Poipoia te kākano kia puawai

Family structure, family change and the wellbeing of tamariki Māori

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TE MANATŪ WHAKAHIATO ORA

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Disclaimer

The views and interpretations in this report are those of the researchers and are not the official position of the Ministry of Social Development.

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Glossary

hapū	kinship group, clan, subtribe
iwi	tribe
kōhanga [reo]	Māori language nests
mana	power and potential
mauri	energetic lifeforce
mokopuna	grandchildren
papakāinga	communal Māori land of a specific village; community
pēpi	babies
tamariki	children
Te Ao Māori	the Māori world
tikanga	customary practices and behaviours
wairua	emotional, spiritual wellbeing
whakapapa	genealogical relationships; lines of descent
whakataukī	proverb
whānau	extended family group
whanaungatanga	sense of family connection – a relationship through shared experiences and working together which provides people with a sense of belonging
whānau ora	Māori whānau wellness

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Figures and tables

Executive summary

This report examines family structure and change for tamariki Māori, and their potential impacts on early childhood development and wellbeing.

Internationally there is growing evidence that family structure, and changes in structure (variously described as family change, transition or instability), have an impact on children's health and wellbeing and the intergenerational transmission of inequity. The effects, however, vary by socio-economic context and across ethnic and racial groups.

In Aotearoa New Zealand, cross-sectional studies show that tamariki Māori are more likely than other children to live in a sole-parent family at any given time. Research is limited however, on what proportion of childhood is spent in different types of family structures, or how changes in family structure shape wellbeing over the life course, particularly in the early years.

Study data sources

Data for this study came from the New Zealand Longitudinal Census (NZLC) (2001, 2006 and 2013) and Growing Up in New Zealand (GUiNZ). The NZLC was used to examine family structure and change for tamariki Māori over their entire childhood, as well as for all children in Aotearoa NZ. Longitudinal data from GUiNZ were used to explore family structure and change (family 'trajectories') for tamariki Māori in their first four and a half years of life, and the potential links with their early development and wellbeing (cognitive development, socio-emotional outcomes, cultural connectedness). We also explored whether cultural connectedness operates as a mediator between family trajectories and children's cognitive and socio-emotional outcomes.

The main study area was Auckland, Counties Manukau and Waikato.

Key findings

Our key findings were that:

1. a stable two-parent family is the primary experience, and sole parenthood is transitory
2. diverse family trajectories are linked to poorer cognitive and socio-emotional outcomes for tamariki Māori, but are not the main driver
3. diverse family trajectories are associated with higher levels of cultural connectedness among tamariki Māori, and this seems to promote socio-emotional development.

A stable two-parent family is the primary experience, and sole-parenthood is transitory

Family structure and change over childhood, NZLC

Of tamariki Māori born between 1997–2001, just over two-thirds (68 percent) had lived in a two-parent only household by the time they were 12–16 years in 2013. Nearly 64 percent of the same birth cohort had experienced some time in a sole-parent only family during childhood.

Tamariki Māori born into two-parent homes were the least likely to experience change in their family structure over their childhood. Among tamariki Māori living in a two-parent only family structure in 2001 (aged between 0–4 years), just under 60 percent were still in a two-parent family structure in 2006 and 2013.

Among tamariki Māori aged 0–4 in a sole-parent only family structure in 2001, less than half (45 percent) were still in a sole-parent family in 2006 and 2013.

Family structure trajectories during early childhood, GUiNZ

Among a diverse sample of children born in 2010–11, social sequence analysis[1] showed that a majority of tamariki Māori (55 percent of the sample) were born into a home with two parents as the sole adults, and stayed consistently living with their parents during their first four years of life. In contrast to stereotypes of entrenched sole parenthood, consistently living with a sole mother is not a common experience for tamariki Māori.

One-third of tamariki Māori lived with one or both biological parents and with other kin adults in the household, transitioning sometime in early childhood to a two-parent household.

A smaller group of children (6 percent of the sample) had a family structure experience that was typified by living with one or both parents but also with other adults (kin and non-kin). They also had multiple changes in family structure (ie high instability) over early childhood. The remaining children (a further 6 percent of the sample) experienced early life living with one parent only (almost exclusively their mother), but with a transition to some other family structure type much later during early childhood.

1 Social sequence analysis is a statistical approach that can identify data patterns in social 'events', such as family structure changes, over time.

Predictors of family trajectories

Multinomial regressions[2] identified the characteristics of mothers, families, and children that show whether or not they are more likely to experience a particular family trajectory.

Tamariki Māori with younger mothers, with mothers who have a less traditional education path, and who live in households and communities with constrained access to resources, were less likely to be raised consistently in a two-parent family.

Diverse family trajectories are linked to poorer cognitive and socio-emotional outcomes for tamariki Māori, but are not the main driver

Family trajectories and cognitive development

After controlling for child, mother and community-level factors, there was no statistical correlation between different family trajectories and the cognitive development of tamariki Māori.

Rather, the most important predictors of cognitive development were mothers' education and age, material hardship and neighbourhood deprivation.

Family trajectories and socio-emotional development

Tamariki Māori who lived with one parent, and who had a very late transition to living with others, had higher scores on negative affect – the frequency of experiencing negative emotions – than those who lived consistently in a two-parent family. This was so even after controlling for other factors. Similarly, tamariki living with kin with a late transition also had a higher negative affect score.

Other significant predictors of negative affect were mothers' education, ethnicity and material hardship.

There was no significant association between family trajectory and effortful control – a socio-emotional outcome that describes children's ability to manage attention and use controlled behaviour, especially when they do not want to.

Diverse family trajectories are associated with higher levels of cultural connectedness among tamariki Māori, and this seems to promote socio-emotional development

Family trajectories and cultural connectedness

Family trajectories that involved living with other adults with high instability and living in sole-parent households with a late transition were associated with higher levels of cultural connectedness among tamariki Māori.

Other significant predictors of cultural connectedness were mothers' education, age and ethnicity, number of siblings, meshblock deprivation, child gender, and living outside of the main study area (ie not in Auckland, Counties Manukau, Waikato).

2 Multinomial regression is a statistical approach that allows for analysis between multiple variables, such as socio-demographic characteristics, and an outcome that has two or more discrete or categorical outcomes, such as types of family structure.

Cultural connectedness as a mediator

The cultural connectedness of tamariki Māori mediated the association between family trajectory and their effortful control. This connection was found because we exclusively examined tamariki Māori instead of the New Zealand population as a whole. It highlights that there are potentially unique dimensions of wellbeing that are more important to Māori that may be overlooked when we do not create Māori-led and Maori-centred policy, and so limits the efficacy of policy aimed at improving wellbeing.

Policy considerations

Tamariki development is less about family structure and change and more about resources and context

Our findings caution against an undue policy focus on particular kinds of household formations as exposing tamariki Māori to an increased risk of poor outcomes. Such policies and interventions developed on that basis are both inadequate and inequitable. For example, material hardship, maternal education and neighbourhood disadvantage explained much of the association between family structure trajectories and child development. Policies should seek to enable tamariki Māori and their whānau to live dignified lives and to participate fully in their school, community and cultural lives, regardless of family structure and stability.

Cultural connectedness has the potential to improve policy effectiveness

In line with earlier research, the findings suggest that culturally affirming practices improve the socio-emotional development of tamariki. Incorporating cultural aspects, such as activities, participation and connectedness, into policies and programmes aimed at whānau wellbeing and tamariki development can potentially increase the effectiveness of these interventions.

Focusing on strength and resilience promotes tamariki wellbeing

Data and analysis focused on ethnicity often emphasise disadvantage and ethnic inequalities. To conduct analyses or collect data that compare Māori with the Pākehā majority or other ethnicities, aspects of Te Ao Māori are often ignored because appropriate comparisons are not available across ethnicities. This study highlights the need for research that focuses on the Māori population and explores aspects of Te Ao Māori, specifically, that might enhance the wellbeing of tamariki Māori.

Understanding whānau and tamariki wellbeing requires better data

To be relevant and meaningful, the measurement and monitoring of tamariki Māori and whānau wellbeing need to be more closely aligned with Te Ao Māori perspectives and priorities. It is vital that research and policies aimed at improving tamariki Māori wellbeing focus on strengths and capabilities, rather than dysfunction. We must also acknowledge that different factors may influence wellbeing disproportionately for tamariki Māori.

Introduction

Poipoia te kākano kia puawai
Nurture the seed and it will blossom

Tamariki Māori context

Grounded in a distinctively Māori worldview, whakatauki or proverbial sayings, play a key role in Te Ao Māori. They provide insights into traditional practices, core values and desired states.

Poipoia te kākano kia puawai is one of many whakatauki that speak to the importance of nurturing and cherishing tamariki (children).[3] Numerous others reference the significance of culture and identity for positive childhood development, and the collective obligation to raise and care for children aside from one's own.

From a Māori worldview, tamariki Māori are understood to be both the embodiment of their ancestors and the future bearers of collective identity (Cram, 2012). Their wellbeing invokes both the rights of personhood set out in the United Nations Convention on the Rights of the Child (CRC),[4] and the rights of peoplehood articulated in Te Tiriti o Waitangi (Te Tiriti o Waitangi, 1840) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).[5]

In Aotearoa New Zealand (Aotearoa NZ hereafter) the wellbeing of children is a key policy priority, underscored by the 2019 Wellbeing Budget[6] and the Government's bold ambition for New Zealand to be the best place in the world to be a child.[7] Key initiatives include the Child Poverty Reduction Act 2018,[8] the Welfare Expert Advisory Group report (Welfare Expert Advisory Group, 2019) and the Child and Youth Wellbeing Strategy (Department of the Prime Minister and Cabinet, 2019), which provides a framework to drive government policy and action on child wellbeing. Also of relevance is the cross-government Whānau Ora[9] policy initiative that seeks to support communities and whānau to develop and achieve their own wellbeing aspirations.

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3 Some of the most well-known whakatauki relating to children can be found in *Taku kuru pounamu* (Pihama, Greensill, Campbell, Te Nana, & Lee, 2015), which shares insights into traditional Māori childrearing practices. The Early Childhood Curriculum *Te Whāriki* also refers to a number of child-centred whakatauki: (Ministry of Education, 2017). Retrieved from tewhariki.tki.org.nz/assets/Uploads/Te-Whariki-Whakatauki.pdf.

4 The full text of the CRC can be found here: www.ohchr.org/en/professionalinterest/pages/crc.aspx.

5 The full text of the UNDRIP can be found here: www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html.

6 The full text of the Wellbeing Budget 2019 can be found here: treasury.govt.nz/publications/wellbeing-budget/wellbeing-budget-2019.

7 The Department of the Prime Minister and Cabinet's child wellbeing outcomes framework to make New Zealand the best place in the world for children can be found here: childyouthwellbeing.govt.nz/resources/child-and-youth-wellbeing-strategy.

8 Child Poverty Reduction Act 2018: www.legislation.govt.nz/act/public/2018/0057/18.0/LMS8294.html.

9 The seven Whānau Ora outcomes are: 1) Whānau are self-managing and empowered leaders, 2) Whānau are leading healthy lifestyles, 3) Whānau are participating fully in society, 4) Whānau and families are confidently participating in Te Ao Māori, 5) Whānau and families are economically secure and successfully involved in wealth creation, 6) Whānau are cohesive, resilient and nurturing, 7) Whānau and families are responsible stewards of their living and natural environments. For more, see Te Puni Kōkiri (2018). Why Whānau Ora? Retrieved from https://www.tpk.govt.nz/en/whakamahia/whanau-ora/why-whanau-ora.

More generally there is an increasing acknowledgement that providing the conditions for children to thrive is not only a moral imperative and societal obligation, but also generates wider long-term social and economic benefits (Rees, Chai, & Anthony, 2012; Poulton et al., 2002). This issue is even more salient for Māori, specifically given their youthful age structure: 38 percent of the Māori population was under 18 years old in 2018, compared with 24 percent of the total Aotearoa NZ population (Stats NZ, 2018a, 2018b).

Effects of colonialism

For too many tamariki Māori, Aotearoa NZ is far from being the best place to be a child. Like other wealthy developed countries, New Zealand's access to the determinants of health and wellbeing is unevenly distributed. Māori children are over-represented on most, if not all, negative indicators of child health and wellbeing. These indicators include: household poverty (Duncanson et al., 2018); overcrowding (Baker et al., 2012a); food insecurity (Duncanson et al., 2018); early mortality (Child and Youth Mortality Review Committee, 2019; Ministry of Health, 2018); infectious disease (Baker et al., 2012b; Hobbs et al., 2017); preventable disease (Walsh & Grey, 2019); hospitalisations due to assault, neglect and maltreatment (Duncanson et al., 2018); and child care and protection[10] (Keddell, 2017).

Ethnic inequities have complex spatial patterning and the greatest inequities can often be found in the regions that are the most deprived. Gisborne, for example, has the lowest regional life expectancy at birth (76.2 years for boys in 2012–14 compared with 79.5 years nationally) but also the greatest gap between Māori and non-Māori life expectancy (Statistics New Zealand, 2015). A Māori baby boy born in Gisborne between 2012 and 2014 could expect to live, on average, nine years less than his non-Māori counterpart (70.4 years compared with 79.4 years).[11, 12] This is similar to the male life expectation at birth in Brazil of 70.6 years. But Aotearoa NZ is one of the world's wealthiest countries, and Brazil is a developing country.

This unacceptable gap in life chances exemplifies ethnic inequities that are unfair, systematic, avoidable and unjust (Braveman & Gruskin, 2003; Whitehead, 1992).

The drivers of ethnic inequities for Indigenous peoples and other racialised populations have been widely studied at a population level (eg Jones, 2000; Krieger, 2001; Marmot, 2010; Nazroo, 1999; Williams, 1997) and in relation to children (World Health Organization, 2008). Increasingly, such studies use a social determinants of health approach focused on the structural (eg macroeconomic context, cultural and societal norms and values) and social conditions of poor health (eg education, housing, racism, exclusion).

In the social determinants of health framework (Commission on Social Determinants of Health, 2008), household structure and living arrangements are typically considered an intermediary health determinant. In Aotearoa NZ, as in other colonial settler states, historical colonisation and ongoing colonialism have been identified as underlying 'causes of causes' of enduring Indigenous disadvantage (Czyzewski, 2011), particularly in relation to health disparities (Indigenous Health Group, 2007; King, Smith, & Gracey, 2009; Reid & Robson, 2007).

10 In June 2017, 5,708 children and young people were in the custody of the Oranga Tamariki Chief Executive and 62 percent identified with Māori as their primary ethnic group (Duncanson et al., 2018).

11 For a list of developing countries in 2019, see: worldpopulationreview.com/countries/developing-countries.

12 In 2012, the male life expectation at birth in Brazil was 70.6 years compared with 79.4 years in New Zealand.

Changes in family structure

With this broader colonial context and spatial and socio-economic patterning in mind, this report examines changes in the household-based family structures of tamariki Māori, and the potential impacts on their early childhood development and wellbeing. Internationally, there is growing evidence that family structure, and changes in structure (variously described as family change, transition or instability), have an impact on children's health and wellbeing and the intergenerational transmission of inequity (Fomby & Bosick, 2013; Härkönen, Bernardi, & Boertien, 2017; Mackay, 2005).

Family instability has been defined as children's exposure to repeated changes in a parents' union status (Fomby, Mollborn, & Sennott, 2010), or situations where children grow up without the same parent(s) who were present at their birth (Waldfogel, Craigie, & Brooks-Gunn, 2010). The research suggests that family instability and the associated disruption in early childhood can have adverse consequences on child wellbeing outcomes. The effects, however, may vary by socio-economic context (Ryan, Claessens, & Markowtiz, 2015) and across ethnic and racial groups (Cavanagh & Fomby, 2019; Fomby, Mollborn, & Sennott, 2010; Fomby & Cherlin, 2007).

Our scan of the literature reveals a lack of research on the relationship between family structure change and child wellbeing in Aotearoa NZ. This is partly due to a lack of data on family transitions. Most studies of household and family structure use census and survey information that can only provide a cross-sectional snapshot of what household-based families look like at one point in time. These studies reveal little about how living arrangements change and evolve and the length and frequency of different relationship and family states (Law Commission, 2017). Cross-sectional studies show that tamariki Māori are more likely than other children to live in a sole-parent household at any given time (Dharmalingam et al., 2004; Kiro, von Randow, & Sporle, 2010). However, we have limited knowledge about what proportion of childhood is spent in different family structures, or how stability or instability shapes wellbeing over the life course, particularly during children's early formative years.

Influences in early life are most likely to have a significant and long-lasting impact. Research highlights the first 1,000 days of life (from conception to around three years of age) as critical and sensitive periods of maximum developmental plasticity. This is where environmental (including physical, psychological and socio-economic) influences can have a profound and sustained impact on wellbeing and health equity, with lifelong consequences (Barker, 2012; Gluckman, Hanson, & Buklijas, 2010; Kuh, Ben-Shlomo, & Lynch, 2003; Moore et al., 2017; NZCPHM, 2017). Policy attention and investment in programmes aimed to support families (financially, emotionally, health-wise, educationally and socially) during their children's early years are more cost effective. These programmes have been shown to have greater and more sustained benefits leading to further return on investment (Doyle et al., 2009; Heckman, 2006).

Sources of data

Using longitudinal data from the Growing Up in New Zealand (GUiNZ) study and the New Zealand Longitudinal Census (NZLC), we explore what family structure and change look like for tamariki Māori in their first four years of life, and the potential links with their early development and wellbeing. GUiNZ is Aotearoa NZ's largest, most contemporary and ethnically diverse birth cohort study, allowing the examination of family processes with a large sample of tamariki Māori (Morton et al., 2012). Multiple data collection waves with this cohort in the antenatal (pre-birth) period and across the first four years of life can capture changes in family structure during this important time for children. This cohort represented around one-third of births in the geographical area from which the cohort was recruited, and around 11 percent of all births in Aotearoa NZ during the recruitment period (2009–2010). Findings from this study are therefore able to provide population-relevant and generalisable information to inform policy development for children and their families (Morton et al., 2015).

Centring tamariki Māori in our analysis enables us to explore the unique aspects of cultural life that may support their wellbeing. (For other studies that explore cultural identity as a protective factor for wellbeing, see Houkamau & Sibley, 2011; Muriwai, Houkamau, & Sibley, 2015.) Given the significance accorded to cultural identity in Te Ao Māori (Durie, 2006, 2003, 2001, 1994, 1985; Houkamau & Sibley, 2011), we examine cultural connectedness as an important wellbeing outcome alongside other measures of cognitive and socio-emotional development. This feature of Māori life is absent from studies that only evaluate the outcomes of tamariki Māori compared with those of children from other ethnic backgrounds.

We also examine whether cultural connectedness mediates the relationship between family structure transitions and wellbeing in ways that promote prosocial and cognitive development. In so doing, we seek to answer the call for a more culturally nuanced approach to measuring and monitoring child wellbeing (Cram, 2019; Māori Affairs Select Committee, 2013). We also try to disentangle family structure effects on early childhood wellbeing and development from the effects of family socio-economic resources and parental factors.

In this report we do not address the removal of children by the state but note that the disturbingly high rate of removal of tamariki Māori from their families and whānau[13] has been well documented (Atwool, 2006; Keddell, 2019; Ministerial Committee, 1988). The policies, processes and practice of Oranga Tamariki relating to care and protection issues for pēpi Māori aged 0–3 months is currently the subject of a review by the Children's Commissioner.[14]

For more information about the methodology used in this study, see the appendix.

13 Since 2015, tamariki Māori have comprised at least 60 percent of tamariki in the care of Oranga Tamariki. See Ministry of Social Development. (n.d.). "Kids in care – National and local level data – June 2017". Retrieved from: https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/cyf/kids-in-care.html.

