

3. Fertility and family formation

One of the biggest events that occurs across many people's lifecourse is marriage. According to the 2006 Census, 49.6 per cent of Australians aged 15 years and over were in a registered marriage, with a further 17.2 per cent previously married at some point in time (that is, they were currently separated, divorced or widowed). By the 35–44 year age group, 77.3 per cent of the population were married or had been married at a particular point in time, rising to 94.5 per cent for Australians aged 55 years and over.

In addition to Australians who are in a registered marriage, there is also a high proportion of the population identified as being in a de facto marriage that, from a legal point of view, has most of the same rights and obligations as a registered marriage. According to the 2006 Census once again, 59.2 per cent of the population aged 15 years and over are in either a registered or de facto marriage. There are a number of reasons or motivations for two people voluntarily entering into a registered or de facto marriage. The role of joint production and joint consumption as a motivation for getting married is relatively prominent in the field of economics (Weiss 1997). The demographic literature, on the other hand, emphasises the production and rearing of children as a key motivation, or at least a key outcome of marriage (Parker and Alexander 2004). Sociology and anthropology have different focuses still. Whatever the focus, all these motivations are likely to be present to quite varying degrees at different points across the lifecourse.

One of the factors that influences or is influenced by the decision to marry is having and raising children. On the one hand, a significant minority of marriages occur because of pre-existing children in the relationship. On the other hand, individual males and females are more likely to become parents if they are in a registered or de facto marriage (Parker and Alexander 2004). While marriage and fertility decisions are in no way prerequisites for each other, it is clear that there is significant correlation between the two across individuals. According to the 2006 Census, 68.1 per cent of females aged 15 years and over reported having had at least one child. This rises to 83.1 per cent for Australians who are in a registered or de facto marriage, but falls to 47.8 per cent for those who were not married. At a population level, the most obvious impact of fertility decisions is population growth and regeneration. However, there are also a number of impacts on individual parents and other household members. Some of these effects have financial implications, whereas others are more directly related to individual wellbeing and/or other demographic characteristics (Kohler, Behrman and Skytthe 2005).

The analysis in this chapter focuses on four dependent variables. The first of these is whether or not a person is currently married. This can include a registered or a de facto marriage. The second dependent variable focuses on Australians who are married and captures whether they are in a registered as opposed to de facto marriage. The third variable is a count of the number of children that a female has ever given birth to. As this variable is applicable to females only and does not give any indication of the current age of the children (and hence the effect those children have on a person's current responsibilities), the final variable included in the analysis is whether a person provided unpaid child care in the two weeks preceding the census. This is the first time that analysis of such a variable has been undertaken for the Indigenous and non-Indigenous population simultaneously.

Recognising the relationship between marriage and fertility decisions discussed earlier, a person's marital status is not only used as a dependent variable in the first part of the section, it is also used as an explanatory variable when estimating the factors associated with the number of children ever born and providing unpaid child care.

Residential marital status

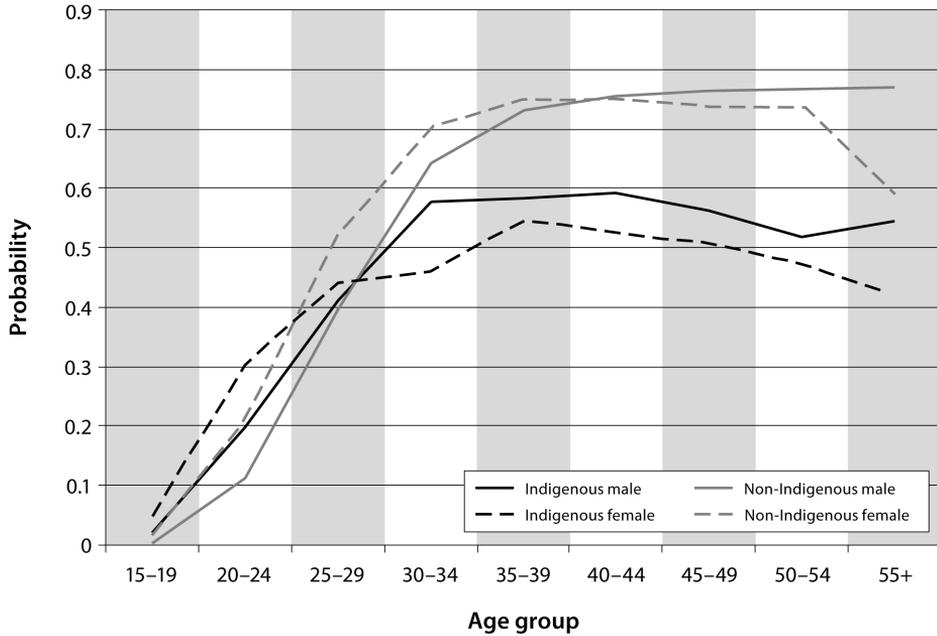
The probability of being in a registered or de facto marriage¹ across the lifecourse is presented for Indigenous and non-Indigenous males and females aged over 15 years in Fig. 3.1. The probability for the Indigenous population is in black, with Indigenous males represented by the solid line and Indigenous females the broken line. Non-Indigenous Australians are similarly represented in grey.

