

Contraceptive practice and the reproductive life course

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Abstract

This paper examines the contraceptive use of women in reproductive ages (18–44) using questions collected as part of the 2005 HILDA (Wave 5, Special Topic on Fertility). Previous research on contraceptive practice in Australia using representative surveys typically applies age as a proxy for reproductive history. We compare the patterns of contraceptive use found in HILDA to previous Australian representative surveys and find similar patterns of contraceptive use. Further, past research on contraceptive practice is extended by examining an important factor associated with contraceptive use: parity.

Main findings indicate that the most commonly used methods are the oral contraceptive pill (25%), condom (19%) and methods of sterilisation (around 8% for female methods: tubal ligation and hysterectomy, and a further 9% for male methods: vasectomy of partner). The use of these methods varies substantially by the stage of a woman's reproductive life course: women use more effective methods (such as permanent methods) when they have completed their family. Multinomial logistic regression models are used to investigate the use of the three main contraceptive methods by parity and age controlling for socio-demographic factors. This paper argues that while age and other socio-demographic factors are useful for understanding contraceptive use, investigations of contraceptive practice should also consider parity as a measure of reproductive life course stage.

Fertility levels in Australia have declined over the last 45 years. In 2005 the total fertility rate (TFR) was 1.81 (a recent upturn from a low of 1.73 in 2001; ABS 2006). This compares with the TFR at the height of the baby boom, which was 3.56 in 1961 (Kippen 2004). Cohort parity measures of fertility, which are arguably more informative in terms of the dynamics leading to fertility decline,¹ show an increasing age at both first and second births for women (Kippen 2004).

National fertility levels reflect fertility behaviour at the individual level. The fertility of women in Australia today is typically controlled by contraceptive use: contraception is used to delay and space pregnancy, and limit the number of children born. Surveys of contraceptive use have been irregularly conducted in Australia. The National Health Survey, conducted by the Australian Bureau of Statistics, has been the main source of nationwide information about use of contraceptive methods. Direct questions on contraceptive use were asked in 1989–90 and in 2001. Prior to that (in 1977 and 1983), contraceptive use was inferred from questions on medication use. Detailed surveys of contraceptive use and contraceptive histories have also been collected as part of various family surveys (for example the Australian family formation project, Melbourne 1971 and 1977; the Australian family project 1986). The most recent representative survey was conducted during 2001–02 was specifically designed to investigate sexual behaviour of adults and included contraceptive practices (The Australian Study of Health and Relationships, for overview see Richters, *et al.* 2003).

This paper examines the contraceptive use of women in reproductive ages (18–44). Previous research on contraceptive practice in Australia using representative surveys typically applies age as a proxy for reproductive history. While it is important to understand patterns of contraceptive use by age, we argue that an alternative way of examining contraceptive use would be more informative: reproductive stage of the life course should also be considered. The focus of this paper is to extend research on contraceptive practice by considering the relationship between reproductive life course stage and contraception.

Background

Typically research that describes contraceptive use provides patterns of use by age. The most recently published research based on representative samples of women in

reproductive ages finds that the most commonly used contraceptive method for women is the oral contraceptive ('the pill'), with tubal ligation/hysterectomy and condom use also widely used (Yusuf & Siedlecky, forthcoming; Richters *et al.* 2003). Based on the 2001 National Health Survey, Yusuf and Siedlecky (forthcoming) report that 27 per cent of women aged 18–49 used oral contraceptives, 23 per cent used condoms and 14 per cent reported tubal ligation or hysterectomy. Richters *et al.* (2003) found that of women aged 16–59 who used contraception, 34 per cent used oral contraceptive, 22.5 per cent used a form of sterilization (tubal ligation or hysterectomy) and 21 per cent used condom.

Both Yusuf and Siedlecky (forthcoming) and Richters *et al.* (2003), like those that preceded them (Santow, 1991; Caldwell *et al.* 1973), found that age was associated with different patterns of contraceptive use.² Although the percentages of women using different methods are not directly comparable across these samples,³ it is evident that the contraceptive pill is the most commonly used form when women are in the twenties, condom use is generally by younger women (particularly in recent studies), and permanent methods like tubal ligation and hysterectomy occur in later age ranges (from aged 35 onwards).

What these studies demonstrate is that contraceptive practice varies by age group. This makes sense. As a woman ages she is more likely to have had children or be restricting her fertility. But this is simply using age as a proxy for life course stage rather than age being an explanator *per se*. To provide a simple example, let's compare two 30 year-old women. One woman has three children and does not intend to have any more children. The other woman has no children but intends to have a child: hopefully in three to five years. It is not the age that is driving the contraceptive practice of these women. What is important is the number of children they have, the number they want, and when they want them.

