

Extended abstract for IUSSP 30th International Population Conference (IPC2025)

Title: Exploring Cultural Identity as an Important Determinant on Contemporary Māori-Indigenous Fertility Patterns in Aotearoa New Zealand

Author: Dr Moana Rarere*

*The University of Waikato Te Ngira Institute for Population Research

Email: moana.rarere@waikato.ac.nz

Background

This paper shares insights from my recently completed doctoral study¹ that reviewed demographic studies of post-transition² Māori fertility patterns and trends in Aotearoa New Zealand³. Since the late 1970s Māori fertility has gradually converged to a level similar to that of Pākehā⁴ women. In 2024, the Total Fertility Rate (TFR) was 2.0 for Māori and 1.5 for all Aotearoa women⁵. However, despite this ‘convergence’, important differences persist. Most notably Māori women have children at younger ages and over a longer period of time. Most of the Māori fertility literature highlights differences rather than similarities between Māori and Pākehā fertility, which partly reflects the distinct demographic transitions of each population (Pool, 1991). In summary:

Pre-Māori fertility transition

- Māori fertility levels were much higher than Pākehā over a sustained period (Pool, 1991; Pool et al., 2007)
- Māori transition from high to low fertility occurred a century later (1966-1976) (Pool, 1991; Pool et al., 2007)
- The determinants of fertility transition differed - uptake of effective birth control (Māori) versus delayed marriage (Pākehā) (Pool, 1991; Pool et al., 2007)

Post-Māori fertility transition

- Māori TFR has mostly hovered above replacement⁶; Pākehā TFR is below replacement
- Māori births are concentrated at younger ages⁷ (Jackson et al., 1994)
- Spacing between children born to Māori mothers is closer (Johnstone et al., 2001)

Other fertility studies showed that Indigenous peoples in North America and Australia shared striking similarities with Māori in terms of age-specific patterns and spacing (Johnstone, 2011a) suggesting that common cultural factors could be at play. While I accounted for demographic and economic factors, my primary focus was on understanding the potential influence of cultural orientation which has received little attention in demographic studies to date. Hence, my overarching research question was: *To what extent does culture influence contemporary Māori fertility patterns?*

Theoretical focus

Analysing fertility is a core undertaking in demography for the purpose of understanding the broader dynamics of population change. However, a review of the Māori fertility literature – and indeed Indigenous fertility more broadly (Johnstone, 2011a, 2011b) – reveals a startling lack of cultural depth and understanding from an Indigenous perspective. One of the reasons for this is that most of the studies have been conducted by non-Indigenous demographers, deploying Western (and often Eurocentric) perspectives, theories, and frameworks. This study addresses this issue by rethinking how we ‘do’ Indigenous demography in ways that foreground Indigenous perspectives in terms of our approach, analyses, and interpretations. Applying a critical Indigenous lens in the field of demography is rare, and in terms of understanding Māori fertility, is almost entirely absent. There is also a growing acknowledgement in the field of the need for an “...Indigenous theory...that reflects social, economic, political, historical and cultural realities” (Johnstone, 2011a, p. 117). Much of the Māori

¹ Completed in July 2024

² Māori fertility transition occurred between 1966-1976, approximately 100 years after the Pākehā fertility transition.

³ Hereafter, Aotearoa.

⁴ New Zealanders of European descent

⁵ See StatsNZ infoshare, Table DFM003AA, *Total fertility rate (Māori & total) (Annual-Mar)*. The total fertility rates includes Māori and Pacific peoples, who generally have higher fertility rates, and therefore, Pākehā rates are likely to be even lower.

