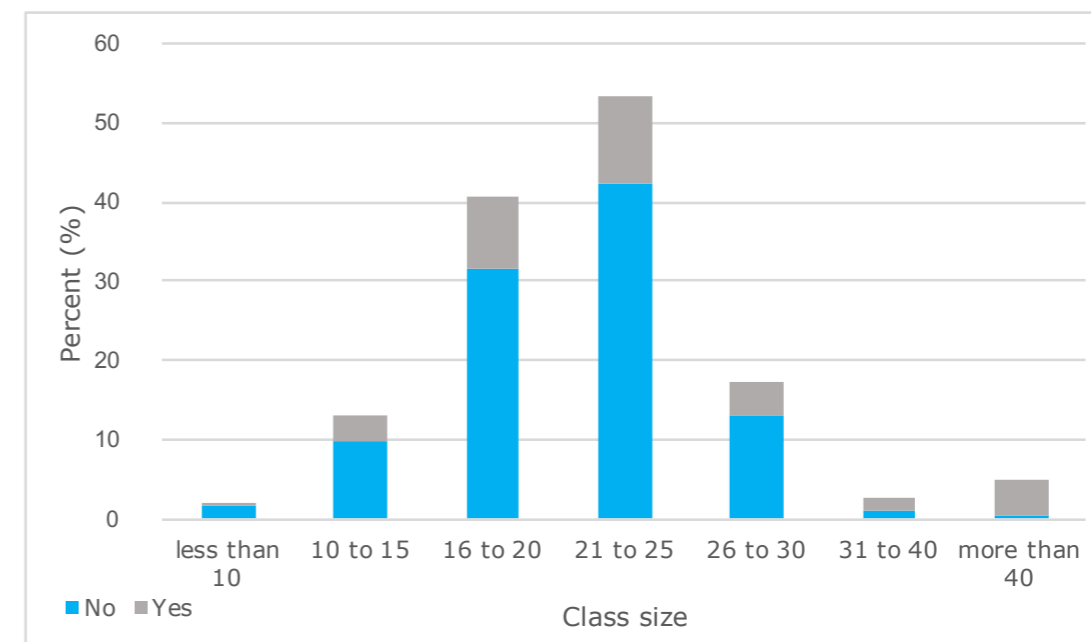


Figure 5: Class size for Growing Up in New Zealand children.

The Modern Learning Environment

In New Zealand, the Modern Learning Environment (MLE) was officially introduced in 2010 as part of the Ministry of Education's changes to the 10 Year Property Plan (10YPP) process and Five Year Agreement (5YA) funding. Schools are required to progressively upgrade their teaching and learning spaces to complete all upgrades by 2020.

The MLE's key features include spaces with greater flexibility (the ability to combine classes or split classes into small groups), more openness (often using the idea of a learning common or hub) and access to resources (especially digital technology but also the use of breakout spaces for reading, project space or for group work etc.). Complementing these new spaces, is an MLE mind-set towards teaching practice based around more active student involvement, a focus on collaboration and emphasis on inquiry learning approaches (Osborne, 2013).

Experience of MLE

Mothers reported that one quarter of children (26%, n = 1387) had experienced a MLE in the first year of school. There was no difference in the likelihood of children having experienced a MLE in a state/ public school compared with all other school types. Although the numbers were small, children were more likely to have experienced a MLE if they attended Te Kura Kaupapa Māori (n = 31, 41%)⁷. There was a significant association between class size and experience of MLE (p < 0.001). For example, 58 percent of children in class sizes of 30 - 40 children versus 94 percent of children in class sizes greater than 40 children had experienced a MLE.

Teacher changes

International research has indicated that teacher turnover can negatively impact children's achievement at school (Ronfeldt et al., 2013). However, some literature suggests teacher turnover can be positive when it results in better suited or more motivated teachers in a child's classroom (Jackson, 2013). In the

⁷ Right tail Fisher's Exact test p = 0.003

72 Month Data Collection Wave mothers were asked about the number of teacher changes their child had experienced in their current classroom. One quarter of mothers (25%, n = 1385) reported their child had had at least one change in their classroom teacher and one in ten had experienced two or more changes (10%, n = 530) (Figure 6).

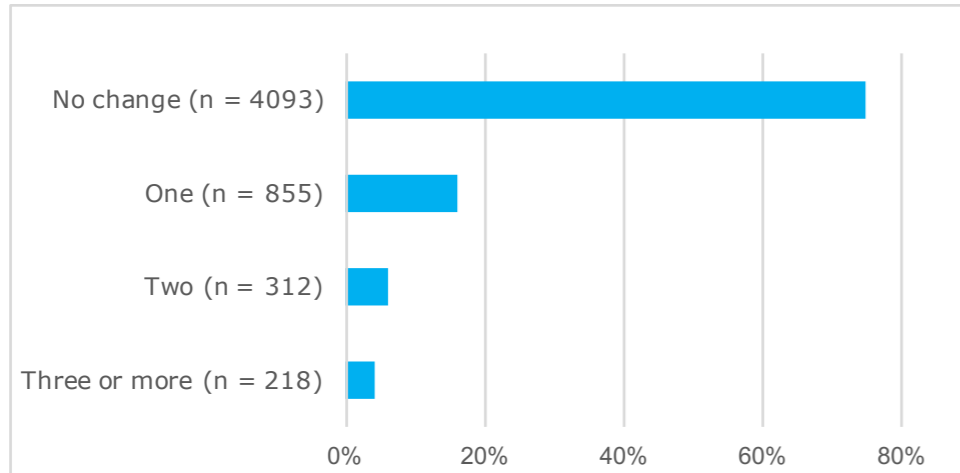


Figure 6: Number of changes in teacher experienced by children in their current classroom

The likelihood of experiencing a change in teacher in their current classroom was greater for those living in high area level deprivation (29%, n = 451) compared with those living in low area level deprivation (23%, n = 392, Figure 7).

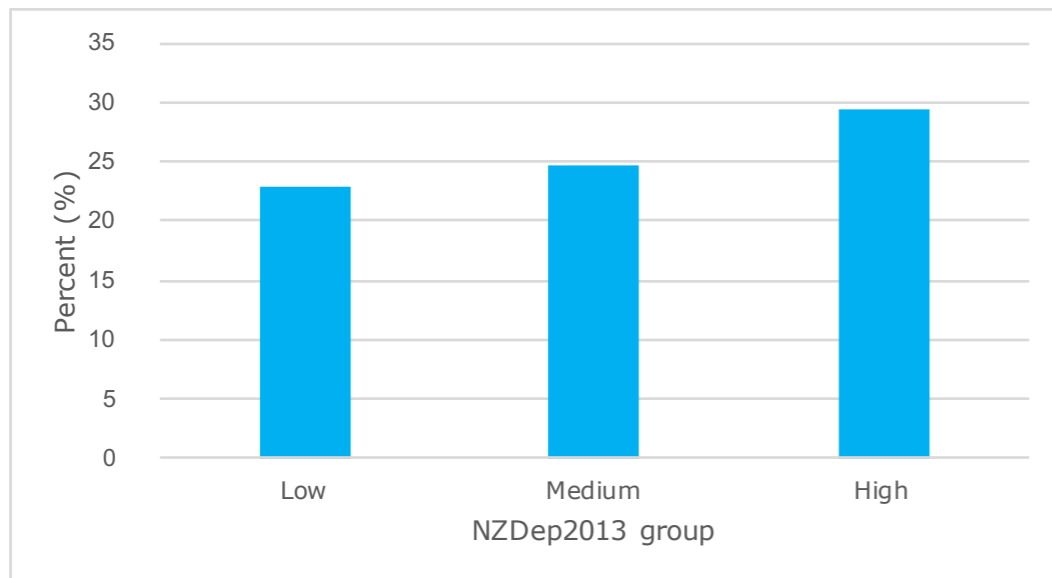


Figure 7: Percentage of children experiencing a change in teacher in their current classroom by their families' NZ Deprivation group.