14 See Office of the Children's Commissioner. (18 September 2019). *Scope of review into Oranga Tamariki's care and protection practice for tamariki Māori announced*. Retrieved from www.occ.org.nz/publications/news/scope-of-review-into-oranga-tamarikis-care-and-protection-practice-for-tamariki-maori-announced/.

Report structure

The report is structured as follows:

- First, we examine the research on family and household structure and stability and child wellbeing, placing this literature in the context of New Zealand generally and Māori families specifically. Consideration is given to the ways in which cultural identity might promote tamariki Māori wellbeing and development and buffer adversity.
- Second, we describe the results of analyses from the NZLC and GUiNZ. In this section, we examine changes in household composition for children generally, and Māori tamariki specifically, among the most recent cohort of children to transition to adulthood (ie those aged between 0–4 years at the 2001 Census) using the NZLC. We then analyse data from GUiNZ to provide a close examination of family structure and changes in family structure during early childhood and we look at how those patterns are associated with early childhood development.
- The concluding section considers the substantive and policy implications of our study.

Part 1:

Family and household structure, stability and child wellbeing

Section summary

In this section, we review the research and literature on family and household structure, stability and wellbeing, placing this literature in the context of New Zealand generally and whānau Māori specifically. Consideration is given to the ways in which cultural identity might promote tamariki Māori wellbeing and development and buffer the detrimental effects of adversity.

This report takes a tamariki-centric approach and focuses on the household-based family structures of children who are defined as Māori by an adult, usually their biological mother. The literature locates individual tamariki wellbeing strongly within the wellbeing of whānau. The structure of families and whānau changes over time, and over the period of peoples' lives, and this is particularly true of whānau Māori. Those who spend long periods as sole-parent households are likely to experience considerable material hardship.

Instability of family structure may have negative consequences for tamariki wellbeing, although the impact of this may be mediated by a wide range of social and cultural influences. The extent to which this may be mediated by strengthening cultural connectedness is explored further in subsequent sections.

Defining whānau, family and household

Although sometimes used interchangeably in the literature, the terms 'family', 'whānau', and 'household' have different theoretical and substantive meanings, and are important to distinguish in this report. There is no single definition of whānau (Lawson-Te Aho, 2010). It is generally understood, however, that a whānau extends beyond the immediate family or household and encompasses "a multigenerational collective made up of many households that are supported and strengthened by a wider network of relations" (Taskforce on Whānau-Centred Initiatives, 2010, p. 13). According to Metge (1990), changing family structures are nothing new in the Māori world and whānau has no 'fixed' boundaries.

Up to the late 18th and early 19th century, the word whānau was primarily applied to a group of people, between 15 and 30 in number, comprising two to three generations, and living and working as a single household. In the 19th century, whānau underwent a 'radical change' and by the 1950s was generally a larger group, comprising between 30 and 100 members and four to five generations, living in several scattered households.

In 1994, Durie noted that the term whānau was increasingly being applied to nuclear families or households, partly because there was no Māori word to describe the small family. His view was that whānau and family were conceptually and analytically distinct and should be treated as such. His point finds support in a recent study that used data from the 2013 Te Kupenga Māori Social Survey to examine perceptions of whānau among Māori adults (Kukutai, Sporle, & Roskruge, 2016). It found that only 40 percent of respondents described their whānau solely in terms of immediate family members (partner/spouse, children, parents, siblings, in-laws). For most, expressions of whānau included grandparents, grandchildren, aunties/uncles and/or cousins, and 15 percent also included close friends and other non-kin relationships. Household-based living arrangements (ie those who respondents lived with) were a relatively poor predictor of how Māori described their whānau.

While it is clear that whānau is a more meaningful and enduring concept in Te Ao Māori than family, in practice, most statistical studies of Māori whānau and families are studies of household-based family units or households. The Population Census, for example, only captures familial relationships within a single dwelling or household so that census families are wholly contained within households.

A household is defined as any group of families or individuals living in the same dwelling, regardless of their relationships to one another. Thus, not all households contain families and some households are made up of a family or families cohabiting with non-family members (Kiro, von Randow, & Sporle, 2010). Typically, the cohabitation of whānau Māori, often involving multiple generations, is usually only referenced in the context of overcrowding (Ministry of Health, 2014) rather than an arrangement of choice (Waldegrave et al., 2006).

Defining family ethnicity is also complicated, given the ethnic diversity that exists within families and the growing prevalence of multi-ethnic identification. In the 2013 Census, more than half of those who reported Māori ethnicity also reported at least one other ethnic group (Statistics New Zealand, 2014). Defining 'family ethnicity' has thus been described as "knitting a jumper using two woolly concepts" (Callister et al., 2007). Some studies use a 'total response' approach that takes account of the ethnicities reported by all the family members so that the same family may be counted more than once (ie designated as both a Māori family and a European family; Superu, 2016). Others define Māori families on the basis of having one or both parents identify as Māori (Kiro, von Randow, & Sporle, 2010). A Māori household has been defined as one where at least one of the adults identifies as Māori (Kiro, von Randow, & Sporle, 2010), or where the ethnicity of the household 'occupier' is Māori (ie the reference person on the census dwelling form; Dickson et al., 1997).

Our approach

For the purpose of this report, we take a tamariki-centric approach and focus on the household-based family structures of children who are defined as Māori by an adult, usually their biological mother. For simplicity, we use the term 'family' as shorthand for household-based family. For the analyses of GUiNZ data, we use a four-group typology of family structure, whereby household members and their relationship to the child are reported by the primary respondent, who was almost always the mother of the cohort child. One of these groups includes co-residence with non-related adults. For NZLC, we describe the household-based families of tamariki Māori, using categories derived from the census dwelling form.

From whānau to family

Within the wider family literature, there is a strong focus on family structure and functioning, and on the household as the economic unit of production. This has little in common with Māori worldviews of whānau and whanaungatanga (Cram & Pitama, 1998; Cunningham et al., 2005; Taiapa, 1995).[15] The literature suggests a number of ways in which whanaungatanga (sense of family connection) supports child wellbeing, with the dominant themes relating to the reciprocity of care and support and the transmission of identity. Pitama, Ririnui, and Mikaere (2002, p. 93) identify four key principles that underpin Māori child-rearing, namely:

- the significance of whakapapa, which confirms an individual's membership and participation rights within their kin groups
- the notion that children are not the property of their parents, but rather belong to their wider whānau, hapū and iwi
- the rights and responsibilities for raising children are shared
- children have rights and responsibilities to their whānau.

15 The concept of whanaungatanga (the root word of which is whānau, meaning kin group and also to be born) is crucial to Māori existence. "It embodies the nature of the Māori person's relationships to other members of their whānau, hapū and iwi; to other Māori; and to the world around them. It entails a complex web of responsibilities and obligations" (Pitama, Ririnui, & Mikaere, 2002, p. 22).

Tukukino and Tukukino (1986) assert that "there is no greater power in contemporary Māori society for fulfilling the cultural needs, aspirations and identity than the whānau system. This provides a network, a resource group, a support system and a healer far greater than any support system in the Pakeha world". Taiapa (1995) notes that while few Māori are able to live in customary communal settings with collective responsibilities for resources, care and protection, whānau values are still relevant and meaningful.

The whānau is also the primary context for the transmission of cultural values, knowledge and identity. Metge (1995) notes the importance of intergenerational bonds in Te Ao Māori, and the active role that Māori grandparents traditionally had in raising their mokopuna, including building up their self-esteem and passing on whānau knowledge and tikanga. Durie (2006, 2003, 2001, 1994, 1985) has written at length about the critical role of whānau in reinforcing identity and a sense of purpose. Whanaungatanga is seen as central to Māori identity, and a prerequisite to individual and collective Māori psychological wellbeing.[16] Indeed, in Te Ao Māori the "overwhelming belief" is that the wellbeing of tamariki is intricately connected to the wellbeing of their whānau (Cram, 2019, p. 24). As such, the wellbeing of the individual is enmeshed with the wellbeing of the whānau; there is no strict dividing line (Durie et al., 2010).

A recent study explored the interconnections between individual and whānau wellbeing in Te Kupenga (Māori Social Survey). Regression analysis showed that the strongest correlates of subjective whānau wellbeing were the quality of whānau relationships and individual life satisfaction. How Māori assessed the wellbeing of their whānau was tightly connected to their perception of how well their whānau got along. Likewise, Māori who were very satisfied with their own life were also much more likely to assess their whānau wellbeing in very positive terms (Kukutai, Sporle, & Roskruge, 2017).

This report's focus on household structures of tamariki Māori cannot capture the depth and breadth of whānau relationships. Nevertheless, the household-based family is a vital part of the broader whānau complex, providing an important (though not exclusive) context for the nurturing and socialisation of tamariki. The protectiveness and resilience of the households in which tamariki live may also have broader benefits for the wellbeing of the wider whānau.

16 A wide range of qualitative studies from a kaupapa Māori approach have identified whānau as a key determinant of wellbeing or success. These include Wilkie (2010) for Māori graduates in information technology; Morrison & Blair (2013) for addiction recovery; Waitoki et al. (2014) for mental health; and Mark & Lyons (2010) for a person's overall health outcomes. The significance of whānau is increasingly recognised in policy settings. For example Ka Hikitia (the Māori Education Strategy 2013–2017) emphasises that whānau is integral to the educational wellbeing of Māori students in English-medium education: "A productive partnership starts by understanding that Māori children and students are connected to whānau and should not be viewed or treated as separate, isolated or disconnected" (Ministry of Education, 2013, p. 18).

Overview of the literature on family structure and change

Since the 1950s, increases in divorce, non-marital fertility, and cohabitation, combined with declines in marriage and remarriage, have dramatically altered the context in which children and adolescents are raised (Casper & Bianchi, 2002). The so-called 'second demographic transition' has occurred across most wealthy, highly developed western nations. This is characterised by delayed marriage, delayed childbearing, childlessness, increases in the proportion who never marry, and substantial increases in non-marital cohabitation, non-marital fertility (including within cohabiting unions), maternal employment and divorce (Lesthaeghe, 1995; Lesthaeghe & Moors, 2000; Lesthaeghe & van de Kaa, 1986; van de Kaa, 1987).

A 2011 Organisation for Economic Co-operation and Development (OECD) report showed that changes in family structure consistent with the second demographic transition were nearly universal across member countries, but that the magnitude of change varied. In Greece, for example, 92 percent of children lived in households headed by two married parents, compared with only half of children in Sweden. In the latter, an additional 30 percent of children lived in households with two cohabiting parents (the highest level in the OECD). Aotearoa NZ had one of the highest shares of children living in sole-parent households (23.7 percent, compared with the OECD average of 14.9 percent), exceeded only by Ireland and the United States (OECD, 2011).

The literature suggests that the growing diversity of family types in the population is also accompanied by an increase in family structure change or transitions in children's life courses (Cavanagh, 2008). A much-cited US study of childhood transitions in the early 1990s estimated that just over a third of children born into unions (either cohabiting or married) experienced some form of family disruption by age 16 (Bumpass & Lu, 2000). Additional analysis estimated that nearly half of children born outside of a union spent about half their childhood (defined as the first 15 years) in a single-parent family. This is compared with about 25 percent of children born to cohabiting parents and 13 percent of children born to married parents. The study concluded that, "differences in circumstances at birth, union stability, and in the likelihood of cohabitation and remarriage after disruption combine to create substantial differences by mothers' education and age in the time children spend in each of these three family statuses" (Bumpass & Lu, 2000, p. 39). A separate study suggested that the nuclear family has not been replaced by any new modal category. Rather, "people move in and out of a variety of family types over the course of their lives" (Bryant, Claridge, Fursman, Jacobson & Jensen, 2004, p. 31).

The Aotearoa NZ experience

A number of studies have detailed the main changes in family formation and family and household structure in Aotearoa NZ, generally (Cribb, 2009; Curson, 1978; Dharmalingam et al., 2004; Families Commission, 2005; Law Commission, 2017), and for Māori specifically (Kiro, von Randow, & Sporle, 2010; Metge, 1990; Pool, 1991). Therefore, we describe them only briefly here. Significant transformations in family formation in Aotearoa NZ over the past 50 years included a decline in marriage (from 45.5 per 1,000 unmarried adults 16+ years in 1971 to 10.8 in 2018; Stats NZ, 2019) and an increase in divorce (from 5.1 per 1,000 existing marriages in 1971 to 12.7 in 1996, peaking at 17.1 in 1982; Statistics New Zealand, 2007). There was also delayed childbearing (in 2018, the peak childbearing age for New Zealand women was 30–34 years, compared with 20–24 years in 1962) and an increase in ex-nuptial births (17 percent in 1976 to 46 percent in 2016; Law Commission, 2017). Same-sex marriages and civil unions have also become an important feature of contemporary relationships. Since the first same-sex marriages were celebrated in 2013, around 900 same-sex marriages per year have been registered to Aotearoa NZ and overseas residents, representing about 3.5 percent of marriages during that period (Stats NZ, 2018c).

Unsurprisingly, the family formation experiences and the family contexts of children vary significantly across cohorts and across population groups. Cribb (2009) used census data to summarise the family structures of three cohorts, those born before 1943 (pre-World War II), those born 1944–1970 and those born 1971–1993.

For the earliest cohort, the dominant family form was the nuclear family (a mother, a father and children). Single-parent households were relatively rare and were more likely to be the result of a spouse's early death than of divorce or ex-nuptial birth. Cribb (2009, p. 7) notes that "social expectations and values prevailing from the 1940s to 1970 reinforced specific notions of family", bolstered by the labour market, taxation, social assistance, laws and public policies. The experiences of Māori born before 1943 were demonstrably different from New Zealand Europeans in that Māori were less likely to seek to have their relationships recognised by the European legal system, and were more likely to have children outside of marriage and to have children at a younger age.[17]

The 'baby boom' generation born between 1944 and 1970 encountered increasing diversity in family forms and experiences. Marriage rates declined, divorce increased, as did the prevalence of step-families, and the average family size declined significantly. Most of the growth in sole-parent families occurred during the late 1970s and early 1980s (Pool, Dharmalingam, & Sceats, 2007). The experiences of Māori born in this cohort also differed. Māori women continued to have more children and at a younger age than New Zealand women as a whole, and Māori were more likely than NZ Europeans to live in an extended household (with two or more families, and/or older parents and adult children living together) and in sole-parent households.

17 Māori women are still much more likely than their NZ European counterparts to have children at a younger age. For Māori women, peak fertility levels are at ages 25–29 years (only relatively recently moving up from 20–24 years); for non-Māori women, it is 30–34 years.

For those born between 1971 and 1993, diversity in family forms is common. Delayed childbearing is the norm, de facto relationships have replaced legal marriage among younger people and new forms of relationships have emerged. Of women aged 20–24 years in 1995, for example, one in five were in living apart together (LAT) unions (married or not), just over one in four were in de facto relationships, and nearly 40 percent were not in any kind of relationship. Many people in this age group have lived in a blended or step-family. In 2001, for example, close to one-fifth of all women with children had been parents in step-families or blended families (Ministry of Social Development, 2004). About one in five separated women re-partner in the first year of separation (Pool, Dharmalingam, & Sceats, 2007). Māori women continue to be more likely than women from other ethnic groups to have children, to have larger families, and to have children at a younger age.

The Family, Whānau and Wellbeing Project

More recently a study from the Family, Whānau and Wellbeing Project used census data to describe changes in household composition for Māori families between 1981 and 2006 and the social and economic determinants of family and whānau wellbeing (Kiro, von Randow, & Sporle, 2010). There were several significant compositional changes including a decline in couples with children households (from 68 percent to 46 percent).[18] There was also an increase in sole-parent households (from 13 percent to 24 percent), primarily occurring between 1981 and 1991; and an increase in couple-only households (from 14 percent in 1981 to 22 percent in 2006). The percentage of multi-family households increased but remained a small share of all Māori households (8 percent in 2006). These changes largely echoed those happening in the general population in Aotearoa NZ but were more pronounced (eg larger increase in sole-parent families) (Kiro, von Randow, & Sporle, 2010).

The study also identified substantial differences in wellbeing outcomes, measured in terms of income, education, and housing, across different Māori household structures. While the circumstances of most household-based Māori families improved over the focal period, there were persistent and significant inequities. In every census, sole-parent households were most disadvantaged. Thus, while the share of Māori families with low incomes declined over the period for all family types, 69 percent of Māori single-parent households still had low incomes in 2006, compared with just 15 percent of two-parent households where one parent was Māori, and 25 percent of two-parent households where both parents were Māori. Similarly, while single-parent Māori households experienced the biggest improvement in educational attainment (from 83 percent with no educational qualification in 1981 to 43 percent in 2006), the share with no formal qualification in 2006 was still far higher than for other family types.

18 This category 'other one-family households' included a small number of 'couple only plus others' households.

Findings from other studies

The broad patterns described above reflect the findings in other studies using data from sources other than the census. In the 1995 New Zealand Women: Family, Employment and Education study, 29 percent of Māori children had lived in a step-family before age 17, compared with 18 percent of non-Māori (Dharmalingam et al., 2004, p. 73). In addition, 56 percent of Māori children born between 1953 and 1995 had lived with a sole mother before age 17, compared with 49 percent of Pacific children and 31 percent of other (non-Māori, non-Pacific) children. Interestingly, although Māori mothers were more likely than non-Māori mothers to have spent some time as a sole parent, regression models showed that when the effects of all other variables were statistically controlled for, Māori women were no more likely than other women to be a sole parent (Dharmalingam et al., 2004). In GUiNZ, at age four about 26 percent of Māori children, 40 percent of Pacific children and 32 percent of Asian children lived in extended family households. For New Zealand European children, it was much lower at just 8 percent (Morton et al., 2017, p. 39).

A consistent finding in the literature is that sole-parent families have, on average, lower living standards, less income, fewer assets, and pay a larger proportion of their income on housing, compared with other families (Families Commission, 2010). A number of studies have shown that when recessions occur, they tend to disproportionately and negatively impact Māori populations, with those impacts persisting for longer (Blakely & McLeod, 2009; Cochrane & Pool, 2017). Single-parent households are likely to be most affected by external shocks, such as economic recessions, which in turn affect income inequality, unemployment and housing tenure (Cotterell, Wheldon, & Milligan, 2007; Kiro, von Randow, & Sporle, 2010).

These studies provide valuable insights into the circumstances of tamariki Māori at a specific point in time, but there is little research on the transitions of tamariki Māori into different kinds of family living arrangements over their childhood. This gap is important because cross-sectional estimates can be misleading. In the United States, while point estimates indicate that most children live with both biological parents, life course estimates suggest that more than half of all children will spend some time in some ‘other’ kind of family structure (Bumpass & Lu, 2000). The next section considers the evidence for how changes in family and household structure impact child wellbeing outcomes.

Links between changes in family structure and child wellbeing

Family wellbeing is the most immediate and important determinant of child development and wellbeing (Moore & McDonald, 2013; Moore et al., 2015) and is often a focus for policy and programmes that aim to enhance children's wellbeing, including health, cognitive, and psychosocial outcomes (Shonkoff, Boyce, & McEwen, 2009). Families provide an immediate support structure, opportunities for income and social status, and the occupational and education environment for children (World Health Organization, 2008). Instability in the family context can impact specific developmental outcomes through these broader determinants of child wellbeing. Family stability is distinct from the quality of children's relationships with their parents, and between family members (for more on the latter, see Clark et al., 2011; Waldfogel, Craigie, & Brooks-Gunn, 2010).

The consequences of family instability

A growing body of research is showing that family instability has negative consequences for children's and adolescents' behavioural adjustment and school performance. This is independent of family structure at any point in time (Cavanagh & Huston, 2006; Fomby, Mollborn, & Sennott, 2010). Research on the influence of family structure instability on child development and wellbeing has often focused on socio-emotional, psychological, and cognitive development in childhood and adolescence.