⁶ More recently, Māori fertility rate has dipped just under replacement. see StatsNZ infoshare, Table DFM006AA, *Total fertility rate (Māori & total) (Annual-Dec)*

⁷ see StatsNZ infoshare, Table DFM017AA, *Age-specific fertility rates by 5-year age group (Māori & total) (Annual-Dec)*.

fertility literature has covered the demographic, social, economic, political, and historical factors to help explain and contextualise Māori fertility trends and patterns (Douglas, 1977a, 1977b, 1981; Jackson et al., 1994; Pool, 1974, 1977, 1991; Statistics NZ, 2004⁸; Zodgekar, 1975). However, most of this scholarship barely scratches the surface in terms of exploring the Māori cultural influences on fertility, which is the primary focus of this study.

A key objective of this paper is to highlight an Indigenous-centred approach that can help us to better understand Māori fertility. Along with the tools of demography, I draw on Kaupapa Māori⁹ and Mana Wahine¹⁰, as cultural frameworks that uphold Māori knowledges, methods of knowledge creation, and ways of knowing that are specific to Māori women (Jahnke, 1997; Pihama, 2001; Simmonds, 2014; Smith, 1992). Given the dominance of Western theories and methodological approaches in the scholarship on Indigenous and Māori fertility, Mana Wahine, in tandem with Kaupapa Māori, creates an empowering space for Māori women to articulate their own understandings of fertility from their own cultural standpoint.

Methods

To explore the potential associations between culture and Māori fertility, this study deploys a mixed methods design of statistical techniques – using secondary data from the 2013 Aotearoa NZ Census and the 1995 New Zealand Women: Family, Employment, and Education (NZWFEE) Survey – and thematic analysis of interviews with nine Māori women.

The census is the only regular, nationally representative data collection that collects fertility data - it asks: How many babies have you given birth to? While the census does not ask about cultural identity e.g., self-concept, cultural engagement (see Houkamau & Sibley, 2010), we are able to combine responses to the ethnicity, Māori descent and iwi¹¹ affiliation questions to construct proxy indicators of Māori cultural identity. The analysis explores differences in *rates of childlessness* and *average number of children* across five identity categories.

For further validation, I use data from the NZWFEE to explore differences in birth timing/spacing using the piecewise exponential model and Kaplan-Meier survival estimates. I combined responses to the ethnicity and main ethnicity questions to again construct proxy indicators for Māori cultural identity.

To complement and enhance the findings from the quantitative analyses, and to build a better understanding of how Māori identity shapes fertility choices, I used semi-structured interviews as the most appropriate method to elevate Mana Wahine and Māori women's voices.

Findings

The results from the census showed a clear pattern: women with 'thicker' ties to Māori identity (i.e., Māori only)¹² have lower rates of childlessness and more children, on average. By contrast, those with 'thinner' ties (i.e., Descent only) have higher rates of childlessness and a smaller average number of children (see Figure 1). A similar pattern occurs at higher education levels (see Table 1). The results from the NZWFEE showed that: 1) Mainly Māori women birth their first child earlier than Mainly European at younger ages (see Figure 1 & Table 2); 2) birth interval times vary between Mainly Māori and Mainly European at higher birth orders (4+) (see Table 2); 3) women with no qualifications are more likely to birth their first child earlier, followed by Mainly Māori, and then Mainly European (see Table 3). Together, the census and survey results suggest that Māori cultural orientation, as measured by Māori identity in the data instruments, is a key factor influencing Māori fertility. However, we acknowledge the limitations in the concepts, constructs, and measures used in the data sources (see Rarere, 2018; Rarere et al., 2023).

Findings from the interviews highlighted whakapapa¹³ and whānau¹⁴ were key concepts at the centre of fertility choices, that is, genealogical relationships and kinship structures collectively cohered Māori as a people (Rarere, 2022).

⁸ Cited under its former name, but now known as Stats NZ – Aotearoa's official statistics agency

⁹ Māori-centred research framework that is based on Māori ideology, philosophies, or principles

¹⁰ Māori concept meaning Māori women's discourses

¹¹ Māori term meaning tribal/tribe

¹² Women who reported exclusive Māori ethnicity, descent, and at least one iwi

¹³ Māori term meaning genealogy but used in this context I am meaning genealogical continuity

¹⁴ Māori term meaning family, extended family, or kinships

Conclusion

Overall, the study implies that fertility patterns reflect different values i.e., culture that exist in the Māori world versus Pākehā world, and that taken-for-granted demographic theories and analytical tools and practices need to incorporate Indigenous-centred frameworks and perspectives for a better understanding of Indigenous fertility and population change.