The life course perspective is a powerful framework for studying contraceptive use. Individual trajectories of reproductive behaviour do not follow set age-based paths, people move in and out of life course stages at different times and in different sequences. Given that the main reason for using contraception is to control pregnancy, i.e. to control the timing or occurrence of a major life event, considering life course stage will provide a better understanding of contraceptive practice than by using age alone as a proxy for life stage.

Very few studies have actually considered the role of life stage in terms of contraceptive practice. Caldwell *et al.* (1973) and Santow (1991) provided information on contraceptive use by parity (number of children born). Santow (1991), whose study included sterilization methods, found that women with no children were more likely to use methods of contraception that were not permanent. However, neither of these studies included models that included both age and parity in order to separate out the different effects.

We extend past research on contraceptive practice by examining a key factor associated with contraceptive use: a woman's parity. Other factors related to contraceptive use are also considered.

Data and method

We investigate differences in the use of contraceptive methods by women at different stages of their reproductive life course. The investigation focuses on the use of contraceptive method by parity, controlling for age and other related effects. Due to the different levels of permanency of the main contraceptive measures, we expect that parity influence the use of contraceptive type in the following ways:

1. Women at the start of their reproductive life course are more likely to use measures which are reversible; and
2. Women at the end of their reproductive life course are more likely to use measures which are permanent.

In order to analyse the effect of life course stage on contraceptive practice, we use data from the Wave 5 collection of the Household, Income and Labour Dynamics in Australia (HILDA) survey (information on the Wave 5 data collection is available at MIAESR 2007).

In 2005 questions on contraceptive use were asked as part of a fertility module. This module is part of the Generations and Gender Programme (GGP): an international survey program coordinated by the United Nations (UNECE).⁴ The fertility module was asked of all females aged 18 to 44 and partnered males aged 18 to 54.

Respondents (both females and males) aged less than 18 who lived independently of

their parents were also asked this module of questions. The sample used for this paper is female respondents aged 18 to 44 (n=3,044 weighted).

We start by examining the use of various contraceptive methods by background factors and then conduct a logistic regression model of the factors associated with the use of any form of contraceptive method. We then examine factors associated with the three main methods of contraception used.

The analytical strategy employed to examine factors associated with the main contraceptive methods is multinomial logistic regression as the dependent variable takes the form of a discrete variable with three options: (1) Does respondent use 'X' contraceptive, (2) does the respondent use another contraceptive method; and (3) the respondent does not use any method. The analysis is conducted for the three main methods of contraception used.

We model the effect of relationship type, parity, age, partnership status, education, area of residence, and whether English is the respondent's first language (construction of model variables is described in Appendix 1).⁵ Multiple classification analysis is then used to estimate proportions using the contraceptive methods based on the model coefficients.⁶

An example of the form that the multinomial logistic model takes is presented for one contraceptive method (Oral contraceptive):

P_1 : estimated probability of using oral contraceptive

P_2 : estimated probability of using another contraceptive method

P_3 : estimated probability of using no contraceptive method

where,

$$\text{Log} (P_1/P_3)=a_1+b_1X_1+c_1X_2+d_1X_3+\dots \quad \text{(Equation 1)}$$

$$\text{Log} (P_2/P_3)=a_2+b_2X_1+c_2X_2+d_2X_3+\dots \quad \text{(Equation 2)}$$

$$P_1+P_2+P_3=1 \quad \text{(Equation 3)}$$

To obtain the probabilities using MCA, the model form is:

$$P_1 = (e^{a_1 + b_1 X_1 + c_1 X_2 + d_1 X_3 + \dots}) / (1 + \sum e^{a_1 + b_1 X_1 + c_1 X_2 + d_1 X_3 + \dots}) \quad \text{(Equation 4)}$$

$$P_2 = (e^{a_2 + b_2 X_1 + c_2 X_2 + d_2 X_3 + \dots}) / (1 + \sum e^{a_2 + b_2 X_1 + c_2 X_2 + d_2 X_3 + \dots}) \quad \text{(Equation 5)}$$

$$P_3 = (1) / (1 + \sum e^{a_2 + b_2 X_1 + c_2 X_2 + d_2 X_3 + \dots}) \quad \text{(Equation 6)}$$

Descriptive results

Of all women aged 18 to 44, just over 60 per cent were using a contraceptive method at the time of the survey (Table 1). The pattern of use varied by age with women aged 40 or over most likely to be using a contraceptive method (71 per cent), while only 51 per cent of women aged 18 or 19 report using a method. Of women who did not use any method, four per cent stated that they were pregnant, nine per cent that they believed that there was a physical or health reason that would make it difficult to become pregnant,⁷ and the remaining 26 per cent stated that they were not using any contraceptive method.

