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An examination of the characteristics and time use of those who have unfilled spare time

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Abstract

While the often-heard complaint about time today is that of having too much to do and too little time, there are those who experience the opposite: they have difficulty filling the spare time that they have. This spare time can for some include times perceived to be empty of satisfying activity, and instead be associated with feelings of dissatisfaction, with frustration and boredom, and with time being spent in unproductive or even unhealthy pursuits. This paper uses the Australian Bureau of Statistics 1997 and 2006 Time Use Surveys to examine the characteristics and time use patterns associated with reporting to frequently have spare time that is difficult to fill. These analyses take a life cycle perspective to determine which men and women are at greatest risk of having this experience of time. These findings indicate that while a minority of people experience unfilled spare time, it is more common among the youngest men and women, especially those living with their parents, as well as men living alone, men and women with limited commitments to paid work or to caring, and those with a health problem and with a non-English-language background. Examining the reasons given for having unfilled spare time, lack of money is the main reason given, however other reasons also apply, and reasons differ for particular groups of people. Ill health, transport, having no friends or family nearby and lack of community facilities are some of those reasons. These data were also related to the patterns of time use to better understand the implications of having unfilled spare time for individuals' wellbeing.

JEL-Codes: D91, J15, J22

Keywords: Leisure time, spare time, time use, diaries, life cycle

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1 Introduction

While the often-heard complaint about time today is that of having too much to do and too little time, there are those who experience the opposite. That is, some people have an excess of free time that they are unable to fill. Several decades ago, Parker (1975) referred to this as one of the problems of leisure, that is, the inability for some people to utilise their leisure time, for example because of lack of mobility, facilities or money, or because of having an excess of enforced leisure time. When this occurs, free time can include time that is empty of satisfying activity, and instead may be associated with feelings of dissatisfaction, with frustration and boredom, and with time being spent in unproductive or even unhealthy pursuits (Bloomfield, 2004; Bloomfield and Kennedy, 2004). Such unfilled spare time has been referred to elsewhere as "unoccupied free time" (Bloomfield, 2004) or "empty" time (Parker, 1975).

This paper is concerned with exploring this experience of having unfilled spare time. A life cycle perspective is used to examine who is most likely to experience unfilled spare time in Australia, whether there has been any change across two time periods (1997 and 2006) in the frequency of having unfilled spare time, to look at why people feel they have this experience, and to also look at associated time use patterns. The Australian Bureau of Statistics (ABS) Time Use Surveys contain questions that allow this subject to be analysed. These data are particularly valuable for these analyses, being large population-based surveys with the same items collected (of different respondents) in 1997 and 2006.

While considerable research has explored the experience of time from the opposite perspective–being rushed and time poor–little is known about this perspective, especially from a whole of population view. Certainly there has been recognition and study of this issue for particular groups, such as the unemployed and the elderly, but this paper compares across these and other groups to explore how this experience of having unfilled spare time varies across the life cycle and according to a range of demographic characteristics. It builds upon earlier work with these data by Bloomfield (2004) and Warburton and Crosier (2001).

Perceptions of time, such as are captured in questions about being rushed, or about having spare time that cannot be filled, are likely to be based on real elements of a person's life – whether in terms of caring responsibilities, work responsibilities or other aspects (Sayer and Treas, 2005; Zuzanek, 1998). These subjective assessments of time are useful, as they are likely to be key factor in understanding how individuals' time use might affect their wellbeing. For example, feeling time pressured is related to poorer wellbeing in terms mental health or depression (Roxburgh, 2004; Zuzanek, 1998). At the other end of the scale, a sense of hav-

ing spare time that is difficult to fill may be an indicator of boredom,[1] and proneness to boredom is associated with poorer mental health as measured on a range of constructs, including feelings of loneliness and hopelessness (e.g., Farmer and Sundberg, 1986). Zuzanek (1998) found that poorer mental health was evident among those at the two extremes–those with high and those with low levels of time pressure.

Poorer wellbeing at the individual level, that may be evident among those with unfilled spare time, is of relevance to broader contexts, including the families and communities within which these people live. If barriers to using unfilled spare time can be addressed, this may allow these individuals to be more engaged in family or community life, perhaps helping to address the time pressure experienced by the majority of the population.

2 Background

Today we commonly hear about the busy lives of men and women who are trying to meet the many demands of family, work and of other obligations or interests. This is true in Australia (e.g., Craig and Mullan, 2009; Gunthorpe and Lyons, 2004) the focus of this study, as well in other developed countries (e.g., Linder, 1970; Mattingly and Sayer, 2006; Robinson and Godbey, 1997; Sayer and Treas, 2005), and indeed has been recognised as an issue for several decades now. Deservedly, such studies point attention to those at greatest risk of such experiences, especially those faced with the pressures of long work hours and of caring for children (e.g., Bittman and Pixley, 1997; Gunthorpe and Lyons, 2004; Mattingly and Sayer, 2006; Robinson and Godbey, 1997; Sayer and Treas, 2005; Zuzanek, 1998).

What studies of time pressure tend not to do is discuss the implications for those at the other end of the scale: those who have difficulties filling the time that they have. Certain groups most likely to have this experience of time have been explored elsewhere. Such groups include those who may have more "enforced leisure", meaning that they have leisure time imposed on them through circumstance rather than through choice. This includes unemployed people (e.g., Feather and Bond, 1983; Fryer and Mckenna, 1987; Waters and Moore, 2002; Winefield, Tiggemann and Winefield, 1992), youth and students (e.g., Caldwell et. al, 1999; Gordon and Caltabiano, 1996; Iso-Ahola and Crowley, 1991; Møller, 1992; Robertson, 1999; Shaw et al., 1996; Winefield, Tiggemann and Winefield, 1992); those with a disability or chronic physical or mental health condition (e.g., Leufstadius and Eklund, 2008; Pentland and McColl, 1999) and elderly or retired people (e.g., Gauthier and Smeeding, 2003; Grossin, 1986; Hugman, 1999). Patterns of time use and links to wellbeing have been explored within these groups, with a common finding across the fields of research being that meaningful occupation of time is important to wellbeing. Winefield, Tiggemann and Winefield (1992), for example, found that among unemployed young people, those who engaged in purposeful

[1] For example, the “boredom proneness scale” presented by Farmer and Sunderg (1986) includes the item “I often find myself with time on my hands and nothing to do”.

activities in their spare time, rather than aimless ones such as watching television, had better pscyhological wellbeing.

The overall aim of this study is to explore the experience of having unfilled spare time from a broad perspective, similar to those studies conducted on the experience of being rushed or pressed for time (e.g., Gunthorpe and Lyons, 2004). This allows identification and comparison of the risk factors associated with this experience. The first research question is how does the experience of having unfilled spare time vary across the life cycle and for different demographic groups.

One aim throughout this research is to examine gender differences in the experience of having unfilled spare time. This is important given the gender differences in patterns of time use, especially in relation to paid work and caring (Craig and Mullan, 2010; Robinson and Godbey, 1997; Zuzanek, 1998). Indeed, it is often estimated that compared to women, men have more free time (e.g. Bittman and Wajcman, 2000; Sayer, 2005), experience less time pressure (Mattingly and Bianchi, 2003; Mattingly and Sayer, 2006), have more unfilled spare time (Bloomfield, 2004) and in some cultures are more prone to boredom in free time than women (Sundberg *et al.*, 1991; Vodanovich and Watt, 1999).