Tables and Figures

Figure 1: Proportion of women (ages 30-34) by family size, 2013 Census

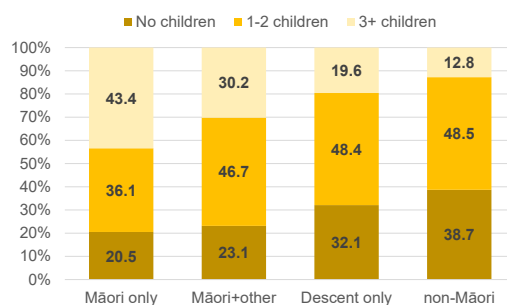


Table 1: Average number of kids per woman & % childless women (ages 30-34) by education level, 2013 Census

	Highest education	Average # kids	% childless
Māori only	None	2.8	17.4
	School	2.3	19.5
	Sub-degree	2.3	20.0
	Degree	1.6	30.8
Māori & other	None	2.6	14.0
	School	1.9	20.7
	Sub-degree	1.8	22.0
	Degree	1.3	36.2
Descent only	None	2.2	18.2
	School	1.5	30.9
	Sub-degree	1.5	31.4
	Degree	0.9	49.4
Non-Māori	None	1.9	21.8
	School	1.4	30.3
	Sub-degree	1.2	35.9
	Degree	0.9	48.8

Table 2: Kaplan-Meier estimates of median time (mths) of birth intervals, 1995 NZWFEE

	Birth interval to:					
	1st	2nd	3rd	4th	5th	6 th + over
Mainly Māori	59	16	18	17	24	21
Mainly European	63	19	23	15	20	16
non-Māori	81	14	18	21	16	15

Figure 2: Kaplan-Meier survival estimates for transition to first birth, 1995 NZWFEE

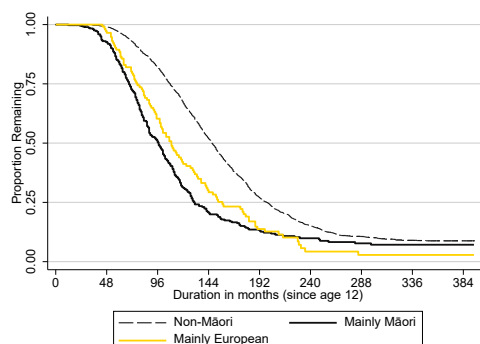


Table 3: Hazard ratios to first birth for women who are in a relationship, 1995 NZWFE

	Predictors	Hazard ratios
Ethnic identification (time invariant)	Non-Māori (ref)	
	Mainly Māori	1.69 ***
	Mainly European	1.52 **
Highest qualification (time invariant)	Tertiary qual (ref)	
	No qual	1.99 ***
	Secondary qual	1.41 ***
	Other tertiary qual	1.34 ***
Age groups (time variant)	30-34 yrs (ref)	
	12-19 yrs	0.00 ***
	20-24 yrs	0.01 ***
	25-29 yrs	0.01 ***
	35-39 yrs	0.57
	40-44 yrs	0.10 *
Location (time invariant)	Main urban area (ref)	
	Minor urban area	1.30 ***
	Rural area	1.09