Table 1 about here.

Respondents who did not use permanent methods of contraception could state more than one method of contraceptive use. Those who used permanent methods were not asked about other forms of contraceptive use. The distribution of the use of different contraceptive methods (Table 2) is similar to that found in other studies (e.g. Yusuf and Siedlecky, forthcoming; Richters *et al.* 2003). As previously noted (see endnote 3) the populations surveyed vary between these studies, however general trends are apparent. The most commonly used form of contraception is oral contraception which is used by 25 per cent of all women aged 18 to 44 (this equates to 41 per cent of women who are using a contraceptive method use oral contraception). The second most commonly used method is the condom (about 19 per cent of all women and 31.5 per cent of contraceptors). Permanent methods of contraception are the next most commonly used: around eight per cent of women aged 18 to 44 have had a tubal ligation or hysterectomy, and nine per cent have a partner who has had a vasectomy. Various other methods were only used by very small numbers of women. These

methods include ‘natural’ methods such as withdrawal or safe period method accounting for only three per cent of women.

Table 2 about here.

The use of different contraceptive methods varies substantially by parity, age and other characteristics of the woman (for construction of variables see Appendix 1; summary indicators are provided at Appendix Table 1.). The use of any form of contraceptive method increases as the number of children born increases (Table 3). Around 60 per cent of women with no children are using a form of contraception. The percentage increases to over 80 per cent of users for women with two or more children. The relationship between age and contraception use is a little different: use increases from age 18 up to 30 and is lower in the 30 to 34 age group. Contraceptive use is highest age 35+. There is little variation by education, but those who are partnered (compared to singles) are more likely to be using a method, as are those who have English as a first language.

Table 3 about here.

However, the patterns of use vary substantially by characteristics of the woman depending on the method of contraceptive used. At the bivariate level, we can see that women who have no, or few, children are much more likely to use oral contraceptive or condoms, while women who have three or more children are more likely to use a permanent method. Age shows a similar pattern, with women aged less than 30 more likely to use oral contraceptives or condoms, while women aged 35+ more likely to use a permanent method. Condom use is most commonly used by women aged 18–19. Those who are single are more likely to use oral contraceptives or condoms than permanent methods. These patterns are consistent with the proposition that contraceptive practice is associated with the stage of a woman’s reproductive life course.

Multivariate results

This section presents results of the general model of contraceptive use (Table 4) and the three multinomial logistic regression models (Figure 1 and Appendix Table 2). As indicated, we are primarily interested in the influence of reproductive life course stage (as measured by the number of children ever born), and age on the use of contraceptive methods. These factors are measured as a series of binary dummy variables. We also control for other factors associated with contraception use: education, partnership status, region of residence and English-speaking background. Due to constraints associated with multinomial logistic regression (particularly cell counts), control variables are simply constructed as binary indicators.

In examining the use of any form of contraception, the factor that has the largest impact (in terms of magnitude) on using contraception is the number of children a woman has (Table 4). Women who have two or more children are much more likely to be using a contraceptive method than women who have no children or one child. Partnership status is also an important factor, with women who are partnered also much more likely to be using contraception as compared to women who are single. After controlling for the number of children a woman has, the pattern of contraceptive use decreases for age. Women aged 30 and above are less likely to use a form of contraception than younger women. There is little variation by education, although those with less than year 12 have lesser odds of using contraception as compared to those with a degree.

Table 4 about here.

We now move to the examination of the three main methods of contraception used. Model 1 measures the use of oral contraception, the second model measures condom use and the third measures the use of permanent measures (tubal ligation/hysterectomy/vasectomy⁸). It should be reiterated that the collection of the contraceptive methods allowed multiple responses (The construction of these variables is available at Appendix 1). This means that women who answered ‘yes’ to using oral contraception may also have responded ‘yes’ to the use of condoms.⁹

Therefore we must run separate models rather than having one dependent variable indicating type of contraceptive method used.

Model 1 presents the estimation of oral contraceptive use. The pattern of oral contraceptive use varies by the number of children ever born (for model patterns see Figure 1 for predicted probabilities. Model coefficients and standard errors are available at Appendix Table 2). The pattern of use shows that women are more likely to use oral contraception when they have no children or few children and declines with higher parity (Figure 1). The percentage using drops markedly after having the second child (from 30 to 17 per cent). We estimate only 9 per cent of women with four or more children use oral contraceptives (72 per cent of these women are using another method), while 34 per cent of women with no children use oral contraception.

