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Pacific Islands Families Study: factors associated with living in extended families one year on from the birth of a child*

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Abstract Using data from the "Pacific Islands Families: the first two years of life (PIF) study", this paper explores the factors associated with the living arrangements of mothers with a one-year-old Pacific child. Three living arrangements are considered: (1) those children who live with immediate family members only; (2) children who live with extended family members including at least one of their grandparents; and (3) children who live with extended family members but do not live with any of their grandparents. Findings of interest include: mothers who were born in New Zealand are much more likely to live in an extended family with the child's grandparent(s) compared to those who came to New Zealand as an adult; and mothers with high New Zealand identity

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and low Pacific identity being more likely to live with extended family members other than the child's grandparent(s) relative to those with low New Zealand and high Pacific identity.

Keywords living arrangements; Pacific Islanders; New Zealand

INTRODUCTION

As one of the fastest growing population subgroups in New Zealand, Pacific peoples (those residents with a Pacific Islands heritage) form an integral part of New Zealand society (Cook et al. 2001). In the 2000 census, over 230,000 people were of Pacific ethnicity, making up 6.5% of the New Zealand population (Statistics New Zealand 2002). The Pacific population in New Zealand is diverse. Samoan people make up the largest group (49.6%), followed by Cook Island Maori (22.7%), Tongan (17.6%), Niuean (8.7%), Fijian (3.0%), Tokelauan (2.7%) and Tuvalu Islanders (0.8%)¹. This ethnic diversity is manifest in differing cultures, languages and access to (and utilisation of) health and social services.

New Zealand has a long history of Pacific migration with many people migrating from the Pacific Islands during the 1960s (Meleisea & Schoeffel 1998; Bedford & Didham 2001). Migration between Pacific Island groups and countries around the Pacific was fuelled by the search for employment and a higher standard of living (Macpherson 1991), resulting in 400,000 people of Pacific ethnicity living in rim countries of the Pacific by the mid 1990s (Ward 1996). However, Pacific people became significantly socio-economically disadvantaged in New Zealand society after the reforms in the early 1990s. For example, in 1987–88, 23.4% of the economic family units that contained a Pacific adult were in poverty compared to 13.8% of all economic family units, and, by 1992–93, this gap had widened drastically to 50% of all economic family units that contained a Pacific adult compared to 27.9% of all economic family units (Ministry of Social Development 2005).

The employment rate and labour force participation of Pacific people is lower than in the total population, as well as the annual median income. Pacific people are more likely to have restricted access to higher education, home ownership, and functional amenities such as automobiles and telephones. They are also over represented in multiple adverse health and social statistics (Bathgate et al. 1994; Statistics New Zealand 2002) and much more likely to be living in a crowded household (Ministry of Social Development 2005).

While most New Zealand families live in a nuclear family household—that is, parent(s) and their children—a significant minority live with extended family members. In 1996, there were

¹Individuals are allowed to report up to three ethnicities in the New Zealand Census. The percentages reported here include individuals who report multiple Pacific ethnicities and thus add up to more than 100%

²An economic family unit is "a group of co-resident people whose financial affairs are common or have been merged to the extent the people are substantially interdependent" (Ministry of Social Development 2005: 163).

³Those in poverty are defined as those who have net-of-housing-cost incomes below the 60% line (benchmarked to the 1998 median).

67,068 extended family households which made up 7.1% of all families (Statistics New Zealand 1998). These extended family households can be separated into three main types: (1) those that contain only one generation (e.g. siblings, cousins); (2) those that contain two generations (e.g. siblings, cousins and their children); and (3) those that contain three or more generations of family members (e.g. grandparent(s), parent(s) and children). The most common extended family household type in New Zealand in 1996 contained three or more generations (49.2%) followed closely by those containing two generations (43.6%) (Statistics New Zealand 1998). In New Zealand, Pacific people are much more likely to live in a household with extended family members than the general population. In the 1996 census, 41% of Pacific people lived in extended families compared to 23% of Maori, 23% of Asian and 6% of European people (Statistics New Zealand 1998).