For both the Indigenous and non-Indigenous population, the probability of being in a registered or de facto marriage rises reasonably quickly across the lifecourse until a person reaches their mid-thirties. The probability then stays reasonably consistent, as those who enter into marriage are balanced by those who are no longer married (because of separation, divorce or widowhood). For females, there is a slight drop-off for Australians aged 55 years and over. This represents to a large extent the higher rate of mortality for males in general and Indigenous males in particular (as discussed in Chapter 8 of this monograph), leading to a significant number of widows. For the first two age groups in Fig. 3.1, the probability of being in a registered or de facto marriage is higher for the Indigenous population compared to the non-Indigenous population. From the 25–29 year age group onwards for males and the 30–34 year age group

1 Same-sex marriages were classified as de facto marriages in the 2006 Census.

onwards for females, however, the Indigenous population has a consistently lower probability. In other words, marriage appears to be delayed for longer for the non-Indigenous population, but is eventually more likely to occur.

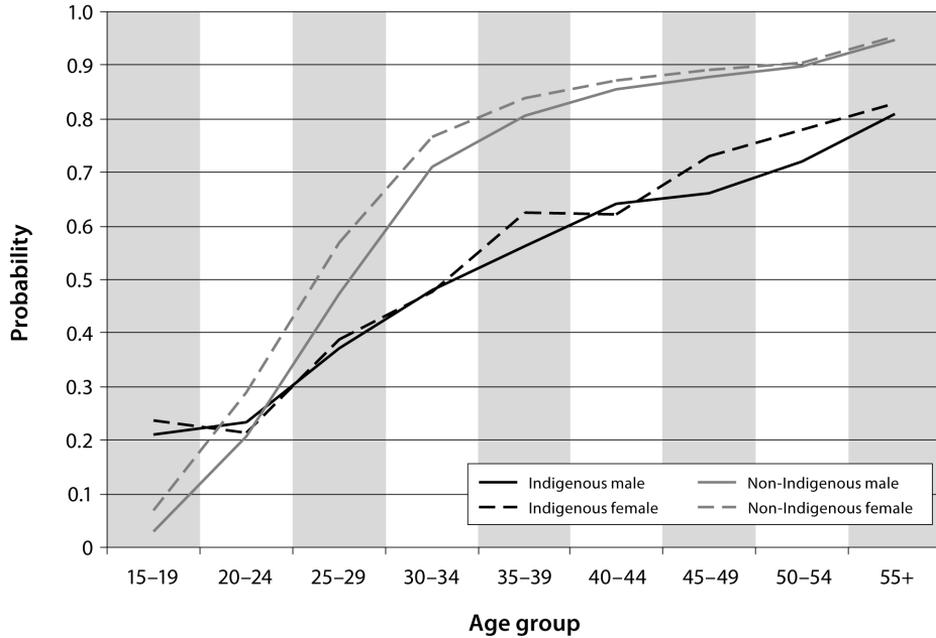
Fig. 3.1 Probability of being in a registered or de facto marriage, 2006



Source: Customised calculations using the 2006 5% CSE, ABS Census of Population and Housing

On average, across the lifecourse Indigenous Australians are less likely to be married than non-Indigenous Australians (39.9 compared to 59.8 per cent respectively). However, this difference is much greater when one considers registered marriages only, as in Fig. 3.2. Of those who are married, 60.3 per cent of Indigenous Australians are in a registered as opposed to de facto marriage, compared to 85.4 per cent of the respective non-Indigenous population. As shown in Fig. 3.2, this difference is relatively large from the early-thirties onwards.

Fig. 3.2 Probability of being in a registered as opposed to de facto marriage, 2006



Source: Customised calculations using the 2006 5% CSF, ABS Census of Population and Housing

Modelling marital status across the lifecourse

The dependent variable for the results presented in Table 3.1 is the probability of being in a registered or de facto marriage. Due to the fact that marital decisions are likely to have been made at a point potentially a long time in the past, employment, child care and other household characteristics are more likely to be determined by a person’s marital status rather than the other way around. For this reason, a reduced set of explanatory variables are included in Models 2 and 3 with information on State or Territory, geographic area, education completion and English proficiency only.