Parental separation

Commonly studied is the role of divorce or parental separation, which is also one of the well-described adverse childhood experiences indicators known to have a cumulative effect on a range of health and social problems across the lifespan (Felitti et al., 1998). Meta analyses by Amato and Keith (1991) and Amato (2001) found divorce during childhood was correlated with decreased school achievement, behaviour and conduct issues, decreased self-confidence and self-concept, and poor social relations. In international studies, parental divorce or separation has also been associated with poorer psycho-cognitive outcomes at later stages of childhood (Cavanagh & Huston, 2008) and young adulthood (Fomby & Bosick, 2013; Fowler, Henry, & Marcal, 2015).

In Aotearoa NZ, parental separation after (but not before) school entry has been associated with lower cognitive capacity test scores (Fergusson, Lynskey, & Horwood, 1994) and later life substance use (Fergusson, Horwood, & Lynskey, 1994). Other health impacts found to be associated with parental separation include poor childhood physical health (Dawson, 1991), criminal offending (Hanson, 1999), tobacco use (Ermisch & Francesconi, 2001), alcohol use in adolescence (Pasqualini, Lanari, & Pieroni, 2018), early onset sexual behaviour (Ellis et al., 2003), and teenage pregnancy (Woodward, Horwood, & Fergusson, 2001).

Beyond single instances of parental separation, other international research has considered the adverse impact of multiple changes in parents' relationship status on childhood psychosocial development and later life wellbeing (Dunn et al., 1998; Wu & Martinson, 1993). These associations, however, commonly have small effect sizes, are not consistently determined, and causality is contested (Mackay, 2005). Family structure instability is common and complex, and the influence of more diverse instability beyond the separation (and re-partnering) of biological parents is not well studied. Further, children of stable two-parent families also experience adverse life-course effects through exposure to determinants of ill health and development, such as chronic poverty, family violence, and substance abuse. Indeed, several studies find that some children actually benefit from a parental separation (Amato, 2000; Amato & Booth, 1997; Demo & Acock, 1988).

Mediating the effects of parental separation

It is therefore essential to consider what factors mediate and moderate the effects of parental separation on child health and development. To that end, studies suggest that the ethnic–racial and socio-economic context of household composition may influence the impact of family instability through parental separation. More specifically, the effect of family instability on child wellbeing might be lower for marginalised groups, either because of social protection mechanisms, such as access to a broader network of kin and kin-like figures, or because the effects of instability are of diminished importance when compared with the stress arising from financial insecurity.

Using longitudinal data from the Add Health Survey, Fomby, Mollborn, and Sennott (2010) explored whether racial and ethnic variation in socio-economic stress or socially protective factors explained differences in the association between family structure transitions and three 'risk' behaviours (delinquency, age at first non-marital intercourse, age at first non-marital birth) for White, Black and Mexican American adolescents. Their findings suggested that both social protection and socio-economic stress[19] partially explained ethnic–racial differences in the effect of family stability on adolescent risk behaviour. Among White adolescents, social protection factors weakened the effect of family structure transitions on each of the three outcomes. The same was true for Black and Mexican American adolescents with regard to delinquency, but not the other outcomes. Among Black adolescents, those who experienced instability lived in more disadvantaged areas and that had more impact than changes in family structure. Other studies have also found smaller responses to parental change for African American teens compared with White teens (Fomby & Cherlin, 2007; Fowler, Henry, & Marcal, 2015).

19 Social protection was measured by: co-residence with extended kin; neighbourhood embeddedness; quality of mother–adolescent relationship; adolescent involvement in a romantic relationship. Socio-economic stress was measured by attributes related to the teen's home environment (maternal age at birth, maternal education, family income, maternal employment status, maternal and teen health status) and neighbourhood context, including census-derived measures and mothers' subjective assessments of neighbourhood quality.

Using data from the Children of the National Longitudinal Survey of Youth in the United States, Ryan, Claessens, and Markowitz (2015) found that children who moved into single-parent families during preschool (age 3–4) had higher behaviour problem scores than children who experienced no preschool change, but the impact was only observed for children from high-income families. The authors suggested that, in families with fewer economic resources at stake and where single-parent and blended families were more common, the disruption caused by family change may be less severe. They concluded that, "many factors other than family instability shape the course of children's behavioural trajectories, particularly for children in low-income families" (p. 123), and that it was important to pay attention to both the type of change and family context. In Te Ao Māori, part of this context is cultural context. It is to this that we now turn.

The mediating role of cultural connectedness

Evidence from international research

Links between ethno-racial identity and psychosocial functioning are well established. Ethnic identity, or how good one feels about their membership of an ethnic group, is positively associated with many characteristics. These include: self-efficacy (Smith et al., 1999), satisfaction with personal life (Houkamau & Sibley, 2011), quality of life (Utsey et al., 2002), self-confidence, purpose in life (Martinez & Dukes, 1997) and self-esteem (Bracey, Bámaca, & Umaña-Taylor, 2004; Martinez & Dukes, 1997; Phinney, 1992; Roberts et al., 1999).

The benefits of having a secure ethnic identity have been explained as both 'promotive' (ie enhancing psychological wellbeing under normative conditions) as well as 'protective' (ie mitigating psychological harm in the context of adversity), and have been demonstrated across a wide range of ethnic groups, in various socio-political contexts. (See Neblett, Rivas-Drake, & Umaña-Taylor, 2012, for a review; also Clark et al., 2011; Williams, Clark, & Lewycka, 2018.)

Much of the research on the protective nature of ethnic identity has focused on psychological responses to the experience of ethnic discrimination. These studies have demonstrated that ethnic pride buffers the detrimental effects of ethnic discrimination on self-esteem (Romero & Roberts, 2003), depressive symptoms (Bombay, Matheson, & Anisman, 2010), academic achievement and antisocial behaviours (Wong, Eccles, & Sameroff, 2003).

A consensus regarding the mechanism by which ethnic identity enhances wellbeing has yet to be reached. A growing body of theoretical and empirical work, however, suggests that having a secure ethnic identity is linked to the use of adaptive coping strategies, such as social support. This identity also makes one less likely to use maladaptive coping strategies, such as internalising and externalising behaviours (see Neblett, Rivas-Drake, & Umaña-Taylor, 2012).

Sarche and Spicer (2008) described how social support from extended family can lead to psychological wellbeing for children in culturally embedded American Indian and Alaska Native communities. They noted the close relational bonds formed between children in these contexts with members of their extended families as well as non-kin tribal members. These significant others guided children's behaviour and transmitted the cultural values by which tribal members lived. Sarche and Spicer suggested that this would enhance the children's resilience to mental health issues later in life.

The role of family values in promoting mental wellbeing has also been demonstrated empirically. McCubbin (2006) measured the ethnic schema (ie the cultural values, beliefs, expectations, and priorities) of Native Hawaiian families, and found that family ethnic schema predicted individual psychological wellbeing. McCubbin accounted for this relationship by suggesting that a strong ethnic schema provided the family with a shared worldview, determining how information and behaviours were to be evaluated, and guiding problem solving behaviours. Similarly, Smith et al. (1999) described the protective nature of a strong sense of belonging and conformity to the behavioural norms of an ethnic group, to explain the finding that ethnic identity predicted self-efficacy, which in turn predicted prosocial attitudes.

Evidence from Aotearoa NZ research

In Aotearoa NZ, Durie has described Māori cultural identity as a 'critical prerequisite' of wellness (1997), and has suggested that Māori culture "provides a value system and a framework for living" (2003, p. 62). In a sample of Māori adults (n = 632), Muriwai, Houkamau, & Sibley (2015) found that Māori cultural efficacy (the ease one has engaging in Māori contexts) served as a buffer against psychological distress. On this basis, they recommended that Māori culture be promoted from an early age (also see Webber, 2012).

While evidence presented earlier in this report suggests that a stable two-parent household structure may be conducive to optimal psychosocial development, there is some evidence that other family types may be more conducive to the development of secure ethnic identity. For example, Kukutai, Sporle, and Roskruge, in their Families and Whānau Status Report (2015, p. 110), noted that:

The level of engagement with Māori institutions, including marae and kaupapa Māori education, varies significantly across whānau. Māori single parents and those living in multi-whānau households tend to be more involved with Māori institutions than other whānau. Both children and adults living in single-parent whānau have greater access to te reo Māori in the home. The cultural resources that exist within single-parent whānau and multi-whānau households are an important feature that, until now, have been largely overlooked... Māori single parents with dependent children have a strong sense of identity and belonging as Māori, which they are able to draw on as a personal and whānau resource. These whānau enjoy rich cultural connections to other Māori and are actively engaged in Māori communities and institutions... Many young tamariki in single-parent whānau have meaningful opportunities to develop and sustain te reo Māori in varied contexts. In the 2013 Census nearly one-third of these children lived in a family where at least one person could hold a daily conversation in te reo.

– Kukutai, Sporle, & Roskruge (2015) p. 110

The cross-sectional nature of Te Kupenga Māori Social Survey precludes causal analysis. However, the qualitative literature suggests that those with strong ties to Te Ao Māori may be less oriented towards the 'norm' of a nuclear family concept and thus be more likely to be part of different household configurations including living with other kin. Whether cultural connectedness buffers the effects of family change on child wellbeing, or is associated with factors that predict both family stability and child wellbeing, is a question that is explored in the next section. Most research on ethnic identity and psychosocial wellbeing has been conducted with samples of adults or adolescents, and there are complex relationships likely between ethnic identity, whānau structure, and psychosocial wellbeing. Therefore, the GUiNZ offers a unique opportunity to explore and tease apart these relationships as they exist for young tamariki Māori.

Part 2: Analysis

Section summary

In this section, we build on the literature cited so far by analysing contemporary data sources focused on New Zealand children generally and tamariki Māori specifically. By doing so, we extend the understanding of children's family structure experiences and show how those experiences are associated with early childhood development. We also focus on the role that diverse family structure experiences may play in promoting other resources that support healthy child development, such as enhancing cultural identity and connectedness.

- Family structure: Tamariki Māori are more likely to spend some time in a sole-parent household than other children. The considerable churn within the population of single-parent households is often hidden in point-of-time cross-sectional data sources, such as census taking.
- Family change: Children born into two-parent homes are less likely to experience a change in family structure. Family structures, other than the nuclear family, experience more fluidity throughout childhood in terms of household composition.
- Family structure and change trajectories: Most tamariki Māori are raised by two parents. In contrast to stereotypes of entrenched sole parenthood, living consistently with a sole mother is a rare experience for tamariki Māori.
- Those tamariki Māori who experience alternative family structures and instability are more likely to have younger mothers who have a less traditional education path, and live in households and communities with constrained access to resources.
- There is no evidence that family trajectories on their own affect either tamariki cognitive development or socio-emotional development. These are more strongly influenced by broader environmental, educational, and socio-economic factors. Higher levels of cultural connectedness among tamariki Māori are found in those who have experienced more diverse family structures and whose mothers identify as Māori, and are younger, with low levels of education. The higher level of cultural connectedness of those tamariki Māori who have experienced diverse family trajectories appears to have a positive influence in strengthening their levels of effortful control or self-regulation.

Changing family structure of tamariki Māori

Analysis

We begin by providing a statistical descriptive analysis of family structure and changes in family structure using population-level data. This description replicates and extends the earlier literature on family structure experiences among children using the most recent cohort of children for whom their entire childhood can be examined in the available data, that is those born between 1997 and 2001.

Data

We used data from the NZLC for census years 2001, 2006, and 2013. In addition to being the most recent cohort of children for whom we could examine family structure over their entire childhood they are also census years where family structure[20] and ethnicity are measured consistently over time. At the time of the 2001 Census, these children were aged between 0–4 years. They were aged between 5–9 years at the 2006 Census and between 12–16 years at the 2013 Census. Census 2013 was delayed by two years due to complications in data collection efforts stemming from the 2011 Christchurch earthquake.

We selected children who were able to be linked across all three censuses by Stats NZ. Overall, 59 percent of the child population aged 0–4 years in 2001 and captured in the linked census files was linked to data in the two subsequent censuses (2006 and 2013). Among tamariki Māori, this drops to 53 percent. Some of the 'missed' links can be attributed to demographic factors, such as emigration and mortality, but a larger proportion of these false negatives are likely due to incomplete or inconsistent identifying information on children, which means they are not able to be linked. Despite this issue, research examining the consequences of linkage rates suggests that false positives – links made that connect people's data incorrectly – may introduce more 'noise' and be more problematic than false negatives (eg those that are dropped from the analyses because they cannot be linked) (Harron et al., 2017).

To further explore how excluding children who were not able to be linked might influence our analyses, we examined differences in the findings between those who were able to be linked, and that of the general population (those linked and unlinked). For the general population, we found differences at the first census wave (2001), whereby children in the linked census were more likely to be in a two-parent only household (65 percent) versus those in the linked and unlinked sample (60 percent). There was very little difference in family structure between samples at subsequent waves (2006 and 2013). These patterns were similar in the tamariki Māori sample.

Overall, discrepancies due to linkage rates likely involved excluding those who were more likely to be in diverse family structures at the first wave (ie the 2001 Census). Importantly, however, these patterns in family structure by linked versus unlinked census were similar for the general population and Māori population.

20 The classification of family types in the census focus on three main concepts: 1) couple without children, 2) couple with children (dependent or adult), and 3) one parent with children (dependent or adult). Some households contain more than one family type, and Māori and Pacific children are more likely to live in multi-family households.

We also note two other limitations in these analyses. The first is regarding family structure. In these analyses we do not determine whether the adults assigned a parent role in the home are the same person across census waves. Secondly, it is not possible to examine family change between census waves. That is, although a child may be in a two-parent household in 2001 and 2006, as an example, we are not able to determine whether a break up and re-partnering has happened during that period. These two limitations almost certainly undercount the number of transitions in family structure across the period.

Findings: Family structure

Table 1 shows the distribution of tamariki Māori family structure in all three censuses, with figures for the entire linked sample (Māori and non-Māori) shown for a wider comparative context. The trends observed are consistent with the patterns described in the literature. In 2001 and 2006, when children were aged 0–4 years and 5–9 years respectively, 50 percent of tamariki Māori resided in a two-parent only family, which was much lower than the proportion of all children (65 percent and 62 percent in 2001 and 2006, respectively).

Over time, tamariki Māori were less likely to be in a two-parent only home, compared with all other children, and this dropped to 46.3 percent by the time they were 12–16 years old (a reduction of 3.6 percent from when they were aged 0–4 years). The share of all children living in a two-parent household declined to 59.0 percent (6.5 percent less than 2001), which was an absolute and relatively slightly steeper decline than for tamariki Māori. The final column of table 1 shows the proportion of children that were 'ever' in a family with two-parents only. As expected, the share of tamariki Māori ever living in a family with two-parents only (67.5 percent) was significantly lower than among all Aotearoa NZ children (80.2 percent). Although the proportion of the tamariki Māori cohort living in a sole-parent only family was relatively stable over the three census periods (between 40–41 percent), this masked a higher level of transitions in and out of this household type. Thus, nearly 64 percent of tamariki Māori had experienced time in a sole-parent only family before they were in the 12–16 year age group, compared with 52.6 percent of all children.

Table 1: Family structure from 2001 to 2013 in the New Zealand Longitudinal Census: Linked sample

	2001 (0–4 years)		2006 (5–9 years)		2013 (12–16 years)		Ever experienced	
	n	%	*n*	%	*n*	%	*n*	%
All children								
Family structure								
Two parents	61,740	65.0	58,986	62.1	55,590	58.5	76,251	80.2
Single parent	28,527	30.0	29,040	30.6	31,809	33.5	49,992	52.6
All else	4,767	5.0	7,008	7.4	7,635	8.0	13,815	14.5
Tamariki Māori								
Family structure								
Two parents	10,698	49.9	10,641	49.6	9,921	46.3	14,466	67.5
Single parent	8,781	41.0	8,337	38.9	8,784	41.0	13,623	63.6
All else	1,956	9.1	2,457	11.5	2,733	12.7	4,854	22.6

Findings: Family change

Table 1 shows how the share of tamariki Māori living in a particular type of family structure changed as they aged, as well as the proportion that 'ever' resided in a particular family type. It does not, however, account for transitions across different family structures.

Table 2 shows that, for half of tamariki Māori (50.0 percent), there was no reported difference in family structure at each census wave, a figure that was somewhat higher for children overall (55.6 percent). We again note two major limitations. First, we cannot detect changes that might have occurred between censuses (ie multiple changes within the intercensal period) and, second, there could be more substantive changes in household members in the 'all else' category.

Among tamariki Māori living in a two-parent only family structure in 2001 (aged between 0–4 years), just under 60 percent were still in a two-parent family structure in 2006 and 2013. The share was slightly higher for all children, at 65 percent. For tamariki Māori in a sole-parent only home in 2001, only 45 percent were still in a sole-parent household in 2006 and 2013. For non-Māori children, it was slightly lower at 42 percent.

Put another way, tamariki Māori living in single-parent only homes were less likely than their counterparts in two-parent homes to remain in the same household type. Thus, of all Māori children aged 0–4 years who were residing in a single-parent only household in 2001, 55 percent had subsequently lived in some other kind of household-family arrangement before the age of 17. In line with earlier research, these findings show that children born into two-parent homes are less likely to experience family structure change, and that children living in family structures, other than the nuclear family, experience more fluidity throughout childhood in terms of household composition.

Table 2: Family structure transitions from 2001 to 2013 in the New Zealand Longitudinal Census: Linked sample

	Total		Family structure at 2001 census					
			Two parents		Single parent		All else	
	n	%	*n*	%	*n*	%	*n*	%
All children								
Transitions								
No change	52,857	55.6	40,119	65.0	11,853	41.6	885	18.6
1 change	32,430	34.1	16,251	26.3	13,170	46.2	3,006	63.1
2 changes	9,747	10.3	5,367	8.7	3,504	12.3	876	18.4
Tamariki Māori								
Transitions								
No change	10,725	50.0	6,336	59.2	3,954	45.0	438	22.3
1 change	8,139	38.0	3,324	31.1	3,657	41.7	1,158	59.3
2 changes	2,571	12.0	1,041	9.70	1,173	13.30	363	18.50

Family structure and change trajectories during early childhood among tamariki Māori

Noting that family structure over the children's life course is fluid, we next look at the detailed data on family life and child development in GUiNZ to see what this era of family fluidity looks like over early childhood.

Analysis

Given that structure, change, type of change, and timing of transitions matter, we applied social sequence analysis to the GUiNZ data to examine patterns of family structure during early childhood. Social sequence analysis is a statistical approach used to examine patterns of social events or circumstances over time, where pairwise dissimilarities are computed between sequences. A clustering process is applied to the dissimilarities to determine the appropriate typology to group individual trajectories of experiences (Ritschard & Studer, 2018). Although social sequence analysis was introduced in the 1980s, it has only recently become more prevalent in the social sciences (Aisenbrey & Fasang, 2010).

For this study, this statistical approach allows for the consideration of patterns in family structure type, the stability and types of changes in family structure, and at which developmental period those changes happen. This approach provides a more holistic way of capturing the actual 'life course' of children's early family experience (Abbot & Tsay, 2000; Gauthier et al., 2010).

Analytically, sequence analysis also provides a more manageable way to categorise the numerous trajectories of experiences. As an exercise, we also hand-coded the family structure trajectories in GUiNZ for the first four waves in the tamariki Māori sample. We identified 59 unique trajectories. Using these trajectories, however, with their small cell sizes and the large number of variables, would not lend itself to a meaningful analysis.

The social sequence approach has drawbacks, however. For example, grouping 'like' but not identical experiences into clusters introduces noise into the measures. The exploratory nature of sequence analysis has also been criticised for being atheoretical. That is, the clustering of trajectories is guided by the data and fit statistics versus grounded in the theoretical literature on what patterns of experiences potentially matter.

To our knowledge, no other study on New Zealand families has examined structure and change across early childhood, nor applied social sequence analysis to describe trajectories of family structure experiences.

