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## **Childlessness Among Men in Australia**

### **Abstract**

This paper examines childlessness in later adult life among males in Australia. The data are from 1,610 males aged 45-59 interviewed in 2001 for Wave 1 of the Household Income and Labour Dynamics in Australia (HILDA) survey, a large-scale, nationwide, longitudinal survey of the household population. Staged logistic regression models are used to identify the early lifecourse antecedents of a man being childless in later life and the mediating effects of work-related variables and duration of union. The results show that the father's and mother's occupations, the level and type of education, and birthplace are important early lifecourse antecedents of whether a man is childless in later life. The lengths of time a man has been in married and cohabiting and his current occupation are found shown to have significant relationships with whether he is childless.

## **Introduction**

With its skewed sex ratio, high rates of childlessness among men are likely to have been a feature of much of Australia's demographic history since the first settlement of Europeans in 1788 (McDonald 1974; Borrie 1993). Since the 1960s the patterns of fertility and family formation in Australia have, broadly speaking, followed those associated with progression through the 'Second Demographic Transition' (Lesthaeghe 1995; Van de Kaa 1997; Carmichael 1998). The increase in childlessness among men during this transition may be more marked than among women, because the men who re-enter the marriage market following marital break-ups are more likely than the women to repartner. Thus more never married and childless men than never married and childless women may be displaced from mating and having hence from having children (Coleman 2000; Merlo and Rowland 2000; Birrell et al. 2004; Rowland 2007).

As in other Western Industrialised Countries, in Australia at all ages the prevalence of childlessness appears to be higher among men than among women (Coleman 2000; Gray 2002). However, whilst differentials in childlessness among women have been studied extensively (Merlo and Rowland 2000; Carmichael and McDonald 2003; Parr, 2005), relatively little attention has been paid to the patterns among men. Koropecj-Cox and Call's (2007) incorporation of data from a 1992 survey conducted in South Australia into their cross-national comparisons of childlessness among men aged over 65 is a rare example. Most of the studies of childlessness among Australian men appear to be restricted to small scale surveys of men's and women's reasons for not having children (Weston and Qu 2001; Carmichael and Whittaker 2007a).

An exception is the Australian Institute of Family Studies' Fertility Decision Making Project which obtained responses from 1,251 men aged 20-39 years (Weston et al. 2004). The apparent neglect of men's childlessness may reflect the relative shortage of data on men's fertility (Australian census questions on numbers of children are designed to be answered only by women), the difficulties posed by the incompleteness and inaccuracy of the reporting of paternity and by the longer period of the male reproductive function, and a prevailing belief that since the economic and lifestyle opportunity costs of entry into fatherhood are much less marked than those of entry into motherhood it is more pertinent to analyse fertility using mothers' characteristics (Coleman 2000; Gray 2002). With more widespread and more accurate DNA paternity testing in recent years, including testing without the knowledge of the mother, the degree of inaccuracy of the measurement of male childlessness resulting from incomplete or inaccurate reporting of paternity may have reduced (Gilding 2005; Gilding and Turney 2006).

This study seeks to address a gap in the literature on childlessness among men, particularly the shortage of literature on differentials in childlessness in contemporary Australia. It should be of wider international interest in view of the dearth of such studies for other countries. It focuses on the early lifecourse antecedents of childlessness and the roles of the attainment of socioeconomic status and partnership duration as mediators of the effects of these variables.

## **Theoretical Background**

*Childlessness by choice and childlessness by circumstance*

Some childless men do not have (or their partners do not have) the biological capacity to procreate (the ‘involuntarily childless’), whilst others have such a capacity (the ‘voluntarily childless’). Some longstanding childlessness may be the legacy of a sequence involving both episodes of voluntary childlessness and episodes of involuntary childlessness. In parallel to Cannold’s (2004) typology of childless women, ‘voluntarily childless’ men may be subdivided into those who are ‘childless by choice’ (that is they have a long-held commitment to avoiding fatherhood) and those who are ‘childless by circumstance’. The latter group includes men whose desires for fatherhood are thwarted by an inability to form or to maintain relationships, men who are thwarted from becoming fathers by partners who are unwilling to have children with them, and men who are ambivalent to or undecided about entering fatherhood. Not all men whose preference would have been to choose childlessness avoid becoming fathers. The classification of the lifetime childlessness of some men may be complicated by the explanation of their remaining childless differing between different episodes of their life history, as their attitudes to the desirability of entering fatherhood change (Carmichael and Whittaker 2007a).

#### *Factors affecting involuntary childlessness among men*

Infecundity (defined as the failure of a couple to achieve a pregnancy after a year of having regular unprotected sexual intercourse) is estimated to affect roughly 12 per cent of couples in Australia, with roughly one in five cases being the result solely of male

problems (McLachlan 2007). Male infecundity or reduced fecundity may involve sperm production or transport problems, the development of sperm antibodies, sexual problems, or hormonal problems. Some of these problems are manageable with medications, bypass procedures, or surgery, and the range and efficacy of the available practices has improved considerably over time (McLachlan and De Kretser 2001; McLachlan et al. 2005).