Low: decile 1-3 (n = 1715), Medium: decile 4-7 (n = 1927), High: decile 8-10 (n = 1538).

There was no association between experiencing a teacher change and class size, experiencing a Modern Learning Environment, area level deprivation (child's home), mothers' age or mothers' education level.

Having three or four or more teachers in the classroom at any one time was associated with higher odds of a change in teacher in the current classroom (3 teachers: OR = 1.68 (1.13 - 2.48), 4+ teachers: OR

= 3.04, 95% CI 1.78 - 5.22). Children of ethnicities other than New Zealand European were more likely to experience a change in teacher compared with children identified as New Zealand European, with those identified as Asian significantly so (OR = 1.56, 95% CI 1.13 - 2.13) (Table 19).

Table 19: Odds of the teacher changing in the child’s current classroom – associations with multiple variables*.

		Odds ratio (95% CI)
Number of teachers	1 (Reference)	1
	2	1.15 (0.92 – 1.44)
	3	1.68 (1.13 – 2.48)
	≥ 4	3.04 (1.78 – 5.22)
Class size	< 10	0.43 (0.14 – 1.13)
	10 – 20	1.12 (0.91 – 1.39)
	20- 30 (Reference)	1
	≥ 30	1.22 (0.83 – 1.77)
Modern Learning Environment	No (Reference)	1
	Yes	0.89 (0.70 – 1.12)
Child’s ethnicity	European (Reference)	1
	Māori	1.27 (0.92 – 1.74)
	Pacific People	1.30 (0.92 – 1.85)
	Asian	1.56 (1.13 – 2.13)
	MLEAA / Other	1.87 (0.80 – 4.22)
	New Zealander	1.09 (0.78 – 1.50)
NZDep2013	Low (decile 1 – 3) (Reference)	1
	Medium (decile 4 – 7)	1.17 (0.93 – 1.48)
	High (decile 8 – 10)	1.20 (0.91 – 1.59)
Mothers Age group	<20 years	0.71 (0.37 – 1.30)
	20-24 years	0.85 (0.60 – 1.19)
	25-29 years	0.83 (0.65 – 1.08)
	30-34 years (Reference)	1
	35-39 years	0.88 (0.67 – 1.14)
	40+ years	0.82 (0.49 – 1.33)
Education	No secondary school qualification	0.82 (0.48 – 1.39)
	Secondary school/NCEA 1-4	1.12 (0.85 – 1.47)
	Diploma/Trade certificate/ NCEA 5-6	1.17 (0.92 – 1.48)
	University degree (Reference)	1

*To better understand the associations between changes in teacher and other variables, we conducted a multiple variable logistic regression analysis. Variables included in the model were: the number of teachers currently in the child’s classroom at any one time (number of teachers), the number of children currently in their classroom (class size), whether the child’s current school has a modern learning environment, the child’s self-prioritised ethnicities (child’s ethnicity), mothers age at the antenatal interview, maternal education and the NZ Deprivation Index in 2013 for the child’s residential region (Atkinson, 2014).

School food programmes

Since 2014 all primary schools have been able to apply for the KickStart Breakfast programme funded by Fonterra, Sanitarium and the New Zealand government. Milk for Schools is a Fonterra-sponsored programme which has been available to all schools for students Year 1 – 6 since 2014. In the 72 Month Data Collection Wave, which took place in 2015 and 2016, mothers were asked if their child had experienced these programmes.

One in ten children (10%, n = 530) had experienced a breakfast club and approximately half of children (51%, n = 2754) had experienced the Milk for Schools programme. The proportion of children experiencing a breakfast club was greater for those living in higher deprivation areas (Figure 8), as with the proportion of children experiencing Milk for Schools (Figure 9).

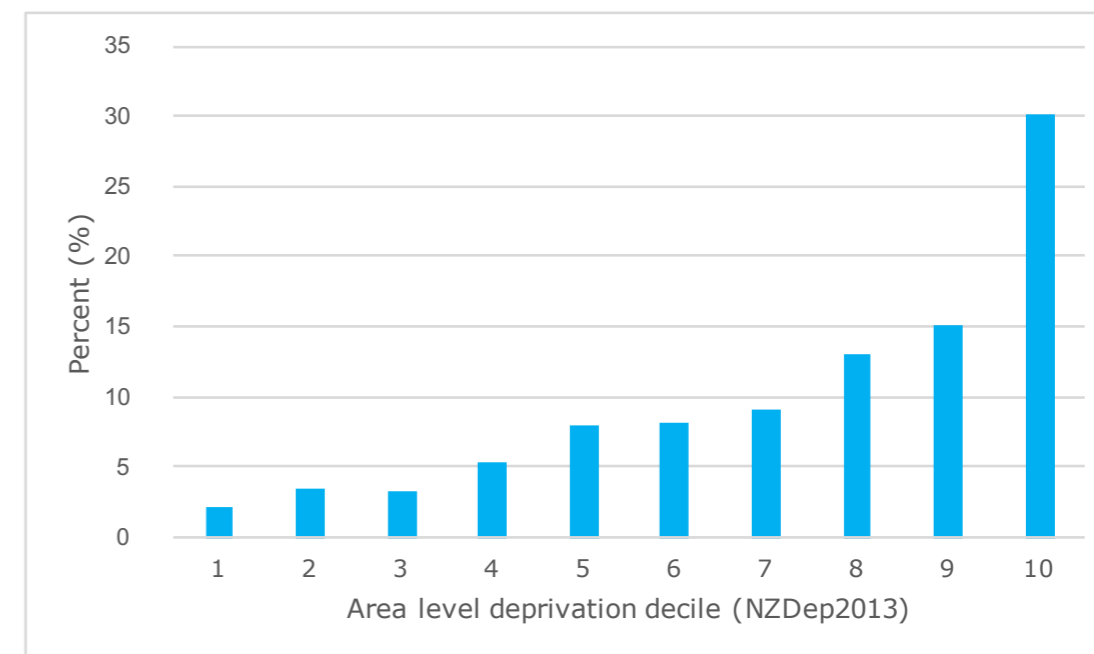


Figure 8: Percentage of children who have experienced a breakfast club by area level deprivation decile (n = 496).

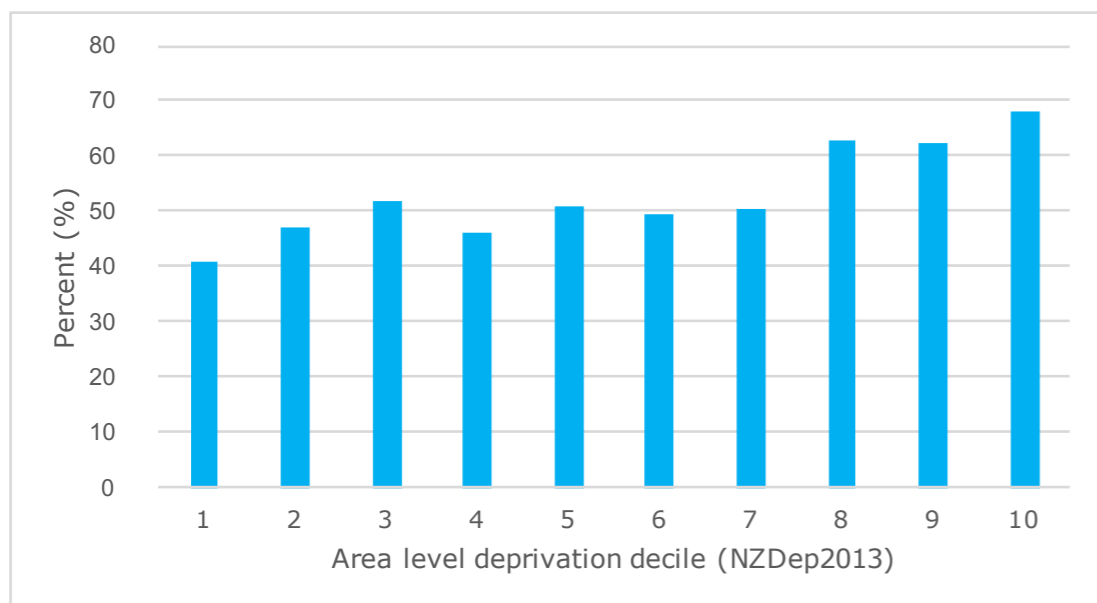


Figure 9: Percentage of children who have experienced Milk for Schools by their home area level deprivation decile (n = 2713).