Figure 1 about here.

Age is significantly associated with the use of oral contraception. Oral contraception is used more by younger women, that is, women aged <30. Around 40 per cent of women aged less than 30 are estimated to use oral contraception. This falls to 20 per cent of women aged 35–44. Overall, controlling for parity, age itself is associated with oral contraception use, younger women are more likely to use oral contraception.

In terms of how other factors are related to the use of oral contraception, the estimation finds that there is little variation by area of residence, but have a partner (compared to being single) and speaking English as a first language (compared to not) are associated with a greater propensity to use oral contraceptives. There is a small pattern of greater propensity to use oral contraceptives for those who have completed high school compared to those who have not.

Condom use shows a very similar pattern to those found for women who used oral contraception. Controlling for age and other factors, there is a negative relationship between children ever born and condom use. Twenty-five per cent of women who have no children are estimated to use condoms, with this percentage steadily declining to 14 per cent for women with four or more children.

In terms of magnitude, age has a much greater relationship to condom use. Forty-five per cent of women aged 18–19 are estimated to use condoms for contraception. This compares with 26 per cent of women aged 25–29 and 14 per cent of women aged 40–44. Condom use shows similar patterns to users of oral contraception by background characteristics.

Permanent methods for preventing pregnancy, such as tubal ligation, hysterectomy and vasectomy vary substantially by the number of children ever born, but independently, also by age. A negligible per cent of women have used a permanent method of contraception at either low parity or at younger ages. It is estimated that 12 per cent of women with two children have used permanent methods. This increased to 21 per cent and 24 per cent of women have used permanent methods if they have three children or four or more children have respectively. Considering the percentage of women estimated to have used a permanent method by age, around 16 per cent of women aged 35–39, and 23 per cent of women aged 40–44, had used a permanent method. Both parity and age are important factors in using a permanent method of fertility control.

Discussion

This paper presents results of contraception use for three commonly used methods of birth control. We speculated that contraception use does not vary only by age, but contraceptive method is also associated with factors associated with the stage of a woman's reproductive life course. Using the Wave 5 of HILDA data we were provided with the opportunity to test these hypotheses. Data on contraceptive use is not typically available together with parity and other detailed information on the person.

We find that independent of each other, both the number of children ever born and age are associated with the type of contraceptive method used. Women at low parity are more likely to use oral contraception or condoms. These are methods that can easily be reversed if necessary. Age is also closely related to the use of these methods, and is in fact a very important factor: the use of oral contraception and condoms is much more likely at younger ages. This effect controls for the number of children born.

When estimating permanent methods of contraception directly we find that the use of permanent methods is strongly associated with both the number of children a woman has ever had and her age. These variables are both positively associated with the use of a permanent method. These methods are not used at the beginning of a reproductive life course.

Previous studies have focussed on the relationship between age and contraceptive method. This study confirms the importance of age in understanding the use of method. However, investigations into contraceptive use should not reduce age to a proxy for the number of children ever born or to a woman's fertility intentions. Age is associated with contraceptive method independent of these factors. So, condoms and oral contraception are more popular with younger women than women age 30 and above. This result shows a strong age effect. We also find that independent of age, the number of children ever born is associated with contraceptive practice, particularly the use of permanent measures.

Endnotes

¹ Relatively little national data is available in Australia to investigate parity-based measures of fertility (Corr and Kippen 2006). Kippen (2004) uses perinatal birth registration to investigate age at first and second birth. Analysis using HILDA data to investigate parity progression is also available (Gray, Evans and Kippen 2007).

² It should be noted that sterilization was not a commonly used method until the early 1970s, so this method is not provided in Caldwell *et al.* (1973).

³ Different denominators are used in different publications. Results from the 1971 survey provide contraceptive use for married women aged 15 to 44 (Caldwell *et al.* 1973). In 1986 (Santow 1991) the sample included married and unmarried women aged 20 to 59. Yusuf and Siedlecky (forthcoming) use 2001 data to investigate all women aged 18 to 49, while Richters *et al.* (2003) present aged-based information for women at risk of pregnancy.

⁴ Information on the Generations and Gender Programme can be found at:
<http://www.unece.org/pau/ggp/>

⁵ One factor that is also related to contraceptive method practice that we do not include is a woman's stated fertility intentions. While this would be a useful measure, fertility intentions were not asked of women who used a permanent method of contraception: it is assumed that respondent's who use a permanent method do not intend to have anymore children. Hence the inclusion of fertility intentions would cause modelling issues.