Living with extended family members can prove to be beneficial in a number of areas. It can reduce living costs, particularly housing costs; allow for greater specialisation within the household in such areas as housework, meal preparation and labour market participation; and provide a supportive environment. Families with children can particularly benefit from living with extended family members. Research shows that grandparents may have a direct effect on child development as sources of attachment, affection and knowledge, as well as an indirect effect on children through their support for parents which reduces parental stress and allows parents to spend more time with their children (Tinsley & Parke 1984). Research on extended families in Korea found that due to these factors, grandparents may increase the resilience of the children in extended families (Jin Hwang & St James-Roberts 1998).

However, extended family living can also have negative impacts on the family. Household crowding, in particular, is often associated with negative health outcomes for members of the household (Gray 2001). In three-generation extended family households, role conflicts between the children's grandmothers and mothers may also result in adverse consequences for both parent and child development (Unger & Cooley 1992; Spieker & Bensley 1994).

Gordon et al. (2004) investigated the causal relationship between extended family living and lower parenting confidence as measured in a sample of youth mothers with premature low-weight babies. They found that the mothers with low parenting competence were more likely to choose to live with family members rather than those living with family members developing a low level of parenting competence.

New migrants are a group of people who often live with extended family members. Blank & Torrecilha (1994) argue that for Latino immigrants to the United States (US), this is primarily related to lifecycle rather than financial or cultural reasons. They found that those who had young children or older adults who needed care were much more likely to live with extended family members.

Pérez (1994) investigated the family living arrangements of a sample of eighth and ninth graders who had at least one parent who was not born in the US and who had themselves either been born in the US or had lived in the US for at least five years. The author used a logistic multivariate regression using the presence of the child's grandparents in the household as the dependent variable. It was found that social marital status, mother's education, father's socio-economic status index and Cuban origin were all significant in explaining this extended family living arrangement. The author concluded that the conditions of migration and the socio-economic status of the family may be a more important factor than culture and the extent of assimilation.

The aim of the present study is: (1) to examine the prevalence of living within an extended family one year after the birth of a Pacific child; and (2) to describe the factors associated with living in extended families.

METHODS

The data used in this study are drawn from the Pacific Islands Families: first two years of life (PIF) study. The PIF study is a longitudinal investigation of a cohort of 1398 infants born at Middlemore Hospital, South Auckland, during the year 2000. Middlemore Hospital was chosen as the site of recruitment of the cohort as it has the largest number of Pacific births in New Zealand and is representative of the major Pacific ethnicities. All potential child participants were selected from live births at Middlemore Hospital where the child had a least one parent who identified themselves as being of a Pacific ethnicity and who was also a New Zealand permanent resident. All procedures and interview protocols had ethical approval from the National Ethics Committee.

Information concerning the current and recent circumstances of the families was obtained through interviews conducted at three points of time: shortly after birth; at 12 months of age; and at 24 months of age (Paterson et al. 2006). Only the data from the 12-month interviews with the mothers⁴ have been used in this study because in that wave, mothers who lived with extended family members were asked why they chose to live in an extended family.

Information collected from the mother and used in our analysis included age, ethnicity, parity⁵, religion, English speaking competency, social marital status, education and cultural orientation. Cultural orientation was measured with a modified version of the General Ethnicity Questionnaire developed by Tsai et al. (2000). This measure is based on the widely used concept of "acculturation", the process used to refer to the changes that groups and individuals undergo when they come into contact with another culture (Berry & Kim 1988). Berry (1980) identified four different varieties of acculturation: "assimilation", "integration", "separation" and "marginalisation". In assimilation, cultural identity is relinquished and the individual moves into the larger society. We categorised mothers based on their acculturation scores for affinity toward New Zealand mainstream culture or identification with Pacific Islands. Hence "assimilated" mothers had high New Zealand identification and low Pacific identification. Integration involves maintenance of cultural integrity but also the movement to become an integral part of the larger society (high New Zealand, high Pacific). Separation refers to self-imposed withdrawal from the larger society (high Pacific, low New Zealand) and marginalisation refers to losing the essential features of one's culture, but not replacing them by entering the larger society (low Pacific, low New Zealand).

⁴The word "mother" is used to refer to the primary respondent. While 1201 (98.1%) of the primary respondents were in fact the biological mothers of the children in the cohort, 23 were not. Of these, twelve were adoptive mothers, four were grandmothers, two were foster mothers, two were biological fathers, one was a grandaunt, one a cousin and one a non-related caregiver (Paterson et al. 2006).