Getting to and from school

Throughout the *Growing Up in New Zealand* study we track the activities undertaken by the cohort children at different ages and stages, including how physically active they are. One opportunity for being active is in getting to and from school, although whether this is possible is also dependent on a number of factors. Previous research has noted that the distance between home and school is linked to whether children use active transport. Active transport such as walking school buses can contribute to traffic reduction around schools and provide an opportunity for physical activity. However, for some families, walking or biking to school may not be possible because of work schedules or proximity to school. The closer an individual lives to their school the more likely they are to use active transport to get to and from school. However, benefits of using active transport to school are directly related to the distance itself with shorter distance providing less benefits than longer distance (Duncan et al., 2016). The 2013/14 New Zealand health survey reported that 45 percent of five to 14 year olds usually used active transport (e.g. walking, cycling) to get to and from school. Mothers of the cohort children were therefore asked about the mode of transport used most frequently to get their child to and from school as well as the distance between their home and their child’s school.

At six years old, one in four children in the cohort (25%, n = 1408) used active methods (walking or riding their bicycle or scooter) as their main form of transport to school (Table 20). The majority of children in the cohort, however, were driven to and from school by car (68%, n = 3758). Although the percentage of children using active transport in the cohort is less than reported in the national health survey, this can potentially be explained by the difference in the ages for the reported statistics. Over time activity generally, and transport to and from school specifically, will continue to be tracked.

Table 20: Most common modes of transport to and from school

Transport mode	n	%
Car	3758	68
Walking with an adult (family or friend)	845	15
School bus	288	5
Walking without an adult but with sibling(s)	217	4
Bicycle or scooter	147	3
Walking school bus	102	2
Other form of transport	182	3
Total	5539	100

Overall, three quarters of children lived within five kilometres of their school (77%, n = 4280; Table 21) and more than four in five took less than 15 minutes to get to school each day (82%, n = 4541). More than half of children who lived less than one kilometre from school used active transport as their main way to get to and from school (54%, n = 569). Approximately one quarter of children who lived between one and five kilometres from their school used active transport as their main way to get to school (24%, n = 246). Less than three percent of children who lived more than five kilometres from school used active transport (n < 10).

Table 21: Distance between home and school

Distance	n	%
Less than 1 km	1837	33
Between 1 - 5 km	2443	44
Between 5 - 20 km	1117	20
Between 20 - 50 km	117	2
More than 50 km	19	<1
Total	5533	100

Before and after school care

The school day usually begins at 9am and ends at approximately 3pm for primary school children, with the school year running from late January to mid-December. Many parents work outside of school hours and therefore their children under 14 years of age require care before or after school. We asked mothers to describe whether their children used either before or after school care and if so, who provided this.

Overall it was more common for children in the cohort to attend after school care than before school care programmes (Table 22). One in four children in the cohort attended after school care (n = 1375, 24%) compared with only one in 12 attending before school care (n = 468, 8%). Of the children attending after school care, almost half (n = 584, 43%) attended every school day. Of the children who attended before school care, just over half (n = 246, 56%) attended every school day. There were 176 children (3% of the cohort) attending both after and before school care every school day.

Table 22: Number of days children attended before and after school care

Days	Before school		After school	
	n	%	n	%
0	5103	92	4196	76
1	28	1	127	2
2	55	1	235	4
3	68	1	243	4
4	43	1	161	3
5	246	4	584	11
Total	5543	100	5546	100

Column percentages are presented

Children in the cohort were attending a variety of before and after school care types (Table 23), including more formal arrangements and family based care. The most commonly reported before school care was located at their school (55%, n = 254). After school care located at their school was also the most commonly reported type (56%, n = 766). The next most commonly reported after school care type was being looked after by other family members (13%, n = 183).

Table 23: Before and after school care types

Type of Before or After School care	Before school		After school	
	n	%	n	%
At child's school	254	55	766	56
Looked after by family members	64	14	183	13
Education and care provider in own home	31	7	89	7
At a community centre	17	4	85	6
After school programme that is not at a school or an ECE	16	3	56	4
After school care programme provided by an ECE	22	5	48	4
Looked after by friends	21	5	46	3
At another school	11	2	39	3
Education and care provider at another home	13	3	36	3
Other	9	2	18	1
Total	458	100	1366	100

Column percentages are presented.

Attendance at after school care was less common for children living in more deprived areas. Almost one in five (19%, n = 1589) children living in the most deprived areas (NZDep2013 decile 8-10) attended after school care, compared with more than one in four children living in the least deprived areas (NZDep2013 decile 1 to 3: 28%, n = 1727, NZDep2013 decile 4 to 7: 26%, n = 1952). In general there is currently a paucity of data exploring the effects of before and after school care on the transition to school or on achievement at school. As data is collected about educational attainment for the children themselves, this will be explored.

School changes and transience

Changing schools frequently can impact negatively on a child's educational trajectory, both in terms of educational achievement and student behaviour (Scherrer, 2013). The New Zealand national school transience rate is relatively high, previously reported at 14 percent for the first six years of schooling (Education Counts, 2017) (Burgio et al., 2014). In this context, transience is defined as having moved school at least twice within the school year. This measure assumes that a single move may not be considered to be detrimental to the child.

In the *Growing Up in New Zealand* 72 Month Data Collection Wave, parents were asked if their child had attended any other school since they were five years of age, so that the measure available provides information about whether children have experienced one or more school change within their first school year. Given that children were approximately six years of age they were likely to have attended school for a maximum of only one year, with many students having attended for less than one year at the time of the mother report.

Twelve percent (n = 659) of children in the cohort had moved school at least once within their first 12 months at school. The most common parent-reported reason for changing schools was that they had moved house (61%, n = 404). The next most common reasons for changing school were: there were better opportunities or resources at the new school (14%, n = 89); the move was related to parental work changes (13%, n = 83); the move occurred because the prior school wasn't meeting specific learning and development needs (12%, n = 79); or the move resulted from a change in living and/or care arrangements for the child (8%, n = 53).

There were significant independent differences in the likelihood of moving schools according to the child's ethnicity, and for maternal age (Table 24). The proportion of children changing school was greater for those who had mothers who were younger than 30 years of age during their pregnancy (Figure 10). School moves were also more frequent for Māori, Pacific, and Asian children compared with European children (Figure 11). Although school transience can be associated with negative outcomes for children, it's important to note that there are also positive reasons for changing school (e.g. better opportunities or resources).