⁶ Retherford and Choe (1993) note that the interpretation of odds and log odds in multinomial logistic regression is different to logistic regression. They strongly advise the use of multiple classification analysis to avoid misinterpretation of results, that is, focus instead on the effects of the predictor variables directly on P1, P2, and P3.

⁷ Women who were pregnant or stated they had a physical or health reason making it difficult to have children were excluded from the analysis of method use as they were not asked questions about contraceptive method.

⁸ A logistic regression model comparing the use of tubal ligation/hysterectomy v vasectomy showed that there was no variation by background characteristics in terms of parity, age, education or region. The only variation evident is that women who have English as a first language were more likely to have a partner who had had a vasectomy.

⁹ Women who used permanent methods were not asked about other contraceptive use.

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Appendix 1

Construction of variables

Oral contraception

Definition: Discrete variable indicating whether respondent uses oral contraception, other method or no method.

Construction: Oral contraceptive use is based on EFTCPILL (whether currently using contraceptive pill, EFTCANY (whether currently using some form of contraception) and EFTIOP (whether had operation that makes it impossible to have children), where 0=Uses oral contraception; 1=Uses other method; 2=Does not use contraception.

Condom

Definition: Discrete variable indicating whether respondent uses condom, other method or no method.

Construction: Condom use is based on EFTCCON (whether currently using condoms, EFTCANY (whether currently using some form of contraception) and EFTIOP (whether had operation that makes it impossible to have children), where 0=Uses condoms; 1=Uses other method; 2=Does not use contraception.

Permanent method: Tubal ligation/hysterectomy/vasectomy

Definition: Discrete variable indicating whether respondent or respondent's partner has had an operation that makes it impossible to have children, other method or no method.

Construction: Permanent method is based on EFTIOP and EFTIPOP (whether respondent or respondent's partner had operation that makes it impossible to have children) and EFTCANY (whether currently using some form of contraception), where 0=Permanent method; 1=Uses other method; 2=Does not use contraception.

Reproductive life course stage: Children ever born

Definition: Number of children ever born.

Construction: Based on ETCHAD (Number of children ever had). For multivariate models the number of children ever had was converted to a series of dummy variables up to 4+.

Age

Definition: Age in years.

Construction: Based on EHGAGE (Age in years). For multivariate models age was converted to a series of dummy variables representing five year age groups (<20 only includes those aged 18-19).

Fertility intentions: Number of children intend to have

Definition: Number of (additional) children respondent intends to have.

Construction: Based on EICN (Number of (additional) children respondent intends to have). For multivariate models the number of intended children was converted to a series of dummy variables up to 3+.

Education

Definition: Discrete variable indicating respondent's highest level of education.

Construction: Education is based on EEDHIGH (highest level of education). Education is regrouped: 0=Bachelor or higher (1,2,3); 1=Advanced diploma/diploma (4); 3=Certificate (5,6,7); 4=Yr12 (8); 5=<Yr12(9). For multivariate models this variable was converted to a binary (1,0) dummy variable of whether someone has higher than yr12, or not.

Partnership status

Definition: Binary (1,0) dummy variable for whether respondent is single or part of a couple.

Construction: Use EFTIMMS, where 1=single; 2=part of a couple (married, de facto, living together).

Area of residence

Definition: Binary (1,0) dummy variable for respondent lives in a major city, or not.

Construction: Use EHHRA (Remoteness area) , coded as 0=Inner/Outer regional Australia or Remote and 1=Major city.

English

Definition: Binary (1,0) dummy variable for whether a respondent who was born overseas spoke English as their first language, or not.

Construction: Use EANENGF (Is English the first language you learned to speak as a child).

Table 1: Whether respondent uses a contraceptive method by age (crosstabulation).

<i>Whether contraceptive method is used</i>	<i>Age group</i>						Total
	18-19	20-24	25-29	30-34	35-39	40-44	
Yes	50.7	56.6	60.0	55.6	64.2	71.0	60.7
No: not using any method	43.3	32.6	22.7	28.1	22.0	19.5	26.3
No: pregnant	1.8	3.0	7.6	7.3	4.5	0.0	4.3
No: physical difficulties ^a	4.1	7.7	9.7	9.0	9.3	9.5	8.7
Total (n)	217	530	497	620	578	569	3,011

Data weighted by ehhwtrps (cross-sectional responding person population weight rescaled to sum to the number of responding persons)

^a Respondents who answer yes to Q: 'Based on medical advice, do you know of any physical or health reason that would make it difficult for you/your partner to have children/more children'.

N=3,044 (33 refused).

***p<0.0001

Table 2: Contraceptive method, all women and women who used a form of contraception (per cent).

