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FAMILY BACKGROUND, SCHOOLING AND CHILDLESSNESS IN AUSTRALIA

NICHOLAS J. PARR

Demographic Research Group, Division of Economic and Financial Studies, Macquarie University, Sydney, Australia

Summary. Using data from Wave 1 of the Household Income and Labour Dynamics in Australia (HILDA) survey, this paper analyses the extent to which childlessness among Australian women aged 40–54 years varies according to the size and type of family in which they were brought up, and the level and type of schooling they had. Multilevel logistic analysis shows that having been educated in a non-government school, having stayed at school to year 12, having a small number of siblings, at age 14 having a father who was either dead or absent, at age 14 having a father who was employed in a professional occupation, or being a migrant from North or West Europe, North America, East Asia or South-East Asia, all are significantly associated with higher rates of childlessness among women in the 40–54 years age range. The effects of these early lifecourse variables on marital and socioeconomic status in later life, and hence on childlessness, are also considered. The implications of the findings for fertility trends and for Australia's public debate are discussed.

Introduction

As in most developed countries, the proportions of Australian women and men who have remained childless until their 40s and early 50s have increased considerably in recent years (Merlo & Rowland, 2000; Australian Bureau of Statistics, 2002b; Gray, 2002). Gray (2002) estimated that in 1997 11% of women and 14% of men aged 45–54 were childless. Official estimates show the continuation of current first order birth rates would result in 24% of women remaining childless to age 50 (Australian Bureau of Statistics, 2001).

With the gradual decline in total fertility that has been evident since 1993, fertility has gained prominence in Australia's public debate. The downwards leverage that a substantial childless component can exert on the overall fertility rate has been recognized (McDonald, 2000). The conflicting demands of work and childcare for young children, and the Howard government's introduction of a tax refund (the

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so-called 'baby bonus') have received particular attention (Howard, 2001). Universal, government-funded paid maternity leave has become a major political issue, with Federal Sex Discrimination Commissioner Pru Goward at the fore of the campaign for its introduction (Goward, 2002a, b). Demographer Peter McDonald has become a prominent champion of the restructuring of family-related benefits to allow substantial, flat-rate lump sum payments to be paid to the parents of children aged under five (McDonald, 2003).

Differential fertility has been studied extensively in the Australian literature (Hugo, 1992; Jain & McDonald, 1997; Carmichael & McDonald, 2003). However, the main focus has been on ethnic differentials and differentials by socioeconomic status as measured later in the lifecourse. Studies explicitly on childlessness in Australia appear to have focused mainly on measurement of its prevalence or on differentials by ethnicity and socioeconomic status measured later in the lifecourse (Merlo & Rowland, 2000; Australian Bureau of Statistics, 2002b; Gray, 2002). Weston & Qu (2001) studied the reasons men and women give for not having children. However, the number of women surveyed who were towards the latter stages of their reproductive lives and who did not intend having children was small.

The effects of early lifecourse variables, such as the size and status of the family of origin and the type of schooling, on fertility and family formation have received considerable attention in the context of other mostly English-speaking developed countries (Lillard & Waite, 1993; Axinn *et al*., 1994; Cherlin *et al*., 1995; Berrington & Diamond, 1999; Kiernan & Cherlin, 1999). However, few studies appear to have analysed the effects of such variables on childlessness *per se.* Certainly, there appears to be a dearth of such studies in the Australian context. This paper aims to address this gap in the literature by analysing how the extent of childlessness among Australian women varies according to the size and type of family in which they were brought up, and the type of schooling they had, and the later lifecourse variables that mediate these effects.

Data and methods

The data were from Wave 1 of the Household Income and Labour Dynamics in Australia (HILDA) survey, a large-scale, nationwide longitudinal survey of the household population of Australia conducted in 2001 by the Australian Commonwealth Government's Department of Family and Community Services. A multi-stage, cluster sample design was used, and, 13,969 men and women from 7682 households and 488 census collection districts, which were stratified by state or territory, and whether metropolitan or non-metropolitan, were successfully interviewed. Data were collected on family formation and background, employment and unemployment history and status, and income. The household response rate was 66% (Watson & Wooden, 2002a, b).