Table 24: Sociodemographic factors associated with moving schools in the first year of primary school

		n	%	Odds ratio (95% CI)	p-value
Gender	Male (reference)	325	11	1	
	Female	334	12	1.06 (0.89-1.28)	0.495
Ethnicity	European (reference)	263	9	1	
	Māori	113	17	1.55 (1.18-2.02)	0.002
	Pacific	94	15	1.40 (1.04-1.87)	0.026
	Asian	81	13	1.39 (1.04-1.85)	0.025
	New Zealander	56	10	1.08 (0.75-1.50)	0.677
	NZDep2013	Low, decile 1-3(reference)	146	8	1
	Medium, decile 4-7	208	11	1.17 (0.93-1.48)	0.187
	High, decile 8-10	229	16	1.25 (0.96-1.62)	0.096
Age group	Under 20 years	48	24	3.09 (2.05-4.60)	<0.001
	20-24 years	131	19	2.38 (1.80-3.16)	<0.001
	25-29 years	158	12	1.43 (1.11-1.85)	0.006
	30-34 years (reference)	168	9	1	
	34-39 years	125	10	1.21 (0.92-1.59)	0.17
	Over 40 years	22	9	1.16 (0.69-1.85)	0.567

Sociodemographic factors associated with changing schools have been explored using a multi-variable generalised linear model. Factors included in the model were: child gender, child ethnicity, NZDep2013 group (three groups), and maternal age group at pregnancy. The odds ratios describes the increased risk of school change for children in that group.

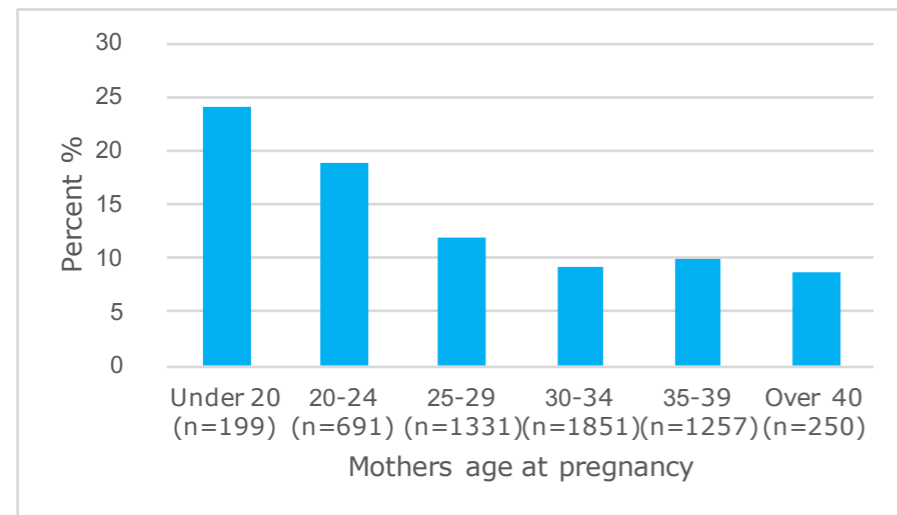


Figure 10: Percentage of children who had moved schools at least once by maternal age group during pregnancy.

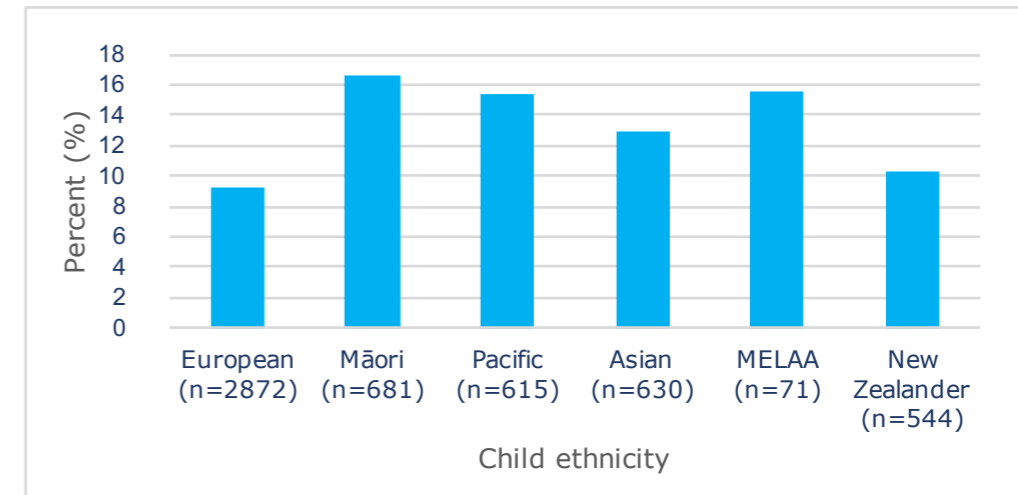


Figure 11: Percentage of children who had moved schools at least once, by child ethnicity.

Future directions

The transition to formal schooling represents a key decision point for families, with social networks playing a key role in most parents decision about school choice. Although all parents value good resources and consider a school’s reputation important when choosing a school for their child, differences between ethnic groups in the relative importance of other factors warrants further investigation. In addition, the long term impact of the type of school chosen for a child’s first schooling experience should be explored in terms of the effect on achievement, behaviour and identity.

It is encouraging that one quarter of the cohort children use active transport as their main way to get to and from school. Future research will explore whether this has any bearing on how physically active a child is, especially looking at those whose home and school are closely located, and whether a child is then able to get to school by active means.

The *Growing Up in New Zealand* cohort provides unique information about what children are experiencing in current school environments in New Zealand. Future data collection waves from this cohort will enable exploration of the link between the types of classrooms experienced (e.g. Modern Learning Environments), parental satisfaction with their child’s school and the children’s academic achievement and social development.

There is currently a paucity of research in New Zealand on the effects of before and after school care on the transition to school and achievement at school. Therefore this data provides an opportunity to explore the effect of before and after school care on children.

Continued engagement with the cohort and linkage to administrative data will enable school moves and transience (more than one move per school year) to be tracked throughout the cohort’s schooling. We will also be able to look at how this is associated with the school experience and its effect on social development and educational attainment.

Parents and school



Key findings

- More than nine in ten mothers were satisfied with the effect school was having on each aspect of their child’s education and development, however more than one fifth of mothers (22%) were not satisfied with the effect of school on their child’s interest in music or singing.
- More than two thirds of mothers reported they were either satisfied or very satisfied with the school’s response to their child’s physical, cultural, social and emotional, and educational and learning needs.
- Parental satisfaction with their child’s learning decreased as class size increased.
- Mother’s satisfaction regarding education, learning, social, emotional, and physical needs tended to be higher for children who had the same teacher throughout the school year.
- Although the majority of mothers (88%, n = 4811) reported being involved with their child’s school, parental involvement was less common among those mothers who were younger, who lived in the most deprived areas, and whose children identified as non- European.
- The most common type of involvement reported was attendance at regular progress meetings with their child’s teacher (69%, n = 3802), but approximately one in three parents did not report attending regular progress meetings.
- More than half of all mothers reported helping with activities, trips, or special events (58%).
- There was an association between increased parental involvement at school and increased parental satisfaction that their child’s cultural, social, physical and educational needs were being met.

Throughout the *Growing Up in New Zealand* data collections, information has been collected about parental aspirations for their children as well as their expectations for their children’s success, particularly with regard to educational attainment. A related area of enquiry is whether parents are satisfied that the schools their children are attending are providing the opportunities to meet these aspirations and expectations. In the 72 Month DCW mothers were therefore asked about their current level of satisfaction with their child’s school. In this section we describe the proportion of mothers who were satisfied with their child’s school in a variety of areas. Additionally, factors associated with satisfaction have been explored.

Parental satisfaction with school

Mothers were asked how satisfied they were with the effect school was having on their child’s learning and development and how satisfied they were with the school’s response to their child’s needs across a number of areas.