Data

To conduct these analyses, we used GUiNZ, which is a diverse birth-cohort sample of New Zealand children. Overall, the final analytical sample for this study consisted of 1,349 children who were identified as Māori by a parent (almost always their biological mother) at the 9-month-old interview and who were interviewed at the 54-month data collection wave (ie the 4.5-year-old data collection wave when child outcomes were assessed). Based on these criteria, 194 tamariki Māori were dropped from the study (12.6 percent of the Māori sample).

As expected, these children were less likely to be in a two-parent only family structure (descriptive statistics are presented in table 4 in the appendix). Their mothers had lower levels of education, were younger, less likely to be employed, and more likely to be Māori themselves. These children were also more likely to live in poorer households and communities at the 9-month wave. In this way, those children who were lost to attrition likely represented those who would have also reported lower levels of cognitive and socio-emotional development. Because those who attrited were less likely to be in the most advantaged family structure and more likely to have socio-demographic characteristics associated with lower cognitive and socio-emotional development. This means the children remaining in the sample who were in more diverse family structures were likely more advantaged.

These longitudinal data allowed for the examination of family structure over multiple time points across early childhood. In this report, we examine family structure data available at antenatal, and when the focal child was 9-months, 23-months (ie nearly 2-years old) and 45-months old (ie nearly 3.5-years old). Family structure was not available at the 54-month wave (ie when the child was nearly 4.5-years old) – the wave in which child outcomes were measured. In total, we were able to include family structure measures at four time points. In the externally available GUiNZ dataset, family structure is coded by the GUiNZ research team into four mutually exclusive groups from a household roster[21] reported by the primary respondent (mostly the biological mother). These are:

1. living with two parents and no other adults
2. living with one parent and no other adults
3. living with one or two parents, and other adults who are kin
4. living with one or two parents, and other adults who are not kin (and potentially other adults who are kin).

It is important to note four primary limitations in this conceptualisation of family structure. First, we cannot determine whether, in households that include other adults, one or both of the children's biological parents are present.

Second, in two 'parent' households, we do not know whether the parents are biological. For example, a mother's subsequent partner could be identified as a 'parent', although this is likely a different type of relationship and may have different associations with child development than if the partner is the child's biological father. It also makes it more difficult to capture instability (which is discussed shortly).

21 A household roster contains information on who was living in the home and their relationship to the focal child. These data are typically provided by the primary parent, typically the biological mother. The household roster grid data are not available to external users of GUiNZ.

Third, we do not know the relationship of other adult household members to the focal child. An aunt or grandparent will likely provide a different source of support for co-resident children than a flatmate or boarder. In addition to limitations with that classification of family structure, we also note that – similar to almost all other studies using longitudinal data to examine family change – we are likely undercounting the true level of family instability experienced by children because the data waves represent a series of snapshots in time. That is, parents are asked for a household roster at each interview, and with many months (sometimes years) between interviews, it is likely that partners and other household members have rotated in and out of the household and will therefore not be captured by point-in-time household rosters.

Fourth, at the time of writing, there was no family structure variable at the 54-month interview, again likely contributing to an undercount of family structure transitions. We also note that the categories used here are not comparable with those used by Stats NZ to classify family types in the census. For example, sole-parent families in the census may be living in households with other families.[22]

Despite these limitations, however, we argue that these external data provide the most comprehensive and current snapshot of New Zealand children's experiences in two-parent, single-parent, and other types of household-based families.

Other variables

In addition to family structure, we also employed a wide array of covariates in the analyses, including information on the characteristics of mothers, families, and the children themselves. These variables were included in the multivariate models to examine whether they were predictors of family profile membership (net of each other) and to determine whether the characteristics that were associated with family profile membership explained any disparities in child outcomes. The variables included have been shown in the literature to be associated with family structure and stability and/or child outcomes. In line with an ecological systems approach to understanding human development (Bronfenbrenner, 1979), we include information at multiple 'levels'. This reflects the interactions between family, neighbourhood and region that are thought to shape family processes and child development.

These covariates were:

- mother's characteristics
- family characteristics
- child characteristics
- geographic level variable.

Several characteristics for mothers were included. These were her educational attainment (dummy variables indicating whether the mother had no secondary school qualification, secondary school/NCEA 1–4, diploma/trade certificate/NCEA 5–6, or a bachelor's degree), age (continuous in years), employed in paid work (1 = yes), and whether she identifies as Māori (1 = yes). All these were measured at the antenatal wave.

22 Household composition is a separate classification from family type and includes one-family, two-family and three-or-more family households.

Family characteristics included a household material hardship measure collected at the 9-month interview. (The 0–6 scale indicates the number of items on material hardship that were affirmatively responded to, including whether they put up with being cold to save on heat expenses or felt forced to buy cheaper food.[23]) Other indications were the number of siblings in the home at the antenatal wave (0–6 or more scale) and the number of residential moves since the focal child's birth (0–4 or more scale).

Child characteristics included whether the child was female (1 = yes), whether they were born at a low birth weight (less than 2,500 grams; 1 = yes). They also included whether their mother reported a developmental problem by the 9-month interview (1 = yes).

Geographic level variable, that is, whether the family lived in a rural area at the antenatal interview (1 = yes) and their district health board at the 9-month interview (dummy variables indicating Auckland, Counties Manukau, Waikato, or elsewhere at the 9-month wave) as an indicator of their regional location. A measure of community-level poverty was also included in the models, given the association between place-based poverty above and beyond individual- or household-level poverty, for children's wellbeing (Brooks-Gunn, Duncan, & Aber, 1997). This meshblock deprivation (to denote the formal statistical geographic unit that the index is measured at) is measured by the NZDep2006 Index of Socio-Economic Deprivation, and is a construct consisting of 10 items aimed at capturing community-level deprivation, including the proportion receiving a means-tested benefit, unemployed, without access to a car, and not living in their own home, among other things (Salmond, Crampton, & Atkinson, 2007). This measure was captured by hardship level at the antenatal wave.

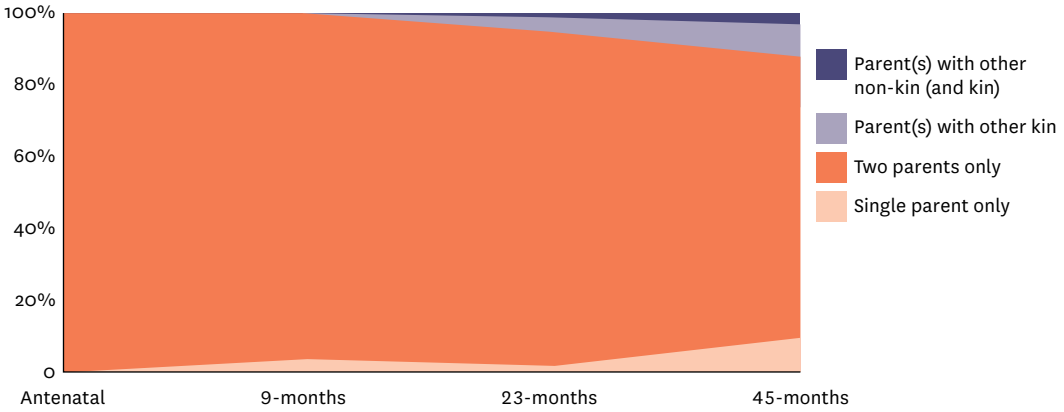
Family trajectory profiles

The results of the sequence analysis revealed four typical profiles of family structure and stability for tamariki Māori over early childhood. These profiles are represented in figure 1 and figure 2. Table 5 displays family structure across the waves by the sequence profiles, whereas table 6 describes the sample socio-demographic characteristics of these profiles (see the appendix for further detail).

Figure 1 represents the profile that just over half tamariki Māori experienced (55 percent of the sample; n = 740). In this profile, most children were born into a home with just their mother and father and stayed consistently living with their parents during their first four years of life. That is, a large majority of children in this profile were living with both parents at each wave. This group also experienced the most stability, with an average of 0.4 changes during the study period, compared with 0.7 among the total sample.

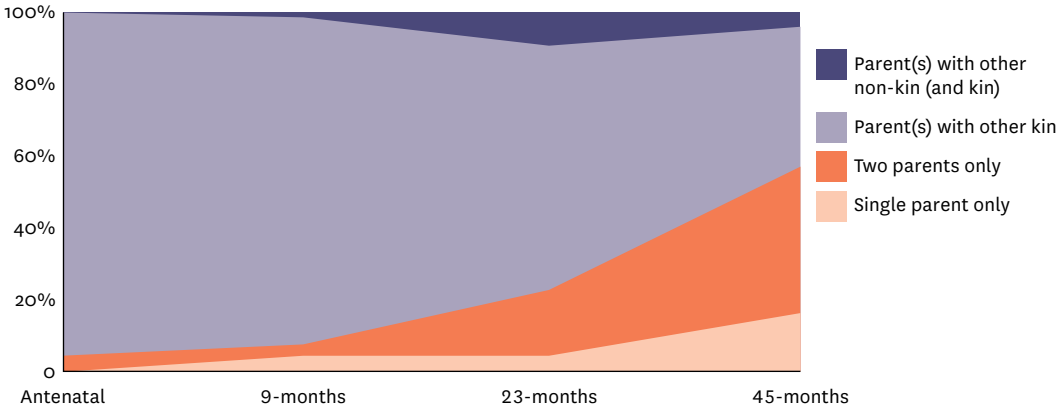
23 The items included in the index are drawn from NZiDEP: The New Zealand Index of Socio-economic Deprivation for Individuals: www.otago.ac.nz/wellington/otago020233.pdf. It asked: In the last 12 months have you personally: 1) Been forced to buy cheaper food so that you could pay for other things you needed?, 2) Put up with feeling cold to save heating costs?, 3) Made use of special food grants or food banks because you did not have enough money for food?, 4) Continued wearing shoes with holes because you could not afford replacements?, 5) Gone without fresh fruit and vegetables often, so that you could pay for other things you needed?, 6) Received help in the form of food, clothes or money from a community organisation (like the Salvation Army)?

Figure 1: Family trajectory: Type 1: Stable two parents



The second most common experience is represented in figure 2. One-third of the sample (n = 448) fell into this profile. This typically reflected living with one or both biological parents with other kin adults in the household, transitioning sometime in early childhood (between the 9–23 month waves) to a two-parent household. Children with this family profile experienced 1.0 transitions, on average.

Figure 2: Family trajectory: Type 2: Living with kin, late transition to mostly two-parent family



The remaining children were split evenly in the final two profiles (6 percent in each group). Figure 3 displays a pattern of children living with one or both parents but also with other adults (kin and non-kin), with multiple changes in family structure (ie high instability) over early childhood (n = 80). These children experienced 1.4 changes, on average. The final group, represented in figure 4, consists of children who experienced early life living with one parent only (almost exclusively their mother), but with a transition to some other family structure type much later during early childhood (between the 23–45 month waves) (n = 81). Children in this group experienced 0.6 transitions, on average. Interestingly, just 2.5 percent of the total sample reported living with a sole mother at every time point.[24]

24 We note for context that just 2.5 percent of children were reported to be living with only a sole mother at each time point. However, we do not examine this group separately in the multivariate regression analyses. They are subsumed in the sequence with the most similar experience, "Type 4: Single parent with very late transition to living with others" as part of the social sequence identification process.

Figure 3: Family trajectory: Type 3: Living with others with instability

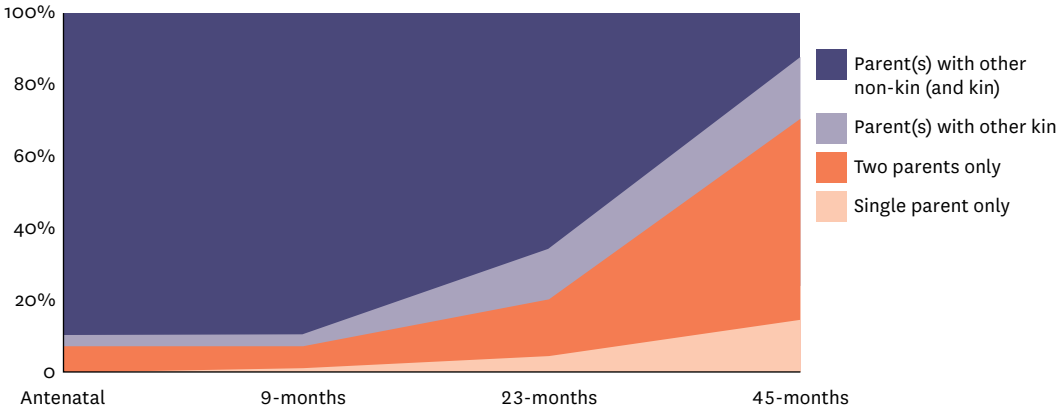
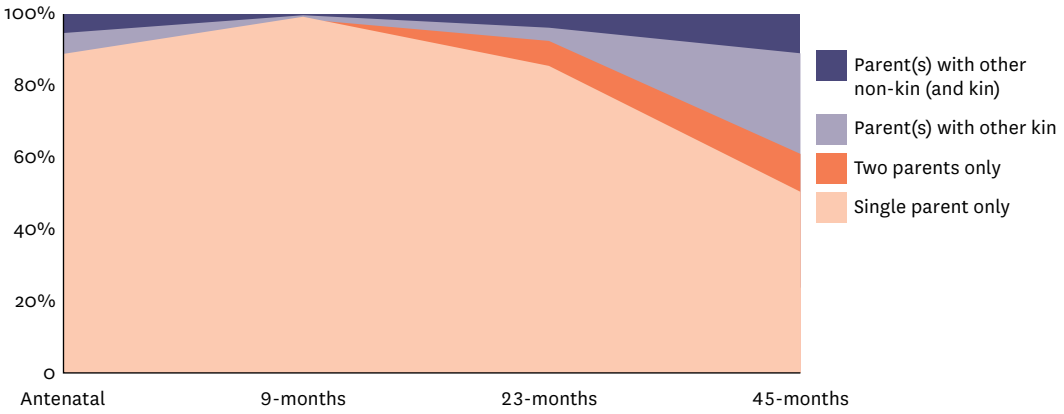


Figure 4: Family trajectory: Type 4: Single parent with very late transition to living with others



Overall, then, these trajectories point to the primary experience of tamariki Māori as one of being raised by two parents. In contrast to stereotypes of entrenched sole parenthood, living consistently with a sole mother experience is a rare experience for tamariki Māori in GUiNZ.

Predictors of family trajectories

Who experiences which family sequence is not random. Using multinomial regressions, we examined predictors of family profile membership, that is, what the characteristics are of mothers, families, and children that make it more or less likely they will experience a particular family trajectory. Next we highlight the main socio-demographic characteristics that were statistically associated with increased or decreased odds of family profile membership.[25]

Maternal characteristics

Figure 5 displays maternal characteristics that predicted family trajectories, presenting the relative risk ratios from the multinomial regressions.

25 Full model results can be found in Table 7 in Appendix B.

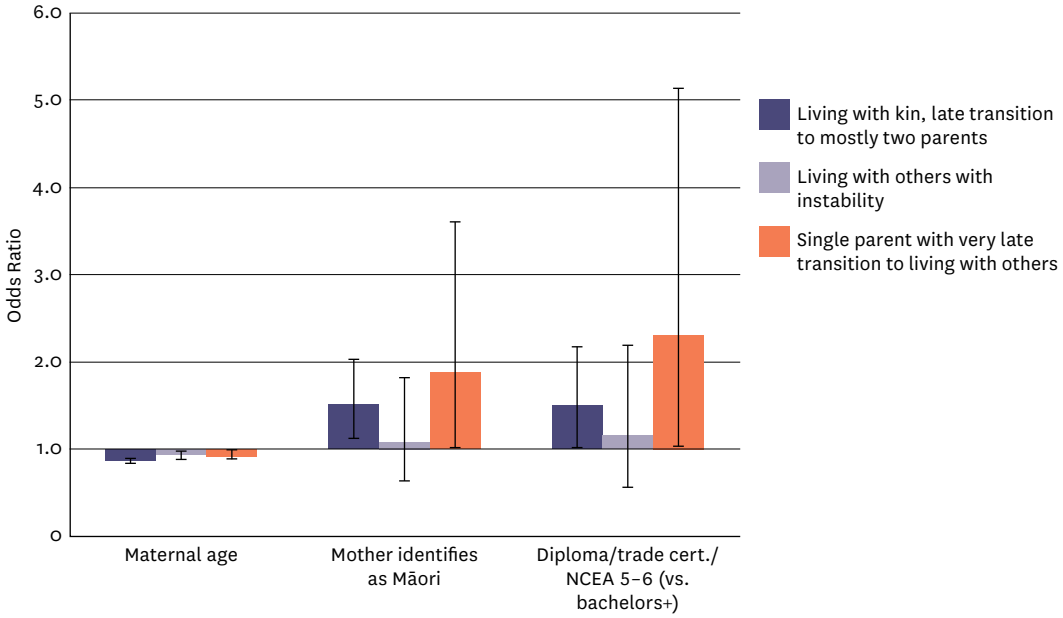
First, mothers' ages were associated with decreased odds of being in the stable two-parent profile, compared with the other three family profiles. Put another way, children of younger mothers were more likely to experience family trajectories over early childhood that did not involve living consistently in a two-parent family.

Thus, each additional year older a mother was, the likelihood of being in the living with other adult kin profile decreased by 12 percent ($p < .001$), and the likelihood of being in the living with other non-kin adults with instability ($p < .05$) or living with a single parent with a late transition ($p < .05$) profiles was decreased by 6 percent.

Having a mother who also identified as Māori[26] increased the odds of being in the living with kin with late transition profile (51 percent increase; $p < .001$) and the sole parent profile (87 percent; $p < 0.10$), compared with living with two parents only consistently over early childhood.

Finally, children whose the mother's highest level of education (eg was a diploma, trade certificate or National Certificate of Educational Achievement (NCEA) 5–6 versus bachelor's degree or higher) was associated with increased odds of being in the living with kin (50 percent; $p < .05$) or living with a single parent (1.3 times more likely; $p < .05$) profiles.

Figure 5: Maternal predictors of family profiles (reference category: Stable two parents)



Note: NCEA = National Certificate of Educational Achievement. Interval bars represent 95% Confidence Intervals.

It is important to highlight the maternal characteristics that were not significantly associated with family profile membership. These were mothers' employment at the antenatal stage and their highest educational achievement being at a secondary school level (versus a bachelor's degree or higher).

26 Just over two-thirds (67.5 percent) of the mothers in our GUiNZ sample identified as Māori.

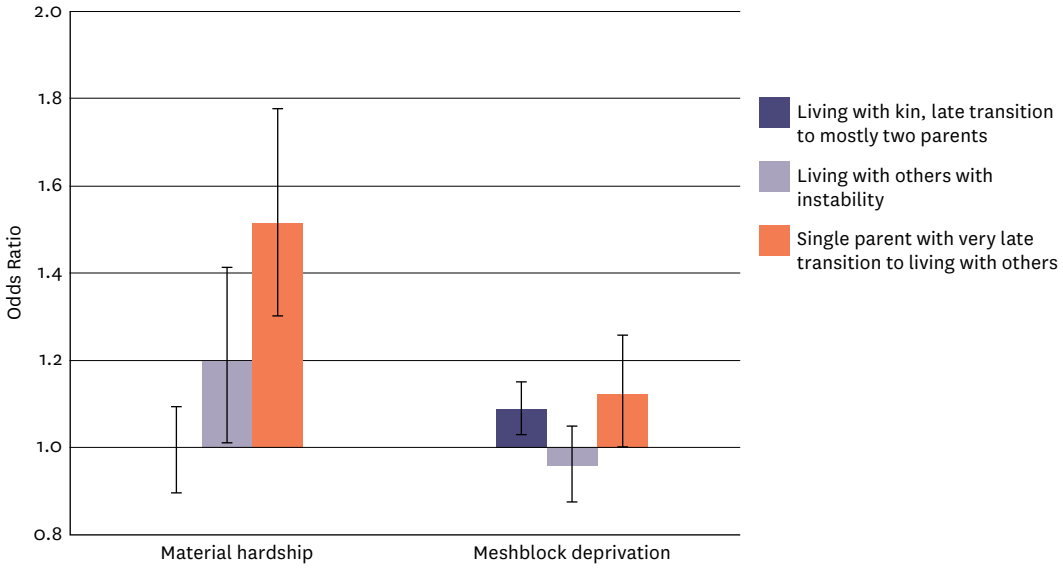
Family and geographic predictors: material hardship

In examining family and geographic predictors, we noted that the main factor was material hardship. Figure 6 presents the significant associations. A material hardship index measure collected at the 9-month interview was associated with higher odds of living with a sole parent with a late transition (50 percent increased odds for each one-point increase in the index; $p < .001$).