The analysis was restricted to the 2051 female respondents who were aged between 40 and 54 years at the time of interview. The overwhelming majority of this group – the post World War II 'baby boom' cohort – had completed their childbearing. When asked 'how likely are you to have a child/more children in the future' only 1% of females rated the likelihood as 6 or above on a scale from 0 (very unlikely) to

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10 (very much like to). Respondents were asked how many children they had ever had. From these data a binary response variable was created to indicate whether the respondent was childless.

Aspects of women's education considered include the sector in which she was educated, and the grade at which she left school. Aspects of family background considered include: her number of siblings, whether her parents died, divorced or separated when she was a child, the countries in which her parents were born, and her parents' occupations when she was aged 14. In addition, the effects of a woman's age, country of birth, and Aboriginal or Torres Strait Islander origin were controlled for. The pathways through which these early lifecourse variables affect whether a woman stays childless were also considered.

Multilevel logistic models were used in the analysis. Such models incorporate estimates of the between-cluster variance of residuals and offer improved estimation of the significance of coefficients and related goodness-of-fit statistics. The estimation of 'cluster-level effects' may also assist model selection strategy (Goldstein, 1995). The formulation of the model used is:

$$\ln \frac{P_{ij}}{1-P_{ij}} = \beta_j X_{ij} + u_j$$

where P_{ij} is the probability that woman i in cluster j is childless; X_{ij} is a vector of characteristics of woman i in cluster j; β_j is a vector of parameters for cluster j; and u_j is the value of the random effect for cluster j. The statistical software package MLwiN was used for the analysis (Goldstein *et al.*, 1998).

Results

Univariate analysis

Roughly one in nine (11·8%) of the 40–54-year-old women in the sample are childless. Table 1 shows the variation in the percentage of 40–54-year-old women who are childless by schooling, family background and other early lifecourse variables.

The prevalence of childlessness rises with the highest level of schooling a woman had. Women who attended non-government schools are much more likely than women who attended government schools to be childless. Of the non-government schools, women who attended Catholic schools are less likely to be childless than women who attended other types of non-government schools (most of which would be fully independent schools, but which would also include schools affiliated to other religious or secular organizations).

The relationship between the percentage who are childless and age shows an n-shape. Women with only one brother or sister are more likely to be childless than women with other numbers of siblings. This pattern appears different from the pattern observed by Kiernan (1989), who found that among British women aged 36 years, those who were only children had the highest rate of childlessness, with no significant differences between women with other numbers of siblings. Women who were the

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Table 1. Percentage of women aged 40–54 who are childless by family background and schooling: Living in Australia (HILDA) Survey Wave 1

	Percentage childless (%)	*n*
Highest level of education		
Year 12 or more	17·2	775
Year 11 or less	8·6	1274
Type of school attended		
Government	9·6	1543
Catholic non-government	16·9	332
Other non-government and other	22·0	173
Number of siblings		
0	12·7	79
1	15·0	360
2	12·0	475
3	12·1	421
4+	9·3	709
Was oldest sibling when growing up		
Yes	13·5	592
No, had older sibling	10·8	1373
Father's occupation at age 14		
Managerial or administrative	11·8	338
Professional	20·0	225
Associate professional	10·9	211
Tradesperson and related	10·3	435
Advanced and intermediate clerical, sales and service	8·3	157
Intermediate transport and production	8·0	262
Elementary clerical, sales and service	12·3	65
Labourer and related	11·1	161
Father absent or deceased	19·1	110
Not employed	3·6	56
Mother's occupation at age 14		
Managerial or administrative	9·1	55
Professional	17·1	123
Associate professional	4·9	81
Tradesperson and related	11·4	70
Advanced and intermediate clerical, sales and service	14·0	193
Intermediate transport and production	14·3	49
Elementary clerical, sales and service	7·0	142
Labourer and related	11·9	193
Mother absent or deceased	18·9	37
Not employed	11·5	1085
Country of birth		
NW Europe or North America	14·7	232
East or SE Asia	17·6	108
Other overseas	5·6	251
Australia	12·0	1460