Response to child’s needs

Approximately nine in ten mothers were satisfied or very satisfied with the effect of school on their child’s education and learning needs, physical needs or social and emotional needs. Overall, approximately two thirds of mothers (67%, n = 3768) reported they were satisfied or very satisfied that their child’s school was meeting *all* of their child’s physical, cultural, social and emotional, and educational and learning needs. However, almost one in ten mothers (n = 523) were not satisfied with the school’s response to their child’s physical needs and seven percent (n = 396) were not satisfied with the school’s response to their child’s educational and learning needs. Response to cultural needs had the lowest level of satisfaction with 75 percent of mothers reporting they were satisfied or very satisfied with the school’s response to their child’s cultural needs (Table 25).

Table 25: Mothers’ satisfaction that their child’s needs are being met by the school

Needs being met	n	%
Educational and learning needs	5195	93
Physical	5054	91
Social and emotional	4930	88
Cultural	4192	75

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%

The proportion of mothers satisfied with the school’s response to their child’s cultural needs differed according to the child’s ethnicity (Figure 12). The proportion of mothers who were satisfied was greatest for mothers of Pacific and MELAA children (85% and 87% respectively) and lowest for mothers of children identified as European (73%, n = 2070) or New Zealander (74%, n = 395). These results may reflect differences in the value placed on culture by different ethnicities within the New Zealand context. For example, previous data from *Growing Up in New Zealand* has shown that New Zealand European mothers were less likely to consider their culture very often, whereas mothers identifying with other ethnic groups typically reflect on their own culture more frequently, and they may also do so with regard to their child and therefore the extent to which the school meets these needs.

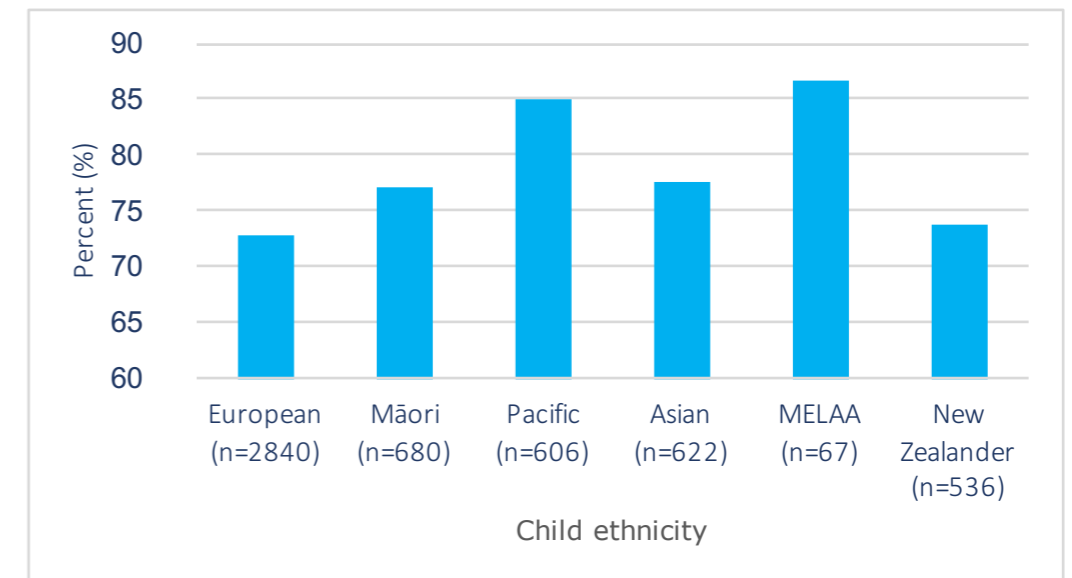


Figure 12: Percentage of mothers who are satisfied school is meeting their child’s cultural needs.

Class size, teacher changes, MLE, and parental satisfaction with school

A higher percentage of mothers who reported that their children were in an MLE were very satisfied with the school in relation to music and singing (37% compared with 32% very satisfied among those whose child was not in an MLE). These mothers were also more likely to report very high satisfaction in their child’s interest in learning and exploring (52% versus 45%), their child’s skills with numbers (49% versus 46%) and their child’s independence (52% versus 47%). The other factors, including reading and writing skills, physical and motor skills, language and communication skills and the child’s social skills all had similar satisfaction levels.

The proportion of mothers that were satisfied with the school's response to their child's education and learning, cultural, social and emotional, and physical needs decreased as mother-reported class size increased (Figure 13). More than 75 percent of mothers were satisfied with their school response to their child's needs (see above) if their child experienced a class size of less than 10 children, whereas 60 percent of mothers were satisfied with the response of school to their child's needs when they reported class size was 30 children or more.

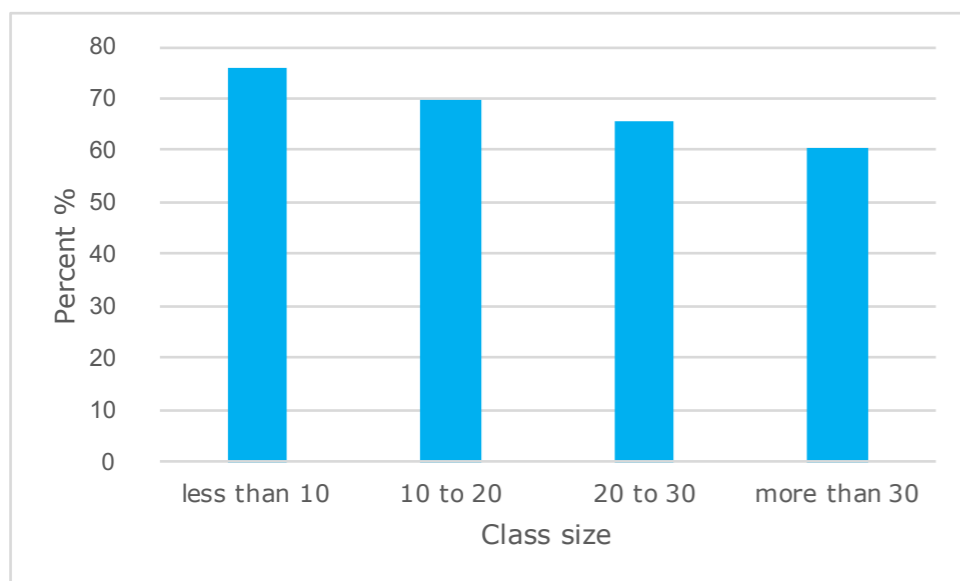


Figure 13: Satisfaction with the school's response to child's needs by mother-reported class size

The proportion of mothers who were satisfied with the school's response to their child's education and learning, cultural, social and emotional, and physical needs decreased as the number of teacher changes experienced increased (Table 26). The proportion of mothers satisfied that their child's needs were being met was on average two percent lower for children who experienced at least one change in teacher compared with those experiencing no change.

Table 26: Satisfaction with the school's response to child's needs by number of teacher changes experienced

Needs being met	Number of teacher changes							
	0		1		2		3+	
	n	%	n	%	n	%	n	%
Education and learning needs	3829	94	791	93	271	87	190	8
Social and emotional needs	3623	89	755	88	267	86	174	80
Cultural needs	3046	74	657	77	236	76	150	69
Physical needs	3731	91	761	89	277	89	178	82
Total*	4093		855		312		218	

*Denominator (total) used for percentages was the total number of participants experiencing each number of teacher changes.

The effect of school on children

Mothers were asked how satisfied they were with the impact the school was having on their child (Table 27). Over 90 percent of mothers were satisfied with their child's education and development in terms of language and communication, independence, social skills, interest in learning, reading, writing, maths or physical activity (Table 27). However, mothers were less satisfied with the effect of school on their child's interest in music or singing (78%, n = 4365), and this proportion differed according to area level deprivation and maternal ethnicity. Mothers of children in high decile schools were more satisfied with the school's effect on their child's interest in music or singing (82%) than mothers of children in low decile schools (76%; Figure 14 and Figure 15). By ethnicity, mothers of children identified as Māori or Pacific reported higher satisfaction with the effect of school on music or singing (84% and 88% satisfaction, respectively), compared with mothers of children identified as European (77%) or Asian (78%).