Net of family level hardship, meshblock deprivation had an additional association with family profile membership. Meshblock deprivation at the antenatal wave was associated with increased odds of being two particular profiles. These were the living with kin with late transition (9 percent increased odds for each one-point increase in the meshblock deprivation index; $p < 0.01$) and single parent (12 percent increase; $p < .05$) profiles, compared with being in the stable two-parent profile. Meshblock deprivation was associated with decreased odds of being in the living with parents and other non-kin adults profile (4 percent decrease; $p < .05$), compared with the stable two-parent profile.

Factors such as living in a rural area, the number of siblings in a household and the region of the country were not statistically significant predictors of family profile membership, with two exceptions. First, living in Waikato was associated with a lower likelihood of being in the living with kin with a late transition profile. Second, living somewhere other than the GUiNZ's main study areas was associated with a higher likelihood.

Figure 6: Material hardship and meshblock deprivation predictors of family profiles (reference category: Stable two parents)



Note: The material hardship odds ratio estimate for 'Living with kin, late transition to mostly two parents' is 1.0, and hence the bar for this estimate is not displayed on this graph. Interval bars represent 95% Confidence Intervals.

Overall, and in line with the literature, alternative family structures and instability are more likely to be experienced by tamariki Māori with younger mothers, with mothers who have a less traditional education path, and who live in households and communities with constrained access to resources.

Family trajectories and early childhood development

We next examine whether these family structure and stability profiles were associated with child outcomes at the 54-month interview when most children were around 4.5 years old and would soon begin their transition into formal schooling.

Analysis

To examine whether these profiles were associated with child development, we employed structural equation models (SEM). This allows us to model the association between family structure trajectories and child outcomes in a multivariate framework, controlling for factors that may be endogenous to both selection into various family structures and child outcomes, such as material hardship. Importantly, SEM allows us to simultaneously predict latent constructs – concepts through which we have no direct measure but a set of variables that tap into the underlying development construct. These analyses were conducted in the software Stata, with maximum likelihood for missing values, or full information maximum likelihood to handle the small amount of missing data.

We focus on the cognitive and socio-emotional aspects of development, in line with the literature that points to these measures as early predictors of children's lifelong developmental trajectories. We examine cultural connectedness as a developmental outcome in line with an emerging body of research that has highlighted the importance of cultural connectedness as a protective and resilience resource connected to children's health and wellbeing, particularly among Indigenous populations (eg Bracey, Bámaca, & Umaña-Taylor, 2004; Houkamau & Sibley, 2011; Martinez & Dukes, 1997; Smith et al., 1999; Utsey et al., 2002; Webber, 2012).

Cognitive development is a latent construct identified through 10 items that tap into aspects of vocabulary, numeracy and literacy – key cognitive areas that also indicate school readiness. These include four items from the 'Names & Numbers test' (eg counting and writing skills) (de Lemos & Doig, 2000) and the Dynamic Indicators of Basic Literacy Skills assessment (measure of letter-naming fluency and early predictor of reading skills) (Good & Kaminski, 2002). There are also five items from the Parent Report on Oral Language & Literacy (parents' report on their children's language use) (Dickinson, McCabe, & Sprague, 2001). In lieu of a more standardised and validated measurement tool that broadly captures cognitive development, the latent construct derived from these multiple assessment tools provides a richer global measure of cognitive development than any single item. It is consistent with other studies using GUiNZ data (Bird, et al., 2019).

Measures that approximate children's development

We examine four measures that approximate cognitive and socio-emotional development and cultural connectedness at the 4.5 year old data collection wave.

Two measures tapped into two aspects of socio-emotional development. These are:

1. negative affect: children's frequency of experiencing negative emotions and lack of positive emotions
2. effortful control: the extent children manage their attention and control their behaviour.

Each measure was constructed from 12 validated items (averaged) from the parent-reported Child Behavior Questionnaire Very Short Form (CBQ-VSF) (Putnam & Rothbart, 2006). The CBQ-VSF is an externally validated and widely used tool for examining multiple dimensions of young children's behavioural development. It performs consistently by socio-economic class, location and race in the international setting.

Like many behavioural assessment tools developed internationally, however, the CBQ-VSF has not been explicitly validated for Māori children. The Infant Behavior Questionnaire Very Short Form (IBQ-VSF), a similar tool aimed at examining infant temperament, however, has shown effective validity amongst a sample of Māori children (Peterson et al., 2017). Negative affect is characterised by higher scores on feelings of sadness, fear, anger and discomfort, and lower scores on soothability and reactivity. The internal consistency (Chronbach's alpha) for the study sample of Māori children was α = .70.

Effortful control points to the extent to which children show they can manage their attention and use controlled behaviour, particularly in situations where they may not want to. The internal consistency for Māori children in this study was also α = .70. The internal consistency for both measures was similar to that of children of all ethnicities in the study. As well as being indicators of healthy socio-emotional development, these measures are associated with later educational achievement, where children with low negative affect and high effortful control were better able to socialise with peers and learn within the structured school setting.

Cultural connectedness is a latent construct consisting of 10 items that tap into elements of language, activities and identification. These include five items on children's te reo Māori development (eg frequency of greeting people, introducing themselves, recognising and responding in te reo). There are three items on cultural activity participation (frequency of reading about ethnicity and culture, listening to cultural music, and attending cultural celebrations). There are also two items on identity. One is children's ability to communicate in te reo Māori about their iwi, hapū, mountain and river, or hometown. The second item is the frequency of parent-child discussions about differences between their culture and other ethnic groups. Although to our knowledge this latent construct has not been used before, there appeared good construct validity based on model fit statistics and internal consistency (α = .85).

Table 3 displays the key results from the SEM analyses examining the associations between family trajectories and child outcomes at the 54-month wave. The full model results are presented in Table 9 in Appendix B.

Table 3: Structural equation models predicting child outcomes at 54-month interview (n = 1,349)

	Cognitive development coefficients		Negative affect coefficients		Effortful control coefficients		Cultural connectedness coefficients	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	Child covariates	All covariates	Child covariates	All covariates	Child covariates	All covariates	Child covariates	All covariates
Family trajectory (ref: Stable two parents)								
Living with kin, late transition to mostly two parents	−1.230**	−0.177	0.223***	0.111*	−0.069†	−0.021	0.120*	0.088
	(0.360)	(0.369)	(0.048)	(0.052)	(0.038)	(0.042)	(0.05)	(0.057)
Living with others with instability	−0.091	0.185	0.086	0.016	0.039	0.063	0.207*	0.230*
	(0.692)	(0.672)	(0.094)	(0.095)	(0.075)	(0.076)	(0.103)	(0.104)
Single parent with very late transition to living with others	−2.920***	−1.166†	0.423***	0.277**	−0.025	0.002	0.328**	0.206*
	(0.692)	(0.669)	(0.094)	(0.095)	(0.074)	(0.076)	(0.105)	(0.105)

Notes: Standard errors in parentheses. *** p < .001; ** p < .01; * p < .05; † p < .10.

Model 1 (M1) displays estimates where only child characteristics (child sex, low birthweight status, developmental problem by the 9-month wave, and child's age in months at the 54-month interview) were included as controls.

Model 2 (M2) included the full set of covariates including maternal characteristics (mother's age at the child's birth, whether she was employed, whether she identified as Māori, her highest educational attainment), family characteristics (hardship index, number of siblings in the household, residential moves over the study period), and geographic indicators (meshblock deprivation, living in a rural area, and district health board as a proxy for region).

In this way, comparing across the two models gives an indication of how much of the association between family structure and child outcomes can be attributed to family trajectory experiences. We can also look at how much of that association might be accounted for by other things that are both correlated with family structure and child outcomes, such as socio-economic disadvantage and residential mobility.

Family trajectories and cognitive development

Beginning with cognitive development, Model 1 – which only included controls for child characteristics – displays a negative association between family trajectory and child cognitive development (for full models, see table 8 in the appendix). Living with kin with a late transition to a mostly two-parent family and living with one parent with a late transition were both associated with lower cognitive development scores compared with children in the stable two-parent trajectory. There was no statistical difference between children in the stable two-parent trajectory and those in the living with others with instability trajectory.

After controlling for the full set of covariates (Model 2) there were no longer any statistical differences (at traditional significance levels) between family trajectories and cognitive development. In this way, much of initial association between family profile and cognitive development was explained by factors that are associated with both family trajectories and cognitive development (eg maternal age, lower levels of maternal education, material hardship, a mother identified as Māori, living outside of Counties Manukau and Waikato, number of siblings). Child-level factors, namely low birthweight, gender and age in months at the 54-month interview (because interviews were often conducted during months either side of their birth month), were also significant predictors of variation in cognitive development.

Family trajectories and socio-emotional development

Turning to socio-emotional development, a slightly different story emerges. Model 1 again displays a significant association between two variables and negative affect (ie experiences in more diverse family structures associated with more signs of negative affect). These are: living with kin with a late transition to mostly two-parent family and living with a single parent with a late transition. The association, however, did not completely attenuate with the inclusion of the full set of covariates in Model 2. For example, children living with one parent with a very late transition to living with others were predicted to have a 0.28 higher negative affect score ($p < .05$), compared with children in the stable two-parent trajectory. This coefficient size equates to around three standard deviations above the mean, or the difference between being near the top versus the bottom on the material hardship scale.

Similarly, children living with kin with a late transition was associated with a 0.11 higher negative affect score ($p < .01$), the difference between being at a four on the hardship scale versus two (1.5 of a standard deviation above the mean).

There was no significant association between family structure and effortful control. Maternal age, child gender and child's age at the 54-month interview were the only significant factors.

Family trajectories and cultural connectedness

In a different pattern of results, being in more diverse family structures was associated with higher reports of cultural connectedness among tamariki Māori. These associations remained, for the most part, after the inclusion of the full set of controls. Based on results from Model 2 (full model), family trajectories that involved living with other adults with high instability (0.23; $p < .05$) and living in sole-parent families with a late transition (0.21; $p < .05$) was associated with higher levels of cultural connectedness, compared with children in stable two-parent households and those living with other kin adults with a late transition to two-parent households.

This finding is consistent with the associations between cultural identity and alternative household structures observed in descriptive analyses of Te Kupenga (Kukutai, Sporle, & Roskruge, 2015). With respect to maternal factors, lower levels of education, younger age at child's birth and Māori identification were also associated with higher cultural connectedness, as well as number of siblings ($p < .05$) and the child's gender (female).

Summary of family trajectory factors

Overall, compared with living in a stable two-parent family, experiencing other types of family trajectories was associated with poorer cognitive development and poorer socio-emotional development. We found, however, that the broader array of environmental, educational, and socio-economic factors (such as maternal age, education, antenatal hardship, and meshblock deprivation) explained most of this negative association. In addition, more diverse family trajectories were associated with greater cultural connectedness, compared with stable two-parent families – an association that did not decrease with the inclusion of controls in the model.

Family trajectories and the mediating role of cultural connectedness

Given the association between cultural connectedness and identity and psychosocial promotion in the literature, the final step in these analyses was to examine whether the heightened cultural connectedness associated with more diverse family trajectories may provide resources. In turn, we investigated whether these would translate into cognitive and socio-emotional development for young children.

Analysis

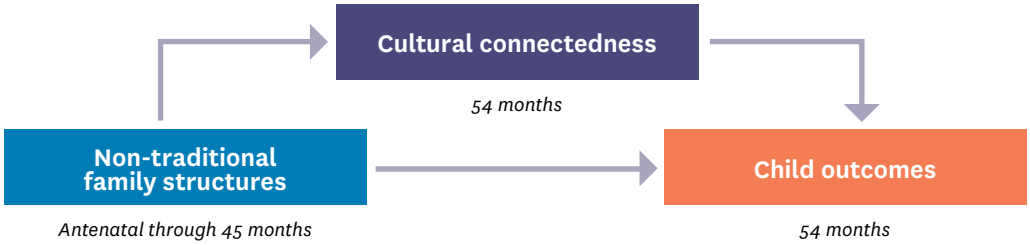
We examined this potential pathway using mediational path analysis within the SEM framework. Figure 7 displays the general conceptual model. Whereas diverse family trajectories were more likely to be associated with negative cognitive and socio-emotional development, these family trajectories were associated with higher levels of cultural connectedness, which could be resource-providing in ways that promote prosocial and cognitive development.

Our hypothesis is that children's cultural connectedness operates as a mediator between diverse family trajectories and children's cognitive and socio-emotional outcomes. Cultural connectedness and children's cognitive and socio-emotional outcomes are, however, measured at the same wave, which could create noise in the causal ordering of the pathway. To empirically check this pathway, we also modelled the mediation pathways where the association between family structure trajectories and cultural connectedness was mediated by children's socio-emotional and cognitive outcomes. We find no statistical evidence for this causal pattern, providing more confidence in our analytical models' path ordering.

In these analyses, we estimate the direct effect of family trajectories (over the antenatal to 45-month interview period) on cognitive and socio-emotional outcomes (at the 54-month wave). We also estimate the average portion of that direct effect that is explained by differences in cultural connectedness (at the 54-month wave) among those family trajectories (ie the indirect effect). This was done by simultaneously estimating the associations between family trajectories and cultural connectedness, and the subsequent association between cultural connectedness and cognitive and socio-emotional outcomes.

Similar to the earlier set of analyses, these were conducted in Stata, employing maximum likelihood for missing values for missing data. To estimate the confidence intervals for the indirect pathways, post-estimation bootstrapping was used to produce bias-corrected confidence intervals, accounting for the non-normal distribution of the data.

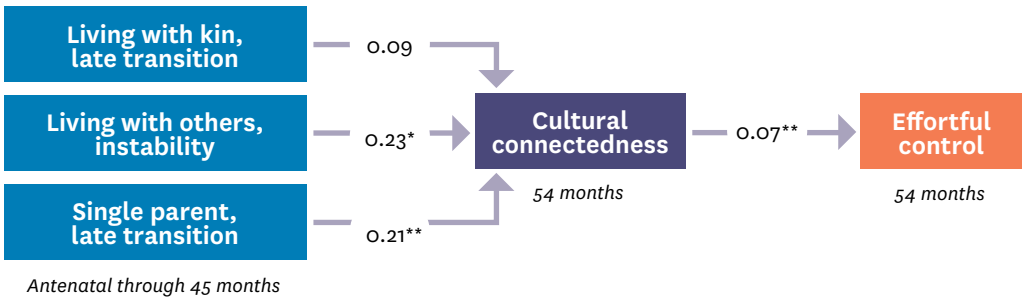
Figure 7: Conceptual model linking family trajectories through cultural connectedness to child outcomes



Cultural connectedness and child development

Overall, we tested the mediational pathway between family trajectories, cultural connectedness, and the three cognitive and socio-emotional outcomes. We found only one significant pathway for the socio-emotional development outcome of effortful control. The findings are presented in figure 8, with full model results across all outcomes presented in table 9 in the appendix.

Figure 8: Mediation path analysis: Family trajectories, cultural connectedness and effortful control (n = 1,349)



Note: * p < .05; ** p < .01.

In this model, cultural connectedness, generally, was associated with effortful control. This 'self-regulation' is particularly important for prosocial behaviour and for participating in learning environments and elsewhere. It has been shown to have ongoing effects over the life course, with higher self-control in childhood associated with greater financial stability, better health and much lower odds of criminal offending as an adult (Moffit, Poulton, & Caspi, 2013). Mediational analyses pointed to a statistically significant pathway linking diverse family trajectories to greater levels of cultural connectedness, which, in turn, was linked to higher levels of effortful control. In short, had these family structures not also been correlated with higher levels of cultural connectedness, there may have been a wider (and significant) gap in effortful control.

Part 3: Conclusion

Key study findings

Three main findings emerged from this study.

1. A stable two-parent family is the typical experience, and single-motherhood is transitory.
2. Diverse family trajectories are linked to poorer cognitive and socio-emotional outcomes but are not the cause.
3. Diverse family trajectories are associated with cultural connectedness, and this promotes socio-emotional development.

Early childhood is a sensitive period that lays the foundation for lifelong trajectories of status attainment, socio-emotional wellbeing and health. Young children spend most of their time with their family, making the family an important ecological context for their early development. In Aotearoa NZ, earlier research has documented substantial differences in family structure by ethnicity, finding that tamariki Māori are less likely to be living in homes characterised (in a Western sense) as a 'traditional' nuclear family. These families tend to have more constrained economic resources and opportunities, and encounter greater barriers to socio-economic advancement.

While these challenges have structural causes, the inclination can sometimes be to treat sole-parent households as a proxy for 'risk' and vulnerability. However, this fails to acknowledge the increasing diversity of family forms, the dynamic ways in which families are constituted and reconstituted, and the inequities in access to different kinds of resources, including cultural ones.

This study has partially tried to address this gap by examining family structure transitions across early childhood for a recent cohort of tamariki Māori. We have also tried to identify if and how these family experiences are associated with children's cognitive development, socio-emotional behaviour, and cultural connectedness.

A stable two-parent family is the typical experience, and single motherhood is transitory

The majority of tamariki Māori in the GUiNZ (55 percent) lived with both parents across early childhood, with no other adults in the home. Interestingly, although the experience of single motherhood was common, only a small number of the sample (2.5 percent) were consistently recorded as being in a single-parent household at each interview. In this way, single parenthood characterised by one parent in the home and no other support, does not represent the temporal nature of how single parenthood operates in reality. In line with earlier research, a large share of tamariki (39 percent) had family structure experiences that saw them live with other adults, aside from their parents, in their home.

Diverse family trajectories are linked to poorer cognitive and socio-emotional outcomes but are not the cause

Compared with living in a stable two-parent family, living in other family types is associated with lower cognitive and socio-emotional development. However, controlling for an array of covariates, such as maternal education, age, antenatal employment, material hardship, geographic factors, such as region, and meshblock deprivation, explains most of this negative association. These findings suggest it is not family structure or family change, as such, that is linked to child development, but the factors that are associated with – or select people into – different family forms.

Diverse family trajectories are associated with cultural connectedness, and this promotes socio-emotional development

Although not associated with differences in cognitive and socio-emotional development, diverse family trajectories were associated with greater cultural connectedness, compared with stable two-parent families. Cultural connectedness in this study consisted of mothers' reports of their child's te reo Māori use and understanding, and discussions about ethnicity, and cultural and ethnic activity participation. This shows the broad range of activities that parents do to promote their children's connection to their cultural identity.

Importantly, cultural connectedness was associated with effortful control – a socio-emotional outcome that is also associated with other prosocial behaviour that helps children in learning environments. Using mediation analyses, we found a statistically significant pathway linking non-traditional (in a Western sense) family types to greater levels of cultural connectedness, which, in turn, was linked to higher levels of effortful control. Overall, had these alternative family structures not also been associated with higher levels of cultural connectedness, there may have been a significant and wider family structure gap in socio-emotional development.

Limitations

This study was not without limitations.

Gaps in available information

First, and perhaps most importantly, our measure of family structure was not consistent with the earlier literature. Prior research on family structure and instability is primarily concerned about the presence (and/or absence) of parents and parental-like figures in the home. Ideally, for tamariki Māori, we would want to assess the influence of co-resident grandparents, aunts, and uncles on childhood outcomes, given the importance of these relationships in the literature on whānau and intergenerational relationships.