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Table 1. *Continued*

	Percentage childless (%)	*n*
Father's country of birth		
NW Europe or North America	11·6	344
East or SE Asia	17·2	105
Other overseas	9·4	353
Australia	11·8	1238
Mother's country of birth		
NW Europe or North America	13·7	313
East or SE Asia	17·0	106
Other overseas	7·3	327
Australia	11·8	1298
Total	11·8	2051

oldest sibling when they were growing up are more likely to be childless than those who had an older sibling.

The father's occupation when the women were aged 14 was coded into groupings based on the Australian Bureau of Statistics' Australian Standard Classification of Occupations (ASCO) (Australian Bureau of Statistics, 1997). Of the various major occupational groups, women whose father had been in a professional occupation when the woman was aged 14 are the most likely to be childless. The percentage of women whose father was either absent or deceased when they were aged 14 is also notably considerably above the average. Women whose father was not employed are the least likely to be childless.

Just over half the women reported their mother was not employed when they were aged 14. Women whose mother was not employed when they were aged 14 are only slightly less likely than those whose mother was in employment to be childless. Variation in the percentage childless between categories for the mother's occupation when the woman was aged 14 is generally less marked than that by the father's occupation at this age. Women whose mother was absent or deceased are the most likely to be childless, followed by those whose mother was in a professional occupation.

First-generation migrants are only slightly less likely to be childless than the Australia-born. However, the percentage who are childless varies considerably between the different regions of birth. Women who were born in East or South-East Asia (the largest subgroups are those born in the Philippines, Vietnam and China) are the most likely to be childless. Women who were born in Northern or Western Europe or in North America (nearly three-quarters of this group were born in the UK or Ireland) are also relatively likely to be childless. Women who were born in Southern or Eastern Europe (those born in the former Yugoslavia, Italy and Poland are the largest subgroups) are the least likely to be childless. The Australia-born with an overseas-born father or mother are slightly more likely to be childless than those with Australia-born parents. The percentage of Aboriginal and Torres Strait Islander

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Table 2. Multilevel logistic regression model of whether a woman aged 40–54 is childless: Living in Australia (HILDA) Survey Wave 1

	Coefficient (β)	SE (β)	Odds ratio	p value
Highest level of education				
Year 12 or more	0·61**	0·16	1·84**	0·00
Year 11 or less	0·00		1·00	
Type of school attended				
Government	− 0·64**	0·15	0·53**	0·00
Non-government	0·00		1·00	
Number of siblings	− 0·10**	0·04	0·91**	0·01
Father's occupation at age 14				
Professional	0·50*	0·20	1·65*	0·01
Father absent or deceased	0·81**	0·27	2·25**	0·00
Other occupation or not employed	0·00		1·00	
Region of birth				
Australia	0·87**	0·30	2·39**	0·00
NW Europe or North America	1·16**	0·34	3·20**	0·00
East or SE Asia	1·36**	0·39	3·89**	0·00
Other overseas	0·00		1·00	
Age	− 0·04*	0·02	0·96*	0·01
Constant	− 0·56	0·90	0·57	0·38
Cluster-level variance	0·20	0·29		0·49

**$p<0·01$; *$0·01 \leq p<0·05$.

women who are childless (5·3%) is less than half that for non-Aboriginals. However, the number of Aboriginal and Torres Strait Islanders (38) in the sample is small.

Multivariate analysis

The multilevel logistic regression reveals substantial and significant effects of the type and level of schooling a woman had, the size and type of family in which she was brought up, and her ethnic background on the probability of a woman aged 40–54 being childless. Table 2 tabulates the significant effects.

Having been educated in non-government schools as opposed to government schools significantly increases the likelihood of a woman being childless. However, after controlling for the highest level of schooling attained, age, family background and ethnicity, the difference in the percentage who are childless between the women from the two types of non-government schools, Catholic schools and other non-government schools, is not significant. Women who were educated to year 12 or above are significantly more likely to be childless than less educated women.