Other variables examined in this study were selected to capture life cycle differences, and to enable identification of some of these groups with a greater likelihood of having unfilled spare time (e.g, the unemployed). The variable choice was guided by previous literature on having unfilled spare time (Bloomfield, 2004), on proneness to boredom (Barnett and Klitzing, 2006; Harris, 2000) and on time pressure (with an expectation that these variables might work in the opposite direction in predicting having unfilled spare time) (e.g., Bittman and Pixley, 1997; Gunthorpe and Lyons, 2004; Jacobs and Gerson, 2004; Robinson and Godbey, 1997; Zuzanek, 1998.)

The analyses include measures of age, family/household structure, having caring responsibilities (for someone due to their ill health, disability or old age), having a disability or long-term health condition, and the main language spoken at home being a language other than English. The analyses also include labour force status and paid work hours, since working longer hours is expected to reduce the opportunity to have unfilled spare time. Unemployed men and women are identified separately from those not in the labour force. The analyses also test whether, independent of labour force status, there is an association between low income and having unfilled spare time.

These characteristics are included in multivariate analyses to identify those groups of greatest risk of having unfilled spare time. Since men and women have very different time allocations, they are analysed separately to determine whether having spare time that is hard to fill is predicted by different characteristics for men and women. From what we know about predictors of time pressure, such factors are likely to have differential effects in predicting men's and women's experiences of time (Mattingly and Sayer, 2006).

Another aim of this study is to examine whether the percentage experiencing unfilled spare time has changed across the two survey periods available, in 1997 and 2006. We examine this initially in aggregate for all males and females. However, aggregate differences may be apparent simply due to a compositional change in the population, for example if it shifts to have a higher representation of those more at risk of having unfilled spare time. To determine whether changes are apparent, putting aside compositional factors, survey year was included as one of the variables in the multivariate analyses. The interest in whether there is a difference across years is driven by the perception that life may have become more rushed over time, perhaps meaning a decline in the reporting of having unfilled spare time. However, it is not even clear that life has become more rushed for everyone. Some studies, comparing over different time periods, report heightening of time pressure (Craig, 2009, for mothers and fathers; Mattingly and Bianchi, 2003; Robinson and Godbey, 1997), although within these studies time pressure is shown to vary across different demographic groups. Others find increased reports of feeling time pressured for women, but not for men (e.g Mattingly and Sayer, 2006). Zuzanek (1998) found that in Canada between 1992 and 1998 the greatest increases in time pressure were reported for middle aged, parents and employed persons. In these Canadian data, compared to other life cycle stages, time pressure was least often experienced by retired and housekeeping persons aged 65 years or more.

Relating the above characteristics of individuals to their likelihood of having unfilled spare time provides some insights into the possible reasons for this experience of time. To add to this, this paper also makes use of respondents' reports on why they are unable to fill in their spare time. This is the next research question addressed by this paper–what are the main reasons for having unfilled spare time, and how do these reasons vary according to life cycle and demographic variables. This analysis examines, for example, who is more likely to report being constrained by money or by their own health. Other reasons, including problems with access to transport and community facilities are also explored.

To some extent it is expected that those who have more difficulty filling their spare time will be those who have a greater amount of spare time. But perhaps this is not always true–some people with large amounts of spare time may quite easily make use of that time, for example, filling that time with satisfying recreational or social activities. The next question explored, then, is whether those characteristics that predict having unfilled spare time also predict having a greater amount of spare time. In these analyses, the measure of spare time is equal to time spent on leisure, recreation or social activities. This is equal to the amount of time not spent on paid or unpaid work or personal care and is therefore equal to the measure of free time used in other studies (e.g. Bittman and Wajcman, 2000).

Insights into how having unfilled spare time is experienced by individuals may be gained by examining the time use patterns of those who report having unfilled spare time compared to those who do not. The next question explored here is whether time use patterns are different for those who report that they have unfilled spare time compared to those who do not. Specifically, do those with unfilled spare time fill in that time by undertaking activities that might

contribute to poor wellbeing? At one extreme this may involve a higher incidence of deviant behaviours, such as crime, or gambling, or an excess of time spent drinking or smoking. This is the idea that "the devil finds work for idle hands". Evidence suggests, however, a much more complex relationship between time use and delinquency (Jacob and Lefgren, 2003). There is perhaps some link between boredom–which may be more likely for those with unfilled spare time– and substance abuse and addictive behaviours (Gordon and Caltabiano, 1996; Iso-Ahola and Crowley, 1991; Iso-Ahola and Weissinger, 1990, 1997). The scenario likely to affect more people is that having unfilled spare time leads to more time being spent in pursuits such as watching television as a means of passing the time of day (Bloomfield, 2004). We consider these different possibilities here.

In summary, this paper explores the experience of having unfilled spare time. Differences across time are examined, as are differences for men and women, and across life cycle stages and other demographic characteristics. These analyses include looking at the overall incidence of having unfilled spare time, at the reasons for having unfilled spare time, and the actual amount of spare time. Time use patterns according to individuals' reports of how often they have unfilled spare time are also examined.

The next section of this paper describes the data and methods used. The results of the empirical analyses follow, and the paper concludes with a discussion of the findings.

3 Data and methods

These analyses use the Australian 1997 and 2006 Time Use Surveys (TUS) (Australian Bureau of Statistics, 1997, 2006). Households were selected for this survey using an area-based survey design. All persons aged 15 years and over from selected households were included in the survey, such that the sample is representative of Australians aged 15 years and over living in private dwellings. As such, the sample excluded individuals living in non-private dwellings, and so does not include those living in care facilities for reasons of old age or ill health.

The main component of the TUS is the time use diary that was completed 85% of respondents in 1997 and 83% in 2006. The diary covers two consecutive 24-hour periods, for which respondents identify their activities, with respondents able to provide detail down to 5-minute intervals. Across the duration of these two days, respondents record their main activities, and for each of those activities, also record supplementary information on such things as what else they are doing at the same time (secondary activities), who they were with and where they were. The diary also includes a range of questions, including the main one used in these analyses, about the experience of having unfilled spare time (described below). Individuals' and families' characteristics are collected by personal interview.

Within the diary a question was asked "How often do you feel that you have spare time that you don't know what to do with?" with response categories of "always", "often", "some-

times", "rarely" and "never". This is referred to here as the frequency of having spare time that cannot be filled, or alternatively, as the frequency of having unfilled spare time. Those who said they sometimes, often or always had spare time they could not fill were asked "What are all the reasons you have spare time that you don't know what to do with?" with respondents shown a card listing possible reasons. In 1997 there were six possible reasons, including "other", while two new reasons were added in 2006 (see Table 1). These items form the central focus of this paper.

In 2006, the final sample used in the analyses of having unfilled spare time comprised 3,004 males and 3,428 females, and in 1997 the sample comprised 3,269 males and 3,587 females. This represented the majority of survey respondents–some were excluded because they did not provide a response to the key data item on experience of having too much spare time (383 from 1997 and 479 from 2006). These excluded cases were retained in the analyses of time use data, described below.

The data collected in the time use diaries were also used in this paper. Time use was aggregated based on main activity into broad categories to derive estimates of daily amounts of time spent undertaking each of these sets of activities. The main one used is the one referred to here generally as "spare time", which includes time spent in recreation, leisure and social activities. As defined, this is the amount of time that is not committed to paid or unpaid work or study, or to personal care or sleep. Note that "recreation" includes activities described as "doing nothing" or "bored". The other broad categories of time use are (1) paid work and study; (2) household and childcare tasks: (3) other care and voluntary work; (4) personal care; (5) sleep. "Spare time" is also analysed in more detail by examining activities at a finer level of disaggregation.

3.1 Methods

Descriptive analyses were used to overview the responses regarding having unfilled spare time. In these analyses, data were weighted using the person-level sample weights, which take account of respondents' probability of selection into the sample and non-response.