Assisted reproductive technologies, such as In Vitro Fertilisation (IVF) techniques, may be recommended to some couples. However, in Australia, despite government funded subsidies of the direct treatment costs, the costs are substantial (Chambers et al 2006).

Identified causes of male infecundity, as well as genetic and environmental causes, include vasectomies, sexually transmitted and certain other infections, testicular and certain other cancers, cancer treatments, and lifestyle factors, such as stress, substance abuse, smoking, obesity and nutritional deficiencies (UMMC 2006). Increasing age may also be associated with a decline in male fecundity.

There appears to be a dearth of studies of the variation in the prevalence of the infecundity either for males or for couples by male socioeconomic and demographic characteristics in Australia. However, the higher prevalence among the more socioeconomically disadvantaged sections of Australia's male population, of smoking, obesity and diabetes, together with their reduced capacity to afford expensive interventions such as IVF, may provide some cause to expect higher rates of involuntary infecundity among these groups (ABS 2006a, 2008a). The fertility of indigenous Australians is above the national average (ABS 2007). However, the particularly high prevalence of many of the risk factors for infecundity among indigenous males, particularly smoking, high risk drinking, use of illicit substances, poor nutrition, obesity,

diabetes, psychological distress, and sexually transmitted infections, may provide reason to expect there also to be a higher prevalence of male infecundity in this section of the population (Miller et al.2001; AIHW 2008).

### *The implications of entry into fatherhood for men*

A choice not to have children may reflect the disincentives to having children which stem from the prospective economic and time use opportunity costs to both the prospective parents. However, in Australia such costs resulting from entry into fatherhood generally remain considerably less than those which result from entry into motherhood. In marked contrast to the pattern for women, children have been found to have virtually no effect on Australian men's wage rates (Breusch and Gray 2004a, 2004b). Children also affect men's leave-taking less than they affect women's. In Australia men who take paid or unpaid paternity leave are still very much in the minority, and the durations of paternity leave taken tend to be shorter than those of maternity leave (ABS 2006b; Whitehouse et al. 2006). A broadly similar pattern has been observed even in Norway, a country renowned internationally for its progressive stance on gender equity issues (Lappegard 2008). However, in Australia many fathers use some of their annual or other types of leave entitlements to help look after young children (Whitehouse et al. 2006). The underutilisation of paternity leave may reflect that, even though publicly they may pay lip-service to it, colleagues and senior management are privately and effectively unsupportive of men taking such leave (Hand and Lewis 2002). Cultural stereotypes about parental roles may also deter men from requesting such leave (Broderick 2008).

The effect of children on men's time use remains smaller than their effect on women's time use, but some change over time has been apparent (Craig 2005). Australian men still on average undertake considerably less domestic work and childcare than Australian women, and, whilst Australian men's share of domestic work appears higher relative to the shares undertaken by men in most Western European countries, it appears the additional domestic work and parental childcare resulting from children falls heavily on Australian females (ABS 1997a; Craig and Bittman 2004; European Commission 2004). The major changes to men's time use resulting from the arrival of the first child are a reduced time for sleeping and for other forms of personal care (eating, drinking, washing etc.) and a reduced time for recreation (Craig and Bittman 2004; Craig 2005, 2006). According to Carmichael and Whittaker (2007a), aversion to lifestyle change features prominently in Australian childless men's (and women's) rationalisations of their being childless. The arrival of children may also lead to a loss of attention from the partner and a disruption to the sex life, and this too may deter some men from fatherhood (Williamson et al. 2006). As in other countries, in Australia there has been some convergence in gender roles within the family over time, with fathers on average becoming more involved in bringing up children (Juby and Le Bourdais 1998; Bianchi 2000; Baxter 2002; McLanahan 2004). McLanahan (2004) shows that in the United States male involvement in parenting increased among college graduates somewhat earlier than it did among non-college graduates, a pattern which is to be expected in Australia. Also, as Kaufman and Uhlenberg (2000) have shown for the United States, it is likely Australian men's responses to the arrival of children have become more heterogenous, with there being not only the many who continue to follow the 'traditional'



pattern of increasing their work time and earnings following the arrival of a child but also a growing number who sacrifice work effort in order to be more involved in bringing up the child. It is likely that women's expectations of the assistance a man will provide with domestic and childcare work affect the selection and retention of men into unions and whether they are willing to have children with them, and that such expectations have increased over time (Cannold 2004; Carmichael and Whittaker 2007a). However the greater opportunities to participate in childrearing and the greater expectations of their involvement may not necessarily be attracting Australian men to fatherhood: some men are deterred from fatherhood if a considerable participation in domestic and childcare work is to accompany it. According to Carmichael and Whittaker (2007b) incompatibility between partners' attitudes to domestic and childcare work represents a significant impediment to partnership formation and endurance in contemporary Australia.