⁵Note that parity in this study refers to the number of children the mother has at this point in time. A parity of two therefore means that the mother has just had her second child.

RESULTS

Ninety-six percent (N = 1590) of potentially eligible mothers of Pacific infants who had been born between 15 March and 17 December 2000 gave consent to be visited in their homes when the infant was six weeks old. Of the 1477 mothers contacted and who met the eligibility criteria, 1376 (93.2%) agreed to participate in the study. A more conservative recruitment rate of 87.1% includes mothers who consented to contact and were either confirmed eligible or of indeterminable eligibility due to the inability to trace. This recruitment and beginning of the cohort should remain in the sample but the next part should be the 12-month cohort.

A second wave of interviews took place when the children were 12 months old. Eighty-eight percent (N = 1207) of the primary respondents interviewed in the first wave were interviewed again in the second wave and 17 new respondents participating resulted in a total of 1224 respondents for the 12-month interviews. Of those interviewed in both waves, 34% were New Zealand born, 48% self-identified as Samoan, 20% as Tongan, 17% as Cook Island Maori, 5% as Niuean, 3% as Other Pacific and 7% as Non Pacific. The Other Pacific group includes mothers identifying equally with Pacific and Non-Pacific groups and those identifying with Pacific groups other than Samoan, Tongan, Cook Island Maori or Niuean. The Non-Pacific group refers to mothers of infants fathered by Pacific men. The mean age of mothers was 30.1 years (SD = 6.1), 81% were married or in de-facto partnerships and 32% had post-school qualifications.

The analysis in this paper are presented in two parts. The first part uses cross tabulations to describe the proportion of mothers living in extended families by various characteristics of the mothers. This allows an initial description of the sample and the living arrangements of the members. The second part uses a multinomial logistic regression to assess the association of various factors with living arrangement while controlling for possible confounding factors. The variables examined are the mothers' age, ethnicity, parity, social marital status, stage of arrival in New Zealand (whether New Zealand born, came to New Zealand as a child or came to New Zealand as an adult), religion, whether the mother speaks English fluently or not, acculturation and education⁶.

Two notable variables which are excluded from our analysis are income and employment status. While a family's income is likely to influence their choice of living arrangement, their choice of living arrangement is also likely to influence their income. For example, a couple living with extended family members may be doing so in order to reduce costs given a low income. Or it may be that living with extended family members allows a family to choose to earn little. In addition, the PIF Study only collects information on weekly household income which is directly related to whether an individual lives in an extended family household as these households typically contain a greater number of working-age people. Employment status is also endogenously determined with living arrangements. Extended family members living in the same household may provide low-cost childcare which allows mothers to be employed, while preferences towards employment may influence the choice of family living arrangements. We control for educational attainment in our regression analysis which captures some of the effect that income and employment status have on living arrangements, as educational attainment is positively correlated with both income and employment (Maani & Maloney 2004).

⁶Fathers' education has not been included as this information is missing for a third of the fathers.

Half of the members in the sample live in a nuclear family and the other half live in an extended family household. Of those who reported living with extended family members, 61% live in a household in which at least one of the child's grandparents are present compared to 39% living in an extended family household in which none of the child's grandparents are present.

Table 1 displays a cross tabulation of mothers' characteristics by family type. Two family household types are distinguished: a nuclear family household and an extended family household. Extended family living is shown to be more prevalent for mothers who are aged less than 30 compared to those aged 30 and over. A greater proportion of Cook Island Maori and Other Pacific mothers were found living in an extended family compared to Pacific mothers in general. A smaller proportion of Samoan and Tongan mothers were found to be living in an extended family relative to a nuclear family.