The frequency of experiencing unfilled spare time was then dichotomised to identify those who often or always had unfilled spare time, rather than less frequent unfilled spare time. Multivariate analyses were used to explore associations between the likelihood of men and women often experiencing having unfilled spare time and different life cycle and demographic characteristics. Logistic regression was used for these analyses and results are presented as odds ratios. As the TUS data are collected from all adults within a household, the non-independence of household-level data was taken into account by calculating robust standard errors, treating the household as a cluster. The variables included in the analyses are described below.

This model was initially estimated for all respondents together. Separate models were then estimated for males and females, to explore whether there were gender differences in the pre-

dictors of having unfilled spare time. The differences in the resulting coefficients for males and females were formally tested by fitting an additional model in which gender was interacted with each of the variables. A significant interaction term indicates that the predictor for males differs to that for females. The results of this full model have not been presented, but the presence of significant differences for males versus females is indicated and discussed in the results section.

Similar analyses were undertaken to examine the reasons for having unfilled spare time. Logistic regression was used to analyse the likelihood of selecting each one of the possible reasons for unfilled spare time, incorporating the same variables described above as possible explanatory factors. These analyses were conducted just for those who at least sometimes had spare time they could not fill. For these analyses, for simplicity, males and females were combined.

The amount of spare time (as defined, including leisure, recreation and social activities) was then analysed using multivariate analyses. Each person reported their time use for two consecutive days, providing two sets of data on daily time use patterns. These data were analysed using the same set of variables used in the analyses of unfilled spare time, with an additional indicator of whether the data related to a weekday or weekend. The estimation technique treated the time use data as continuous, using Ordinary Least Squares, with robust standard errors calculated to acknowledge the non-independence of the two days of time use data per person. Similar analyses of other time use categories were also undertaken, although not the main focus of this paper.

Associations between the reporting of having unfilled spare time and time use patterns were then explored using descriptive methods. For these analyses, person-day level sample weights were used. These weights are derived from the person-level weights to also take account of the distribution of days of week covered by the time use diaries. Statistical tests were used to identify whether apparent differences in time use were statistically significant. Analyses of variance tests (and post-hoc Scheffe tests) were used for these purposes and were based on unweighted data. These analyses are undertaken only with the 2006 data.

3.2 Life cycle and demographic variables

The first of the life cycle variables included in the analyses was age. These data were available in 5-yearly age groups, but for the sake of parsimony, they were grouped initially into categories of 15 to 24, 25 to 35 years, 35 to 54 years, 55 to 74 years and 75 years and over. The youngest of these age groups is particularly diverse, with some young people still living at home with their parents and still in study, some still living at home but not as students, and other no longer living with parent/s. These different categories of 15 to 24 year olds were identified, to better understand which youth might be at risk of having unfilled spare time.

The family or household structure was then included, differentiating into those living in a family with children aged under 15 years, those living in a family but without children aged

under 15 years, those living as non-family members, such as group households, and then lone person households.

Other important variables are labour force status and hours of employment. In these analyses those who are not employed are identified as either unemployed or not in the labour force. Employed persons are categories according to their usual hours of employment, with categories of less than 35 hours, 35 to 49 hours, 50 hours or more. [2]

An indicator of whether the person's main language spoken at home was English or another language was included. Non-English speaking Australians are almost all overseas-born, some being recent arrivals to Australia, but others being long-term residents.

Persons who provide care to others for reasons of their age or ill health are identified, as are persons who themselves have a long term health condition or disability. In 2006 this health/disability indicator was more inclusive, as the 1997 item referred to disability but not long-term health conditions. Note that a significant proportion report to have a long term health condition or disability (about one-third of the population). Future analyses of these data could differentiate according to whether the disability or health condition resulted in limitations in undertaking personal activities. This would be best done with one year's data, as differences across years in the data items make it difficult to create an indicator that can be used in the pooled dataset.

To explore whether having low income mattered, there was some difficulty in reconciling the available information from the two studies, as income was provided in different formats each year. In 1997, personal income was provided in ranges. From this information, those persons with the lowest incomes were said to be those whose own income was below $200 per week, which represented 29% of respondents. In 2006, personal income was instead provided as deciles, classifying people according to where their income fell in the income distribution of all respondents. This information was used to identify a low income group covering a similar proportion to the low income group from 1997. This was best identified as those with income in the bottom 30% of the income distribution, which represented 28% of the sample. Some respondents did not provide income data. These respondents are included in the analyses, and flagged as having missing income data. There was missing income data for 13% and 6% of the sample in 1997 and 2006 respectively.

The distributions of the above variables, for males and females, in 1997 and 2006, are shown in Appendix Table A1.

[2] The 1997 data in the highest category are actually 49 hours and over, rather than 50 hours and over.

4 Results

4.1 The frequency of having unfilled spare time

Table 1 shows that the majority of males and females, in 1997 and 2006, reported that they rarely or never had spare time they could not fill. Around one quarter sometimes had unfilled spare time, with fewer than 10 per cent saying they often or always had unfilled free time. While the proportions are quite small, across the population this amounts to a significant number of people always or often having unfilled spare time (estimated at 812,000 people in 1997 and 974,000 in 2006).

Table 1
How often men and women aged 15 years and over have unfilled spare time – 1997 and 2006

	1997		2006	
	Male	Female	Male	Female
		%		
Always	1.6	0.8	1.7	1.2
Often	5.5	4.3	6.2	4.1
Sometimes	25.3	21.7	27.7	25.3
Rarely	45.9	44.9	45.3	45.2
Never	21.7	28.3	19.1	24.2
Total	100.0	100.0	100.0	100.0
Always or often	7.1	5.1	7.9	5.2
		n		
Sample size	3,269	3,587	3,004	3,428

Note: The question was "How often do you feel that you have spare time that you don't know what to do with?" Within 1997 and within 2006, the male distribution is different to the female distribution. Also, the percentage reporting to always or often have unfilled spare time is significantly higher for males than females in each year. For males and for females the distributions differ across years, but if just looking at the percentage always or often, these percentages are not statistically different by year. Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

Males were significantly more likely to report always or often having unfilled time than females in each year, although the percentages are small for both sexes.

Between 1997 and 2006, the distribution of responses to this question changed little, especially when considering the proportion reporting to often or always having unfilled spare time. This proportion did not change significantly for males or for females.

In 2006 there was somewhat less reporting of "never" having unfilled spare time compared to 1997, compensated by more reporting of "sometimes" having unfilled spare time. This is likely to be related to changes at the other end of the spectrum – the increased tendency for males and females to report being rushed or pressed for time (33% of males and 39% of females were always or often rushed or pressed for time in 1997, compared to 46% and 49% respectively in 2006).

4.2 Who has unfilled spare time?

Table 2 shows the results of the multivariate analyses of always or often experiencing unfilled spare time, combining data from 1997 and 2006.

In the model shown in the first column, males and females are combined and a separate variable measures differences between the sexes. This shows that men were more likely to frequently (i.e. always or often) experience unfilled spare time than were women, after taking into account the other differences between men's and women's characteristics that were included in the models.

Separate models were also estimated for males and females, shown in the next two columns, as various relationships were found to differ for males and females. The final column indicates if the male and female coefficient was significantly different. These results are discussed if the male and female coefficients differed; otherwise we refer to the findings for the model based on males and females combined.

In analysing the likelihood of having unfilled spare time, strong age differences were apparent, with the youngest men and women being the most likely to have unfilled spare time, especially those who were not students but living with parents. For the young people aged 15 to 24 who no longer lived with their parents, there was a greater chance of women having unfilled spare time, relative to women aged 35 to 54 years, but this difference was not apparent for men. Men and women aged 55 to 74 were the least likely of all age groups to report have unfilled spare time.