From the above discussion it can be concluded that, whilst the changes to the men's lives from the arrival of children are not entirely negligible, they still tend to be much less marked than the changes to the lives of their female partners. Thus the selectivity of partnering is likely to be an important factor for the explanation of men's childlessness.

#### *Partnership history and entry into fatherhood*

The formation, duration, and stability of partnerships are obviously important circumstances for the entry to fatherhood. Unsurprisingly, Australian men who have married or cohabited have been found to be far less likely to be childless than those who

have not done so (Korpeckyj-Cox and Call 2007). Socioeconomic status appears to be an important determinant of men's ability to form and maintain partnerships. Australian men with higher incomes have been found to be far more likely to be partnered than their counterparts with lower incomes, with the difference in rates of being married being greater than that in rates of cohabiting whilst unmarried (Birrell et al. 2004). Birrell et al. argue this reflects not only the greater capacity of men with higher incomes to fulfill the role of main provider but also, increasingly, their greater capacity to contribute on an equal basis to collaborative partnerships, a lifestyle which has become more prevalent over time.

Men whose marriages are ended by divorce or separation are slightly more likely to be childless than those whose unions remain intact, but are still much less likely to be childless than men who never enter unions. The somewhat higher rates of childlessness among formerly married men would reflect they and their former partners having refrained from having children in view of the instability of their relationship and the prospective difficulties which single parenthood would present, as well as the time spent unpartnered following the marital break-up (Carmichael and Whittaker 2007a).

Relationship break-up is likely to lead to a reduced level of contact between father and children. In the past Australian men were relatively unlikely to gain custody of children following a separation, although since 2006 changes to family law have placed a greater emphasis on shared parenting and parental responsibility (Smyth *et al.* 2008). They also face a rigorous enforcement of child support and maintenance payments to children and former partners (Birrell et al. 2004). Bracher et al. (1993) show the husband's previous

marital status, religion and employment to be factors affecting the risk of marital dissolution in Australia.

### *Men's work and childlessness*

Even though the changes in men's work which result from entry into fatherhood tend to be relatively minor, there may still be considerable variation in men's propensities to be childless between occupations of differing status and income. This is because a man's inclination and ability to attract and retain a partner (whether as a 'traditional' breadwinner or within a more egalitarian, collaborative partnership), and the education, income, wealth and attitudes of the partner he selects (and is selected by) may reflect the status, income, and opportunities for meeting prospective partners he derives from his employment (Bracher et al. 1993; Birrell et al. 2004; Carmichael and Whittaker 2007b). His financial circumstances (along with his partner's) affect the couple's ability to afford to support a child in numerous ways. The costs of children include not only the ability to cover the additional living costs resulting from the child but also the reduced income of (usually) the female partner which results from withdrawal from the labour force to look after a child, taking unpaid parental leave, or a change to part-time work or to another occupation which is more compatible with childrearing (Chapman et al.. 2001; Percival and Harding 2002; Breusch and Gray 2004a; Henman et al. 2007, Parr et al. 2007, Baxter 2008). Where the costs of having children include the costs of undergoing IVF these substantial costs are more affordable by men with higher incomes and wealth (Chambers 2006). The man's income also contributes to the determination of the value of some of

the government benefits which may be claimed by parents, including Family Tax Benefit Part A (a means-tested benefit paid to the parents of children), childcare benefit, and, in some cases, it may be that costs of childcare are tax-deductible from the man's salary.

For some men the circumstances of their work may make it difficult to commit to fatherhood. According to Hand and Lewis (2002) in contemporary Australia men see being accessible to children as an important part of fatherhood which the circumstances of work may impede. Cases where the demands of work may severely limit time with their children may have become more common following the considerable increases in the proportion of employees who work long hours (i.e. over 48 hours per week) during the 1980s and early 1990s (Gray et al. 2004). That said, despite the perceived conflicts between work and family for some men, childlessness may not necessarily be advantageous to a man's career: some men see a continuing stigma attached to childlessness being disadvantageous to their careers (Blake 1979).

*Theoretical linkages between men's early lifecourse variables and their childlessness in later life*

Early lifecourse variables, that is those variables whose values are typically determined either at birth or during a person's childhood, have been shown to have significant predictive power for identifying which women will be childless in later life, in part because they affect socioeconomic attainment (Parr 2005). Early lifecourse variables, including the socioeconomic status of a man's family of origin, his number of siblings, and his type of schooling, have also been shown to have substantial effects on men's

attainment of education, income and wealth in later life (Parr 2006). However the effects of such attainment on men's fertility may operate very differently to those for women. For men the ability to attract and retain a partner and the ability to contribute to the support of children all may be enhanced by higher socioeconomic status whilst the opportunity costs of children, particularly relating to income, occupational status, and time use, tend to be less. A man's attitudes to and expectations of fatherhood may reflect, to some extent, his own experiences in childhood: for some men fears of being unsuitable for parenting or of being able to maintain an enduring relationship may stem from the example given by one or both their parents (Weston and Qu 2001; Carmichael and Whittaker 2007a, b). The country of birth may affect a man's likelihood of childlessness in later life not only because the socioeconomic circumstances of migrant groups differ considerably but also by conditioning his attitudes to the importance of having sons and daughters and expectations of the levels and types of involvement he should have in their upbringing. Moreover, the act of migration may disrupt unions and the couple's financial circumstances (Abbasi-Shavazi and McDonald 2000).