The number of siblings in a woman's family of origin has a significant negative association with her probability of being childless. Initially a quadratic term for number of siblings was included in the model to allow for a possible non-linearity; however, this term was removed after it was found to be not significant. The

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Table 3. Percentage of women aged 40–54 who are childless by current marital status: Living in Australia (HILDA) Survey Wave 1

Marital status	Percentage childless	*n*
Married	5·7	1379
In *de facto* relationship	19·9	166
Divorced, separated or widowed	8·0	361
Never married and not in *de facto* relationship	71·1	142

association between being the eldest sibling and being childless is not significant when number of siblings and other variables were controlled for.

The association between the occupation a woman's father had when she was aged 14 and childlessness in later life remains significant after controlling for other variables. Women who when aged 14 had a father in a professional occupation are significantly more likely to be childless than women whose father had another occupation or was not employed. Women whose fathers were either absent or deceased when they were aged 14 also are significantly more likely to be childless. However, after controlling for other variables, differences in a woman's probability of being childless by her mother's occupation at age 14 are not statistically significant.

The association between region of birth and childlessness is significant, with women born in East or South-East Asia having the highest likelihood of being childless, followed by women who were born in North or Western Europe or North America. Women born in other overseas countries are less likely to be childless than the Australia-born. Aboriginal and Torres Strait Islander origin was not significant, probably due to the small number of such women in the sample. The probability of a woman being childless reduces significantly as age increases over the 40–54 age range. Non-linearities in the age effect were tested for by including quadratic and cubic terms in the model. However, the higher-order terms proved to be not significant. The cluster-level variance term is small and not statistically significant.

Mediating factors

Marital status. For obvious reasons, being childless has a strong correlation with marital status. The majority of never-married women are childless (71%), compared with less than 6% of married women and less than a fifth of women in *de facto* relationships (Table 3). Of those who had never married and who were not currently in a *de facto* relationship, just under half (43%) had been in a *de facto* relationship in the past. The percentage of these women who were childless (53%) is lower than for women who had never been in a *de facto* relationship (85%). Among the legally married women, those who had been married more than once are slightly more likely to be childless. The percentage who are childless generally increases with the age at first marriage. Legally married women who lived with their partner in a *de facto*

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Table 4. Marital status of women aged 40–54 by schooling and family background variables: Living in Australia (HILDA) Survey Wave 1

	Percentage with marital status				
	Married	In *de facto* relationship	Divorced, separated or widowed	Never married and not in *de facto* relationship	Total
Highest level of education					
Year 12 or more	66·8	8·1	15·9	9·2	100·0
Year 11 or less	67·6	8·1	18·7	5·6	100·0
Type of school attended					
Government	68·4	8·4	17·7	5·5	100·0
Non-government	64·0	7·1	17·4	11·5	100·0
Number of siblings					
0	67·9	9·0	17·9	5·1	100·0
1	67·5	7·8	18·6	6·1	100·0
2	68·8	8·9	16·5	5·9	100·0
3	69·4	7·8	15·7	7·1	100·0
4+	65·5	7·9	18·9	7·6	100·0
Father's occupation at age 14					
Professional	62·2	7·6	19·1	11·1	100·0
Father absent or deceased	54·6	10·2	26·9	8·3	100·0
Other occupation or not employed	68·8	8·0	16·9	6·3	100·0
Region of birth					100·0
Australia	66·2	8·3	17·6	7·9	100·0
NW Europe or North America	65·9	12·1	17·2	4·7	100·0
East or SE Asia	78·7	4·6	13·0	3·7	100·0
Other overseas	70·5	4·8	19·9	4·8	100·0
Total	67·5	8·1	17·6	6·8	100·0

relationship before marrying are more likely to be childless (9·1% were childless) than those who did not do so. Thus some of the differences in childlessness by schooling and family background variables may be linked to differing propensities to marry or enter *de facto* relationships.