Relationship within the household was important in explaining the likelihood of having unfilled spare time. For both men and women, the reference group was being a family member with no dependent children aged under 15 years. Compared to these family members, those with dependent children were the least likely to have unfilled spare time, although when examined by gender, this difference was much greater and only significant for women. Men and women living as non-family members were not statistically different from family members without children in their likelihood of having unfilled spare time. This was true also of women who lived alone. For men, those living alone were more likely to experience unfilled spare time compared to other men.

Another personal characteristic linked to greater incidence of unfilled spare time is having a long-term health condition or disability. Also, those who mainly spoke a language other than English were more likely to say they had unfilled spare time, compared to those mainly speaking English. Having other caring responsibilities somewhat reduced the likelihood of having unfilled spare time, although when examined by gender, this difference was only statistically significant for women.

A very clear result was that not-employed men and women were more likely to experience unfilled spare time than others, whether or not they were unemployed or not in the labour force. Differences among those in paid employment also existed, such that those working the longest hours were least likely to experience unfilled spare time.

Table 2
Multivariate analyses of frequently having unfilled spare time in 1997 and 2006

	Odds ratios from logistic regression			
	All males and females	Males	Females	Male-female different?
Year of survey=2006 (Reference=1997)	1.12	1.13	1.10	
Background characteristics				
Male	1.76***			
Age=15-24 with parents, dependent student	1.90***	1.61*	2.28***	
Age=15-24 with parents, not student	4.21***	3.30***	6.73***	
Age=15-24 not with parents	2.29***	1.37	3.61***	yes
25-34	1.45**	1.27	1.89**	
35-54 (reference)				
55-74	0.71***	0.73*	0.67*	
75 or older	1.01	1.02	1.01	
Family with no children (reference)				
Family with children	0.63***	0.79	0.45***	yes
Non–family household	1.27	1.23	1.35	
Lives alone	1.68***	2.03***	1.31	yes
Has a disability or long term health condition	1.87***	1.65***	2.11***	
Main language spoken not English	1.75***	1.91***	1.48*	
Constraints or commitments				
Is carer to someone	0.65*	0.72	0.59**	
Not in the labour force	4.35***	4.38***	5.16***	
Unemployed	5.55***	4.35***	7.70***	
1 to 34 hours	2.52***	2.71***	2.60*	
35 to 50 hours	1.71**	2.02***	1.21	
50 hours or more (reference)	ref	ref	ref	
Low personal income	1.15	1.24	1.05	
Constant	0.01***	0.02***	0.01***	
Sample size (persons)	13,275	6,263	7,012	
McFadden's adjusted R-squared	0.093	0.085	0.108	

Note: The analyses estimate the log odds of often or always having unfilled spare time versus sometimes, rarely or never having unfilled spare time. The standard errors were adjusted to allow for clustering of observations within households. Omitted categories for single dummy variables are not shown. The model also included an indicator for having missing income data. The final column is based on a model including males and females in which all variables were also interacted by gender. This column indicates those variables for which there was a significant interaction with gender, which indicates the coefficient for males is different to that for females.
*** p<0.001, ** p<0.01, * p<0.05.
Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

There was no independent effect on reporting to have unfilled spare time of having a low personal income. To summarise these results, in relation to our research question of which life

cycle and demographic characteristics were associated with having unfilled spare time, this research found that those who were most likely to have unfilled spare time were the youngest men and women, especially those living at home, in addition to men living alone, those with limited commitments to paid work or to caring, those with a health or disability, or an English language limitation.

Overall, there were no statistically significant differences between 1997 and 2006, consistent with the findings of Table 1. There were gender differences, such that men were more likely than women to report having unfilled spare time.

4.3 Reasons for having unfilled spare time

Identifying the groups of people who are most likely to have unfilled spare time gives some indication for the possible reasons these people have this experience. This can also be explored with these data by examining the reasons people give for having unfilled spare time. This question was asked of anyone who said they sometimes, often or always had unfilled spare time spare time. Respondents could choose more than one reason. As above, the 1997 and 2006 data are examined. The 2006 survey included two response categories that were not included in 1997, as shown in Table 3.

Table 3
Reasons given for sometimes having unfilled spare time by those who at least sometimes had spare time they could not fill – 1997 or 2006

	Males		**Females**	
	1997	2006	1997	2006
	%			
Lack of money	53	46	57	49
Being sick/injured/disability	12	16	10	18
No family or friends nearby	10	15	17	21
No interests or hobbies	13	14	12	18
Unpredictable working hours	n.a.	16	n.a.	13
Transport difficulties	n.a.	10	n.a.	15
Lack of community facilities or services	8	7	7	6
Other reasons	15	5	14	7
	n			
Sample size	1,048	1,061	0,938	1,039

Note: Response categories “unpredictable working hours” and “transport difficulties” were introduced in 2006. Respondents could select more than one reason.

Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

This may have resulted in the different distributions across the surveys, and because of this, we do not attempt to interpret how responses changed across the survey years.

The most often-given reason for having unfilled spare time was lack of money. Being sick, injured or having a disability, having no family or friends living nearby, having no interests or hobbies and working unpredictable working hours were also contributing factors. Transport difficulties and lack of family or friends nearby were more often cited by females than males.

Smaller proportions reported lack of community facilities or services and other reasons as being contributing reasons for too much spare time.

Multivariate analyses were used to determine whether particular reasons for unfilled spare time were given by different groups of people. Results are shown in Table 4. The 1997 and 2006 data for males and females were combined for each model predicting the likelihood of a given response. (Transport difficulties and unpredictable working hours were also included, just for 2006 data.) The "other reasons" category has not been included. Some differences by year were apparent, but it is not possible to discern whether this reflects an actual change in the propensity for these factors to affect people's spare time use, or whether it is due to the changes in the response categories.

These analyses show that men and women were equally likely to say they had unfilled spare time because of lack of money, being sick, injured or having a disability, having no interests and hobbies, having no community facilities nearby, and working unpredictable hours. However, males were less likely than females to attribute unfilled spare time to having no family or friends nearby and to transport difficulties.

The oldest people were the least likely to say they had unfilled spare time because of lack of money and were also somewhat less likely than others to say that lack of community facilities was a problem.

For the younger people, transport problems were a contributing factor (for dependent students and others, including those no longer living with parents). Lack of money was another contributing factor for those aged 15-24 no longer living at home. Also, for dependent students, having no community facilities was considered a factor in their having unfilled spare time.

The young dependent students and young people who no longer lived at home were the least likely of all ages to attribute their unfilled spare to sickness, injury or disability. Young people who lived at home but were not students were the least likely to attribute having unfilled spare time to having no family or friends nearby.

Not surprisingly, those with health problems or a disability were much more likely than others to attribute their unfilled spare time to barriers caused by sickness, injury or disability. Those with an illness or disability were also somewhat more likely than others to say transport difficulties was a factor, but were less likely than others to say lack of community facilities was a factor in their having unfilled spare time.

Compared to English-speakers, those whose main language was not English were somewhat more likely to say transport problems contributed to their having unfilled spare time. These people were less likely to attribute their unfilled spare time to financial reasons and unpredictable working hours.

Based on the relationship in household variable, those most likely to attribute having unfilled spare time to having no family or friends nearby were those living alone.