### **Research Aims, Questions and Hypotheses**

The principal aim of this paper is to examine the interrelationships between early lifecourse variables and childlessness in later life among Australian men. Particular attention is paid to the question of whether higher socioeconomic status earlier in the lifecourse is associated with a reduced likelihood of childlessness in later life. The questions of whether the size of the family of origin and the intactness of the parental

union affect the likelihood of childlessness in later life are also examined. So too are differences in childlessness among men from different ethnic groups. In view of the preceding discussions of the importance of men's work and partnership histories as determinants of their fertility, the roles of these variables as mediators of the effects of the early lifecourse variables are also examined.

## **Data**

The data are 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 metropolitan area or non-metropolitan area, were interviewed successfully. Some remote areas of the country were not sampled. Data were collected on family formation and background, employment and unemployment history and status, and income. The household response rate was 66 per cent (Watson and Wooden 2002). The analysis was restricted to 1,610 males aged 45-59 last birthday (the 1941-56 birth cohort). The fathering of children by men in this age range or above is rare in Australia; only 3.9 per cent of the fathers of births in 2006 were aged over 45 and only 0.1 per cent were aged over 60 (ABS 2007).

## **Method and Measures**

Men who were childless were identified from the answers to a question on “how many children have you ever fathered?” Most of the childless men expect to remain so: 79.8 per cent of those aged 45-55 (respondents aged over 56 were not asked this question) rate their likelihood (on a 0-10 scale) of fathering a child in the future to be zero and only a small minority (4.3per cent) consider it more likely than not they will do so. It is also evident that most of the childless men aged 45-55 are ‘voluntarily childless’ at this age: 68.1 per cent said they definitely do not want a child in the future and only 14.7 per cent expressed their desire for a child as 6 or above on a 0-10 scale. However the lack of desire for children of most of these childless men may be affected by the age-related difficulties that raising children would present, and a reshaping of fertility desires based on the current reality: it is quite possible their desires for children may have been different when they were younger. It is also possible some of the childless men who expressed a desire for children when interviewed had different aspirations when younger.

Since the response variable was binary, logistic regression was used. The functional form of the model is:

$$\text{Log}( p_i / (1 - p_i)) = \beta_0 + \beta_1 X_i$$

Where  $p_i$  is the expected proportion of men who are childless,  $X_i$  is a vector of covariates measures for respondent  $i$  and  $\beta_0$  and  $\beta_1$  are parameters to be estimated.

Adopting a lifecourse perspective, the approach used initially estimate the effects on a man’s likelihood of being childless in later life of those variables whose values are typically determined early in the lifecourse; the status of the father’s occupation, the mother’s type of occupation, the number of siblings, the level and type of education,

country of birth, Aboriginality and age (Model 1) (Berrington and Diamond 1999; Hagestad and Call 2007). The extent to which the effects of the early lifecourse variables are mediated by a man's attainment of occupational status and income, and maintenance of employment in later life are then assessed by adding these variables to the model (Model 2). Finally the extent to which variation in the time a man has spent in married unions and the time he has spent in unmarried cohabitation can account for the effects is assessed by adding these variables (Model 3).

The choice of the measures of the size and socioeconomic status of a man's family of origin and his level and type of education was guided by their established links with a man's socioeconomic attainment later in life (Parr 2006). Parental occupations, both of which were measured when the respondent was aged 14, were classified according to the Australian Standard Classification of Occupations (ASCO) (ABS 1997b). ASCO categorises occupations according to the level of education and previous experience usually required, the depth and breadth of skills required, and the level of autonomy which may be required to perform the required tasks. For both the respondent's own occupation and for his father's occupation the major occupational groups were combined into 'high status' (the 'managerial or administrative', 'professional' and 'associate professional' groups combined), 'middle status' (the 'trades or related', 'advanced clerical and service' and 'intermediate clerical, sales and service' groups combined), and 'low status' (the 'intermediate production or transport', 'elementary clerical, sales or service' and 'labourers or related' groups combined), after exploratory investigations showed the differences in the percentages who were childless within these broader categories to be small. The mother's occupation was recoded into 'managerial



and administrative', 'professional' and 'other' after exploratory investigations showed differences in the percentages who are childless between the major occupational groups other than these two to be small. It may be noted that 68% of the fathers with 'managerial or administrative occupations' (34% of the fathers in 'high status' occupations) and 89% of the mothers with occupations in 'managerial or administrative occupations' were 'farmers or farm managers', reflecting the high fertility of farmers in the past. These percentages of mothers and fathers with occupations who were farmers or farm managers is much higher than the percentage of the respondents who are 'farmers or farm managers' (10.4% of men in 'high status' occupations are 'farmers or farm managers').