Table 3.1 Factors associated with the probability of being in a registered or de facto marriage, 2006

Explanatory variables ^a	Total population		Indigenous population
	Model 1	Model 2	Model 3
Indigenous	-0.198	-0.107	
Female	0.082	0.051	-0.089

3. Fertility and family formation

Aged 15–19	-0.453	-0.691	-0.584
Aged 20–24	-0.427	-0.544	-0.385
Aged 25–29	-0.261	-0.238	-0.156
Aged 35–39	0.132	0.082	n.s.
Aged 40–44	0.185	0.103	n.s.
Aged 45–49	0.211	0.110	n.s.
Aged 50–54	0.232	0.116	n.s.
Aged 55 +	0.273	0.133	n.s.
Aged 15–19, female	n.s.	0.096	0.174
Aged 20–24, female	0.080	0.081	0.186
Aged 25–29, female	0.054	0.051	0.116
Aged 35–39, female	-0.041	-0.037	n.s.
Aged 40–44, female	-0.066	-0.065	n.s.
Aged 45–49, female	-0.086	-0.085	n.s.
Aged 50–54, female	-0.095	-0.089	n.s.
Aged 55 +, female	-0.239	-0.241	n.s.
Victoria		-0.006	n.s.
Queensland		0.023	n.s.
South Australia		0.005	n.s.
Western Australia		0.024	n.s.
Tasmania		-0.020	0.066
Northern Territory		-0.013*	0.063
Australian Capital Territory		0.011	n.s.
Major city		-0.048	-0.021*
Completed Year 9 or less		-0.060	-0.059
Completed Year 10 or 11		0.009	n.s.
Does not have any qualifications		-0.059	-0.060
Has a Diploma or Certificate only		n.s.	n.s.
Speaks another language and English well		0.018	n.s.
Speaks another language and English not well or not at all		0.042	-0.136
Probability of the base case ^b	0.454	0.701	0.622
Pseudo R-Squared	0.1858	0.1940	0.1318
Number of observations	698 847	617 012	9 852

^a n.s. = Those variables that were not significant at the 10% level of significance.

* = Those variables that were significant at the 10% level of significance but not the 5% level.

^b The base case for the total population is non-Indigenous. For all estimates, the base case is male and aged 30–34 years and in addition, for Models 2–3 and for the Indigenous estimates, the base case lives in New South Wales, outside a major city, has completed Year 12, has a university degree, and speaks English only.

Source: Customised calculations using the 2006 5% CSE, ABS Census of Population and Housing

The results presented in Model 1 confirm that, after controlling for differences across the lifecourse by age and sex, Indigenous Australians are less likely to be in a registered or de facto marriage than non-Indigenous Australians. An estimated marginal effect of -0.198 relative to the predicted probability of the base case of 0.454 suggests that these differences are quite large. After controlling for a limited number of other demographic, geographic and socioeconomic characteristics, the results from Model 2 show that Indigenous Australians are still less likely to be in a registered or de facto marriage. However, the magnitude of the difference (represented by the marginal effect) is almost half that of the results presented in Model 1. That is, Indigenous Australians are less likely to be in a registered or de facto marriage in part because of their other characteristics.

There are two major differences between the results from Model 2 (estimated on the total sample) and results from Model 3 (estimated on the Indigenous sample only). Firstly, there is no significant difference between those in the last five age cohorts and the base case (those aged 30–34 years). Secondly, those Indigenous Australians who speak a language other than English, and English not well or not at all, are less likely to be in a registered or de facto marriage compared to those who speak English only. For the total population, relatively poor English ability is associated with a higher probability of being in a registered marriage. Those non-Indigenous Australians from a non-English speaking background are likely to be relatively recent arrivals to Australia. For the Indigenous population, on the other hand, those who speak a language other than English at home are likely to be those who have maintained a traditional Indigenous lifestyle. Clearly, there is a significant degree of heterogeneity amongst those from a non-English speaking background which should be recognised in policy delivery.

While there are few legal differences between registered and de facto marriages, research suggests that registered marriages are still less likely to dissolve and more likely to result in children (Dempsey and de Vaus 2004). This in no way implies that children should be seen to be a more legitimate reason for marriage than any other reason and that registered marriages are hence in any way superior. Rather, it signals potentially different motivations for and outcomes from the two types of marriage. The analysis presented in Table 3.2 focuses on the 39.9 per cent of Indigenous Australians and 59.8 per cent of non-Indigenous Australians in any type of marriage and considers the factors associated with the probability of being in a registered as opposed to de facto marriage. Similar to the previous table, three models are used with results presented as the difference in the predicted probability from the base case.

Table 3.2 Factors associated with the probability of being in a registered as opposed to de facto marriage, population aged 15 years and over

Explanatory variables ^a	Total population		Indigenous population
	Model 1	Model 2	Model 3
Indigenous	-0.232	-0.200	
Female	0.057	0.052	n.s.
Aged 15–19	-0.636	-0.628	-0.303
Aged 20–24	-0.493	-0.484	-0.326
Aged 25–29	-0.231	-0.227	-0.096
Aged 35–39	0.097	0.100	n.s.
Aged 40–44	0.145	0.146	0.159
Aged 45–49	0.168	0.169	0.192
Aged 50–54	0.189	0.191	0.246
Aged 55 +	0.238	0.237	0.313
Aged 15–19, female	n.s.	n.s.	n.s.
Aged 20–24, female	0.023	n.s.	n.s.
Aged 25–29, female	0.019	0.014*	n.s.
Aged 35–39, female	-0.021	-0.018	0.100*
Aged 40–44, female	-0.036	-0.031	n.s.
Aged 45–49, female	-0.038	-0.031	n.s.
Aged 50–54, female	-0.050	-0.044	n.s.
Aged 55 +, female	-0.039	-0.028	n.s.
Victoria		n.s.	0.058*
Queensland		-0.016	-0.037*
South Australia		-0.008	0.068*
Western Australia		-0.025	n.s.
Tasmania		-0.035	0.131
Northern Territory		-0.076	0.293
Australian Capital Territory		-0.041	n.s.
Major city		-0.005	0.075
Secondary school student		n.s.	n.s.
Tertiary student		-0.074	n.s.
Part-time student		0.043	n.s.
Completed Year 9 or less		-0.029	n.s.
Completed Year 10 or 11		-0.017	n.s.
Does not have any qualifications		-0.028	-0.118
Has a Diploma or Certificate only		-0.006	-0.072*
Speaks another language and English well		0.163	0.143
Speaks another language and English not well or not at all		0.211	n.s.