Table 27: Mothers' satisfaction with aspects of their child's school

	n	%
Development of language and communication	5307	95
Independence	5293	95
Social skills: playing, joining in, relationships with others	5275	94
Interest in learning and exploring	5188	93
Reading/reading skills	5162	92
Physical or motor skills	5102	91
Skills with numbers	5090	91
Writing/writing skills	5079	91
Interest in music or singing	4365	78

*Participants were asked to select all items that applied to them. Multiple response so totals add to more than 100%.

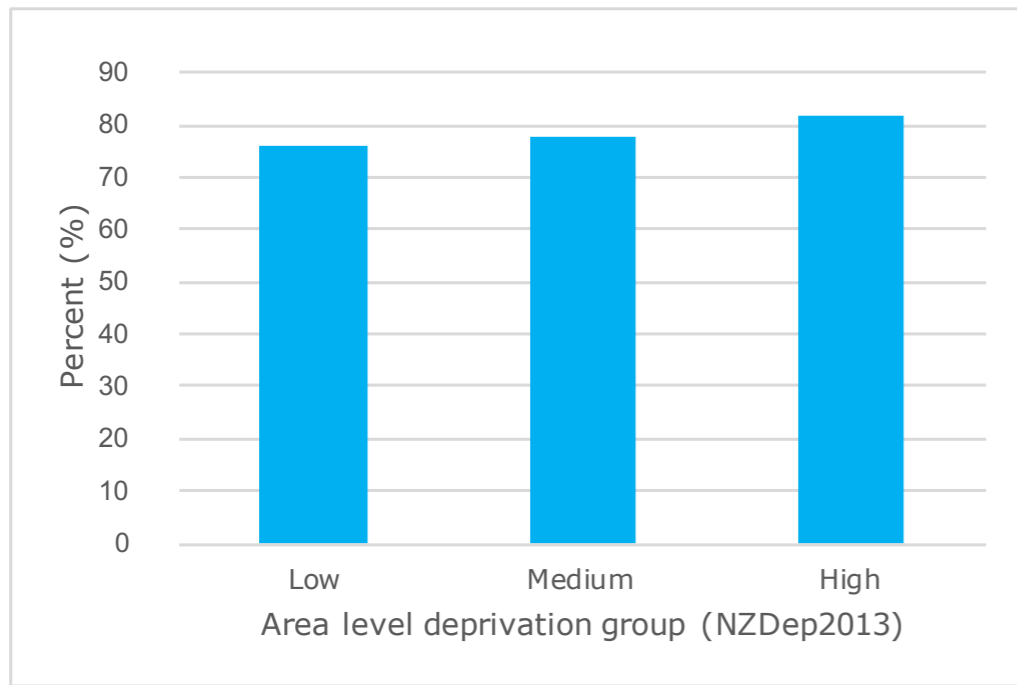


Figure 14: Mothers' satisfaction with the effect school is having on their child's interest in music and singing according to deprivation group.

Low: Decile 1-3 (n=1718), Medium: Decile 4 to 7 (n=1938), High: Decile 8 to 10 (n=1585)

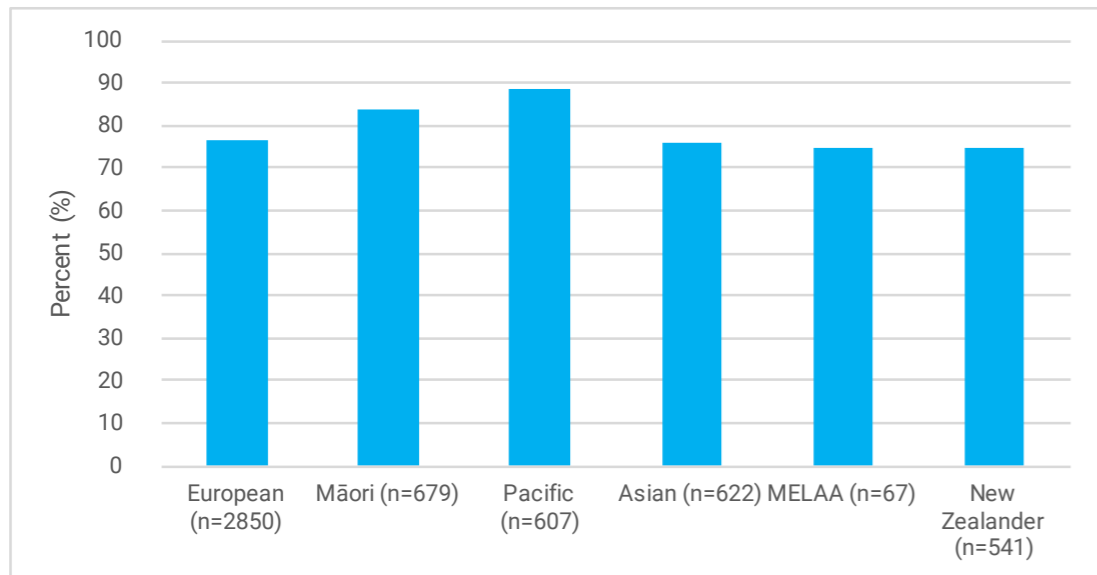


Figure 15: Mother's satisfaction with the effect school is having on their child's interest in music and singing by child ethnicity.

Parental involvement at school

Parental involvement at school has previously been associated with better educational outcomes for children. For example, parental attendance and participation in school activities has been positively associated with academic success (Castro et al., 2015). Parental involvement at the child's school has also been shown to have a positive effect on the transition to school.

Parental involvement encompasses helping with regular supervising, helping with activities, attending meetings, participating in class parent-help opportunities, supporting through fundraising or serving on the school board (Bronfenbrenner, 1974, Bronfenbrenner, 1979, Bronfenbrenner and Morris, 1998, Wilder, 2014).

At the 72 Month Data Collection Wave parents were asked about their involvement with their child's school. The majority of mothers (88%, n = 4811) reported that they had some involvement with their child's school with almost two thirds of parents (63%, n = 3477) reporting they were involved with their child's school in two or more ways. However more than one in ten mothers (12%, n = 679) reported no form of parental involvement with their child's school. The most common form of involvement reported (69%, n = 3802) was attending progress reports/meetings with their child's teacher(s) (Figure 16).