As parity increases the proportion of mothers living in an extended family decreases. A similar pattern can also be seen with the stage of arrival to New Zealand, with a greater proportion of those born in New Zealand found to be living in an extended family and a smaller proportion of those who came to New Zealand as an adult doing so. More mothers who were

Table 1 Mothers' characteristics by family type

Mothers' characteristics		Child lives in a nuclear family (%)	Child lives in an extended family (%)
Overall		50.2	49.8
Age	<25	32.8	67.1
	25–29	45.6	54.3
	30–34	63.7	36.3
	35+	63.3	36.8
Ethnicity	Samoan	52.8	47.2
	Cook Island Maori	41.1	58.9
	Niuean	49.1	50.8
	Tongan	53.3	46.7
	Other Pacific	40.5	59.4
	Non Pacific	50.6	49.3
Parity	1	31.7	68.2
	2	47.0	53.0
	3	56.4	43.5
	4+	68.4	31.6
Stage of arrival to	NZ born	39.9	60.1
New Zealand	As a child (<15)	45.3	54.8
	As an adult $(15+)$	60.1	40.0
Social marital status	Not partnered	25.7	74.3
	Partnered	56.0	43.9
Religion	Some	50.4	49.7
	None	47.3	52.7
Speaks English fluently?	Yes	45.4	54.5
	No	58.0	42.0
Acculturation	Assimilationist	44.4	55.4
	Segregationalist	79.8	40.4
	Integrator	45.5	54.4
	Marginal	46.1	53.9
Education	No formal	50.5	49.5
	Secondary school	49.6	50.3
	Post-school	50.4	49.5

Reason live with extended family	Frequency	%
Financial/cheaper for mother and nuclear family	233	38
Other	192	31
Taking care of extended family	130	21
Financial/cheaper for extended family	98	16
To help others	81	13
Cultural reasons	18	3
Missing/not applicable	17	3
Total number of mothers living in an extended family	610	100

 Table 2
 Reasons given by mothers for living in an extended family household

not living with a partner were found to be living with extended family members than those with a partner. In terms of acculturation, segregationalists were much less likely to be found living in an extended family. Mothers do not seem to differ in educational attainment in their choice of living arrangement.

Table 2 displays the reasons people gave for living with extended family members. Mothers were allowed to give up to three reasons. Seventeen respondents' replies are missing or not applicable, 457 respondents gave one reason, 123 respondents gave two reasons, and 13 respondents gave three reasons. The three most common reasons given were financial reasons for the nuclear family (38%), taking care of the extended family (21%) and financial reasons for the extended family (16%). The size of the 'other' category (31%) demonstrates the wide range of responses to this question. Only 3% of mothers who live with extended family members stated that they did so for cultural reasons.

While the cross-tabulations allow us to examine the characteristics of mothers that live in different types of households, we are not able to tell which characteristics are directly associated with having different living arrangements. For example, mothers with low education or parity may be more likely to live in extended families because they are also younger. A multinomial logistic regression was used with the family type as the dependent variable in order to assess the association of each individual factor controlling for all other variables.

Three different living arrangements were defined for the purposes of this analysis. These were the nuclear family (which included both "couple with children" and "single parent with children" household types), an extended family living situation in which at least one of the child's grandparents were living in the household, and other "extended" family types which did not contain any of the child's grandparents.

These three categories were considered desirable because the sample size in each group was fairly large. In addition, it was thought that the characteristics of the mothers who were living with at least one of their child's grandparents may differ significantly in some respects to the characteristics of the mothers who lived in extended families in which none of the child's grandparents were present. Nuclear families that include people that are unrelated to the family have been put in the last category. The number of families in this situation is small, and it is considered that many of the factors associated with living with unrelated people will be similar to those associated with living with relatives.

Table 3 outlines the results of the regression.⁷ The results are displayed in terms of odds ratios. The odds ratio compares the likelihood of a mother with a given characteristic (such as

⁷See next page

Table 3 Multinomial logistic regression odds ratios¹

Mothers' characteristic	s	Child lives with extended family including grandparent(s) ²	Child lives with extended family excluding grandparent(s) ¹
Age	<25 [†] 25-29 30-34 35+	1.00 0.93 0.54*** 0.58*	1.00 0.97 0.57** 0.81
Ethnicity	Samoan [†] Cook Island Maori Niuean Tongan Other Pacific Non Pacific	1.00 1.06 0.58 1.00 1.49 0.46**	1.00 1.94*** 1.66 1.50* 2.61* 1.55
Parity	1 [†] 2 3 4+	1.00 0.51*** 0.37*** 0.20***	1.00 0.64* 0.71 0.46***
Stage of arrival in New Zealand	New Zealand born [†] As a child As an adult	1.00 0.72 0.44***	1.00 1.48 1.42
Social marital status	Not partnered [†] Partnered	1.00 0.28***	1.00 0.38***
Religion	Some [†] None	1.00 1.12	1.00 1.16
Spoken English	Competent [†] Not competent	1.00 0.93	1.00 1.58*
Acculturation	Assimilationist [†] Segregationalist Integrator Marginal	1.00 1.08 1.24 1.04	1.00 0.54** 0.91 1.00
Education	No formal [†] Secondary school Post-school	1.00 0.90 1.22	1.00 1.11 1.40*