Table 4
Multivariate analyses of reasons for having unfilled spare time in 1997 and 2006

	Odds ratios for separate models estimated for each of the possible reasons for having unfilled spare time						
	Lack of money	Sick, injured, disability	No family or friends nearby	No interests or hobbies	No community facilities	Transport	Unpredictable work hours
Year of survey = 2006	0.83*	1.46***	1.58***	1.26*	1.04	n.a.	n.a.
Background characteristics							
Male	0.93	1.14	0.63***	0.83*	1.19	0.66	1.05
Age = 15-24 with parents, dependent student	0.84	0.29***	1.01	0.94	2.24***	2.89***	0.73
Age = 15-24 with parents, not students	1.11	1.45	0.44**	1.22	1.36	2.83***	1.57
Age = 15-24 not with parents	1.37*	0.53*	1.14	1.08	1.43	2.07*	1.14
25-34	1.06	0.72	1.11	0.86	1.13	1.34	1.15
35-54 (reference)							
55-74	0.73**	0.84	0.76	0.94	0.62	0.65	1.02
75 or older	0.21***	0.91	0.72	1.06	0.36*	0.62	0.53
Family with no children (reference)							
Family with children	1.24*	0.93	0.87	0.92	0.76	0.58*	0.77
Non–family household	1.39	1.15	1.41	0.86	0.93	1.60	0.99
Lives alone	1.02	0.95	1.70***	0.83	0.83	1.41	0.89
Has a disability or long term health condition	1.13	9.55***	0.94	1.20	0.66*	1.50	0.91
Main language spoken not English	0.58***	1.42	1.26	1.24	0.89	2.03	0.53
Constraints or commitments							
Is carer to someone	1.05	0.94	0.82	0.95	1.24	0.72	1.13
Unemployed	3.15***	2.62*	1.39	0.74	1.33	3.28**	0.04***
Not in the labour force	1.79***	6.15***	1.17	0.78	1.09	2.08	0.05***
1 to 34 hours	1.69***	2.07*	0.80	0.81	1.15	1.99	0.67
35 to 50 hours	1.74***	1.45	0.83	0.95	1.13	1.19	0.54**
50 hours or more (reference)							
Low personal income	1.21*	0.98	0.91	0.90	1.11	1.14	1.14
Constant	0.67*	0.01***	0.19***	0.17***	0.06***	0.06***	0.50**
McFadden's adjusted R-squared	0.056	0.271	0.036	0.012	0.045	0.086	0.164

Note: Only includes those who sometimes, often or always have unfilled spare time. Based on logistic regression with standard errors adjusted to allow for clustering of observations within households. Omitted categories for single dummy variables are not shown. The model also included an indicator for having missing income data.
*** p<0.001, ** p<0.01, * p<0.05 N=4,085 for first 5 reasons; N=2100 for last 2 reasons.
Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

Those living in families with children, compared to those without children, were more likely to attribute having unfilled spare time to lack of money, but were less likely to say transport problems were a factor. Being a carer to someone was not significantly related to reporting of particular reasons for having unfilled spare time.

The tendency to attribute unfilled spare time to lack of money was closely linked to employment status. Compared to working 50 hours or more per week, being unemployed, not in the labour force, or working fewer hours resulted in a higher likelihood of giving lack of money as a reason for unfilled spare time.

Surprisingly, unpredictable working hours was most likely to be a reason for having too much spare time for those working the longest hours.

Being unemployed was also associated with having a higher likelihood of saying sickness, ill health or disability and transport difficulties were factors in their having unfilled spare time. Perhaps reflecting reasons for being not in the labour force, those in this category of labour force status had a relatively high likelihood of saying sickness, ill health or disability was a contributing factor to their having unfilled spare time.

Having a low personal income also increased the likelihood of selecting lack of money as a reason for having unfilled spare time, although this was not a particularly large effect relative to the other characteristics. It is likely that labour force status captures some effects of income, given that working less than full-time hours, or being not employed, is likely to indicate relatively low personal income.

Summarising these results, while lack of money was the most common reason, and clearly important to those with lower levels of employment participation or low incomes, there were important differences across groups in the population. Younger people tended to face problems with transport and community facilities, for example, and transport difficulties are also problematic for those who are unemployed, from a non-English speaking background, or with a disability or health problem. Living alone was also a risk factor in regard to perceptions of having no family or friends nearby being a contributing factor to having unfilled spare time.

4.4 Predictors of having more spare time

We now introduce the time use data, to consider whether the findings so far, about who is likely to have unfilled spare time, are similarly found to predict having more spare time. To do this, we have said that "spare" time is equal to time spent on leisure, recreation or social activities. Of course, some people faced with spare time will use it in other ways, such as sleeping, undertaking voluntary work or studying. We will return to this in the next section. For now, we are concerned with time that has not been used for purposes of personal care, paid or unpaid work.

The results of the multivariate analyses of amount of spare time are shown in Table 5. Similar analyses of the other main activities of time use are shown in Appendix Table A2 and A3.

Table 5
Multivariate analyses of total amount of spare time in 1997 and 2006

	Regression coefficient from Ordinary Least Squares, with time measured in minutes per day			
	All males and females	Males	Females	Male-female different?
Year of survey=2006 (Reference=1997)	-20***	-20***	-21***	
Background characteristics				
Male	53***	n.a.	n.a.	
Age=15-24 with parents, dependent student	14*	-5	21**	yes
Age=15-24 with parents, not students	58***	56	59***	
Age=15-24 not with parents	11	5	16*	
25-34	-4	0	-6	
35-54 (reference)				
55-74	23***	3	37***	yes
75 or older	48***	9	74***	yes
Family with no children (reference)				
Family with children	-65***	-57***	-66***	
Non–family household	5	-4	12	
Lives alone	23***	11	28	yes
Main language spoken not English	-32***	-30***	-35***	
Has a disability or long term health condition	16***	19***	11**	
Constraints or commitments				
Unemployed	167***	194***	130***	yes
Not in the labour force	143***	180***	107***	yes
1 to 34 hours	82***	98***	59***	yes
35 to 50 hours	38***	40***	23***	
50 hours or more (reference)				
Is carer to someone	-16***	-22***	-11*	
Low personal income	-5	-10	0	
Weekday	-113***	-136***	-92***	
Constant	293***	356***	299***	
Sample size (days)	25,865	13,202	14,663	
R-squared	0.248	0.277	0.219	

Note: Spare time includes time allocated to leisure, recreation and social activities as main activities. Based on ordinary least squares regression with standard errors adjusted to allow for clustering of observations within persons (up to 2 diaries per person). Omitted categories for single dummy variables are not shown. The model also included an indicator for having missing income data. The final column is based on a model including males and females in which all variables were also interacted by gender. This column indicates those variables for which there was a significant interaction with gender, which indicates the coefficient for males is different to that for females. For other aspects of time use refer to Appendix Tables 2 and 3.

*** p<0.001, ** p<0.01, * p<0.05.

Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

As for the initial analyses of who is more likely to have unfilled spare time, these analyses were conducted separately for males and females to assess whether there were different predictors of amount of spare time for males and females.

Overall, males have more spare time than females, based on the independent gender difference shown in Table 4. The comparison by survey shows men and women had somewhat less spare time in 2006 compared to 1997. (See Appendix Table A2 and A3: this relates to men spending more time in paid work or study in 2006, and to women spending more time in household/childcare tasks and other care and voluntary activities.)

Not surprisingly, for men and women, more hours of paid work was associated with less spare time. Those unemployed and not in the labour force had the highest amounts of spare time. Of these two groups, the unemployed had a little more spare time, on average. The difference in amount of spare time, comparing non-employment or part-time employment to those working longer hours of paid work, was greater for men than women.

By age, among the younger people, those with the greatest amounts of spare time were young men and women who lived with their parents but were not students. For males, this was the only significant age-related difference in amount of spare time. For females, greater age differences were apparent, with the least amount of spare time reported for those aged 25-34 and 35-54 years. Compared to women aged 35 to 54 years, young women who were students and lived with their parents had somewhat more spare time. Also, for women older than 35 to 54 years, amount of spare time increased, especially among those aged 75 years and older.