In this study, we could distinguish households where there were only one or two parents with no other adults. In households with other adults, however, we were not able to identify whether there were one or two parents also in the home. We were also not able to determine whether those household members identified as parents were the biological parents of the child, nor whether parents were the biological parents of other children in the household. Despite this issue, the incorporation of other adult household members goes beyond other studies on family instability, which tend to ignore the important role these adults may play in promoting resilience (or creating additional challenges) for parents and their children. This may be particularly acute for tamariki Māori, whose conceptualisation of whānau may extend far beyond their parents (Kukutai, Sporle, & Roskruge, 2016).

Attrition

Another limitation, and one faced by most longitudinal studies, is that 12.6 percent of tamariki Māori were lost to attrition by the 54-month wave (table 4 in the appendix). As noted previously, these children were more likely to have family characteristics that suggest they were also more likely, on average, to have lower levels of cognitive and social development. Moreover, these children were also less likely to be in a two-parent family and more likely to be in homes with other adult kin at the antenatal wave – both family structures that were associated with greater instability.

Under-reporting

In this way, the findings probably under-report family change for tamariki Māori. Taken together, these factors likely bias our results in different ways. On the one hand, we are overestimating the proportion of children who experience more stable home lives, but on the other, our estimates of child outcomes are likely to be conservative in terms of family structure profile disparities.

Correlational associations

Moreover, although we used a rigorous statistical design, the associations that we do find are correlational and we cannot infer causality. There may be factors, above and beyond those that we account for in the models, that select certain parents into diverse family structures that are also associated with our outcomes of interest. For example, those families experiencing high instability may be doing so because they are also experiencing more conflict in the home, which in turn is also associated with children's development. Future research should investigate the qualitative attributes of parental relationships and potential mediators that might explain why patterns of family structure and stability seem to matter, as was the case for negative affect.

Assumptions

In line with the previous caveat, in this study, we assumed a causal pathway whereby households with other adults and sole-parent families promoted more cultural connectedness among their children, which in turn was associated with their socio-emotional development. Indeed, arguments could be made for a different mediational chain. For example, parents who are more connected to Te Ao Māori may select into more diverse family structures because they are less influenced by 'Western' family formation norms and/or have greater exposure to the factors that drive family diversity in the first place. Future data collection on families could mitigate this issue through repeated and consistent measures, adjusted for age-graded differences in children's developmental phases.

Implications for policy and interventions

The results of this study are timely given the prioritisation of child wellbeing in current and future policy settings, and the ambitious goal of making Aotearoa NZ the best place in the world to be a child. One of the main principles underpinning the draft outcomes framework of the Child and Youth Wellbeing Strategy is that the "wellbeing of children and young people is interwoven with the wellbeing of the family and whānau" (DPMC, 2019). This focus on the child–whānau nexus entails a clear understanding of the complexity, diversity and fluidity of the family and household context, and the links with child wellbeing and development.

Factors related to diverse family forms

Our findings strongly suggest that the development and wellbeing of tamariki Māori has less to do with family structure and change than the factors that are associated with – or that select people into – diverse family forms. These include maternal education, material hardship, age and ethnicity. Some of these factors are modifiable and can be targeted through policy settings. Others, such as maternal ethnicity, are a 'proxy' for broader social, political or environmental factors including constrained opportunities to obtain quality education, meaningful work and affordable, healthy homes. For at least some of the families in our study, observed changes in living arrangements may well be the result of purposeful reorganisation around whānau members so parents can be supported to raise their child while seeking to achieve longer term gains (eg studying or working).

Of relevance here is the recent Welfare Expert Advisory Group report (2019) that called on the Government to modernise eligibility rules to reflect the diverse and fluid nature of families and arrangements for the care of children. The report noted that "In many cases, sole parenthood means reliance on a benefit and is associated with a high risk of poverty" (p.8) and recommended an approach that enabled individuals and whānau to live a more dignified life and participate more fully in their school, community and cultural lives. For whānau Māori, such an approach might include papakāinga and Māori models of housing that support whānau to live in close proximity to each other to support child development and cultural identity; non-punitive student allowances that support parents to be educated without losing vital income and support if a family member moves in to help; and childcare and kōhanga subsidies that support whānau back to work without unaffordable childcare fees and relying on whānau support.

The GUiNZ and NZLC analysis in this report also questions the notion that a substantial share of tamariki Māori spend all or most of their childhood in a sole-parent household. Empirically, this is not borne out in these analyses. Our findings caution against an undue focus on particular kinds of household formations as exposing tamariki to increased 'risk' of poor outcomes, and developing interventions on that basis. This is particularly salient for tamariki Māori who are disproportionately the focus of policy initiatives and interventions to reduce vulnerability and harm. These efforts can be a double-edged sword. They focus attention on unacceptably high levels of inequity while inadvertently contributing to a deficit-oriented narrative of 'at-risk' children and their whānau. These are then seen as a wider societal and policy problem in need of fixing.

Our findings also highlight the potential importance of cultural connectedness as a protective family feature that can enhance child outcomes. This aligns with a proposed 'focus area' in the Child Wellbeing Strategy (DPMC, 2019) of recognising and supporting the cultures of children, youth and their families and whānau ora wellbeing outcomes.[27] It is also consistent with earlier research showing that culturally affirming practices can improve the social and emotional development of children. This supports the wider view that policy responses to strengthen whānau connections are most likely to be effective when linked to measures to strengthen cultural connections more generally (Cram, 2019; Kukutai, Sporle, & Roskruge, 2016; Muriwai, Houkamau, & Sibley, 2015).

27 Whānau Ora outcomes include: whānau that are cohesive, resilient and nurturing; that are participating in Te Ao Māori; that are self-managing and empowered leaders; and that are economically secure.

The need to focus on a wellbeing approach

Finally, understanding the needs and circumstances of tamariki Māori and providing a solid evidence base upon which to act requires more than robust monitoring and measurement. It also requires a conceptual approach that is aligned with the wellbeing of those whom it purports to represent. This means focusing on inherent strengths and capabilities rather than dysfunction, investigating factors that support and promote healthy development, acknowledging the importance of culture, and situating the wellbeing of children in a broader context of collective, holistic wellbeing (Durie, 1994, 2001; Pitama, Ririnui, & Mikaere, 2002).

Rapid changes in the Aotearoa NZ data ecosystem, including the extensive linkage of administrative, census and survey data, means that the possibilities for conducting granular, sub-group analysis have never been greater. However, this has not yet translated into the collection of data that meet Māori needs. One encounters an abundance of data about Māori "disparity, deprivation, disadvantage, dysfunction and difference" – or what Walter calls "five D data" (2016, p.80) – but a data desert when seeking high quality, culturally relevant data to support aspirations for self-determination and wellbeing, including child and whānau wellbeing.

Going beyond conventional measures

Recently, Cram (2019) argued the case for the development of tamariki Māori wellbeing indicators that go beyond conventional measures of child development and wellbeing to measure Māori-centric understandings of child wellbeing such as wairua, mana and mauri. Despite the sharper policy focus on child and whānau wellbeing, there is not yet a dataset that measures tamariki Māori wellbeing, whānau wellbeing (as distinct from family characteristics and conditions) and extended whānau structures beyond household configurations.

The fullness and richness of whānau, as understood in Te Ao Māori, remain largely hidden from the purview of statistical studies that are constrained by the available data. Added to this, the well-publicised problems with Census 2018[28] have resulted in very poor quality household and family data. The loss of high quality household and family census data, particularly for small areas, will add another layer of data inequity to a system that is already missing the mark in meeting Māori information needs (Kukutai & Cormack, 2019). These challenges, combined with growing concerns about Māori data sovereignty (Te Mana Raraunga, 2018), suggest the time is ripe for rethinking the collection and analysis of data as it relates to tamariki Māori and their whānau. For the future, it is critical that Māori are at the centre of decision making about what a more fit-for-purpose approach to reporting on tamariki Māori and whānau wellbeing looks like.

28 See 2018 Census External Data Quality Panel (2020). *Final report of the 2018 Census External Data Quality Panel. Wellington: StatsNZ*. Retrieved from https://www.stats.govt.nz/reports/final-report-of-the-2018-census-external-data-quality-panel.

References and appendix

References

2018 Census External Data Quality Panel (2020). Final report of the 2018 Census External Data Quality Panel. Wellington: StatsNZ. Retrieved from https://www.stats.govt.nz/reports/final-report-of-the-2018-census-external-data-quality-panel.

Abbot, A., & Tsay, A. (2000). Sequence analysis and optimal matching methods in sociology: Review and prospect. *Sociological Methods & Research, 29,* 3–33.

Aisenbrey, S., & Fasang, A. E. (2010). New life for old ideas: The "Second Wave" of sequence analysis bringing the "course" back into the life course. *Sociological Methods & Research, 38,* 420–462.

Amato, P. R. (2001). Children of divorce in the 1990s: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology, 15,* 355–70.

Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal of Marriage and Family, 62,* 1269–1287.

Amato, P. R., & Booth, A. (1997). *A generation at risk: Growing up in an era of family upheaval.* Cambridge, MA: Harvard University Press.

Amato, P. R., & Keith, B. (1991). Parental divorce and the well-being of children: A meta-analysis. *Psychological Bulletin, 110,* 26–46.

Atwool, N. (2006) Attachment and Resilience: Implications for children in care. *Child Care in Practice, 12,* 315–330.

Baker, M. G., Goodyear, R., Telfar Barnard, L., & Howden-Chapman, P. (2012a). *The distribution of household crowding in New Zealand: An analysis based on 1991 to 2006 Census data.* Wellington, New Zealand: He Kainga Oranga/Housing and Health Research Programme, University of Otago.

Baker, M. G., Barnard, L. T., Kvalsvig, A., Verrall, A., Zhang, J., Keall, M., Wilson, N., Wall, T., & Howden-Chapman, P. (2012b). Increasing incidence of serious infectious diseases and inequalities in New Zealand: A national epidemiological study. *The Lancet, 379,* 1112–1119.

Barker, D. J. P. (2012). Developmental origins of chronic disease. *Public Health, 126,* 185–189.

Bird, A., Reese, E., Schaughency, E., Grant, C. C., & Morton, S. M. (2019). Talking, praising, and teaching: How does parental interaction during a learning interaction relate to children's early learning? Manuscript in preparation.

Blakely, T., & McLeod, M. (2009). Will the financial crisis get under the skin and affect our health? Learning from the past to predict the future. *The New Zealand Medical Journal, 122,* 1–8.

Bombay, A., Matheson, K., & Anisman, H. (2010). Decomposing identity: Relationships between several aspects of ethnic identity and the negative effects of perceived discrimination among First Nations adults in Canada. *Cultural Diversity and Ethnic Minority Psychology, 16,* 507–516.

Bracey, J. R., Bámaca, M. Y., & Umaña-Taylor, A. J. (2004). Examining ethnic identity and self-esteem among biracial and monoracial adolescents. *Journal of Youth and Adolescence, 33,* 123–132.

Braveman, P., & Gruskin, S. (2003). Defining equity in health. *Journal of Epidemiology and Community Health, 57,* 254–258.

Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34,* 844–850.

Brooks-Gunn, J., Duncan, G., & Aber, J. L. (1997). *Neighborhood poverty: Context and consequences for children.* New York, NY: Russell Sage Foundation.

Bryant, J., Claridge, M., Fursman, L., Jacobsen, V., & Jensen, B. (2004). *Theories of the family and policy. New Zealand Treasury Working Paper 04/02*. Wellington, New Zealand: The Treasury.

Bumpass, L., & Lu, H. H. (2000). Trends in cohabitation and implications for children's family contexts in the United States. *Population Studies, 54,* 29–41.

Callister, P., Didham, R., Potter, D., & Blakely, T. (2007). Measuring ethnicity in New Zealand: Developing tools for health outcomes analysis. *Ethnicity and Health, 12,* 299–320.

Casper, L. M., & Bianchi, S. M. (2002). *Continuity and change in the American family.* Thousand Oaks, CA: Sage.

Cavanagh, S. E. (2008). Family structure history and adolescent adjustment. *Journal of Family Issues, 29,* 944–980.

Cavanagh, S. E., & Fomby, P. (2019). Family instability in the lives of American children. *Annual Review of Sociology, 45,* 493–513.

Cavanagh, S. E., & Huston, A. C. (2008). The timing of family instability and children's social development. *Journal of Marriage and Family, 70,* 1258–1270.

Cavanagh, S. E., & Huston, A. C. (2006). Family instability and children's early problem behavior. *Social Forces, 85,* 551–581.

Child and Youth Mortality Review Committee. (2019). *14th data report: 2013–17.* Wellington, New Zealand: Health Quality & Safety Commission.

Clark, T., Robinson, E., Crengle, S., … & Saewyc, E. (2011). Risk and protective factors for suicide attempt among Indigenous Māori youth in New Zealand: The role of family connection. *Journal of Aboriginal Health, 7,* 16–31.

Cochrane, W., & Pool, I. (2017). Māori in New Zealand's contemporary development. *Policy Quarterly, 13,* 47–54.

Commission on Social Determinants of Health. (2008). *Closing the gap in a generation: Health equity through action on the social determinants of health.* Final Report of the Commission on Social Determinants of Health. Geneva, Switzerland: World Health Organization.

Cotterell, G., Wheldon, M., & Milligan, S. (2007). Measuring changes in family wellbeing in New Zealand 1981 to 2001. *Social Indicators Research, 86,* 453–467.

Cram, F. (2019). Measuring Māori children's wellbeing: A discussion paper. *MAI Journal, 8,* 16–32.

Cram, F. (2012). *Safety of subsequent children – Māori children and whānau. A review of selected literature.* Wellington, New Zealand: Families Commission.

Cram, F., & Pitama, S. (1998). Ko tōku whānau, ko tōku mana. In V. Adair & R. Dixon (Eds.), *The family in Aotearoa New Zealand* (pp. 130–157). Auckland, New Zealand: Addison Wesley Longman.

Cribb, J. (2009). Focus on families: New Zealand families of yesterday, today and tomorrow. *Social Policy Journal of New Zealand, 35,* 4–16.

Cunningham, M., Beutel, A. M., Barber, J. S., & Thornton, A. (2005). Reciprocal relationships between attitudes about gender and social contexts during young adulthood. *Social Science Research, 34,* 862–892.

Curson, P. (1978). Households and household structure in Auckland, New Zealand. *New Zealand Geographer, 34,* 97–104.

Czyzewski, K. (2011). Colonialism as a broader social determinant of health. *The International Indigenous Policy Journal, 2,* 1–14.

Dawson, D. A. (1991). Family structure and children's health and well-being: Data from the 1988 National Health Interview Survey on Child Health. *Journal of Marriage and Family, 53,* 573–584.

de Lemos, M., & Doig, B. (2000). *Who am I? A school entry assessment tool.* Melbourne, Australia: ACER Press.

Demo, D. H., & Acock, A. C. (1988). The impact of divorce on children. *Journal of Marriage and Family, 50,* 619–648.

Department of the Prime Minister and Cabinet (DPMC). (2019). *Summary report – national engagement on New Zealand's first child and youth wellbeing strategy.* Retrieved from dpmc.govt.nz/publications/summary-report-national-engagement-child-and-youth-wellbeing#section-11

Dharmalingam, A., Pool, D. I., Sceats, J., & Mackay, R. (2004). *Patterns of family formation and change in New Zealand.* Wellington, New Zealand: Centre for Social Research and Evaluation.

Dickson, J., Ball, D., Edmeades, J., Hanson, S., & Pool, I. (1997). *Recent trends in reproduction and family structures.* Briefing paper prepared for the participants at the Population Conference, 12–14 November, Wellington. Hamilton, New Zealand: Population Studies Centre, University of Waikato.

Dickinson, D. K., McCabe, A., & Sprague, K. (2001). *Teacher Rating of Oral Language and Literacy (TROLL): A research-based tool.* Ciera Report, #3–016. Ann Arbor, Michigan: Center for the Improvement of Early Reading Achievement, University of Michigan.

Doyle, O., Harmon, C. P., Heckman, J. J., & Tremblay, R. E. (2009). Investing in early human development: Timing and economic efficiency. *Economics and Human Biology, 7,* 1–6.

Duncanson, M., Oben, G., Wicken, A., Richardson, G., Adams, J., & Pierson, M. (2018). *Child Poverty Monitor 2018: Technical Report* (National Report). Dunedin, New Zealand: New Zealand Child and Youth Epidemiology Service. Retrieved from hdl.handle.net/10523/8697

Dunn, J., Deater-Deckard, K., Pickering K., & O'Connor, T. G. (1998). Children's adjustment and prosocial behaviour in step-, single-parent, and non-stepfamily settings: Findings from a community study. *Journal of Child Psychology and Psychiatry, 39,* 1083–1095.

Durie, M. (2006). *Measuring Māori wellbeing.* New Zealand Treasury guest lecture series. Wellington, New Zealand: The Treasury.

Durie, M. (2003). *Nga Kahui Pou: Launching Māori Futures*. Wellington, New Zealand: Huia Publishers.

Durie, M. (2001). *Mauri Ora: The dynamics of Māori health*. Oxford, UK: Oxford University Press.

Durie, M. (1997). Māori cultural identity and its implications for mental health services. *International Journal of Mental Health, 26,* 23–35.

Durie, M. (1994). *Whaiora: Māori health development*. Oxford, UK: Oxford University Press.

Durie, M. (1985). A Māori perspective of health. *Social Science & Medicine, 20,* 483–486.

Durie, M., Cooper, R., Grennell D., Snively, S., & Tuaine, N. (2010). *Whānau Ora: Report of the taskforce on whānau-centred initiatives*. Wellington, New Zealand: Ministry of Social Development.

Ellis, B. J., Bates, J. E., Dodge, K. A., Fergusson, D. M., Horwood, L. J., Pettit, G. S., & Woodward, L. (2003). Does father absence place daughters at special risk for early sexual activity and teenage pregnancy? *Child Development, 74,* 801–821.

Ermisch, J., & Francesconi, M. (2001). Family structure and children's achievements. *Journal of Population Economics, 14,* 249–270.

Families Commission. (2010). *Economic wellbeing of sole parent families*. Wellington: Families Commission.

Families Commission. (2005). *The changing face of New Zealand families*. Wellington, New Zealand: Families Commission.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14,* 245–258.

Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1994). The childhoods of multiple problem adolescents: A 15-year longitudinal study. *The Journal of Child Psychology & Psychiatry & Allied Disciplines, 35,* 1123–1140.

Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1994). The effects of parental separation, the timing of separation and gender on children's performance on cognitive tests. *The Journal of Child Psychology and Psychiatry, 35,* 1077–1092.

Fomby, P., & Bosick, S. J. (2013). Family instability and the transition to adulthood. *Journal of Marriage and Family, 75,* 1266–1287.

Fomby, P., Mollborn, S., & Sennott, C. A. (2010). Race/ethnic differences in effects of family instability on adolescents' risk behavior. *Journal of Marriage and Family, 72,* 234–253.

Fomby, P., & Cherlin, A. (2007). Family instability and child well-being. *American Sociological Review, 72,* 181–204.

Fowler, P. J., Henry, D. B., & Marcal, K. E. (2015). Family and housing instability: Longitudinal impact on adolescent emotional and behavioral well-being. *Social Science Research, 53,* 364–374.

Gauthier, J., Widmer, E. D., Bucher, P., & Notredame, C. (2010). Multichannel sequence analysis applied to social science data. *Sociological Methodology, 40,* 1–38.

Gluckman, P. D., Hanson, M. A., & Buklijas, T. (2010). A conceptual framework for the developmental origins of health and disease. *Journal of Developmental Origins of Health and Disease, 1,* 6–18.

Good, R. H., & Kaminski, R. A. (Eds.) (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, Oregon: Institute for the Development of Educational Achievement.

Hanson, T. L. (1999). Does parental conflict explain why divorce is negatively associated with child welfare? *Social Forces, 77,* 1283–1315.