Probability of the base case ^b	0.709	0.715	0.531
Pseudo R-Squared	0.1526	0.1732	0.1466
Number of observations	415 779	372 067	4 142

^a n.s. = Those variables that were not significant at the 10% level of significance.

* = Those variables that were significant at the 10% level of significance but not the 5% level.

^b The base case for the total population is non-Indigenous. For all estimates, the base case is male and aged 30–34 years and in addition, for Models 2–3 and for the Indigenous estimates, the base case lives in New South Wales, outside a major city, has completed Year 12, has a university degree, and speaks English only.

Source: Customised calculations using the 2006 5% CSE, ABS Census of Population and Housing

Results presented in Model 1 confirm the summary given in Fig. 3.2 which show that Indigenous Australians who are married are less likely to be in a registered as opposed to de facto marriage compared to a married non-Indigenous Australian. Specifically, the model predicts that the probability of a married non-Indigenous male aged 30–34 years being in a registered marriage is 0.709. The probability for a married Indigenous male of the same age is estimated to be 0.477. After controlling for a range of other characteristics, the difference between the Indigenous and non-Indigenous population is still significant, albeit with a slightly smaller marginal effect. Other variables of significance are education participation and attainment (those with higher levels of education are more likely to be in a registered marriage), as well as speaking a language other than English which is associated with a higher probability.

The most interesting difference between the estimates for the total population (Model 2) and for the non-Indigenous population (Model 3) is the association with living in a major city. For the total population, the coefficient is negative and significant, albeit with a very small marginal effect. Essentially, there is no real difference between Australians who live in a major city compared to those that do not. Compared to this, married Indigenous Australians who live in a major city are significantly more likely to be in a registered as opposed to de facto marriage. This is likely to reflect in part the greater access to the formal mechanisms required for a registered marriage for Indigenous Australians in major urban areas and the greater access to marriage rites under customary law in non-urban and (especially) remote Australia. Whatever the reason, it would appear that there are fewer differences between Indigenous and non-Indigenous Australians in a major city than there are between an Indigenous Australian living in a major city and one in the rest of Australia.

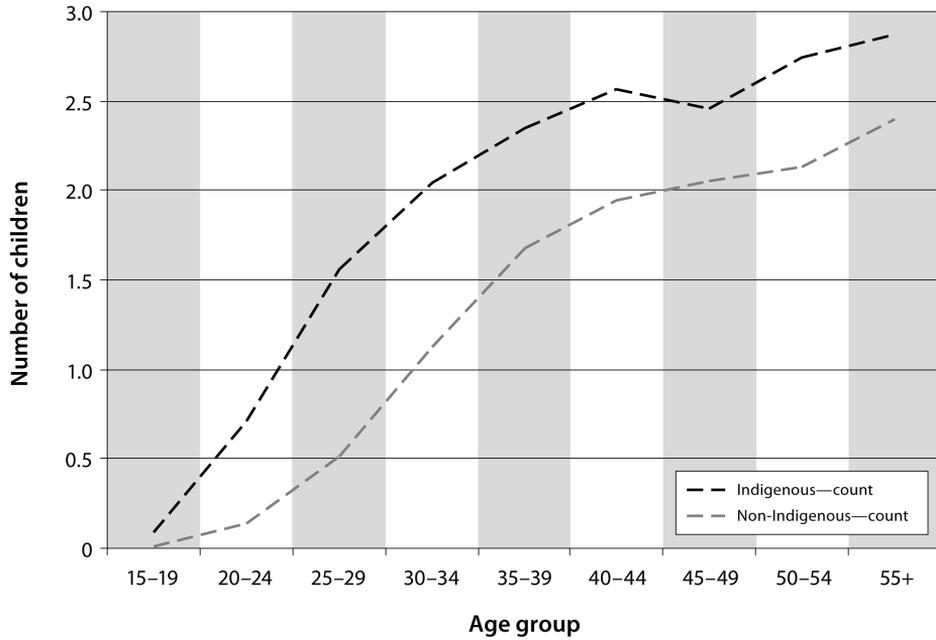
Fertility and the number of children ever born

There is clear epidemiological evidence that the age at which a female has a child has significant implications for her health as well as that of her child. The risk of foetal and perinatal complications is higher for teenage mothers and mothers aged 35 years and over (AIHW 2008; Laws, Grayson and Sullivan 2006). In addition to the impacts on health, teenage pregnancies can also significantly alter a female's likely lifecourse trajectory. Females who have children when they are young are less likely to complete high school and post-school qualifications (de Vaus 2002). They also have lower levels of employment participation throughout their lives and lower incomes (Caldas 1993).