<i>Contraceptive method</i>	All women	Women who use a contraceptive method ^a
	% (n=3,044)	% (n=1,846)
Oral contraceptive	25.3	41.3
Condom	19.3	31.5
Tubal ligation or hysterectomy ^b	8.4	13.8
Vasectomy ^b	8.8	14.5
Intrauterine device	1.4	2.3
Injectable	1.8	2.9
Implant	2.3	3.8
Withdrawal	2.1	3.5
Safe period method	1.4	2.2
Other ^c	1.0	1.6

Data weighted by ehhwtrps (cross-sectional responding person population weight rescaled to sum to the number of responding persons)

^a Percentages do not add up to 100 because of multiple responses.

^b Respondents who answer yes to having a tubal ligation or hysterectomy, or yes to partner having a vasectomy were not asked about use of other contraceptive methods.

^c 'Other' includes: diaphragm/cervical cap, foam/cream/jelly/suppository, Persona, hormonal emergency contraception.

N=3,044 (33 refused).

Table 3: Per cent using contraceptive methods. Main methods of contraception and use of any method by characteristics of the woman.

<i>Characteristic</i>	Oral contraceptive	Condom	Permanent method ^a	Use of any contraceptive method
	n=762	n=582	n=482	n=2,620
		Per cent using method		
Total children ever had	***	***	***	***
0	38.7	28.1	2.3	61.1
1	27.9	24.6	7.3	62.3
2	24.3	17.4	29.8	81.5
3	13.3	12.3	52.2	82.9
4+	6.5	9.2	60.1	83.0
Age (years)	***	***	***	***
18–19	36.8	35.3	-	53.9
20–24	43.0	29.8	-	63.4
25–29	41.7	25.3	3.2	72.5
30–34	28.7	24.1	12.5	66.5
35–39	16.5	15.9	33.9	74.5
40–44	15.7	12.0	44.5	78.4
Highest level of education	**	**	***	*
Bachelor or higher	31.5	25.8	13.1	72.0
Advanced diploma/dip	30.4	22.9	16.3	70.2
Certificate	29.5	23.2	22.5	74.0
Yr 12	33.0	23.4	12.9	67.5
<Yr 12	22.9	17.0	26.1	66.8
Relationship status	***	***	***	***
Single	33.2	23.6	5.8	55.7
Partnered	26.4	21.3	26.6	79.0
Region of residence			***	***
Major city	28.5	28.5	15.2	67.4
Inner regional Aust	30.4	30.4	26.5	76.0
Outer regional Aust/remote	30.2	30.2	25.4	75.0
English as a first language	***		***	***
No	17.9	23.8	10.8	57.6
Yes	31.1	22.0	19.8	72.0

Data weighted by ehwhtrps (cross-sectional responding person population weight rescaled to sum to the number of responding persons)

^a Includes respondents who have had a tubal ligation or hysterectomy and respondents whose partners have had a vasectomy. Respondents who answer yes to having a permanent method were not asked about use of other contraceptive methods.

N=2,620 (excludes 129 pregnant women and 262 women who have physical difficulties).

Table 4: Logistic regression: Use of any contraceptive method.

<i>Characteristic</i>	B	SE	ExpB
Total children ever had			
0 (ref)	0.00		1.00
1	-0.02	0.143	0.98
2***	0.93	0.152	2.53
3***	0.99	0.199	2.69
4+***	1.08	0.252	2.93
Age (years)			
18–19	-0.15	0.179	0.86
20–24 (ref)	0.00		1.00
25–29	-0.02	0.158	0.98
30–34***	-0.60	0.157	0.55
35–39**	-0.52	0.176	0.59
40–44 ⁺	-0.31	0.178	0.74
Highest level of education			
Bachelor or higher (ref)	0.00		1.00
Advanced diploma/dip	-0.09	0.174	0.92
Certificate	0.00	0.154	1.00
Yr 12	-0.09	0.137	0.92
<Yr 12***	-0.49	0.137	0.62
Relationship status			
Single (ref)	0.00		1.00
Partnered***	0.99	0.105	2.68
Region of residence			
Major city	-0.18	0.108	0.84
Inner/outer regional or remote (ref)	0.00		1.00
English as a first language			
No (ref)	0.00		1.00
Yes***	0.73	0.122	2.08
Constant	-0.07	0.200	0.93

N=2,620 (excludes 129 pregnant women and 262 women who have physical difficulties).

Variables included as binary dummies.

*p<0.05, **p<0.01, ***p<0.0001.