Härkönen, J., Bernardi, F., & Boertien, D. (2017). Family dynamics and child outcomes: Key findings and unresolved questions. *European Journal of Population, 33,* 163–84.

Harron, K. L., Doidge, J. C., Knight, H. E., Gilbert, R. E., Goldstein, H., Cromwell, D. A., & van der Meulen, J. H. (2017). A guide to evaluating linkage quality for the analysis of linked data. *International Journal of Epidemiology, 46,* 1699–1710.

Heckman, J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science, 312,* 1900–1902.

Hobbs, M. Morton, S. M. B., Atatoa-Carr, P. E., Ritchie, S. R., Thomas, M. G., Saraf, R., Chelimo, C., Harnden, A., Carmargo, C. A., & Grant, C. G. (2017). Ethnic disparities in infectious disease hospitalisations in the first year of life in New Zealand. *Journal of Paediatrics and Child Health, 53,* 223–231.

Houkamau, C. A., & Sibley, C. G. (2011). Māori cultural efficacy and subjective wellbeing: A psychological model and research agenda. *Social Indicators Research, 103,* 379–398.

Indigenous Health Group. (2007). *Social determinants and Indigenous health: The international experience and its policy implications.* Report on specially prepared documents and discussion at the International Symposium on the Social Determinants of Indigenous Health, Adelaide, for the Commission on Social Determinants of Health. Retrieved from www.who.int/social_determinants/resources/indigenous_health_adelaide_report_07.pdf

Jones, C. P. (2000). Levels of racism: A theoretical framework and a gardener's tale. *American Journal of Public Health, 90,* 1212–1215.

Keddell, E. (2017). *The Child Youth and Family Review: A commentary on prevention.* Auckland, New Zealand: The Policy Observatory.

Keddell, E. (2019). *Hard to get into, but harder to get out of: Understanding recent trends in child protection.* Retrieved from www.reimaginingsocialwork.nz/2019/05/hard-to-get-into-but-harder-to-get-out-of-understanding-recent-trends-in-child-protection/

King, M., Smith, A., & Gracey, M. (2009). Indigenous health part 2: The underlying causes of the health gap. *The Lancet, 374,* 76–85.

Kiro, C., von Randow, M., & Sporle, A. (2010). *Trends in wellbeing for Māori households/families, 1981–2006.* Auckland, New Zealand: Nga Pae o te Maramatanga.

Krieger, N. (2001). A glossary for social epidemiology. *Journal of Epidemiology & Community Health, 55,* 693–700.

Kuh, D., Ben-Shlomo, Y., & Lynch, J. (2003). Life course epidemiology. *Journal of Epidemiology & Community Health, 57,* 778–783.

Kukutai, T., & Cormack, D. (2019). Mana motuhake ā-raraunga: Datafication and social science research in Aotearoa. *Kotuitui: New Zealand Journal of Social Sciences Online, 14,* 201–208.

Kukutai, T., Sporle, A., & Roskruge, M. (2017). Subjective whānau wellbeing. In *Families and Whānau Status Report 2017.* Wellington, New Zealand: Superu.

Kukutai, T., Sporle, A., & Roskruge, M. (2016). Expressions of whānau. In *Families and Whānau Status Report 2016.* Wellington, New Zealand: Superu.

Kukutai, T., Sporle, A., & Roskruge, M. (2015). Whānau wellbeing. In *Families and Whānau Status Report 2015*. Wellington, New Zealand: Superu.

Law Commission. (2017). Relationships and families in contemporary New Zealand. *Study Paper [NZLC SP22].* Wellington, New Zealand: The Law Commission.

Lawson-Te Aho, K. (2010). *Definitions of whānau: A review of selected literature.* Wellington, New Zealand: Families Commission.

Lesthaeghe, R. (1995). The second demographic transition in Western countries: An interpretation. *Interuniversity Programme of Development Working Paper 1991–2.* Brussels, Belgium: Centrum Sociologie, Vrije Universiteit Brussel.

Lesthaeghe, R., & Moors, G. (2000). Recent trends in fertility and household formation in the industrialised world. *Review of Population and Social Policy, 9,* 121–170.

Lesthaeghe, R., & van de Kaa, D. J. (1986). Twee demografische transities? (Two demographic transitions?). In D. J. van de Kaa, & R. Lesthaeghe (Eds.), *Bevolking: Groei en Krimp (Population: Growth and Decline)* (pp. 9–24). Deventer, Netherlands: Van Loghum Slaterus.

Mackay, R. (2005). The impact of family structure and family change on child outcomes: A personal reading of the research literature. *Social Policy Journal of New Zealand, 24,* 111–134.

Māori Affairs Select Committee. (2013). *Inquiry into the determinants of wellbeing for tamariki Māori [I.10B].* Retrieved from www.parliament.nz/en/pb/sc/reports/document/50DBSCH_SCR6050_1/inquiry-into-the-determinants-of-wellbeing-for-tamariki

Mark, G. T., & Lyons, A. C. (2010). Māori healers' views on wellbeing: The importance of mind, body, spirit, family and land. *Social Science Medicine, 70,* 1756–1764.

Marmot, M. (2010). *Fair Society, Healthy Lives: The Marmot Review.* London: Institute for Health Equity, University College London.

Martinez, R. O., & Dukes, R. L. (1997). The effects of ethnic identity, ethnicity, and gender on adolescent well-being. *Journal of Youth and Adolescence, 26,* 503–516.

McCubbin, L. D. (2006). The role of indigenous family ethnic schema on well-being among Native Hawaiian families. *Contemporary Nursing, 23,* 170–180.

Metge, J. (1995). *New growth from old: The whānau in the modern world.* Wellington, New Zealand: Victoria University Press.

Metge, J. (1990). Te rito o te harakeke: Conceptions of the whānau. *Journal of the Polynesian Society, 99,* 55–91.

Ministerial Committee. (1988). *Puao-te-ata-tu (Day Break): The Report of the Ministerial Advisory Committee on a Maori Perspective for the Department of Social Welfare.* Wellington, New Zealand: Ministerial Committee.

Ministry of Education. (2017). *Te Whāriki Early Childhood Curriculum*. Retrieved from tewhariki.tki.org.nz/assets/Uploads/Te-Whariki-Whakatauki.pdf

Ministry of Education. (2013). *Ka Hikitia – Accelerating Success 2013–2017: The Māori Education Strategy.* Retrieved from www.education.govt.nz/assets/Documents/Ministry/Strategies-and-policies/Ka-Hikitia/KaHikitiaAcceleratingSuccessEnglish.pdf

Ministry of Health. (2018). Infant health. In *Tatau Kahukura: Māori Health Chart Book* (3rd Ed.). Retrieved from www.health.govt.nz/our-work/populations/Māori-health/tatau-kahukura-Māori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/infant-health

Ministry of Health. (2014). *Analysis of household crowding based on Census 2013 data*. Wellington, New Zealand: Ministry of Health.

Ministry of Social Development. (2004). *New Zealand families today: A briefing for the Families Commission.* Retrieved from www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/research/nz-families-today/nz-families-today.pdf

Moffitt, T., Poulton, R., & Caspi, A. (2013). Lifelong impact of early self-control: Childhood self-discipline predicts adult quality of life. *American Scientist, 101,* 352–359.

Moore, T., Arefadib, N., Deery, A., & West, S. (2017). *The first thousand days: An evidence paper.* Victoria, Australia: Centre for Community Child Health.

Moore, T., McDonald, M., Carlon, L., & O'Rourke, K. (2015). Early childhood development and the social determinants of health inequities. *Health Promotion International, 30,* 102–115.

Moore T. G., & McDonald, M. (2013) *Acting early, changing lives: How prevention and early action saves money and improves wellbeing*. Glebe, Australia: The Benevolent Society.

Morrison, L., & Blair, D. (2013). Whānau ora (family wellbeing) within the context of addiction in New Zealand. *Drug and Alcohol Review, 32,* 54–54.

Morton, S. M. B., Atatoa Carr, P., Grant, C. C., ... & Wall, C. (2012). Cohort profile: Growing Up in New Zealand. *International Journal of Epidemiology, 42,* 65–75.

Morton, S., Grant, C., Berry, S., ... & Fa'alili-Fidow, J. (2017). *Now we are four: Describing the preschool years*. Auckland, New Zealand: Growing Up in New Zealand.

Morton, S. M. B., Ramke, J., Kinloch, J., Grant, C. C., Atatoa Carr, P., Leeson, H., Lee, A. C., & Robinson, E. (2015). Growing Up in New Zealand cohort alignment with all New Zealand births. *Australian and New Zealand Journal of Public Health, 39,* 82–87.

Muriwai, E., Houkamau, C., & Sibley, C. G. (2015). Culture as cure? The protective function of Māori cultural efficacy on psychological distress. *New Zealand Journal of Psychology, 44,* 14–24.

Nazroo, J. Y. (1999). The racialisation of ethnic inequalities in health. In D. Dorling & S. Simpson (Eds.), *Statistics in Society: The arithmetic of politics* (pp. 215–222). London, UK: Arnold.

Neblett, E. W., Rivas-Drake, D., & Umaña-Taylor, A. J. (2012). The promise of racial and ethnic protective factors in promoting ethnic minority youth development. *Child Development Perspectives, 6,* 295–303.

New Zealand College of Public Health Medicine (NZCPHM). (2017). *First 1000 days of life policy statement.* Retrieved from www.nzcphm.org.nz/media/64578/2017_11_15_nzcphm_first_1000_days_of_life__reviewed_2017_.pdf

Office of the Children's Commissioner. (18 September 2019). *Scope of review into Oranga Tamariki's care and protection practice for tamariki Māori announced.* Retrieved from www.occ.org.nz/publications/news/scope-of-review-into-oranga-tamarikis-care-and-protection-practice-for-tamariki-maori-announced/

Oranga Tamariki. (2019). *Kids in care – National and local level data – June 2017.* Retrieved from: www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/cyf/kids-in-care.html

Organisation for Economic Co-operation and Development (OECD). (2011). *Doing Better for Families.* Paris: OECD Publishing.

Pasqualini, M., Lanari, D., & Pieroni, L. (2018). Parents who exit and parents who enter: Family structure transitions, child psychological health, and early drinking. *Social Science & Medicine, 214,* 187–196.

Peterson, E. R., Mohal, J., Waldie, K. E., Reese, E., Atatoa Carr, P. E., Grant, C. C., & Morton, S. M. B. (2017). A cross-cultural analysis of the Infant Behavior Questionnaire Very Short Form: An item response theory analysis of infant temperament in New Zealand. *Journal of Personality Assessment, 99,* 574–584.

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7,* 156–176.

Pihama, L., Greensill, H., Campbell, D., Te Nana, R., & Lee, J. (2015). *Taku kuru pounamu.* Hamilton, New Zealand: Te Kotahi Research Institute. Retrieved from www.waikato.ac.nz/rangahau/publications-and-resource-hub

Pitama, D., Ririnui, G., & Mikaere, A. (2002). *Guardianship, custody and access: Māori perspectives and experiences.* Wellington, New Zealand: Ministry of Justice.

Pool, I. (1991). *Te Iwi Māori: A New Zealand population, past, present and projected.* Auckland, New Zealand: Auckland University Press.

Pool, I., Dharmalingam, A., & Sceats, J. (2007). *The New Zealand family from 1840: A demographic history.* Auckland, New Zealand: Auckland University Press.

Poulton, R., Caspi, A., Milne, B. J., Thomson, W. M., Taylor, A., Sears, M. R., & Moffitt, T. E. (2002). Association between children's experience of socioeconomic disadvantage and adult health: A life course study. *The Lancet, 360,* 1640–1645.

Putnam, S. P., & Rothbart, M. K. (2006). Development of short and very short forms of the children's behavior questionnaire. *Journal of Personality Assessment, 87,* 102–112.

Rees, N., Chai, J., & Anthony, D. (2012). *Right in principle and in practice: A review of the social and economic returns to investing in children.* New York, NY: Division of Policy and Strategy, UNICEF.

Reid, P., & Robson, B. (2007). Understanding health inequities. In B. Robson & R. Harris (Eds.), *Hauora: Māori Standards of Health IV: A study of the years 2000–2005.* Wellington, New Zealand: Te Rōpū Rangahau Hauora a Eru Pōmare.

Ritschard, G., & Studer, M. (2018) Sequence analysis: Where are we, where are we going?. In G. Ritschard & M. Studer (Eds.), *Sequence analysis and related approaches (Life course research and Social policies)* (pp. 1–11). Cham, Switzerland: Springer.

Roberts, R. E., Phinney, J. S., Masse, L. C., Chen, Y. R., Roberts, C. R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *Journal of Early Adolescence, 19,* 301–322.

Romero, A., & Roberts, R. (2003). The impact of multiple dimensions of ethnic identity on discrimination and adolescents' self-esteem. *Journal of Applied Social Psychology, 33,* 2288 –2305.

Ryan, R. M., Claessens, A., & Markowitz, A. J. (2015). Associations between family structure change and child behavior problems: The moderating effect of family income. *Child Development, 86,* 112–127.

Salmond, C., Crampton, P., & Atkinson, J. (2007). *NZDep2006 Index of Deprivation.* Wellington, New Zealand: Department of Public Health, University of Otago.

Sarche, M., & Spicer, P. (2008). Poverty and health disparities for American Indian and Alaska Native children: Current knowledge and future prospects. *Annals of the New York Academy of Sciences,* 1136(1), 126–136.

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *Journal of the American Medical Association, 301,* 2252–2259.

Smith, E., P., Walker, K., Fields, L., Brookins, C. C., & Seay, R. C. (1999). Ethnic identity and its relationship to self-esteem, perceived efficacy and prosocial attitudes in early adolescence. *Journal of Adolescence, 22,* 867–880.

Stats NZ. (2019). *General marriage rate, December years (total population).* Retrieved from www.stats.govt.nz/information-releases/marriages-civil-unions-and-divorces-year-ended-december-2018

Stats NZ. (2018a). *Māori population estimates: At 30 June 1991–2018.* Retrieved from www.stats.govt.nz/information-releases/maori-population-estimates-at-30-june-2018

Stats NZ. (2018b). *Estimated resident population by age and sex: At June 2018.* Retrieved from www.stats.govt.nz/information-releases/national-population-estimates-at-30-june-2018

Stats NZ. (2018c). Marriages, civil unions and divorces. Year ended December 2018. Retrieved from www.stats.govt.nz/information-releases/marriages-civil-unions-and-divorces-year-ended-december-2018

Stats NZ. (2015). *Subnational period life tables: 2012–14.* Retrieved from archive.stats.govt.nz/browse_for_stats/health/life_expectancy/SubnationalPeriodLifeTables_HOTP12–14.aspx

Stats NZ. (2014). *2013 Census QuickStats about culture and identity.* Retrieved from archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-culture-identity/ethnic-groups-NZ.aspx

Stats NZ. (2007). *Demographic trends: 2006 reference report.* Wellington: Statistics New Zealand. Retrieved from archive.stats.govt.nz/browse_for_stats/population/estimates_and_projections/demographic-trends-2006.aspx

Superu. (2016). *Families and whānau status report 2016.* Wellington, New Zealand: Superu.

Taiapa, J. (1995). Ta Te Whanau Ohanga: The economics of whānau: Cultural survival at fiscal expense. *He Pukenga Korero,* 10–17.

Taskforce on Whānau-Centred Initiatives. (2010). *Report of the Taskforce on Whānau-Centred Initiatives*. Wellington, New Zealand: Te Puni Kōkiri.

Te Mana Raraunga. (2018). *Māori data sovereignty principles.* Retrieved from https://www.temanararaunga.maori.nz/nga-rauemi

Te Puni Kōkiri. (2018). Why Whānau Ora? Retrieved from www.tpk.govt.nz/en/whakamahia/whānau-ora

Te Tiriti o Waitangi [Māori version]. (1840). Retrieved from www.waitangitribunal.govt.nz/treaty-of-waitangi/te-reo-maori-version/

The Child Poverty Reduction Act 2018. Retrieved from www.legislation.govt.nz/act/public/2018/0057/18.0/LMS8294.html

The Treasury. (2019). Wellbeing Budget. Retrieved from https://treasury.govt.nz/publications/wellbeing-budget/wellbeing-budget-2019

Tukukino, H., & Tukukino, W. (1986). Cross cultural communication in New Zealand and its relevance for training programmes. In J. F. Everts (Ed.), *Family communication training in New Zealand* (pp. 237–41). Auckland, New Zealand: University of Auckland.

United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). (2007). Retrieved from www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html

United Nations Convention on the Rights of the Child (CRC). (1989). Retrieved from https://www.ohchr.org/en/professionalinterest/pages/crc.aspx

Utsey, S. O., Chae, M. H., Brown, C. F., & Kelly, D. (2002). Effect of ethnic group membership on ethnic identity, race-related stress, and quality of life. *Cultural Diversity and Ethnic Minority Psychology, 8,* 366–377.

van de Kaa, D. J. (1987). Europe's second demographic transition. *Population Bulletin, 42,* 1–59.

Waitoki, W., Nikora, L. W., Harris, P., & Levy, M. P. (2014). *Māori experiences of bipolar disorder: Pathways to recovery.* Auckland, New Zealand: Te Pou o te Whakaaro Nui.

Waldegrave, C., King, P., Walker, T., & Fitzgerald, E. (2006). *Māori housing experiences: Emerging trends and issues*. Wellington, New Zealand: Centre for Housing Research Aotearoa New Zealand.

Waldfogel, J., Craigie, T. A., & Brooks-Gunn, J. (2010). Fragile families and child wellbeing. *The Future of Children, 20,* 87–112.

Walker, R. (1979). The Urban Māori. In New Zealand Planning Council (Ed.), *He Matapuna: A source* (pp. 33–42). Wellington, New Zealand: New Zealand Planning Council.

Walsh, M., & Grey, C. (2019). The contribution of avoidable mortality to the life expectancy gap in Māori and Pacific populations in New Zealand: decomposition analysis. *New Zealand Medical Journal, 132,* 46–60.

Walter, M. (2016). Data politics and Indigenous representation in Australian statistics. In T. Kukutai & J. Taylor (Eds.), *Indigenous data sovereignty: Toward an agenda*. (pp. 79–97) Acton, Australia: Australian University Press.

Webber, M. (2012). Identity matters: Racial-ethnic identity and Māori students. Set: *Research Information for Teachers, 2,* 20–27.

Welfare Expert Advisory Group (WEAG). (2019). *Whakamana Tāngata – Restoring Dignity to Social Security in New Zealand*. Wellington, New Zealand: Author.

Whitehead, M. (1992). The concepts and principles of equity and health. *International Journal of Health Services, 22,* 429–45.

Wilkie, M. (2010). *Te taumata, te timata; The pinnacle, the first step*. PhD Thesis. Victoria University of Wellington. Wellington, New Zealand. Retrieved from: http://researcharchive.vuw.ac.nz/handle/10063/1426

Williams, A. D., Clark, T. C., & Lewycka, S. (2018). The associations between cultural identity and mental health outcomes for Indigenous Māori youth in New Zealand. *Frontiers in Public Health, 6*.

Williams, D. R. (1997). Race and health: Basic questions, emerging directions. *Annals of Epidemiology, 7,* 322–333.

Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socio-emotional adjustment. *Journal of Personality, 71,* 1197–1231.

Woodward, L. J., Horwood, L. J., & Fergusson, D. M. (2001). Teenage pregnancy: Cause for concern. *New Zealand Medical Journal, 114,* 301–303.

World Health Organization. (2008). *Closing the gap in a generation: Health equity through action on the social determinants of health*. Geneva, Switzerland: World Health Organization.

World Population Review. (2019). *Developing Countries*. Retrieved from worldpopulationreview.com/countries/developing-countries/

Wu, L. L., & Martinson, B. C. (1993). Family structure and the risk of a premarital birth. *American Sociological Review, 58,* 210–232.