According to household type those with the least amount of spare time, not surprisingly, are men and women who live in families with children. The amount of spare time does not differ, then, between non-family households and family households without children. For men living alone, the amount of spare time does not vary from these groups. Women living alone, on the other hand, have more spare time than those living in these other family types.

Others who experience lesser amounts of spare time are those with caring responsibilities and those whose main language spoken at home is not English. In contrast, those with a disability or long term health condition have somewhat more spare time compared to those who do not. Having a low income in itself did not predict amount of spare time.

The aim of this set of analyses was to compare these findings to those of previous findings regarding having unfilled spare time to determine to what extent they were predicted by the same factors. Generally those variables that predicted a higher likelihood of having unfilled spare time also predicted a greater amount of spare time. In particular the factors that were related to both measures in the same way were amount of paid employment, being a carer, having a disability or long-term health condition and living in a family with children.

A few interesting exceptions were apparent. One is that those who mainly spoke a language other than English were more likely to say they had unfilled spare time, compared to those mainly speaking English, but these men and women reported having less spare time than others. Being able to fill their spare time may therefore be related to their particular reasons for

having unfilled spare time, which we showed earlier included transport difficulties, rather than to them having an excess of spare time.

These analyses showed that women living alone had more spare time than those living in a family with no children. The earlier analyses found no differences between these groups in reporting to have unfilled spare time, suggesting that for women living alone, increases in spare time did not necessarily mean this spare time was difficult to fill. For men living alone, however, there was an increased chance of reporting to have unfilled spare time, compared to living in a family with children. These men did not report any greater amount of spare time. This suggests that men living alone might be faced with particular barriers to their using their spare time, and earlier analyses of the reasons for spare time showed that those living alone were more likely to report that having no friends or family nearby was an issue. This, it seems, was more pertinent to men than to women.[3]

It is interesting that women aged 75 years and older have more spare time than any other group for women, and yet their likelihood of reporting to have unfilled spare time was no greater than for women living in families with children. For these women, old age in itself, then, was not related to having difficulties filling in spare time.

4.5 Time use and unfilled spare time

This section explores how time use patterns differ according to the experience of having unfilled spare time. These analyses are exploratory, using only the 2006 data. The main activities undertaken on weekdays and weekends are analysed separately for males and females. To illustrate the overall differences, time has been allocated to broad categories, based on main activity at each time, so that there is no double-counting of time. Main activities have been grouped into spare time, as analysed previously, but separated into time watching television and other spare time (referred to as non-tv spare time), then as paid work or study, household or childcare tasks, other caring or volunteering, personal care (including eating), then sleep. These results are examined first, then more detailed analyses of some of these activities undertaken during spare time are included.

These analyses attempt to show how feelings of having unfilled spare time might spill over into activities other than those classified as spare time. This is a very simplistic approach to this question, and in particular, because all men and all women are grouped together, we perhaps do not see some of the patterns that would emerge if life cycle or demographic characteristics were taken into account. This will have to be the subject for further analyses of these data. (See Bloomfield, 2004, for a different approach to analyses of these data.)

Table 6 shows that time use patterns varied according to the frequency with which people experienced unfilled spare time. For example, men with more unfilled spare time slept for longer: men who always or often experienced unfilled spare time slept 56 minutes more on

[3] This was confirmed in additional analyses of reasons for unfilled spare time, run separately for males and females.

weekends and 32 minutes more on weekdays, on average, than men who rarely or never experienced unfilled spare time.

Table 6
Time spent in main activities according to frequency of unfilled spare time, by weekday and sex – 2006

Frequency of unfilled spare time	Non-tv spare time	Watching television	Paid work or study	Household and childcare tasks	Other caring or Volunteering	Personal care	Sleep
				Mean minutes per day			
				Males, weekday			
Often/always	214	163	238	138	9	146	523
Sometimes	174	137	322	160	18	135	504
Never/rarely	145	94	414	158	17	130	492
Total	160	111	375	156	16	133	497
	(a)(b)(c)	(a)(b)(c)	(a)(b)(c)			(a)	(a)(b)(c)
				Males, weekend			
Often/always	269	184	66	163	15	154	591
Sometimes	269	158	107	194	27	148	551
Never/rarely	265	121	132	235	27	147	535
Total	266	137	121	216	27	148	545
		(a)(c)	(a)(b)	(a)(c)			(a)(b)(c)
				Females, weekday			
Often/always	196	150	132	235	28	160	559
Sometimes	168	115	202	276	26	149	524
Never/rarely	159	83	226	330	31	147	490
Total	164	95	216	309	29	148	502
	(a)(b)	(a)(b)(c)	(a)(b)	(a)(c)		(a)	(a)(b)(c)
				Females, weekend			
Often/always	244	145	72	205	19	159	599
Sometimes	256	122	54	278	28	166	555
Never/rarely	241	93	64	338	32	163	533
Total	244	102	62	318	31	163	542
		(a)(c)		(a)(b)(c)			(a)(b)(c)

Note: Significance of difference across the unfilled spare time groups was tested using ANOVA, with Scheffe tests. Significant differences in time ($p<0.05$) are indicated above when: (a) "Often/always" is not equal to "never/rarely"; (b) "Often/always" is not equal to "sometimes"; (c) " Never/rarely " is not equal to "sometimes". The durations are based on the time spent in these activities as a main activity. Spare time includes leisure, recreation and social activities but is tabulated here to separate out time spent watching television.

Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

Comparing these two extremes, differences were apparent for watching television (men with more unfilled spare time spent, on average, 69 minutes more on weekends and 63 minutes more on weekdays watching television. They also spent more time in other forms of recreation and social activities on weekdays (69 minutes more).

Similar patterns were observed for females. Not surprisingly, those who perceived they had more unfilled spare time spent less time in paid work or study, especially on weekdays. This was also apparent for males on weekends. Those with more unfilled spare time also spent less time doing unpaid work (household and childcare tasks), although this was not statistically significant for males on weekdays. Males and females spent very little time in volunteering or other care activities, and there was no evidence that those with more unfilled spare time spent more or less of their time on these activities. Differences in time spent on personal care activities were quite small.

We now go beyond this in Table 7 to explore a subset of the spare time activities, specifically, to examine those that overall took up the greatest amounts of time. Data for males and females, for weekends and weekdays, have been combined. This table shows that beyond audio-visual entertainment (particularly television) very small amounts of time were spent in the separately identified types of recreation or leisure or social activities, when averaged over all days and all respondents.

Quite small differences were apparent by the frequency of unfilled spare time, except in audio-visual entertainment. These data do not, for example, show that those with more unfilled spare time spent longer “drinking alcohol/social drinking” as a main activity. Differences are evident for "resting, relaxing", "reading a book", "walking" and "listening to the radio" in the direction that would be expected, with a little more time spent in these activities by those who frequently have unfilled spare time compared to those how do not. The total amounts of time in these activities are very small. We were particularly interested in examining whether having unfilled spare time was associated with spending more time in unhealthy or anti-social pursuits. Possible negative pursuits as indentified in the time use diaries include "smoking", “games of chance/gambling”, “negative social activities”, or even “doing nothing”, inasmuch as this might be particularly associated with boredom.

However, so few people reported these as main activities at any time across the day, that it was not possible to detect differences across the categories of frequency of unfilled spare time. Given the infrequency of reporting these activities, they have not been shown in Table 7. Of course, if we were to look not just at main activities, but at what else people were doing while doing their main activity, other results may be found. This is probably most applicable to smoking, or to “drinking alcohol/social drinking” which are perhaps less likely to be reported as main activities. To some extent this is captured in the secondary activities collected in the time use diary.

However, no relationships between spare time use and these particular secondary activities emerged in additional analyses of these data (results not shown). Perhaps the time use survey, in collecting one main activity and one co-occurring activity, does not adequately capture behaviours such as these.