Clearly though, children bring substantial benefits to their parents and families that need to be traded off against the costs. For example, Nomaguchi and Milkie (2003: 362) show a higher level of 'social integration with relatives, friends and neighbours' for new parents compared to those who are childless. However, a number of surveys show that females with children report lower levels of subjective wellbeing, even after controlling for other characteristics (Shields and Wooden 2003). The important point in terms of this study though, is that the costs and benefits of children vary substantially across the lifecourse. Fig. 3.3 plots the predicted number of children ever born for Indigenous females and non-Indigenous females by the same five-year age cohorts already presented. It should be noted that these numbers are cumulative and are for the number of children that a female has ever given birth to, not births over a recent period of time. This indicates substantial differences between Indigenous and non-Indigenous females across the lifecourse in terms of the number of children ever born.

According to administrative data (AIHW 2008), Indigenous mothers who gave birth over the 2001–04 period were on average younger than non-Indigenous mothers (median age of 25 years compared to 30 years). This relatively young age profile is confirmed using census data. By the 25–29 age group, for example, Indigenous females were predicted to have had around 1.5 children on average compared to less than 0.5 children for the non-Indigenous population. While there is some convergence through time, the non-Indigenous figure never comes close to reaching the Indigenous figure.

Fig. 3.3 Number of children ever born (up until current age), Indigenous and non-Indigenous females, 2006



Source: Customised calculations using the 2006 5% CSF, ABS Census of Population and Housing

Modelling the number of children ever born across the lifecourse

Unlike the previous set of estimates (and estimates in the remainder of the monograph), the dependent variable for this part of the analysis is not a simple binary outcome. Rather, the dependent variable is a count of the number of children ever born. While the methodological assumptions are slightly different – for example, the Poisson as opposed to the Probit model is assumed – the results presented in Table 3.3 should be interpreted in a very similar way. The third-last line of the table gives the predicted number of children ever born for the base case (described under the table) and the values for the explanatory variables give the predicted difference in the number of children ever born after changing that category only and holding all else constant.

Four models are given in Table 3.3. The first model includes age, sex and Indigenous status controls only, whereas Model 2 includes a greater range of explanatory variables. Model 3 includes the same explanatory variables as Model 2, but is estimated for the Indigenous population only, whereas Model 4 includes a variable indicating whether or not there are non-Indigenous adults

living in the household. The prevalence of mixed households has been shown to vary substantially by geography (Heard, Birrell and Khoo 2009). However, there has been surprisingly little quantitative work on how outcomes vary. The results presented for Model 1 in Table 3.3 confirm that Indigenous females have had a greater number of children ever born after controlling for their age. At the base case age of 30–34 years, the difference is 0.532 children, an almost 50 per cent increase on the 1.129 children predicted for a non-Indigenous female of that age.

Table 3.3 Factors associated with the number of children ever born, females, 2006

Explanatory variables ^a	Total population		Indigenous population	
	Model 1	Model 2	Model 3	Model 4
Indigenous	0.532	0.800		
Aged 15–19	-1.114	-1.342	-1.632	-1.824
Aged 20–24	-0.972	-1.030	-1.109	-1.223
Aged 25–29	-0.599	-0.539	-0.423	-0.456
Aged 35–39	0.547	0.403	n.s.	0.146*
Aged 40–44	0.812	0.532	0.192	0.230
Aged 45–49	0.915	0.543	n.s.	n.s.
Aged 50–54	0.998	0.551	0.206	0.242
Aged 55+	1.264	0.633	0.184	0.213
Victoria		-0.022	n.s.	n.s.
Queensland		0.028	0.108	0.110
South Australia		n.s.	n.s.	n.s.
Western Australia		0.046	0.203	0.175
Tasmania		-0.068	-0.187	n.s.
Northern Territory		-0.102	-0.159	-0.225
Australian Capital Territory		0.045	n.s.	n.s.
Major city		-0.139	-0.238	-0.240
Secondary school student		-0.990	-1.145	-1.283
Tertiary student		-0.378	-0.363	-0.376
Part-time student		0.411	0.428	0.430
Completed Year 9 or less		0.312	0.686	0.720
Completed Year 10 or 11		0.204	0.534	0.567
Does not have any qualifications		0.270	0.377	0.420
Has a Diploma or Certificate only		0.184	0.181*	0.209*
Speaks another language and English well		-0.075	n.s.	-0.150
Speaks another language and English not well or not at all		n.s.	-0.293	-0.450

Never married	-0.912	-0.372	-0.487	
Divorced, separated or widowed	-0.049	0.083	n.s.	
Lives in a mixed Indigenous and non-Indigenous household				-0.314
Number of children for the base case ^b	1.129	1.410	1.747	1.953
Pseudo R-Squared	0.1766	0.2242	0.1976	0.2000
Number of observations	374 399	330 181	5 491	5 307

^a n.s. = Those variables that were not significant at the 10% level of significance.