Appendix

Table 4: Analytical sample versus those lost to attrition in GUiNZ: Tamariki Māori

	Final analytical sample %/Mean (standard deviation)	Attrited by 54-months %/Mean (standard deviation)
Family structure at antenatal		
Single parent only	5.43	8.81
Two parents only	56.73	40.41*
Parent(s) with other kin	32.37	45.60*
Parent(s) with other non-kin (and kin)	5.58	5.18
Maternal education[a]		
No secondary school qualification	13.99	25.00*
Secondary school/NCEA 1–4	26.64	35.42*
Diploma/trade certificate./NCEA 5–6	34.38	32.29
Bachelor's degree or higher	25.00	7.29*
Age[a] (years)	28.40	25.64*
	(6.28)	(6.36)
Employed[a]	67.93	46.52*
Mother identifies as Māori[a]	67.51	81.35*
Material hardship[b] (0–6 scale)	1.36	1.61*
	(1.43)	(1.46)
Number of siblings[a] (0–6+ scale)	1.43	1.64
	(1.56)	(1.67)
Rural area[a]	7.26	*n<10*
District Health Board[b]		
Auckland	20.16	12.89*
Counties Manukau	36.32	52.06*
Waikato	39.29	31.96
Elsewhere	4.23	*n<10*
Meshblock deprivation[a] (1–10 scale)	6.74	7.87*
	(2.78)	(2.39)
n	1,349	194

Notes: [a] Measured at antenatal; [b] Measured at 9-month interview; * Statistically different at $p < .05$ from analytical sample.

n<10: denotes that cell size is less than 10, and hence, not reported due to confidentiality rules.

NCEA = National Certificate of Educational Achievement.

Table 5: Family structure by wave and sequence (n = 1,349)

	Antenatal %	9 months %	23 months %	45 months %
Stable two parents (n = 740)				
Single parent only	*n<10* [4]	4.14 [4]	2.04 [2,4]	8.92 [2,4]
Two parents only	99.73 [2]	95.43 [2]	92.81 [2,3,4]	78.78 [2,3,4]
Parent(s) with other kin	*n<10*	*n<10* [2]	3.66 [2,3]	9.05 [2,3,4]
Parent(s) with other non-kin (and kin)	*n<10*	*n<10*	1.49 [2,3]	3.24 [3,4]
Transitions	*Between antenatal – 9 months*	*Between 9–23 months*	*Between 23–45 months*	*Total transitions (average)*
	4.86 [2,3]	11.19 [2,3]	21.71 [2,3,4]	0.38 [2,3,4]
Living with kin, late transition to mostly two parents (n = 448)				
Single parent only	*n<10* [4]	4.74 [4]	4.99 [1,4]	16.74 [1,4]
Two parents only	4.24 [1]	3.32 [1]	18.14 [1,4]	40.63 [1,3,4]
Parent(s) with other kin	95.09 [3,4]	91.71 [1,3]	67.80 [1,3,4]	38.62 [1,3,4]
Parent(s) with other non-kin (and kin)	*n<10*	*n<10* [3]	9.07 [1,3]	4.02 [3,4]
Transitions	*Between antenatal – 9 months*	*Between 9–23 months*	*Between 23–45 months*	*Total transitions (average)*
	13.51 [1]	34.94 [1,4]	53.29 [1,3]	1.02 [1,3,4]
Living with others with instability (n = 80)				
Single parent only	*n<10*	*n<10* [4]	*n<10* [4]	15.00 [4]
Two parents only	7.50	*n<10*	16.25 [1]	56.25 [1,2,4]
Parent(s) with other kin	*n<10* [2]	*n<10* [2]	13.75 [1,2,4]	16.25 [1,2]
Parent(s) with other non-kin (and kin)	88.75 [4]	89.61 [2]	65.00 [1,2,4]	12.50 [1,2]
Transitions	*Between antenatal – 9 months*	*Between 9–23 months*	*Between 23–45 months*	*Total transitions (average)*
	20.78 [1,4]	44.16 [1,4]	77.50 [1,2,4]	1.43 [1,2,4]

	Antenatal %	9 months %	23 months %	45 months %
Single parent with late transition to living with others (n = 81)				
Single parent only	88.31 [1,2]	100.00 [1,2,3]	84.62 [1,2,3]	50.62 [1,2,3]
Two parents only	*n<10*	*n<10*	*n<10* [1,2]	*n<10* [1,2,3]
Parent(s) with other kin	*n<10* [2]	*n<10*	*n<10* [2,3]	27.16 [1,2]
Parent(s) with other non-kin (and kin)	*n<10* [3]	*n<10*	*n<10* [3]	*n<10* [1,2]
Transitions	*Between antenatal – 9 months*	*Between 9–23 months*	*Between 23–45 months*	*Total transitions (average)*
	10.00 [3]	15.00 [2,3]	44.87 [1,3]	0.63 [1,2,3]
Total sample (n = 1,349)				
Single parent only	5.43	8.74	8.01	14.38
Two parents only	56.73	54.57	58.61	60.71
Parent(s) with other kin	32.27	31.06	25.45	20.39
Parent(s) with other non-kin (and kin)	5.58	5.64	7.93	4.52
Transitions	*Between antenatal – 9 months*	*Between 9–23 months*	*Between 23–45 months*	*Total transitions (average)*
	8.98	21.30	36.83	0.67

Notes: Statistically different at $p < .05$ from: [1] Stable two parents; [2] Living with kin, late transition to mostly two parents; [3] Living with others with instability; [4] Single parent with late transition to living with others.

n<10: denotes that cell size is less than 10, and hence, not reported due to confidentiality rules.

Table 6: Sequence analysis sample description (n = 1,349)

	n	Total %/Mean (standard deviation)	Stable two parents %/Mean (standard deviation)	Living with kin, late transition to mostly two parents %/Mean (standard deviation)	Living with others with instability %/Mean (standard deviation)	Single parent with late transition to living with others %/Mean (standard deviation)
Outcomes (at 54-month interview)						
Negative affect (1–7 scale)	1,349	4.31	4.21	4.43	4.29	4.64
		(0.81)	(0.82)	(0.78)	(0.78)	(0.79)
Effortful control (1–7 scale)	1,349	5.37	5.32	5.32	5.44	5.38
		(0.66)	(0.66)	(0.66)	(0.68)	(0.76)
Maternal characteristics						
Education[a]						
No secondary school qualification	188	13.99	10.95 [2,4]	18.79 [1]	*n<10*	18.18 [1]
Secondary school/NCEA 1–4	358	26.64	24.32 [2]	30.87 [1]	30.00	20.78
Diploma/trade certificate./NCEA 5–6	462	34.38	32.30 [4]	35.57 [4]	32.50 [4]	49.35 [1,2,3]
Bachelor's degree or higher	336	25.00	32.43 [2,4]	14.77 [1,3]	26.25 [2,4]	*n<10* [1,3]
Age[a] (years)	1,349	28.40	30.40 [2,3,4]	25.23 [1,3,4]	27.24 [1,2]	28.85 [1,2]
		(6.28)	(5.53)	(5.93)	(6.21)	(7.26)
Employed[a]	877	67.93	73.71 [2,4]	59.62 [1]	67.95	58.82 [1]
Mother identifies as Māori[a]	908	67.51	61.89 [2,4]	75.00 [1,3]	62.50 [2,4]	83.12 [1,3]
Family characteristics						
Deprivation index[b] (0–6 scale)	1,343	1.36	1.20 [2,3,4]	1.39 [1,4]	1.51 [1,4]	2.51 [1,2,3]
		(1.43)	(1.34)	(1.45)	(1.56)	(1.54)
Number of siblings[a] (0–6+ scale)	1,222	1.43	1.59 [2,3,4]	1.17 [1,3,4]	0.80 [1,2,4]	2.19 [1,2,3]
		(1.56)	(1.54)	(1.54)	(1.21)	(1.76)
Residential moves since child's birth (0–4+ scale)	1,343	1.76	1.48 [2,3]	2.13 [1,4]	2.32 [1,4]	1.72 [2,3]
		(1.46)	(1.40)	(1.47)	(1.46)	(1.36)

	n	Total %/Mean (standard deviation)	Stable two parents %/Mean (standard deviation)	Living with kin, late transition to mostly two parents %/Mean (standard deviation)	Living with others with instability %/Mean (standard deviation)	Single parent with late transition to living with others %/Mean (standard deviation)
Child characteristics						
Female[b]	654	48.48	49.46 [2]	54.02 [1]	50.00	51.85
Born at low birthweight[b] (<2500 grams)	65	4.82	3.78 [2]	6.92 [1]	*n<10*	*n<10*
Developmental problem[b]	135	10.01	10.41	9.15	*n<10*	*n<10*
Child's age at 54-month interview	1,349	54.07	53.95 [2]	54.27 [1]	54.01	54.20
		(1.60)	(1.44)	(1.76)	(1.65)	(1.79)
Geographic characteristics						
Meshblock deprivation[a] (1–10 scale)	1,348	6.74	6.27 [2,4]	7.41 [1,3]	6.29 [2,4]	7.86 [1,3]
		(2.78)	(2.81)	(2.55)	(3.02)	(2.46)
Rural area[a]	98	7.26	9.59 [2,3]	4.91 [1]	*n<10* [1]	*n<10*
District Health Board[b]						
Auckland	272	20.16	22.03 [2]	17.19 [1]	20.00	19.75
Counties Manukau	490	36.32	31.76 [2]	43.97 [1,4]	41.25	30.86 [2]
Waikato	530	39.29	43.92 [2,3]	33.04 [1]	27.50 [1]	43.21
Elsewhere	57	4.23	2.30 [2,3,4]	5.80 [1]	*n<10* [1,4]	*n<10* [1,3]
n	1,349		740	448	80	81
% of sample	100.00		54.86	33.21	5.93	6.00

Notes: [a] Measured at antenatal; [b] Measured at 9-month interview.

Statistically different at $p < .05$ from: [1] Stable two parents; [2] Living with kin, late transition to mostly two parents; [3] Living with others with instability; [4] Single parent with late transition to living with others.

n<10: denotes that cell size is less than 10, and hence, not reported due to confidentiality rules.

NCEA = National Certificate of Educational Achievement.

Table 7: Multinomial regressions predicting family trajectory membership (Reference group: Stable two parents) (n = 1,349)

	Stable two parents RRR	Living with kin, late transition to mostly two parents RRR	Living with others with instability RRR	Single parent with late transition to living with others RRR
Maternal education[a] (ref: Bachelor's degree or higher)				
No secondary school qualification	--	1.438	0.909	1.335
		(0.355)	(0.424)	(0.662)
Secondary school/NCEA 1–4	--	1.224	1.161	1.292
		(0.253)	(0.408)	(0.593)
Diploma/trade certificate./NCEA 5–6	--	1.503*	1.163	2.304*
		(0.290)	(0.386)	(0.939)
Age[a] (years)	--	0.877***	0.943*	0.940*
		(0.013)	(0.024)	(0.025)
Employed[a]	--	0.819	0.920	0.819
		(0.124)	(0.259)	(0.231)
Mother identifies as Māori[a]	--	1.514**	1.087	1.872†
		(0.227)	(0.283)	(0.626)
Material hardship[b] (0–6 scale)	--	1.003	1.198	1.512***
		(0.050)	(0.104)	(0.119)
Number of siblings[a] (0–6+ scale)	--	0.954	0.715†	1.084
		(0.053)	(0.086)	(0.105)
Rural area[a]	--	0.739	0.130	0.616
		(0.211)	(0.133)	(0.398)

	Stable two parents RRR	Living with kin, late transition to mostly two parents RRR	Living with others with instability RRR	Single parent with late transition to living with others RRR
District Health Board[b] (ref: Auckland)	--			
Counties Manukau	--	1.015	1.408	0.616
		(0.198)	(0.482)	(0.231)
Waikato	--	0.638*	0.792	0.730
		(0.127)	(0.287)	(0.266)
Elsewhere	--	2.217*	4.817	2.027
		(0.831)	(2.436)	(1.247)
Meshblock deprivation[a] (1–10 scale)	--	1.089**	0.959*	1.122*
		(0.030)	(0.044)	(0.065)
Constant	--	10.765***	0.797	0.070*
		(5.579)	(0.717)	(0.072)

Notes: [a] Measured at antenatal; [b] Measured at 9-month interview. Standard errors in parentheses.
*** p < .001; ** p < .01; * p < .05; † p < .10.

NCEA = National Certificate of Educational Achievement

Table 8: Structural equation models predicting child outcomes at 54-month interview (n = 1,349)

	Cognitive development coefficients		Negative affect coefficients		Effortful control coefficients		Cultural connectedness coefficients	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Family trajectory (ref: Stable two parents)								
Living with kin, late transition to mostly two parents	−1.230**	−0.177	0.223***	0.111*	−0.069†	−0.021	0.120*	0.088
	(0.360)	(0.369)	(0.048)	(0.052)	(0.038)	(0.042)	(0.050)	(0.057)
Living with others with instability	−0.091	0.185	0.086	0.016	0.039	0.063	0.207*	0.230*
	(0.692)	(0.672)	(0.094)	(0.095)	(0.075)	(0.076)	(0.103)	(0.104)
Single parent with very late transition to living with others	−2.92***	−1.166†	0.423***	0.277**	−0.025	0.002	0.328**	0.206*
	(0.692)	(0.669)	(0.094)	(0.095)	(0.074)	(0.076)	(0.105)	(0.105)
Maternal characteristics								
Maternal education[a] (ref: Bachelor's degree or higher)								
No secondary school qualification		−1.968**		0.197*		−0.045		−0.471***
		(0.570)		(0.080)		(0.064)		(0.088)
Secondary school/NCEA 1–4		−0.154		0.089		−0.018		−0.300***
		(0.454)		(0.065)		(0.052)		(0.071)
Diploma/trade certificate./NCEA 5–6		−0.856*		0.145*		0.047		−0.202**
		(0.426)		(0.060)		(0.048)		(0.066)
Age[a] (years)		0.100**		−0.003		0.011**		−0.013*
		(0.033)		(0.004)		(0.004)		(0.005)
Employed[a]		−0.015		−0.024		0.007		0.031
		(0.349)		(0.050)		(0.040)		(0.054)
Mother identifies as Māori		−0.878*		0.142**		0.044		0.316***
		(0.342)		(0.048)		(0.039)		(0.053)

	Cognitive development coefficients		Negative affect coefficients		Effortful control coefficients		Cultural connectedness coefficients	
Family characteristics								
Deprivation index[b] (0–6 scale)		−0.294*		0.047**		−0.018		0.013
		(0.117)		(0.016)		(0.013)		(0.018)
Number of siblings[a] (0–6+ scale)		−0.534***		−0.027		−0.007		0.040*
		(0.124)		(0.018)		(0.014)		(0.019)
Residential moves since child's birth (0–4+ scale)		−0.023		0.013		0.010		
		(0.116)		(0.017)		(0.013)		
Child characteristics								
Female[b]	2.173***	2.296***	0.074†	0.075†	0.370***	0.374***	0.131**	0.129**
	(0.335)	(0.321)	(0.044)	(0.043)	(0.035)	(0.035)	(0.049)	(0.047)
Born at low birthweight[b] (<2500 grams)	−2.410**	−2.376**	−0.062	−0.057	0.034	0.023	−0.146	−0.114
	(0.766)	(0.733)	(0.102)	(0.101)	(0.081)	(0.081)	(0.114)	(0.111)
Developmental problem[b]	−0.249	−0.143	0.022	0.009	−0.033	−0.023	0.163*	0.183*
	(0.530)	(0.507)	(0.073)	(0.072)	(0.058)	(0.058)	(0.082)	(0.079)
Child's age at 54-month interview	0.181†	0.355***	0.025†	0.011	0.020†	0.025*	0.035*	0.037*
	(0.102)	(0.099)	(0.014)	(0.014)	(0.011)	(0.011)	(0.015)	(0.015)
Geographic characteristics								
Meshblock deprivation[a] (1–10 scale)		−0.251***		0.016†		−0.002		0.030**
		(0.062)		(0.009)		(0.007)		(0.010)
Rural area[a]		0.111		−0.131		−0.040		0.092
		(0.621)		(0.088)		(0.070)		(0.096)

	Cognitive development coefficients		Negative affect coefficients		Effortful control coefficients		Cultural connectedness coefficients	
District Health Board[b] (ref: Auckland)								
Counties Manukau		−0.430		0.019		0.007		−0.078
		(0.443)		(0.063)		(0.050)		(0.069)
Waikato		0.151		0.007		0.025		0.124†
		(0.437)		(0.062)		(0.050)		(0.068)
Elsewhere		−2.455**		−0.045		0.030		0.274*
		(0.839)		(0.117)		(0.094)		(0.128)
Constant			2.827***	3.379***	4.130***	3.541***		
			(0.742)	(0.763)	(0.587)	(0.612)		
Log likelihood	−24675.439	−43162.394	−6037.702	−24568.852	−5721.710	−24270.940	−20319.760	−38827.178
R^2	0.082	0.218	0.031	0.071	0.084	0.098	0.026	0.107
RMSEA [90% CI lower and upper bounds]	0.066	0.046	n/a	n/a	n/a	n/a	0.096	0.067
	[.062, .071]	[.042, .049]					[.091, .100]	[.064, .070]
CFI	0.721	0.723	n/a	n/a	n/a	n/a	0.795	0.782

Notes: [a] Measured at antenatal; [b] Measured at 9-month interview. Standard errors in parentheses. *** p < .001; ** p < .01; * p < .05; † p < .10. CFI = Comparative Fit Index; CI = Confidence Interval; n/a = Not applicable, fully saturated model; NCEA = National Certificate of Educational Achievement; RMSEA = Root Mean Square Error of Approximation.

Table 9: Path coefficients for models predicting child outcomes at 54-month interview via cultural connectedness (n = 1,349)

	Outcome	Cultural connectedness	Indirect effect
	B [Confidence intervals]		B [Bootstrapped bias-corrected confidence intervals]
Cognitive			
Cultural connectedness	0.201	--	--
	[−0.191, 0.592]		
Family trajectory (ref: Stable two parents)			
Living with kin, late transition to mostly two parents	−0.195	0.088	0.018
	[−0.917, 0.527]	[−0.024, 0.200]	[−0.011, 0.075]
Living with others with instability	0.143	0.231*	0.046
	[−1.175, 1.460]	[0.027, 0.443]	[−0.038, 0.163]
Single parent with very late transition to living with others	−1.207†	0.206*	0.041
	[−2.518, 0.105]	[0.001, 0.411]	[−0.023, 0.142]
Negative affect			
Cultural connectedness	−0.021	--	--
	[−0.076, 0.034]		
Family trajectory (ref: Stable two parents)			
Living with kin, late transition to mostly two parents	0.113*	0.088	−0.002
	[0.010, 0.215]	[−0.024, 0.200]	[−0.013, 0.001]
Living with others with instability	0.021	0.231*	−0.005
	[−0.165, 0.207]	[0.027, 0.443]	[−0.019, 0.003]
Single parent with very late transition to living with others	0.281**	0.206*	−0.004
	[0.094, 0.468]	[0.001, 0.411]	[−0.038, 0.002]

	Outcome	Cultural connectedness	Indirect effect
Effortful control			
Cultural connectedness	0.065**	--	--
	[0.021, 0.109]		
Family trajectory (ref: Stable two parents)			
Living with kin, late transition to mostly two parents	−0.027	0.088	0.006
	[−0.108, 0.055]	[−0.024, 0.200]	[−0.002, 0.014]
Living with others with instability	0.048	0.231*	−0.015[a]
	[−0.101, 0.197]	[0.027, 0.443]	[0.001, 0.031]
Single parent with very late transition to living with others	−0.011	0.206*	0.013[a]
	[−0.161, 0.138]	[0.001, 0.411]	[0.000, 0.033]

Notes: Analyses include full set of controls. *** p < .001; ** p < .01; * p < .05; † p < .10; [a] Indirect effect significant at at least p < .05.