Table 4 shows the variation in the marital status distributions between schooling and family background variables. The higher percentage who are childless among women who were educated to year 12 or above would partly be due to their being less likely than less educated women to have married or entered a *de facto* relationship. Similarly, the higher percentage who are childless among women who attended non-government schools reflects their being nearly twice as likely as women who attended government schools to have never married or to have entered into a *de facto* relationship. Differences in marital status by the number of siblings a woman has are generally slight. Women who have relatively small numbers of siblings are

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slightly more likely to be in the never-married and not *de facto* marital status category than women who have larger numbers of siblings.

The higher percentage of childless women whose father was in a professional occupation when she was aged 14 reflects their being more likely never to have married or to have entered into a *de facto* relationship. Such a pattern also helps to explain the higher percentage of childless among women whose father was either absent or deceased. However, the striking feature of the marital status distribution of this group is the high proportion who are either divorced, separated or widowed. The apparent tendency for marital disruption to run in families has also been observed in the British context (Kiernan & Cherlin, 1999).

The relatively high percentage of women who were born in East or South-East Asia who are childless is despite their high propensity to be currently married. For those born in Northern or Western Europe or North America the relatively high percentage who are in *de facto* unions appears to be a contributory factor to their relatively high propensity to be childless.

Socioeconomic status. There are marked differentials in the rate of childlessness by variables measuring a woman's current socioeconomic status. The proportion of women with a Bachelor degree (23%) who are childless is nearly double the average. One-fifth of women in a professional occupation are childless. Childlessness is markedly higher among higher-earning women, with one-third of those with a gross income from wages and salaries above A$50,000 being childless. Thus some of the effects of early lifecourse variables, such as family background and schooling, may be mediated by their effects on these socioeconomic status variables as measured later in the lifecourse. However, it should be noted that the relationship between childlessness and these variables may also be affected by the effects of the arrival of children on a woman's educational and labour force participation and on her career progression.

Table 5 shows the differences in the proportions of women with a Bachelor degree, in a professional occupation, and the differences in mean gross annual income from wages and salaries by the family background, schooling and region of birth variables that have statistically significant associations with childlessness. Women who were educated to year 12 and women who were educated at non-government schools are more likely to attain a Bachelor degree, to be in a professional occupation, and tend to earn higher incomes later in life than less educated women and women who attended government schools. Thus a greater opportunity cost of childbearing (i.e. the income and other rewarding aspects of paid work that would be foregone by having children) may explain their higher propensities to be childless.

The number of siblings a woman has has an inverse relationship with the likelihood she attains a Bachelor degree and also with her income. Women with four or more siblings are considerably less likely than women with three or fewer siblings to be in a professional occupation. Thus a trade-off between child-quantity and child-quality, and the subsequent greater opportunity cost of childbearing faced by women from smaller families, may help to explain the increase in childlessness as the number of siblings reduces (Becker, 1981).

Women whose father had a professional occupation when she was aged 14 are more likely to attain Bachelor degrees, to themselves be in professional occupations,

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Table 5. Mean gross annual income from wages and salaries, percentage currently in a professional occupation, and percentage with a Bachelor degree or higher of women aged 40–54 by schooling and family background variables: Living in Australia (HILDA) Survey Wave 1

	Mean gross annual income (A$)	Percentage in professional occupation	Percentage with Bachelor degree
Highest level of education			
Year 12 or more	27,205	37·6	39·1
Year 11 or less	15,260	9·0	5·6
Type of school attended			
Government	18,963	17·8	15·4
Non-government	22,600	25·7	26·9
Number of siblings			
0	25,797	21·5	21·5
1	23,238	24·4	24·4
2	20,800	24·6	21·7
3	20,739	22·6	18·1
4+	16,193	12·3	12·4
Father's occupation at age 14			
Professional	26,928	36·9	45·3
Father absent or deceased	21,310	13·6	14·6
Other occupation or not employed	18,797	17·9	14·9
Region of birth			
Australia	20,010	21·1	16·9
NW Europe or North America	22,976	22·4	22·4
East or SE Asia	16,377	14·8	25·0
Other overseas	17,307	11·6	19·5
Total	19,836	19·8	18·2

and to have higher incomes than women whose father had a different occupation. Women whose fathers were either absent or deceased when they were aged 14 also tend to have above-average incomes, but are not more likely to attain a Bachelor degree, and are less likely to be in a professional occupation. The higher percentage childless among women who were born in Northern or Western Europe or in North America may stem partially from their relatively high socioeconomic status. However, whilst the women who were born in East or South-East Asia are more likely to have a Bachelor degree than the Australia-born are, they are less likely to be in professional occupations, and their average income is considerably lower.