+p<0.1 *p<0.05 **p<0.01 ***p<0.001

References

- Douglas, E. M. K. (1977a). The new net goes fishing: Fertility change amongst the Māori of New Zealand. In J. C. Caldwell (Ed.), *The persistence of high fertility: Population prospects in the third world* (Vol. 2, pp. 661-678). Australian National University.
- Douglas, E. M. K. (1977b). *Fertility decline and socio-cultural change: The case of the New Zealand Māori* [Occasional Paper] (No. 2). The University of Waikato.
- Douglas, E. M. K. (1981). *Māori fertility and family structure* [Report](Report No. 3). The University of Waikato.
- Houkamau, C. A., & Sibley, C. G. (2010). The Multi-dimensional Model of Maori Identity and Cultural Engagement. *New Zealand Journal of Psychology*, 39(1), 8-28.
- Jackson, N., Pool, I., & Cheung, M. C. (1994). *Māori and non-Māori fertility: Convergence, divergence, or parallel trends?* (Discussion Papers No. 3). University of Waikato Population Studies Centre.
- Jahnke, H. T. (1997). Towards a theory of Mana Wahine. *He Pūkenga Kōrero A Journal of Māori Studies*, 3(1), 27-36.
- Johnstone, K. (2011a). Indigenous fertility transition in developed countries. *New Zealand Population Review*, 37, 105-123.
- Johnstone, K. (2011b). *Indigenous fertility in the Northern Territory of Australia: Stalled demographic transition?* [Doctoral thesis, Australian National University]. Australian National University Open Access Theses. Canberra. <http://hdl.handle.net/1885/8742>
- Johnstone, K., Baxendine, S., Dharmalingam, A., Hillcoat-Nalletamby, S., Pool, I., Paki Paki, N., & Population Studies Centre University of Waikato. (2001). *Fertility and family surveys in countries of the ECE region: Standard country report New Zealand* [Economic Studies No. 10s]. United Nations.
- Pihama, L. (2001). *Tihei mauri ora honouring our voices: Mana wahine as a kaupapa Māori theoretical framework* [Doctoral thesis, University of Auckland]. University of Auckland Research Space. <http://hdl.handle.net/2292/1119>
- Pool, I. (1974). The onset of the New Zealand Maori fertility decline 1961-1966. *Pacific Viewpoint*, 15(1), 81-85.
- Pool, I. (1977). *The Maori population of New Zealand 1769-1971*. Auckland University Press.
- Pool, I. (1991). *Te iwi Maori: A New Zealand population, past, present & projected*. Auckland University Press.
- Pool, I., Dharmalingam, A., & Sceats, J. (2007). *The New Zealand family from 1840: A demographic history*. Auckland University Press.
- Rarere, M. (2018). Understanding 'higher' Māori fertility in a 'low' fertility context: Does cultural identity make a difference? *New Zealand Population Review*, 44, 21-47. <https://population.org.nz/latest-journals/>
- Rarere, M. (2022). The importance of whakapapa for understanding fertility. *Genealogy* 6(2), Article 26. <https://doi.org/10.3390/genealogy6020026>
- Rarere, M., Jarallah, Y., & Kukutai, T. (2023). Indigenous fertility in Aotearoa New Zealand: How does ethnic identity affect birth spacing and timing? *Journal of Population Research*, 40(4), 25. <https://doi.org/10.1007/s12546-023-09321-y>
- Simmonds, N. (2014). *Tū te turuturu nō Hine-te-iwaiwa: Mana wahine geographies of birth in Aotearoa New Zealand* [Doctoral thesis, University of Waikato]. University of Waikato Research Commons. <https://hdl.handle.net/10289/8821>
- Smith, L. T. (1992). Māori women: Discourses, projects and mana wahine. In S. Middleton & A. Jones (Eds.), *Women and education in Aotearoa 2*. Bridget Williams Books.
- Statistics New Zealand. (2004). *Fertility of New Zealand women by ethnicity: Based on New Zealand 1996 Census of Population and Dwellings*. http://www.stats.govt.nz/browse_for_stats/people_and_communities/Women/fertility-women-by-ethnicity.aspx
- Zodgear, A. V. (1975). Māori fertility in a period of transition. *Journal of Biosocial Science*, 7(3), 345-352. <https://doi.org/10.1017/S0021932000010208>