* = Those variables that were significant at the 10% level of significance but not the 5% level.

^b The base case for the total population is non-Indigenous. For all estimates, the base case is aged 30–34 years and in addition, for Models 2–4 (for the total population and for the Indigenous estimates), the base case lives in New South Wales, outside a major city, is not a student, has completed Year 12, has a university degree, speaks English only, and is married. For Model 4, an additional characteristic of the base case is that they are living in an Indigenous-only household.

Source: Customised calculations using the 2006 5% CSE, ABS Census of Population and Housing

After controlling for geography, education attainment, language spoken and marital status, the difference between Indigenous and non-Indigenous females in terms of the predicted number of children ever born actually increases. This is a little surprising as Indigenous Australians have a number of the characteristics associated with higher fertility rates like lower levels of education, living outside a major city, and not attending education. However, the larger marginal effect appears to be driven by the fact that, as shown in the previous section, Indigenous Australians are significantly less likely to be married than non-Indigenous Australians. Once the fact that females who are not married are significantly less likely to have had a child has been controlled for, the difference between Indigenous and non-Indigenous females widens.

It is also interesting that speaking a language other than English is associated with a lower predicted number of children ever born (especially for those who speak English not well or not at all). This is in one sense similar to the results presented in Hunter and Daly (2008), who found using the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) that individuals who had difficulty speaking English were less likely to have had at least one child. However, their result was reversed when a zero-inflated negative binomial model was used with the number of children ever born as the dependent variable. This different interaction between having had at least one child and the number of children ever born is an interesting avenue of future research.

The marginal effects for the education coefficients in Model 2 are reasonably large. A female (aged 30–34 years) who completes Year 12 and has a degree is predicted to have had 1.410 children. If, however, she completes Year 9 only and has no qualifications, she is predicted to have had 1.992 children. As mentioned, having children when relatively young is likely to make it difficult to continue

on at school and/or university (de Vaus 2002). However, females who complete Year 12 or who have a degree are likely to have higher incomes, making the opportunity cost of having children significantly higher. That is, there is likely to be substantial reverse causality with this relationship.

What is perhaps most relevant from Table 3.3 from a policy point of view is that when Model 2 and Model 3 are compared, the size of the marginal effect for the education variables is much larger for the Indigenous population compared to the total population. What this means is that there is less difference in terms of the number of children ever born between an Indigenous and non-Indigenous female who completes Year 12 and has a degree (1.747 compared to 1.410 children respectively), as opposed to an Indigenous and non-Indigenous female without any qualifications who completes Year 9 or less (2.810 compared to 1.992 children). If at least some of this relationship is causal, then improving the levels of education for Indigenous females (for example through meeting COAG's Closing the Gap targets) is likely to have a substantial effect on Indigenous fertility rates.

The final Model 4 in Table 3.3 includes a dummy variable for whether the woman lives in a mixed Indigenous and non-Indigenous household. Compared to Indigenous females who live in an Indigenous-only household, Indigenous females in a mixed household are predicted to have had significantly fewer children. This difference is likely to have been driven in part by high Indigenous paternity, with Indigenous males in the data set having a greater number of children than non-Indigenous males.

Unpaid child care

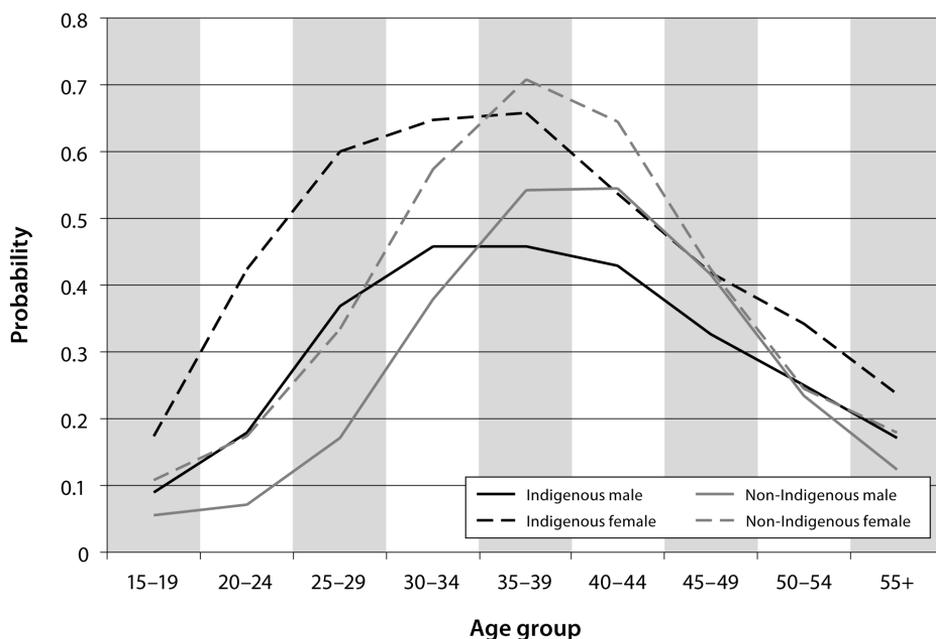
The preceding analysis shows that Indigenous females have had more children on average than their non-Indigenous counterparts, and have those children at a much younger age. While there are a number of benefits of having children (both for the parents and for society as a whole), there is no doubt that children place constraints on undertaking other activities. This is not only in terms of leisure time, but also activities that generate income in the short term (employment) as well as the long term (education).