The highest level of education was recoded into a binary indicator of whether or not the respondent had a post-school qualification, after exploratory analysis showed rates of childlessness differ little between men with differing types of post-school qualifications, and that differences among those without post-school qualifications by the highest level of schooling completed also were small. Overseas countries of birth were grouped into those in which English is the most widely-spoken language (MES) and those in which other languages are more widely-spoken (NES).

As argued earlier, men's work, particularly their work over the age ranges when partnership formation and entry to fatherhood are most likely to occur, is likely to be an important determinant of their fertility. The HILDA survey did not collect retrospective data on men's work over these age ranges. However income for the financial year prior to the survey and the current occupation were available. These were entered into Models 2 and 3 in the belief that these were the best available proxy measures for income and

occupation prior to and during the main reproductive ages and, hence, the best available counters to the bias of coefficients which would result from their omission from the models. An array of functional forms for the effect of gross annual income were tried, in particular linear, quadratic and logarithmic functions and a binary dichotomisation (over A\$45,000, below A\$45,000). However, after the relationships of the other functional forms with the response variable proved non-significant, the simpler linear form was adopted. The time spent in employment, expressed as a percentage of the sum of the times spent either in employment (whether full-time or part-time), unemployed but actively seeking work, and not in the labour force, was entered to test whether a history of not being employed increased a man's likelihood of being childless. It may be noted that for some men, especially those towards the older end of the age range considered, retirement may also have affected the value of this variable.

Following exploratory investigations, Both linear and quadratic terms were entered for both the number of years married and the number of years in unmarried cohabitation. Univariate differences in the rate of male childlessness by the explanatory variables are presented in Table 1 and the coefficients of the three multivariate logistic regression models in Table 2.

## **TABLE 1 ABOUT HERE**

## **Results**

Just over one in eight (12.8 per cent) of men aged 45-59 are childless (Table 1). The percentage of men who are childless is higher than the percentage of women of the same age (9.5 per cent). This would reflect fatherhood being more likely than motherhood to be postponed to later ages and the greater likelihood of paternity being unrecognised (for example if the pregnancy was not known about) or unreported. It would also reflect the effect on the marriage (and partnering) market of there being slightly more males than females in Australia's population in the age groups considered, a legacy of the predominantly male immigration of the post World War II period (ABS 2008b). A third factor is that repartnering following the break-up of a union is slightly more common for men than for women: 18.4 per cent of 45-59 year old men had married more than once compared to 17.7 per cent of women. Consequently a slightly larger number of never married men than never married women may have been displaced by the repartnering from forming unions, and hence from entering parenthood.

## **TABLE 2 ABOUT HERE**

The results show that a man's likelihood of being childless in later life is significantly affected by his family background, his level and type of education and by his birthplace. Table 1 shows a man with a father in a 'middle status' occupation is more likely to be childless than a man with a father in a 'high status' occupation, and also is more likely to be childless than a man with a father in a 'low status' occupation. The small number of men whose fathers had no recorded occupations are the most likely to be childless. Model 1 in Table 2 shows that significant effects of father's occupation remain

after controlling for a range of other early lifecourse occupations. Disaggregation of the childless into ‘voluntary’ (those whose desire for a child was 5 or less on a 0-10 scale) and ‘involuntary’ (6 or more) components showed that a significant effect of father’s occupation is evident for both components.

Just over half the men reported their mother had no occupation (Table 1). Men whose mothers had no occupation are only slightly less likely to be childless than those whose mothers had occupations. The most striking feature of the variation by mother’s occupation is the wide divergence in rates of childlessness between the two major groups of maternal occupation with the highest status: compared to those whose mother were without an occupation, men who had a mother in a ‘managerial or administrative’ occupation are significantly less likely to be childless, whilst men who had a mother in a ‘professional’ occupation are significantly more likely to be so. Model 1 in Table 2 shows that these differences remain significant after controlling for the other early lifecourse variables. Since almost all the mothers in ‘managerial or administrative’ occupations were ‘farmers or farm managers’, a rural upbringing may explain their sons’ low rate of childlessness. The support for suggestions, based on qualitative evidence, that men who experienced parental marital break-up may as a result be more likely to avoid the commitment of fatherhood is weak, with the effect of a parent being absent from home or deceased being small and not significant after controlling for parental occupations and the other early lifecourse variables. As Carmichael and Whittaker (2007b) suggest, such experiences may stiffen the resolve of some to become successful family men. Men who had relatively small numbers of siblings when growing up have slightly higher rates of childlessness than men with larger numbers of siblings. However,

despite its well-established relationship with educational attainment and wealth, the number of siblings a man grew up with does not have a significant effect of childlessness, after other variables are controlled for (Marks 2006; Parr 2006).

There are strong effects for the level and type of education. Men with post-school qualifications are significantly less likely to be childless than men without such qualifications, with this effect being due more to the difference in ‘voluntary’ childlessness. The size of this effect may reflect those included in the analysis being from cohorts which reached the usual ages for tertiary education before the era of mass higher education, with the tertiary-educated being an elite few (Karmel 1993). Men who attended non-Catholic non-government schools (most of which would be fully independent schools, but which would also include schools affiliated to other religious or secular organisations) also are significantly more likely to be childless than men who attended government schools. The difference between former Catholic schoolboys and former government schoolboys is not significant (Table 2).