The dependent variable is family type.

²The reference family type is a nuclear family.

^{*}p<0.10; **p<0.05; ***p<0.01; †default state.

The sample is choice based (made up of individuals who chose to have a child) and, as such, many of the factors associated with family living arrangements are unlikely to be truly exogenous. For example, those mothers who live with their parents may have been more likely to have a child given the support available. We tried a series of regressions in order to be cautious about the impact of endogeneity. The first contained age, ethnicity, parity and stage of arrival in New Zealand. The second added social marital status, which was found to be significant and did not alter any of the other results. The third added religion, spoken English competency and acculturation. These were not jointly significant and did not alter any of the previous results. The fourth used a restricted sample of those aged over 25 and included education. The reason for this was the concern that pregnancy may have interrupted educational attainment for those aged less than 25. The smaller sample size increased the standard errors and as such reduced the significance of some variables. Education itself was not significant. When education was added to the whole sample, it did not alter any of the previous results and its addition was not very significant.

aged over 35) living in an extended family rather than a nuclear family relative to the likelihood that a mother with the reference characteristic (such as aged under 25) lives in an extended family rather than a nuclear family. A 5% level of significance was used.

The results show that mothers aged 30 to 34 were less likely to be living in an extended family living arrangements than those aged under 25. There was no significant difference between those aged less than 25 and those in the 25 to 29 years and 35 years and over age groups. Ethnicity appears to be important in predicting who will live in an extended family situation without the child's grandparents present but does not seem as important for the extended family situation in which the grandparents are present. Those mothers who were not of a Pacific ethnicity were less than half as likely to live in an extended family situation with the grandparents present compared to mothers who were of a Pacific ethnicity. Mothers of Cook Island Maori background were one and a half times more likely to be found in an extended family situation without the grandparents present than mothers of Samoan ethnicity. The mothers of the other ethnic groups, including Non-Pacific, were no more or less likely to be in this living arrangement as the mothers of Samoan ethnicity (at 5% significance).

Parity appears to be a particularly important factor for those living in an extended family household which includes the child's grandparent(s). The greater the parity, the less likely the family is to be in this type of living arrangement. Parity does not seem to be as important for those living in an extended family situation without the presence of the child's grandparent(s). However, it does become significant when the mother has four or more children. These families are half as likely to be in this living arrangement compared to those with one child.

Mother's who came to New Zealand as an adult appear to be half as likely to live in an extended family situation with the child's grandparent(s) compared to mothers who were born in New Zealand. This characteristic has no significant impact on those in an extended family living situation. Social marital status has a large impact on whether the child is living in an extended family situation. Those mothers who did not have a partner living with them are much more likely to live in both extended family situations relative to those who did have a partner living with them.

Acculturation does not appear to have any impact on those living in an extended family situation with the child's grandparent(s). However, mothers who were considered to be segregationalists were found to be half as likely as assimilationists to live in an extended family without the child's grandparent(s) present. The mothers' level of educational attainment appears to have no impact on living arrangements.

DISCUSSION

The significant variables associated with living with extended family members include the mother's age, ethnicity, parity, stage of arrival to New Zealand, social marital status and acculturation. The age effect together with the parity effect signals a lifecycle influence. Mothers who are young (under 30 years) or who have fewer children are more likely to be living in an extended family. This is consistent with the extended family acting as a support for members when their children (and they themselves) are young. Although income is not included in this analysis, it too usually follows a lifecycle pattern of being low when a person is young, growing as they get older and decreasing again as they reach retirement and thus might be related to these findings.