Table 7
Time spent in selected spare time activities by frequency of having unfilled spare time – 2006

	Always /often	Some-times	Rarely/ never	Total	
			Minutes per day		
Total spare time	342	286	231	286	
Selected activities					
TV watching/listening	161	132	96	110	(a)(b)(c)
Communication (in person) associated with recreation/leisure	17	20	20	20	
Audio/visual media not classified elsewhere	18	17	15	15	
Travel associated with social participation	14	15	14	14	
Relaxing, resting	21	13	11	13	(a)(b)(c)
Socialising	15	12	12	12	
Leisure-related communication by telephone	8	9	9	9	
Video/DVD watching	10	10	8	9	
Reading not further defined	9	8	8	8	
Reading a newspaper	9	9	8	8	
Drinking alcohol/social drinking	6	9	7	7	(c)
Reading a book	12	7	6	7	(a)(b)
Travel associated with recreation and leisure	7	6	6	6	
Exercise (excluding walking)	4	4	5	5	(c)
Walking (including for exercise)	7	5	4	5	(a)(b)
Religious practice	4	4	5	5	(c)
Listening to radio	6	5	4	4	(a)
Home computer electronic games/computing	9	5	3	4	(a)(b)(c)
Sample size (person-day records)	799	3,338	8,571	12,708	

Note: Significance of difference across the unfilled spare time groups was tested using ANOVA, with Scheffe tests. Only significant differences in time ($p<0.05$) are indicated above when: (a) "Often/always" is not equal to "never/rarely"; (b) "Often/always" is not equal to "sometimes"; (c) " Never/rarely " is not equal to "sometimes". These durations are based on the time spent in these activities as a main activity. Data include weekdays and weekends and males and females aged 15 years and over.

Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

5 Discussion and conclusion

What do these analyses, overall, tell us about the experience of having unfilled spare time in Australia? First, it is clear that this is an issue for the minority of Australian men and women. The majority of Australian men and women, in 1997 and 2006 reported that they never or rarely had this experience.

There were slightly higher rates of having unfilled spare time among men than among women. This gender difference remained in the multivariate analyses, when controlling for

various different characteristics of men and women. This is consistent with the research on being time pressured, which tends to find men have more free time than women (Bittman and Wajcman, 2000; Sayer, 2005), and are less time pressured than women (Mattingly and Bianchi, 2003; Mattingly and Sayer, 2006).

There was no evidence that there has been any change in frequently having unfilled spare time between 1996 and 2006. The only changes that were apparent seem to be related to the other end of the scale with respect to perceptions of time, with somewhat less reporting of never having unfilled spare time. Future analyses of these data could explore this in more detail, to determine whether specific groups within the population have experienced an increase (or decline) in having unfilled spare time.

The reasons for being unable to fill spare time that were identified here included lack of money, ill health or disability, and transport. This paper shows that money is the main reason people give for frequently having unfilled spare time, however other reasons also apply, and reasons differ for particular groups of people. In addition to those listed above, having no friends or family nearby and lack of community facilities are some of these other reasons.

Those most likely to experience unfilled spare time were the youngest men and women, especially those living with their parents, in addition to men living alone, those with limited commitments to paid work or to caring, and those with a health or language barrier. The findings of this study are consistent with the research on being time pressured, as those most at risk of being time pressured were here observed to have the least risk of having unfilled spare time. For example, this was clearly the case for women with children and also for women aged between 35 to 54, who were the least likely to have unfilled spare time among female respondents. For both sexes, having unfilled spare time was much less likely among those with paid work commitment, especially those working longer hours. Again, this is not surprising given that longer work hours are commonly associated with a greater sense of being time pressured.

Quite often the characteristics that explained having unfilled spare time also explained the actual amount of spare time–or time spent on recreation, leisure or social activities. Just as has been observed in relation to time pressure (Sayer and Treas, 2005; Zuzanek, 1998), it appears that people's perceptions of their time is grounded in the way time is allocated to activities across the day.

However, it is also worth noting that having more spare time does not always go hand in hand with having more unfilled spare time. For example compared to women aged 35 to 54, those aged 55 to 74 years were less likely to report frequently having unfilled spare time, despite reporting to have more spare time than women in the younger age group. Similarly, women living alone had more spare time than women living in a family without children, but women living alone were no more likely to report having unfilled spare time. The opposite was true for men in these situations, with men living alone not reporting any more spare time than those living in a family without children, but having a higher likelihood of having unfilled

spare time. To some extent these findings may reflect the different barriers to using spare time, experienced differentially by men and women at particular life cycle stages.

Also, while the analyses included a broad set of socio-demographic variables, in particular to focus on life cycle differences in the experience of unfilled spare time, other personal characteristics are likely to explain the variation across the population in having this perception. For example, some people may have a personality or disposition that leads to their being easily able to fill in their spare time, regardless of how much spare time they have (e.g. Barnett and Klitzing, 2006). Others may be faced with difficulties such as mental health or substance abuse problems that may affect their experience of unfilled spare time.

In terms of exploring how having unfilled spare time might be associated with poorer wellbeing, this study examined differences in some of the detail of time use patterns according to differences in the frequency of reporting to have unfilled spare time. It is interesting that there was no evidence that an excess of spare time was associated with particularly negative behaviours or activities, such as delinquent or harmful behaviours, but perhaps time use diaries are not the most appropriate mechanism for collection of data on such behaviours, given social desirability may affect reporting by respondents, and also some activities they may be too infrequent to detect when selecting just two random days per person on which to base estimates. These analyses were not particularly sophisticated, however, and a more nuanced approach that also takes account of different socio-demographic characteristics may yield different results. Nevertheless, these analyses did show very clearly that greater amounts of time were spent watching television by those with more unfilled spare time, consistent with analyses by Bloomfield (2004). This is unlikely to be positive in relation to individuals' wellbeing. In future analyses of these data, it will be useful to also explore not only what people are doing with their time, but who they are with during the day, to determine whether feelings of having unfilled spare time are also accompanied by greater amounts of time spent alone.

The experience of having unfilled spare time by an individual may have implications for other family members and also for the community more broadly. Thinking about the family, for example, this analysis showed that young people are the most likely to feel they have unfilled spare time, and this was most common among those living at home with their parents. As the ABS Time Use Survey is a household survey, it is also possible to match the records of children to those of their parents. Not surprisingly, if this is done, we find that the mothers of these children very rarely report having spare time in which they do not know what to do, instead often reporting that they are often or always rushed or pressed for time. In 2006, of the 15 to 24 year olds living at home who said they always or often had unfilled spare time, 53% of their mothers reported being always or often rushed or pressed for time and 3% reported always or often having spare time in which they did not know what to do. It seems therefore that there may be some potential here for a reallocation of activities within households.

It is worth noting that those at higher risk of having unfilled spare time, such as the not-employed and those with health or disability limitations are often identified as being at greater risk of social exclusion. Further, the barriers associated with being able to fill spare time, in-

cluding financial barriers and transport difficulties, are also commonly associated with social exclusion (Hayes et al., 2008). This might suggest some link between social exclusion and being able to use time in a meaningful way. This link between social exclusion and time use has previously been noted by Bittman (1999) in discussing the difficulties that low income people may have in being able to participate in leisure activities. Approaches to social inclusion certainly recognise the value of time, and the potential for individuals with the time to spare to use some of their time to meet the needs of others within the community. For example, recruitment strategies for volunteering recognise this, and therefore target groups such as the unemployed and recently retired. However, encouraging volunteering is not effective for all groups within the community in regard to addressing social inclusion, as some people who are at risk of social exclusion are actually less likely to volunteer (Haski-Leventhal, 2009; Warburton and Crosier, 2001). While research on the reasons for volunteering show that filling in spare time is one reason for volunteering (Clary et al., 1996), time availability is often not the only reason. Various other personal attributes are also important in explaining the likelihood of volunteering (Cnaan and Goldberg-Glen, 1991). As this paper has shown, difficulties with transport (for young people), language difficulties and illness or disability (for example, for older people) are likely to operate as barriers to volunteering.