Migrants from countries in which English is not the most widely spoken language are significantly less likely to be childless than those who grew up in Australia, a pattern which is unsurprising in view of the well-documented higher fertility in this age range of female migrants from these regions (Carmichael and McDonald 2003). However in Model 1 (Table 2) the difference between migrants from the mostly English-speaking countries and the Australia-born is not significant. The contrast between Indigenous and non-Indigenous Australians is not significant, which reflects the small number of Indigenous men in the sample and the exclusion of some of the more remote areas of Australia in which the more demographically distinct Aboriginal peoples are found.

There are also significant differences by age, with men aged 45-49 being significantly more likely to be childless than men aged 50-59. These differences would reflect a combination of the shorter time exposed to the risk of entering fatherhood of the younger men and the generally smaller desired family sizes and later pattern of entering fatherhood of this more recently-born cohort.

Interestingly, the likelihood of a man being childless appears to be more strongly related to the status of his occupation than to his income. Model 2 in Table 2 shows the likelihood of a man being childless reduces as the status of his occupation increases. Whilst the difference between men in 'high status' occupations and men in 'middle status' occupations is not significant, both these groups are significantly less likely to be childless than men in 'low status' occupations, who, in turn, are significantly less likely to be childless than men without a recorded occupation. The effects of a man's occupation reflect both effects on 'involuntary childlessness' as well as effects on 'voluntary childlessness'. The measured effects may reflect men with children being more likely to be promoted into higher status occupations, as well as the advantages higher occupational status men have in attracting and retaining a partner and affording children and fertility treatments (Blake 1979). Having children to provide for may also discourage early retirement, and the higher rate of childlessness among those with 'no occupation' may partly reflect this effect of childlessness on retirement. After controlling for occupation and the early lifecourse variables, neither a man's gross income (even after trying a range of different functional forms) nor his percentage of working lifetime spent in paid work has a significant effect on his likelihood of being childless.

A comparison between Models 1 and 2 in Table 2 shows that the introduction of the work-related variables has little effect on the size or significance of the parental occupational effects. The effect of having a post-school qualification remains significant after the inclusion of the work-related variables, however the reduction in the size and significance of its coefficient indicates that some of the effect of this variable is mediated by occupational attainment. In contrast, both the size and the significance of the effect of having been educated in a non-government, non-Catholic school are increased after controlling for the generally higher occupational attainment of this group. The effect of this variable may reflect those who attended more expensive schools perceiving the costs of children to be higher because they also see a need for their children to attend such schools (Parr 2007).

Model 3 in Table 2 shows, not surprisingly, the number of years a man has spent in marriage has a significant inverse relationship with his likelihood of being childless. This may reflect marital stability being enhanced by the presence of the child, as well as the effects of longer exposure and a longer-proven stability of marriage on childbearing (Waite and Lillard 1991; Bracher et al. 1993; Wu 1995; Berrington and Diamond 1999). The positive coefficient of the quadratic term for years married implies that the effect of an additional year of marriage reduces as the duration of marriage increases. The effect of increased marital duration appears to be largely one of reducing the extent of 'voluntary' childlessness. To some extent it may reflect those who did not want children opting to marry at older ages or not at all. The combined linear and quadratic effects of the number of years in a cohabiting union imply the likelihood of being childless reaches a minimum at around eight years of cohabitation. A time spent in unmarried cohabitation above eight

years is relatively rare, and is likely to be practiced largely by the select (often non-conformist) group who see cohabitation as a long-term alternative to traditional marriage and who also are more willing to depart from the tradition of having children (Lesthaeghe 1995).

The effects of a man's occupational status, the effects of his parents' occupations, and the effect of attending a non-government non-Catholic school remain significant after the inclusion of the terms for exposure to unions (Model 3 in Table 2). However the reduction of the effect of having post-school qualifications to insignificance by the inclusion of these terms suggests that the lower rate of childlessness among better qualified men is largely due to their being more likely spend longer in marriage or unmarried cohabitation, as is shown by the data. Similarly, the effects of age become insignificant with the inclusion of the terms for exposure to union, suggesting the greater likelihood of childlessness among men aged 45-49 (shown in Table 1) is almost entirely attributable to their shorter time spent in unions. This shorter time spent in unions may be due both to their younger ages and the generally later patterns of marriage which became evident in Australia during the 1970s (ABS 2008b). The lower rate of childlessness among migrants from mostly non-English-speaking countries also appears to be partly attributable to the longer time they have spent in marital unions. In contrast, after controlling for the generally longer lengths of time spent in marital and cohabiting relationships, male migrants from the mostly English-speaking countries have a significantly higher likelihood of being childless than Australia-born men. This may reflect the disruption of unions by the migration or the need for the migrant to establish himself in the labour market being to the detriment of entering fatherhood (Abbasi-



Shavazi and McDonald 2000). The differences in the likelihood of being childless between men in 'high status' occupations and men with other occupations are reduced considerably by the inclusion of the time spent in union variables, indicating that some but not all of the lower rate of childlessness of men in 'high status' occupations is due to their greater likelihood of entering and remaining in partnerships. For reasons discussed earlier, the difference between men without an occupation and men with an occupation remains significant (Table 2).