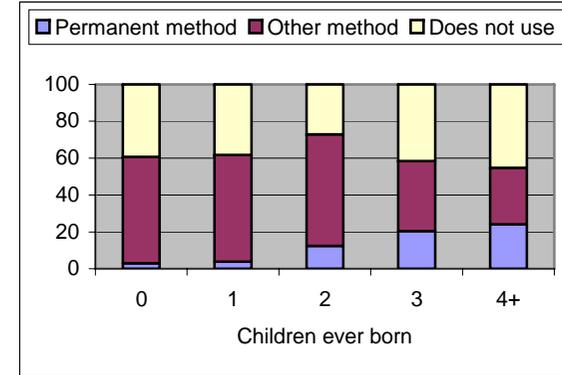
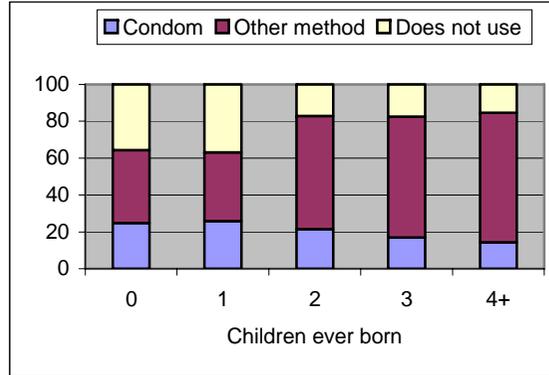
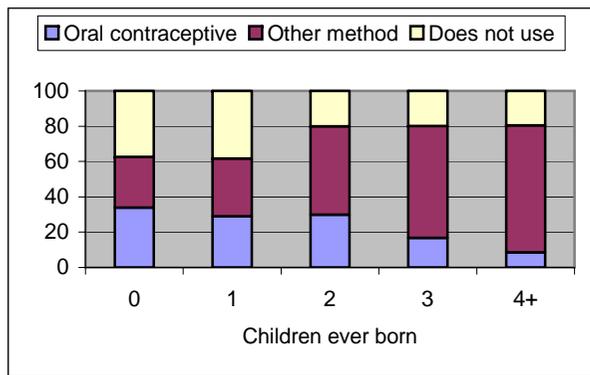
Figure 1: Predicted probabilities of type of contraceptive used, by children ever born and age.

Oral contraceptive

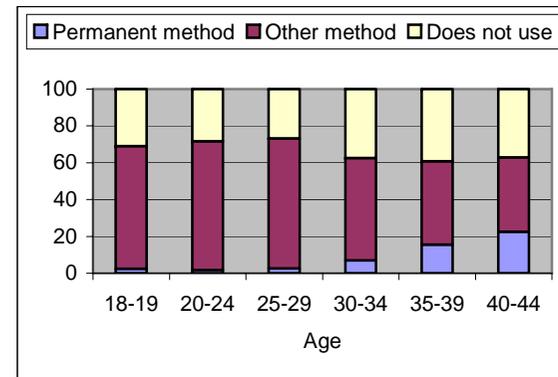
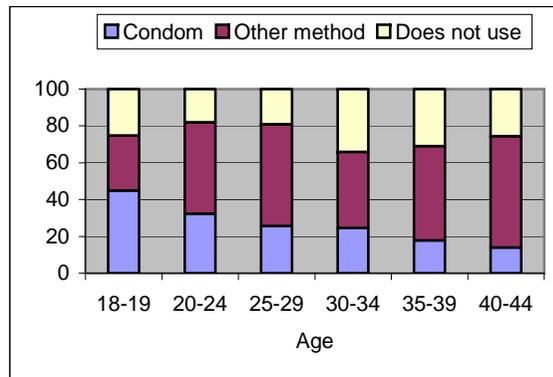
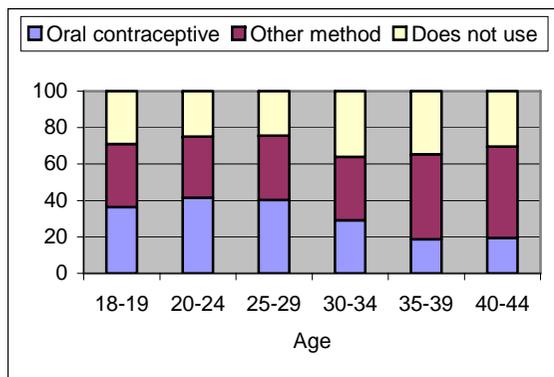
Condom

Permanent method

By children ever born



By age



Note: Predicted probabilities calculated from coefficients at Appendix Table 2.

Appendix Table 1: Descriptives: Model variables and contraceptive method.