Unfortunately, the children ever born variable does not give a good indication of the current time constraints imposed by high levels of fertility, nor is it applicable for males. For example, a woman aged 40 years who has had two children is going to have a very different capacity to undertake paid work if she had those children in her early twenties as opposed to her late thirties. To obtain a more complete understanding, therefore, the analysis in this section looks at variation in, and the factors associated with, providing unpaid child

care in the two weeks preceding the census. To reflect the possibility of multi-generational child care, or care for the children of friends and relatives, the analysis includes those who provided care for their own children, as well as other people’s children.

The probability of providing unpaid child care across the lifecourse is summarised in Fig. 3.4. The reporting period for providing child care is the two weeks preceding the census, and those who provided child care to one’s own and other children are both included. The provision of child care follows a clear pattern, with rates rising throughout a person’s twenties, reaching a peak in their thirties, and then declining throughout their forties and fifties. However, the most obvious finding from Fig. 3.4 is that both Indigenous and non-Indigenous females are more likely to provide unpaid child care than their male counterparts. While there is some convergence amongst those in their late forties and onwards (especially for non-Indigenous Australians), there are consistently large gaps up until then. For example, 42.5 per cent of Indigenous females aged 20–24 years were predicted to be providing unpaid child care, compared to only 17.9 per cent of their male counterparts. This represents a substantial constraint on the time available for education and labour market participation of Indigenous females of that age.

Fig. 3.4 Probability of providing unpaid child care, 2006



Source: Customised calculations using the 2006 5% CSF, ABS Census of Population and Housing

The provision of child care follows a clear pattern, with rates rising throughout a person's twenties, reaching a peak in their thirties, and then declining throughout their forties and fifties. However, the most obvious finding from Fig. 3.4 is that both Indigenous and non-Indigenous females are more likely to provide unpaid child care than their male counterparts. While there is some convergence amongst those in their late forties and onwards (especially for non-Indigenous Australians), there are consistently large gaps up until then. For example, 42.5 per cent of Indigenous females aged 20–24 years were predicted to be providing unpaid child care, compared to only 17.9 per cent of their male counterparts. This represents a substantial constraint on the time available for education and labour market participation of Indigenous females of that age.

The differences by Indigenous status in Fig. 3.4 are not as clear as the differences by gender. Indigenous males and females aged 15–29 were estimated to be more likely to have provided unpaid child care in the previous two weeks than their non-Indigenous counterparts. This situation is reversed for the population aged in their mid-thirties to late-forties, with Indigenous females in particular having a higher rate from then on. Clearly, the finding from the previous section that Indigenous females have children at a younger age than non-Indigenous females means that their child care responsibilities also occur at a young age. However, the relatively high rate of child care provision for Indigenous females aged 50 years and over is also an indication of a greater rate of multi-generational care amongst Indigenous Australians.

Modelling unpaid child care across the lifecycle

The dependent variable in the following analysis is the probability of providing unpaid child care. Four models are once again estimated, with the last two estimated on the Indigenous population only. Although the results presented in Fig. 3.4 showed that the size and the direction of the differences were not consistent across the lifecycle, the results presented in Table 3.4 show that, at least on average, Indigenous Australians were more likely to have provided unpaid child care in the two weeks preceding the census than non-Indigenous Australians. Furthermore, the marginal effect increases from Model 1 to Model 2, implying that once other characteristics had been controlled for there was a greater difference between the Indigenous and non-Indigenous population.