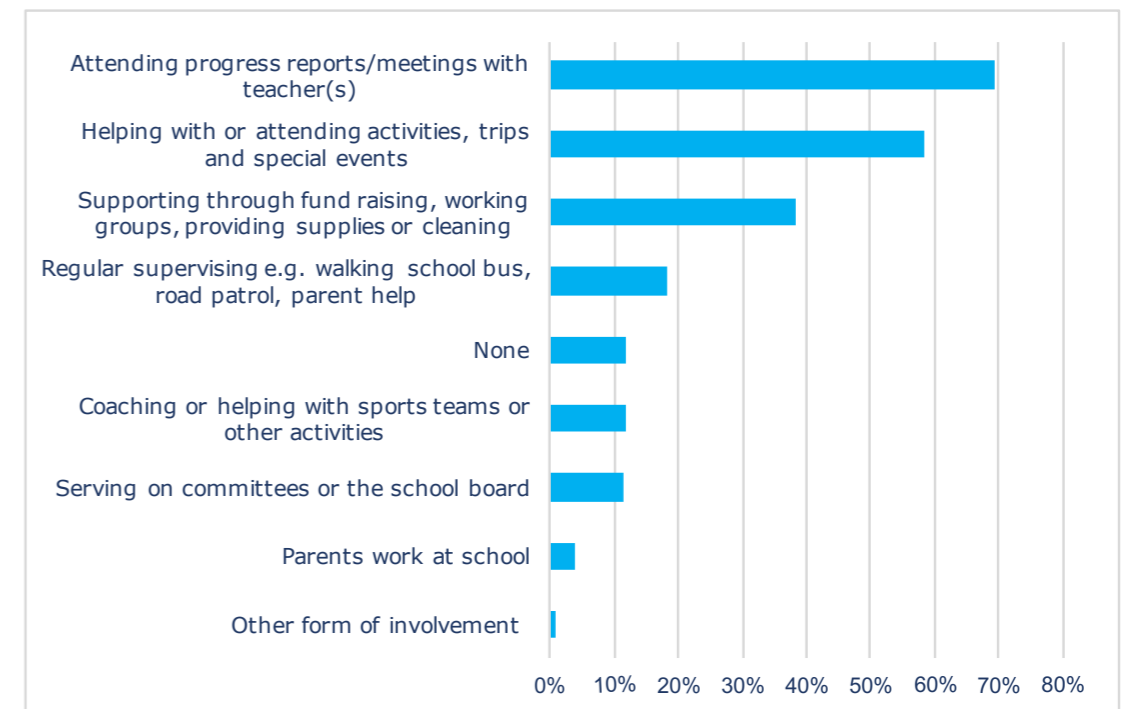


Figure 16: Parents' reported involvement with their child's school

Mothers were asked several questions regarding how they and their child felt about their child's school (Table 28). These questions asked how strongly they felt about their role in their child's education, their relationship with their child's teacher, their overall opinion of their child's school and how their child felt about their class and school. Overall, at least 80 percent of mothers gave affirmative responses to most questions, indicating a high level of parental engagement in education. Interestingly, there were only two areas where the agreement rate was less than 80 percent: feeling their child/children's teacher was interested in getting to know parents (66%, n = 3657) and feeling their child/children's teacher paid attention to their suggestions (73%, n = 3991).

Table 28: Mothers' report of how they felt about their child's school

	Strongly Agree/ Agree		Neither Agree nor Disagree		Strongly Disagree/ Disagree		Total n
	n	%	n	%	n	%	
I know how to help my child/children do well at school	4701	84	578	10	290	6	5569
I think I can make a difference to my child/ children's success at school	4956	89	439	8	169	3	5564
I am able to help my child/children at home with school work that is difficult	5010	90	342	6	224	4	5576
I feel welcome to visit my child/children's school	5126	92	254	5	199	4	5579
I feel welcome to talk to my child/children's teacher	5181	92	214	4	185	4	5580
I enjoy talking to my child/children's teacher	4750	86	622	11	191	3	5563
I feel that my child/children's teacher cares about them	5052	91	385	7	130	2	5567
I feel that my child/children's teacher is interested in getting to know me	3657	66	1407	26	445	9	5509
I feel comfortable talking to my child/ children's teacher about my child	5066	90	321	6	183	3	5570
I feel that my child/children's teacher pays attention to my suggestions	3991	73	1224	23	223	4	5438
I feel that my child/children's school is a good place to be	5206	93	237	4	133	2	5576
I think that my child/children feel like their school is a good place to be	5233	94	213	4	128	2	5574
I think that my child/children feel like they belong in their school	5200	93	241	4	125	2	5566
I think that my child/children are happy in their school	5224	93	220	4	130	2	5574
I think that my child/children can mix with other children well at school	5084	91	329	6	152	3	5565
I think that my child/children have the reading and writing skills necessary at school	4853	88	381	7	327	6	5561
I think that my child/children find it easy to be left at school each morning	4941	89	349	6	274	5	5564
I think that my child/children are independent enough to cope with school	5161	93	272	5	137	2	5570
I feel the staff at my child/children's school are doing good things for my child	5156	93	307	6	101	2	5564
I have confidence in the people at my child/ children's school	5079	91	354	6	125	2	5558
My child/children's school is doing a good job preparing children for the future	4965	90	461	8	126	2	5552

Socio-demographic associations with parental involvement

To understand demographic factors associated with parental involvement at school, and the association between parental involvement at school and parental satisfaction with school, the number of activities that mothers reported being involved in were combined to create an index from zero (not involved in any activities) to five or more (involved in five or more of the activities listed). The number of types of

parental involvement was associated with maternal age group, area level deprivation group and child ethnicity. Compared with mothers who were aged 30 plus when they were pregnant, younger mothers were involved in fewer activities (Table 29). Approximately 70 percent (n = 141) of mothers aged 20 years or under at the time of their pregnancy reported at least one form of involvement with their child's school, approximately 84 percent (n = 1640) of mothers who were between 20 and 29 at the time of their pregnancy reported at least one form of involvement, while nine in ten (90%, n = 2773) mothers who were between 30 and 39 at the time of their pregnancy, reported at least one form of involvement with their child's school.

Table 29: Maternal age at pregnancy and number of parental involvements with school

Number of forms of parental involvement	Under 20		20 - 29 years		30 - 39 years		40 years or older		Total
	n	%	n	%	n	%	n	%	
0	52	27	303	16	296	10	21	9	672
1	50	26	526	27	692	23	51	21	1319
2	53	27	518	27	804	26	72	30	1447
3	22	11	347	18	686	22	49	20	1104
4	12	6	172	9	356	12	39	16	579
5+	<10	<5	77	4	235	8	12	5	328
Total	193		1943		3069		244		

The denominator used for percentage was the total number of participants in each age group category

Mothers living in higher deprivation areas also reported fewer forms of parental involvement, with 15 percent (n = 257) of mothers living in the most deprived areas reporting no forms of parental involvement compared with eight percent (n = 140) of mothers living in the least deprived areas reporting no forms of parental involvement (Table 30).

Table 30: Area level deprivation group and number of parental involvements with school

Number of forms of parental involvements	Low		Medium		High		Total
	n	%	n	%	n	%	
0	137	8	218	11	276	18	631
1	388	23	437	23	429	28	1254
2	453	26	539	28	391	25	1383
3	394	23	403	21	260	17	1057
4	218	13	197	10	140	9	555
5+	124	7	131	7	62	4	317
Total	1714		1925		1558		

The denominator used for percentage was the total number of participants in each deprivation group category. NZDep2013 groups: Low = decile 1-3, medium = decile 4-7, high = decile 8-10.

Mothers of children who were identified as Pacific, Asian, MELAA or New Zealander (Table 31) were less likely to report multiple forms of involvement with their child’s school than those identified as European

Table 31: Child prioritised ethnicity and number of parental involvements with school

Number of parental involvements	European		Māori		Pacific		Asian		MELAA		New Zealander		Total
	n	%	n	%	n	%	n	%	n	%	n	%	
0	272	10	117	17	99	17	104	17	<10	13	40	7	641
1	606	21	160	24	165	28	211	35	25	37	114	21	1281
2	789	28	147	22	150	25	155	26	21	31	139	26	1401
3	625	22	128	19	105	18	83	14	<10	12	131	25	1080
4	335	12	75	11	55	9	34	6	<10	<5	60	11	562
5+	203	7	45	7	17	3	10	2	<10	<5	50	9	327
Total	2830		672		591		597		68		534		

The denominator used for percentage was the total number of participants in each ethnicity

Parental satisfaction that their child’s needs are being met at school and parental involvement in school

Increased parental satisfaction with their child’s education has previously been linked to parental involvement in their child’s education. To examine this link within *Growing Up in New Zealand*, parental involvement (determined by activities that parents were involved in at their child’s school) was compared with parent reported satisfaction that the school was meeting their child’s needs.