<i>Characteristic</i>	Oral contraceptive	Condom	Permanent method ^a	Total
	n=762	n=582	n=482	n=2,620
	Mean (standard deviation)			
Total children ever had	0.7 (1.08)	0.8 (1.12)	2.6 (1.25)	1.2 (1.39)
Age (years)	28.4 (7.24)	28.7 (7.47)	38.4 (4.58)	31.3 (7.84)
	Per cent			
Highest level of education				
Bachelor or higher	27.1	29.1	17.9	25.0
Advanced diploma/dip	10.2	10.1	8.6	9.8
Certificate	16.7	17.2	20.0	16.5
Yr 12	24.8	23.0	15.3	21.9
<Yr 12	21.1	20.7	38.2	26.9
Relationship status				
Single	45.1	42.0	12.5	39.5
Partnered	54.9	58.0	87.5	60.5
Region of residence				
Major city	69.3	75.8	58.4	70.6
Inner regional Aust	20.7	16.4	28.3	19.7
Outer regional Aust/remote	10.0	7.9	13.3	9.6
English as a first language				
No	9.5	16.6	9.2	15.6
Yes	90.5	83.4	90.8	84.4

Data weighted by ehhwtrps (cross-sectional responding person population weight rescaled to sum to the number of responding persons)

^a Includes respondents who have had a tubal ligation or hysterectomy and respondents whose partners have had a vasectomy. Respondents who answer yes to having a permanent method were not asked about use of other contraceptive methods.

N=2,620 (excludes 129 pregnant women and 262 women who have physical difficulties)

Appendix Table 2: Coefficients (standard errors) from multinomial logistic regression analysis of type of contraceptive used, by life course stage, age, fertility intentions and control variables.

Characteristic	Model 1		Model 2		Model 3		Model 3		Model 3	
	Oral contraceptive v not using	Other method v not using	Condom v not using	Other method v not using	Permanent v not using	Other method v not using	Permanent v not using	Other method v not using	Permanent v not using	Other method v not using
Number of children ever born										
0 (ref.)										
1	-0.18 (0.165)	0.11 (0.165)	0.02 (0.174)	-0.08 (0.158)	0.24 (0.313)	-0.02 (0.144)				
2	0.49** (0.173)	1.18*** (0.164)	0.48** (0.188)	1.06*** (0.158)	2.03*** (0.262)	0.67*** (0.152)				
3	-0.07 (0.252)	1.42*** (0.207)	0.25 (0.262)	1.13*** (0.203)	2.55*** (0.289)	0.21 (0.210)				
4+	-0.72 (0.398)	1.57*** (0.258)	0.11 (0.361)	1.22*** (0.255)	2.73*** (0.330)	0.01 (0.286)				
Age										
18-19	-0.28 (0.195)	-0.12 (0.244)	0.18 (0.202)	-0.66** (0.229)	-2.19** (0.802)	0.55* (0.222)				
20-24 (ref. Models 1&2)					-2.38*** (0.551)	0.75*** (0.183)				
25-29	-0.01 (0.169)	0.07 (0.194)	-0.21 (0.186)	0.12 (0.174)	-1.96*** (0.337)	0.78*** (0.180)				
30-34	-0.72*** (0.173)	-0.33 (0.189)	-0.64** (0.186)	-0.55** (0.174)	-1.34*** (0.208)	0.15 (0.163)				
35-39	-1.12*** (0.208)	0.00 (0.202)	-0.92*** (0.219)	-0.30 (0.190)	-0.50** (0.185)	-0.02 (0.172)				
40-44 (ref. Model 3)	-0.96*** (0.211)	0.21 (0.204)	-1.04*** (0.231)	0.00 (0.192)						
Education										
yr12 or less (ref.)										
>yr12	0.28* (0.110)	0.27* (0.107)	0.39** (0.117)	0.20 (0.102)	-0.03 (0.144)	0.31** (0.097)				
Partner status										
single (ref.)										
couple	0.76*** (0.121)	1.18*** (0.120)	0.90*** (0.131)	1.03*** (0.114)	1.41*** (0.185)	0.90*** (0.107)				
Area of residence										
Major city	-0.22 (0.123)	-0.10 (0.121)	0.09 (0.135)	-0.26* (0.115)	-0.39** (0.155)	-0.10 (0.111)				
Other (ref.)										
English background										
First language not English (ref.)										
English	1.05*** (0.157)	0.49*** (0.138)	0.47** (0.148)	0.90*** (0.138)	1.18*** (0.213)	0.65*** (0.124)				

*p<0.05, **p<0.01, ***p<0.0001.