## **Conclusion**

This paper shows that a man's likelihood of remaining childless to the later working ages is affected by a range of aspects of social status including both those determined relatively early in the lifecourse and those determined later.

The overall effect of early lifecourse advantage on a man's likelihood of being childless in later life is the sum of a mixture of counteracting effects. The generally childlessness-reducing effects of father's occupation may be indicative of economic advantage per se tending to reduce the likelihood of childlessness. However, having a private education, which is more prevalent among the children of the advantaged, has a childlessness-increasing effect, possibly due to differing perceptions of the costs of children (Parr 2007). Moreover, having a mother in a professional occupation, also a type of advantage, is associated with an increased likelihood of a man being childless, possibly because it is associated with more libertarian attitudes to women's roles which, in turn, tend to encourage childlessness (Lesthaeghe 1995; McDonald 2000; Parr 2005;

McDonald 2006). Contrary to qualitative evidence which might suggest they are linked to men's fertility patterns, the size and intactness of the family of origin are not significantly related to whether a man remains childless (Carmichael and Whittaker 2007a).

Australian men in the later working ages who are in higher status occupations are less likely to be childless than their counterparts in lower status occupations. It appears that a man's status, as indicated by whether or not he has an occupation and or post-school qualifications, is a more important determinant of his likelihood of entering fatherhood than is his income. The univariate variation in rates of childlessness with occupational status at later ages for Australian men is the mirror image of the pattern for women, among whom it is the higher status groups which have the higher rates of childlessness (Parr 2005). A continuing lack of acceptance of females taking on the role of primary breadwinner may contribute to the higher rates of men in lower status occupations who are unpartnered and childless (Birrell et al. 2004). The pattern for working men aged 45-59 of a reducing rate of childlessness as occupational status increases also contrasts sharply with the pattern for working men with ages below 45, among whom the HILDA data shows it is those in higher status occupations who are the more likely to be childless. The change in the gradient of childlessness with occupational status as age increases may be indicative of the advantage of men in higher status occupations as potential fathers becoming increasingly evident with advancing age. It may be argued, therefore, that there is an incentive for men in low status occupations to enter unions and parenthood at relatively earlier ages, since their likelihood of attracting and having children with a relatively desirable partner is greater in these ages. The change with age in the relationship between occupational status and childlessness may

also reflect the age-specific differences between these cohorts. With their increased likelihood of tertiary study and the wider range of leisure alternatives, younger ‘high status’ men are more likely to delay the establishment of their careers and (hence) fatherhood than did their counterparts in earlier cohorts (Carmichael and Whittaker 2007a). Moreover, younger ‘high status’ are more likely than their forebears to partner with working women (particularly with women in ‘high status’ occupations), and hence to see the prospect of children in terms of economic opportunity costs (Parr 2005). They may also be more likely to face the prospect of additional domestic work and childcare that comes with (more) equal parenting and to be deterred from parenthood by this (McLanahan 2004). Further analysis comparing the 2001 data with later waves of data from the HILDA survey should facilitate the untangling of the age-related and the cohort-related factors behind the differing gradients between age groups of childlessness by men’s occupational status which are evident in the 2001 data.

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**Table 1: Percentage of men aged 45-59 who are childless by background characteristics: HILDA Wave 1 for Australia 2001**

	Percentage Childless	N
<i>Father's occupation at age 14</i>		
High status <sup>a</sup>	9.4	668
Middle status <sup>b</sup>	17.4	472
Low status <sup>c</sup>	10.9	412
No occupation	27.6	58
<i>Mother's occupation at age 14</i>		
Managerial	1.8	56
Professional	17.7	130
Other occupation	13.2	857
No occupation	12.2	567
<i>Parent absent or deceased at age 14</i>		
Yes	17.5	120
No	12.4	1490
<i>Number of siblings</i>		
0	14.1	78
1	14.8	338
2	13.4	373
3	12.8	298
4+	10.5	515
<i>Level of education</i>		
Has post-school qualification <sup>d</sup>	11.6	585
Does not have post school qualification	14.9	1025
<i>Type of school attended</i>		
Government	12.4	1254
Catholic	13.3	211
Other non-government and other	15.1	139
<i>Country of birth</i>		
Main English-Speaking overseas <sup>c</sup>	15.4	228
Non-English-Speaking overseas	9.2	284
Australia	13.2	1,109
<i>Aboriginality</i>		
Indigenous	17.7	17
Not Indigenous	12.7	1,593
<i>Age</i>		
45-49	12.2	442
50-54	14.6	608
55-59	11.3	560
<i>Current occupation</i>		
High status <sup>a</sup>	9.4	652
Middle status <sup>b</sup>	10.7	317
Low status <sup>c</sup>	13.1	297
None	20.9	344
<i>Gross annual income (A\$)</i>		
Under 45K	14.2	1072
Over 45K	9.8	538
<i>Number of years married</i>		