Inclusion of marital status and socioeconomic status variables in the multivariate analysis

The higher rates of childlessness of women who have never married, and of women who are in a *de facto* relationship, compared with those for legally married

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Table 6. Multilevel logistic regression model of whether a woman aged 40–54 is childless with effects for current marital status and income included: Living in Australia (HILDA) Survey Wave 1

	Coefficient (β)	SE (β)	Odds ratio	p value
Income (000s)	0·02**	0·004	1·02**	0·00
Marital status				
Never married and not in *de facto* relationship	3·93**	0·26	50·91**	0·00
Divorced, separated or widowed	0·36	0·24	1·43	0·14
In *de facto* relationship	1·19**	0·26	3·29**	0·00
Legally married	0·00		1·00	
Highest level of education				
Year 12 or more	0·21	0·19	1·23	0·28
Year 11 or less	0·00		1·00	
Type of school attended				
Government	− 0·44*	0·19	0·64*	0·02
Non-government	0·00		1·00	
Number of siblings	-0·16**	0·04	0·85**	0·00
Father's occupation at age 14				
Professional	0·45	0·25	1·57	0·07
Father absent or deceased	0·89**	0·33	2·44**	0·01
Other occupation or not employed	0·00		1·00	
Region of birth				
Australia	0·86*	0·37	2·36*	0·02
NW Europe or North America	1·31**	0·42	3·71**	0·00
East or SE Asia	2·14**	0·48	8·50**	0·00
Other overseas	0·00		1·00	
Age	− 0·03	0·02	0·97	0·11
Constant	− 2·09	1·08	0·12	0·05
Cluster-level variance	0·00	0·00		1·00

**$p<0·01$; *$0·01 \leq p<0·05$.

women, remain large and statistically significant after controlling for the early lifecourse variables and later life socioeconomic status. However, the difference between women who are divorced, separated or widowed and currently married women is not significant. The addition of marital status to the model reduces the effects of highest level of education and of age to insignificance (Table 6). The contrast between women who at age 14 had a father in a professional occupation and women whose father had a different occupation or was not employed is reduced somewhat and the estimated significance is raised to just above the conventional 5% cut-off.

Of the three correlated indicators of socioeconomic status – whether a woman has a Bachelor degree, whether she is in a professional occupation and gross annual income – only income shows a significant relationship with whether a woman is childless, after schooling, family background, country of birth and marital status

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variables are controlled for (Table 6). The addition of a woman's gross income to the model reduces the effect of being educated to year 12 or above and being less educated to insignificance. This suggests that the level of schooling effect may be mediated largely by its effect on a woman's subsequent level of income.

Recent trends

For most of the educational and family background explanatory variables, the recent trend in Australia has been one of increases in the percentages of children in the groups that are more likely to remain childless. The proportion of full-time school students attending non-government schools rose from 28% in 1992 to 32% in 2002 (Australian Bureau of Statistics, 2003). Although rates of retention from year 7/8 to year 12 both for males and for females are slightly lower now than they were during the recession of the early 1990s, the rates for 2002 were more than double those for 1982 (Australian Bureau of Statistics, 2003). Between 1991 and 2001 the percentage of children under the age of 15 who are in lone parent families increased from 14% to 20% (Australian Bureau of Statistics, 2002b). The proportion of employed males who are in professional occupations rose from just under 13% in 1991 to 16% in 2001. Moreover, trends in numbers of children ever-born for women aged 40–44 suggest that between 1981 and 1996 the average number of siblings of their children has fallen substantially (Australian Bureau of Statistics, 2002a).