Table 3.4 Factors associated with unpaid child care provision, females, 2006

Explanatory variables ^a	Total population		Indigenous population	
	Model 1	Model 2	Model 3	Model 4
Indigenous	0.076	0.125		
Female	0.193	0.166	0.188	0.203
Aged 15–19	-0.324	-0.243	-0.319	-0.306
Aged 20–24	-0.307	-0.248	-0.258	-0.255
Aged 25–29	-0.205	-0.148	-0.057*	-0.056*
Aged 35–39	0.160	0.108	n.s.	n.s.
Aged 40–44	0.162	0.078	-0.052*	n.s.
Aged 45–49	0.033	-0.079	-0.192	-0.189
Aged 50–54	-0.146	-0.290	-0.287	-0.278
Aged 55+	-0.255	-0.419	-0.390	-0.360
Aged 15–19, female	-0.048	-0.024	n.s.	n.s.
Aged 20–24, female	0.018	0.029	0.079	0.090
Aged 25–29, female	0.011*	n.s.	n.s.	n.s.
Aged 35–39, female	-0.018	-0.010*	n.s.	n.s.
Aged 40–44, female	-0.084	-0.084	-0.114	-0.121
Aged 45–49, female	-0.159	-0.174	-0.104	-0.103
Aged 50–54, female	-0.155	-0.164	-0.109	-0.106
Aged 55+, female	-0.091	-0.056	-0.086	-0.083*
Victoria		n.s.	n.s.	n.s.
Queensland		0.007	n.s.	n.s.
South Australia		0.017	n.s.	n.s.
Western Australia		0.006	n.s.	n.s.
Tasmania		n.s.	n.s.	n.s.
Northern Territory		n.s.	n.s.	n.s.
Australian Capital Territory		0.011	n.s.	n.s.
Major city		-0.015	-0.035	-0.037
Secondary school student		-0.091	-0.176	-0.165
Tertiary student		-0.099	-0.109	-0.094
Part-time student		0.088	0.090	0.072*
Completed Year 9 or less		-0.014	n.s.	n.s.
Completed Year 10 or 11		0.022	0.030	0.036
Does not have any qualifications		n.s.	n.s.	n.s.
Has a Diploma or Certificate only		0.030	n.s.	n.s.
Speaks another language and English well		-0.068	0.042	0.049
Speaks another language and English not well or not at all		-0.042	n.s.	n.s.

Never married	-0.358	-0.211	-0.202	
Divorced, separated or widowed	-0.126	-0.081	-0.076	
Lives in a mixed Indigenous and non-Indigenous household				n.s.
Probability of base case ^b	0.1488	0.567	0.608	0.517
Pseudo R-Squared	0.380	0.1959	0.1297	0.1273
Number of observations	714 579	641 491	10 421	10 016

^a n.s. = Those variables that were not significant at the 10% level of significance.

* = Those variables that were significant at the 10% level of significance but not the 5% level.

^b The base case for the total population is non-Indigenous. For all estimates, the base case is male, aged 30–34 years and in addition, for Models 2–4 (for the total population and for the Indigenous estimates), the base case lives in New South Wales, outside a major city, is not a student, has completed Year 12, has a university degree, speaks English only, and is married. For Model 4, an additional characteristic of the base case is that they are living in an Indigenous-only household.

Source: Customised calculations using the 2006 5% CSE, ABS Census of Population and Housing

Apart from being female, there are two other characteristics strongly associated with providing child care. Firstly, even after controlling for age, students in general and secondary students in particular were significantly less likely to be providing unpaid child care than non-students. It is likely this reflects the time constraints that come from both studying and providing unpaid child care. Secondly, those who have never been married and (to a lesser extent) who were divorced, separated or widowed are less likely to be providing unpaid child care. This once again demonstrates the link between marital status and child rearing.

Fertility and family formation across the Indigenous lifecourse

While the popular saying ‘demography is destiny’ may be an exaggeration, it is certainly the case that there is a strong association between major demographic outcomes across the lifecourse and many of the standard measures of wellbeing. This is shown a number of times throughout this monograph, and the literature on the effects of key demographic variables is almost limitless.

Two of the major demographic events that can shape a person’s lifecourse are marriage and having children. The analysis presented in this chapter shows that Indigenous Australians are less likely to be married than non-Indigenous Australians and, for those who were married, less likely to be in a registered as opposed to de facto marriage. Especially outside of major cities, it would appear that Indigenous males and females are less likely to participate in this most traditional Western institution. This likely reflects a relative preference

amongst Indigenous Australians for other forms of marriage and the difficulty of the census to capture the diversity of Indigenous familial relationships (Morphy 2007). However, given the differences between Indigenous and non-Indigenous Australians in major cities are relatively small, it is also likely to reflect a lack of access to the types of institutions and services that facilitate marriage.

While having children should in no way be seen as the sole aim of a marriage, results presented in this chapter confirm that those females who are in a registered marriage have had significantly more children than those who had never been married and, for both sexes, are more likely to provide unpaid child care. Although the marginal effect was smaller, this was also the case for the Indigenous population when analysed separately. An interesting implication of this is that once marriage has been controlled for, the difference between Indigenous and non-Indigenous females in terms of the number of children ever born actually increases.

One of the most important findings from the analysis presented in this section on fertility is the interaction with education. Indigenous females who have completed higher levels of education are estimated to have significantly fewer children than those who left school before completion or who do not have post-school qualifications. This result holds after controlling for age. Furthermore, those who are undertaking full-time education have also had fewer children than those who are not studying. Moreover, education attendance has a large and significant negative association with providing unpaid child care for both Indigenous males and females. The direction of causality between education and fertility is very difficult to disentangle. Childbirth is likely to both impact on and be impacted by education decisions, and there may be additional variables like labour market experience that are associated with both. Although the results cannot shed light on the direction of causality, they nonetheless suggest potentially positive policy interactions, with increases in Indigenous education likely to lead to reductions in fertility.