One approach to harness unfilled spare time and to encourage community participation among those at risk of social exclusion is the use of "time banks". These have been established in several countries, including the US, UK, Japan and Taiwan (Collom, 2008; North, 2003; Seyfang, 2002, 2004). Under these community-level schemes, registered participants can exchange services, such as home maintenance, childcare, tutoring, and providing transport or friendship, with the only currency used being that of time. Evaluations of these schemes suggest that the profile of time bank participants is quite different to that of traditional volunteering, with time bank participants more often unemployed, disabled, aged and members of ethic minority groups. These time banks appear to have great potential for helping the socially excluded to make use of their unfilled spare time, while also contributing to the community.

This paper has some limitations that should be recognised. One is that by taking a broad life cycle perspective, some of the detail of what matters to particular groups may not be observed. For example, if the analyses were to focus only on the unemployed, it may be possible to examine which groups of unemployed men and women have a higher likelihood of having unfilled spare time. Similarly, taking a closer look at the older men and women, or those with a health ability or disability may be equally useful. Sample size limitations, of course, restrict what is possible along these lines. Further, to fully explore the detail of such groups, it may be necessary to know more about the respondents than is available in this large population-based study. The strength of this study is being able to compare across the demographic groups.

This study is based on Australian data, and particular findings may not always translate to other countries. However, the findings here appear consistent with studies of time pressure, and also studies of the time use of particular groups, such as the unemployed, which have

been conducted in a range of countries. This suggests these findings may have broader application to countries other than Australia.

In conclusion, this paper has provided evidence that a small proportion of men and women have difficulty filling in their spare time. Those affected include groups commonly explored with regard their spare time use – those not in employment and youth, for example. Gaining these insights into who is likely to often have unfilled spare time, their reasons for this, and their patterns of time use, may help to identify supports or services that could be valuable in assisting these people to use this spare time that they have.

Appendix

Table A1
Sample distribution

	Males (%)		Females (%)	
	1997	2006	1997	2006
Age=15-24 at home - dependent student	6.4	6.5	7.1	7.2
Age=15-24 at home other	6.5	4.9	3.4	2.8
Age=15-24 not at home	4.6	4.7	6.4	5.7
25-34	19.4	13.7	20.4	14.5
35-54	37.5	38.6	37.8	38.2
55-74	21.2	24.7	19.8	24.7
75 or older	4.4	6.9	5.1	6.9
Main language spoken not English	7.5	8.2	7.6	8.1
Has a disability or long term health condition	31.2	35.2	27.5	33.3
Family with no children	26.7	25.6	30.6	28.1
Family with children	57.8	60.1	53.9	56.5
Non–family household	5.3	3.1	3.7	2.6
Lives alone	10.2	11.2	11.8	12.8
Is carer to someone	9.6	13.9	13.0	19.3
Unemployed	5.1	2.8	4.8	2.7
Not in the labour force	24.4	27.8	42.0	39.9
1 to 34 hours	9.1	11.3	25.4	29.9
35 to 50 hours	36.7	34.5	22.1	21.7
50 hours or more	24.7	23.6	5.7	5.8
Low personal income	22.0	21.9	35.8	33.1
Missing information for income	12.6	5.9	13.3	5.5
Sample size (persons)	3,465	3,774	3,587	3,428

Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

Table A2
Multivariate analyses of males' total amount of time in main activity categories – 1997 and 2006

	Regression coefficient from Ordinary Least Squares, with time measured in minutes per day					
	Recreation, leisure or social	Paid work or study	House-hold and childcare tasks	Other care and voluntary	Personal care	Sleep
Year of survey=2006	-20***	18***	6	0	-4*	-3
Background characteristics						
Age=15-24 with parents - dependent student	-5	141***	-140***	-17***	-36***	40***
Age=15-24 with parents other	56***	3	-88***	-8**	-22***	47***
Age=15-24 not with parents	5	47***	-64***	-8*	-26***	35***
25-34	0	17*	-25***	-6**	-7**	13***
35-54 (reference)						
55-74	3	-37***	26***	5	22***	-13***
75 or older	9	-57***	19*	-9**	41***	-8
Family member, no children (reference)						
Family member, with children	-57***	14*	6***	-2	-13***	-13***
Non–family member	-4	20	-9	11**	-10*	1
Lives alone	11	-5	16**	3	-12***	-8*
Main language spoken not English	-30***	27***	-30***	-10***	11***	21***
Has a disability or long term health condition	19***	-32***	-1	-1	4*	8**
Constraints or commitments						
Is carer to someone	-22***	3	32***	16***	0	-14***
Unemployed	194***	-373***	122***	24***	12***	40***
Not in the labour force	180***	-361***	109***	16***	26***	42***
1 to 34 hours	98***	-198***	69***	16***	9**	16***
35 to 50 hours	40***	-92***	30***	1	8***	12***
50 hours or more (reference)						
Low personal income	-10	0	-10*	-5*	7*	12***
Weekday	-136***	249**	-58***	-9***	-12***	-44***
Constant	356***	269***	156***	22***	140***	520***
R-squared	0.277	0.460	0.183	0.029	0.103	0.103

Note: Omitted categories for single dummy variables are not shown.
*** p<0.001, ** p<0.01, * p<0.05. n=13,202 for all models.
Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

Table A3
Multivariate analyses of females' total amount of time in main activity categories – 1997 and 2006

	Regression coefficient from Ordinary Least Squares, with time measured in minutes per day					
	Recreation, leisure or social	Paid work or study	Household and child-care tasks	Other care and volun-tary	Personal care	Sleep
Year of survey=2006	-21***	7	15***	5**	-2	-1
Backgr. characteristics		.	.	.	.	.
Age=15-24 with parents - dependent student	21***	165***	-211***	-15***	-21***	43***
Age=15-24 with parents other	59***	49***	-133***	-10**	-20***	39***
Age=15-24 not with par-ents	16*	47***	-80***	-11***	-24***	36***
25-34	-6	11	-10	-8***	-11***	14***
35-54 (reference)						
55-74	37***	-41***	8	7*	12***	-16***
75 or older	74***	-51***	-45***	-15***	24***	-4
Family member, no chil-dren (reference)						
Family member, with children	-66***	-46***	156***	-7***	-26***	-20***
Non–family member	12	32*	-52***	24***	5	1
Lives alone	28***	4	-25***	11***	1	-10**
Main language spoken not English	-35***	33***	-22**	-9***	7*	17***
Has a disability or long term health condition	11**	-13***	-15***	-3	9***	5*
Constraints or commit-ments						
Is carer to someone	-11*	-3	32***	23***	-6**	-11***
Unemployed	107***	-304***	142***	14***	24***	29***
Not in the labour force	130***	-304***	109***	10*	19***	42***
1 to 34 hours	59***	-175***	84***	7*	11**	20***
35 to 50 hours	23***	-63***	21**	-1	5	14**
50 hours or more (ref,)						
Low personal income	0	-27***	22***	1	1	4
Weekday	-92***	154***	-10**	-1	-13***	-39***
Constant	299***	272***	192***	19***	155***	520***
R-squared	0.218	0.405	0.329	0.040	0.080	0.076

Note: Omitted categories for single dummy variables are not shown.
*** p<0.001, ** p<0.01, * p<0.05. n=14,663 for all models.
Source: Australian Bureau of Statistics, 1997, 2006, own calculations.

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