Non-Pacific mothers were less than half as likely to live in an extended family with at least one of the child's grandparents present than Pacific mothers. It is interesting to note, however, that they are found to be just as likely to live in an extended family in which none of the child's grandparents are present. It is possible that this reflects differing cultural expectations about the role of parents and grandparents (particularly the mother and grandmother) in caring for and parenting the children.

Characteristics of the mother associated with living in an extended family in which the child's grandparent(s) are present are different than those of mothers living in an extended family situation in which none of the child's grandparent(s) live in the same household. For example, those who came to New Zealand as an adult are much less likely to live in an extended family with the grandparent's present than those who are New Zealand born. However, there is no significant difference between stages of arrival in New Zealand in terms of extended family living in which none of the child's grandparents are present. One possible explanation for this may be that the child's grandparents may not reside in New Zealand. The residence of the child's grandparents is not collected in the dataset and so it is not possible to check for this.

Another area in which the characteristics of the mother differ depending on the extended family type is that of parity of four or more. While these families are less likely to live with extended family members, they appear to be more likely to do so in a living arrangement such that the child's grandparent(s) are not living in the same household, compared to one in which they are. It may be that the role conflicts between grandparents and parents living in the same household found in some research (Unger & Cooley 1992: Spieker & Bensley 1994) are driving this difference.

Another possible explanation is that of reverse causality. Perhaps those who live with at least one of the child's grandparents tend to have fewer children. If it is the responsibility of that particular family to provide care for the child's grandparent, they may choose to have fewer children in order to enable them to provide adequate care for the grandparent. However, this seems unlikely as Pacific people tend to have children at a fairly young age, the grandparents are likely to be fairly young also, and they are probably more in a position to provide support to the family rather than needing large amounts of support themselves.

Finally, the differences in the parity between the two types of extended family could be a result of selection by either the grandparent or the family. The grandparent may choose to live with whichever of their children have the fewest children of their own. Or else, those mothers who wish to work may have fewer children and live with the child's grandparent(s) so that they may provide assistance with childcare, whereas those mothers who choose not to work may be inclined to have more children and to live as a nuclear family due to a reduced need for childcare support.

CONCLUSION

This paper describes the living arrangements and associated characteristics of mothers with a one-year-old Pacific child and identifies a number of characteristics associated with extended family living. These mothers are more likely to live with extended family members when they are young, single or a new parent. In addition, living arrangements differ by ethnicity, with

non-Pacific mothers much less likely to be living with their child's grandparent(s) and Cook Island Maori mothers much more likely to be living in an extended family without the child's grandparent(s) present. We also found that different characteristics are associated with living in an extended family household in which the child's grandparents are present versus living in an extended family household in which the child's grandparent(s) are not present.

One major limitation of this study is that it is not possible to tell whether these results reflect different preferences of the parents of the sample children, different constraints faced by these parents or the preferences/availability of potential extended family members. For example, mothers who came to New Zealand as an adult were less than half as likely as those who were born in New Zealand to live in an extended family with at least one of the child's grandparents present, but it is not possible to tell if this result reflects an increased presence of grandparents in New Zealand for these families rather than an increased preference to living with grandparents. In general, without having detailed information on both the nuclear family and all potential extended family members, it is not possible to separate out these pathways.

Another limitation is the absence of a good measure of the socio-economic status of the family. Economic resources have been found to be significant in explaining family living arrangements in other pieces of research (Angel & Tienda 1982; Pérez 1994; Glick 2000). However, we did find that there is an insignificant relationship between mother's education and living in an extended family, which suggests that income effects may not be important in the context of this study. It is worth noting though that father's education would have formed a better proxy (but unfortunately this is not available in the current data), as it is likely that the father is the primary earner for the majority of families. In addition, qualifications may be measured too broadly to identify any specific effects.

It is also important to note that these results pertain to a particular sample of Pacific children living in Auckland and it is not possible to generalise for all Pacific people or for all people in New Zealand. There also may be other characteristics, such as grandparent's health or the mother's parenting skills, that are significantly associated with the family living arrangement but are not included in this study. However, overall this study does highlight that living in an extended family is most common among mothers that are young, single or a new parent and is not strongly related with most other characteristics of these mothers, including their education, religion, English speaking skills and acculturation.

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