Discussion

This study finds substantial differences in the propensity of a woman to be childless by characteristics measured early in the lifecourse. These include the level and type of education, the size, socioeconomic status and disruption of the family of origin, and the country of birth.

To what extent is women's lifetime childlessness a voluntary decision? When asked how much (on a scale of 0 to 10) they would like to have a child in the future, three-quarters (75%) of childless women in the 40–54 age range gave a value of 0, indicating that they definitely would not like a child in the future and 79% gave a value of 4 or less, indicating they would prefer not to have a child. This would appear to suggest that in most cases childlessness is in accordance with the woman's wishes. However, it may be that for some childless women the expressed preference to have no children in the future stems from a resignation to the practicalities of their age or (lack of) partnership, as opposed to being a positive lifestyle choice for a life without children or longer standing disinterest in or active dislike of children (Weston & Qu, 2001). As future waves of data from the survey are released, further research should identify changes over time in women's attitudes towards their remaining childless, particularly changes in circumstances associated with a change from a preference not to be childless for life to a preference to be childless for life.

The explanation of the link between education and higher levels of childlessness shown by this study, at least to the extent that it is determined by voluntary factors, may lie in the greater life chances, particularly the higher incomes, enjoyed in later life by the 'better' educated. The data did not allow parental income or wealth to be

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controlled for. It may be that some of the apparent effect of being educated in a non-government school is the result of the effects of these unmeasured factors on women's attainment of socioeconomic status.

The link between having a father in a professional occupation and childlessness may also reflect the opportunities that may stem from the greater resources of those with professional fathers. It may also be that families in which the fathers had professional occupations are more supportive of female children pursuing education and a career. It is to be expected that a higher proportion of the female friends, work colleagues and associates of families in which the father had a professional occupation would themselves by childless. This may influence the attitudes of the families and their females towards childlessness.

The link between a woman's number of siblings when she was growing up and her propensity to be childless is particularly interesting. It may be that parents with fewer children tend to invest more time and resources in the well-being of each of their children, and that their children tend to attain better educations and progress to better paid employment as a result. In other words, there is a child-quantity to child-quality trade-off (Becker, 1981). It also appears that the attainment of female children relative to that of male children is somewhat greater where family size is smaller. Thus being from a small family may enhance the chances of becoming an educated, high-earning career woman, and the resultant greater opportunity cost of childbearing may increase the propensity to be childless. Attitudes to childbearing that are inherited from parents, the experience of being surrounded by a large family when growing up, and genetically inherited fecundity may also help to explain the link between the number of siblings and childlessness in later life.

One of the concerns in relation to the childless is that they will lack the support later in life provided by children, and often also of a partner. Childless women have been observed to have higher rates of institutionalization later in life than women with children (Rowland, 1998). The lack of support in later life for childless women may be compounded by their tending also to have fewer siblings to offer support and assistance to them, which has been demonstrated by this study. However, with their tending to have come from higher socioeconomic status backgrounds and tending to have fewer siblings, the proceeds of inheritances to the childless may also be greater. Moreover, their higher individual incomes would also enhance the affordability of suitable residential facilities and of care later in life. A shortage of siblings in Australia to assist them in old age may also affect childless migrant Australians, because in many cases their siblings may be dispersed not only between Australia and the country of origin, but also over other migrant destination countries (Parr *et al.*, 2000).

Clearly the sociodemographic characteristics of the childless have implications for who would gain and who would lose financially from recent and proposed changes to family-related benefits and to changes to maternity-related leave, now so prominent in Australia's public debate (McDonald, 2003). From the results of this study, it is clear that, whilst those who would receive no direct benefit from such policies by virtue of their remaining childless are a minority, they are nonetheless a relatively high income, well-educated and middle-class-background minority who may be able to exert influence disproportionate to their number. That for most of the educational

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and family background explanatory variables with a significant relationship to childlessness later in life the recent trend in Australia has been one of increases in the percentages of children in the groups that are more likely to remain childless, may provide a reason to expect further increases in childlessness in the future.

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