0	71.6	162
0 < and <10	15.6	199
10 ≤ and <20	7.4	363
20 ≤ and < 30	4.6	540
30 or above	2.0	346
<i>Number of years cohabiting</i>		
0	14.2	1108
0 < and < 1	13.9	122
1 or above	8.4	380
<i>Total</i>	12.8	1,610

a Managerial or administrative, professional or associate professional

b Trades or related, advanced clerical and service and intermediate clerical, sales and service

c Intermediate production or transport, elementary clerical, sales or service and labourers or related

d Bachelor's degree, Master's degree, doctorate, diploma, certificate, teaching qualification or nursing qualification.

e United Kingdom, Ireland, Canada, USA or New Zealand



**Table 2: Logistic regression models of whether a man aged 45-59 is childless:  
HILDA Wave 1 data for Australia 2001**

Variable	Model 1 (n = 1,596)		Model 2 (n=1,539)		Model 3 (n = 1,539)	
	$\beta$	SE( $\beta$ )	$\beta$	SE( $\beta$ )	$\beta$	SE( $\beta$ )
<i>Father's occupation</i>						
High status <sup>a</sup>	-1.28***	0.41	-1.29***	0.43	-1.23**	0.55
Middle status <sup>b</sup>	-0.52	0.40	-0.53	0.42	-0.50	0.54
Low status <sup>c</sup>	-1.05***	0.41	-1.15***	0.42	-1.11**	0.54
No occupation (reference)	0.00		0.00		0.00	
<i>Mother's occupation</i>						
Managerial	-1.91*	1.02	-1.73*	1.03	-1.81	1.11
Professional	0.48*	0.28	0.64**	0.29	0.80**	0.36
Other occupation	0.05	0.18	0.14	0.18	0.16	0.22
No occupation (reference)	0.00		0.00		0.00	
<i>Parent absent or deceased</i>						
Yes	0.17	0.31	0.14	0.32	0.15	0.39
No (reference)	0.00		0.00		0.00	
<i>Number of siblings</i>						
	-0.02	0.04	-0.03	0.04	-0.03	0.05
<i>Post-school qualification<sup>d</sup></i>						
Yes	-0.42***	0.16	-0.32*	0.17	-0.10	0.21
No (reference)	0.00		0.00		0.00	
<i>Type of education</i>						
Catholic	0.09	0.23	0.08	0.24	0.31	0.29
Other Non-government	0.45*	0.27	0.58**	0.28	0.80**	0.34
Government (reference)	0.00		0.00		0.00	
<i>Country of birth</i>						
Main English-Speaking overseas <sup>e</sup>	0.16	0.21	0.21	0.22	0.56**	0.27
Non-English-Speaking overseas	-0.42*	0.23	-0.51**	0.24	-0.36	0.29
Australia (reference)	0.00		0.00		0.00	
<i>Aboriginality</i>						
Indigenous	0.04	0.78	-0.09	0.79	-0.72	0.92
Not Indigenous	0.00		0.00		0.00	
<i>Age</i>						
45-49	0.37*	0.20	0.58***	0.21	0.07	0.28
50-54	0.02	0.20	0.17	0.22	-0.09	0.27
55-59 (reference)	0.00		0.00		0.00	
<i>Current occupation</i>						
High status <sup>a</sup>			-0.95***	0.25	-0.60**	0.30
Middle status <sup>b</sup>			-0.91***	0.27	-0.75**	0.33
Low status <sup>c</sup>			-0.59**	0.26	-0.52*	0.31
No occupation (reference)			0.00		0.00	
<i>Per cent of working life</i>						
			-0.01	0.01	0.01	0.01

<i>employed</i>						
<i>Gross annual income<sup>f</sup></i>			-0.01	0.03	0.03	0.03
<i>Years married</i>					-0.27***	0.03
<i>(Years married)<sup>2</sup></i>					0.004***	0.001
<i>Years cohabiting</i>					-0.33***	0.10
<i>(Years cohabiting)<sup>2</sup></i>					0.02***	0.01
<i>Constant</i>	-0.94**	0.45	-0.01	0.61	1.17	0.77

\*\*\*  $p \leq 0.01$ , \*\*  $0.01 < p \leq 0.05$ , \*  $0.05 < p \leq 0.10$

a Managerial or administrative, professional or associate professional

b Trades or related, advanced clerical and service and intermediate clerical, sales and service

c Intermediate production or transport, elementary clerical, sales or service and labourers or related

d Bachelor's degree, Master's degree, doctorate, diploma, certificate, teaching qualification or nursing qualification.

e Main English-speaking i.e. United Kingdom, Ireland, Canada, USA or New Zealand

f In A\$10,000