Approximately two-thirds of parents reported that they were satisfied the school was meeting all their child’s physical, cultural, social emotional, and educational learning needs (67%, n = 3822). There was a positive correlation between increased parental involvement (i.e. the number of types of parental involvement with school) and parental satisfaction that their child’s needs were being met (Figure 17). A larger proportion of parents who reported being involved with their child’s school in three or more ways reported being satisfied with all four measures of parental satisfaction, than parents who reported no forms of involvement at their child’s school. There are several reasons why we may see this relationship, and in some cases it may not be cause and effect. It may be that involvement and satisfaction are both related to underlying engagement and expectations about the school, about education and about the children’s capacity to engage. For example, involved parents may be more likely to subscribe to the ideals of their child’s school, or to utilise opportunities to influence or change main areas of concern and are therefore more satisfied with their child’s school than those who are not engaged in the same way. Therefore, parental satisfaction may reflect this rather than the impact the school is having on the children’s academic development. These associations and their complexity will be explored in more detail in future work integrating the children’s educational outcomes and information about the school environment.

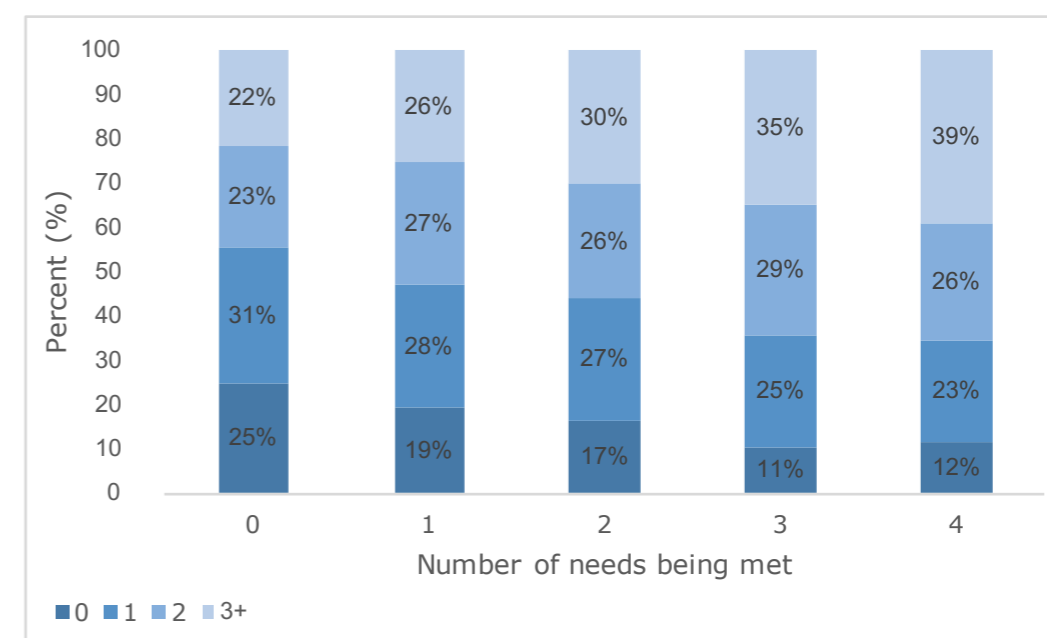


Figure 17: Percentage number of involvements parents have in their child’s school and number of child’s needs currently met

Future directions

Growing Up in New Zealand cohort mothers reported high levels of satisfaction and involvement with their child’s school. This is encouraging given the association between parental involvement and academic achievement. Engagement with the cohort children at eight years, along with linkage to education data, will enable this association to be explored in the New Zealand context. Additionally, further exploration of how the classroom experience is associated with parental satisfaction and achievement is warranted given the association between class size, teacher changes and MLE with parental satisfaction.

Lastly, although parental involvement overall was relatively high, lower parental involvement among younger mothers and those living in higher deprivation areas should be explored, in terms of the barriers to, and reasons for, lack of parental involvement in their child’s school. Future data collection waves will enable direct comparisons between parental involvement from an early age and later academic achievement for this diverse group of New Zealand children. Further research is required to explore the differences in parental involvement observed with maternal age, ethnicity and area level and how this may translate to differences in academic achievement for the children themselves.

Where to next?

In 2017 the face-to-face data collection wave began with the children themselves at the age of eight years. It is expected that collection of information from the children and their mothers will continue throughout 2018. As indicated in Section 1, this data - when combined with the maternal-reported information obtained when the children were approximately 72 months old - will describe this key transition in the cohort children’s lives and add value to the existing longitudinal data collected during the preschool period. It will also provide the foundation for collecting information from the cohort as they transition to adolescence.

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Appendix 1

Growing Up in New Zealand Objectives

- To map the developmental trajectories for a cohort of New Zealand children as a group and within Māori, Pacific and Asian subgroups in particular, in order to identify the main causal pathways, and the links between them, across multiple levels of influence (political, social, cultural, intergenerational, familial and individual) for outcomes in key social, developmental and health domains across the lifecourse.
- To provide a description of cross-sectional outcomes (in several domains) at key points in the lifecourse of the developing child to enable comparisons between subgroups and within Māori, Pacific and Asian subgroups, and with international populations.
- To focus on factors and trajectories, across multiple levels of influence, that confer resilience and optimise development, rather than focusing solely on risk factors for poor outcomes.
- To identify critical or sensitive periods in development, and levels of influence, that will allow the development of policy directed at optimising the development of every child born in New Zealand.

The domain specific research questions agreed for the longitudinal study are:

- What are the developmental pathways that determine the health status of children across the life course from antenatal development to early adulthood?
- How does an individual's biological profile, and the environment in which they grow, mutually interact over time to influence development?
- What are the key determinants of the developmental trajectories that lead to behavioural, emotional and social competence in childhood and adolescence, and what precipitates either continuity or change in these trajectories?
- What biological and environmental factors impact on cognitive ability and how do these factors influence developmental outcomes and trajectories over the lifecourse?
- How do the multiple levels of self, family, environment, and educational context and composition influence and affect educational and developmental outcomes over time?
- What factors influence academic motivation, perceived academic competence and educational achievement across the life course, in particular at key transition points?
- How does the quality of family/whānau dynamics including sibling, parent-child, inter-parental and relationships with extended family influence children's development over time?
- How do children's experiences of family/whānau life vary, and what factors confer resilience or present risks to their development, in diverse family forms and during periods of family transition?
- How involved are fathers in children's lives, and what are their influences over time on children's development?
- How are culture and ethnic identity understood and 'shaped' for children and their families and what developmental trajectories are associated with cross-cultural parental and child ethnicities across the lifecourse?
- What influences do the physical, social and cultural environments have on children and their families' cultural experiences and identities in terms of holistic development? What are the key features (social networks, infrastructure, and physical environment) of neighbourhoods and communities which impact on an individual's development over time?

- What role do neighbourhoods and communities have in mediating the associations between family circumstances, dynamics and social conditions (SES) and child development? How does geographic mobility influence this effect?
- How important is engagement of the family and child with key social services and institutions - including health, education and social service providers - in affecting child outcomes? What factors in the social and family environment facilitate effective engagement?
- How are diverse social and economic contexts expressed in family values, practices, beliefs and resources? How are child outcomes shaped by the effect of these social contexts on family values, practices, beliefs and resources?
- How are child outcomes affected by the nature of their parents' workforce participation, and what factors both internal and external to the family modify these effects?
- What effects do mass media, communications and new technologies have on children's health and development, and what factors in the family and social environment modify these effects?
- How do New Zealand policies affect the social and economic positioning of the cohort family/whānau, what stressors or enablers do they create and how do they impact on child development?



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